



# Pneumatic Valve Products

Air Control Valves, Flow Controls & Accessories

Catalog 0600P-13



ENGINEERING YOUR SUCCESS.

**Distributor Network, Warning, Offer of Sale****DISTRIBUTION NETWORK**

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**To find the distributor nearest you, please visit our DISTRIBUTOR LOCATOR at <http://www.parker.com/pneu/distributor>**



**ENGINEERING YOUR SUCCESS.**

**⚠ WARNING**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application including consequences of any failure, and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

**Offer of Sale**

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated on the separate page of this document entitled "Offer of Sale".





<p><b>Product Index,                  Engineering Data</b></p>	<p><b>A</b>                  Product Index                  Engineering Data</p>
<p><b>Direct Acting Valves</b></p> <p style="text-align: right;"><i><b>XM Series, 15mm Solenoid Valve</b></i></p>	<p><b>B</b>                  Direct Acting                  Valves</p>
<p><b>Inline Valves</b></p> <p style="text-align: right;"><i><b>Viking Lite Series, Viking Xtreme Series,                  "B3, B5, B6" Series, "B7 &amp; B8" Series,                  Air Saver Unit, ADEX Series, "N" Series</b></i></p>	<p><b>C</b>                  Inline Valves</p>
<p><b>Subbase &amp; Manifolds Valves</b></p> <p style="text-align: right;"><i><b>H Series Micro, Moduflex Series,                  H Series ISO, Network Connectivity,                  "DX" ISOMAX Series, Valvair II Series</b></i></p>	<p><b>D</b>                  Subbase &amp; Manifold                  Valves</p>
<p><b>Manual Mechanical Valves</b></p> <p style="text-align: right;"><i><b>Directair 2 &amp; 4 Series, Viking Xtreme                  Manual Series, "42" Lever / Pedal Series,                  "MO" Series, Safety, Brass Poppet /                  Sliding Seal / "PL" / "VL" / "HV" Series,                  Control Panel Products, Sensing Products</b></i></p>	<p><b>E</b>                  Manual / Mechanical                  Valves</p>
<p><b>Accessories</b></p> <p style="text-align: right;"><i><b>Flow Controls, Check Valves, Mufflers,                  Quick Exhaust &amp; Shuttle Valves, Tank Valves,                  Breather Vents, Silencers, Blocking Valves,                  Blow Guns, Integrated Fittings</b></i></p>	<p><b>F</b>                  Accessories</p>
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For inventory, lead times, and kit  
 lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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## Direct Acting Valves

### XM Series - Direct Acting



B2

- Inline or stacking
- 1/8 inch ports
- Pressures 0 to 125 PSIG
- Temperatures 32°F to 125°F
- Flow - .15 Cv

### 15mm Series - Direct Acting



B9

- Subbase or manifold
- 1/8 inch ports
- Pressures VAC to 145 PSIG
- Temperatures 5°F to 140°F
- Flow - .033 to .05 Cv

## Inline Valves

### Viking Lite Series Valves



C2

- Inline or bar manifold
- 1/8 through 3/8 inch ports
- Pressures 22 to 145 PSIG
- Temperatures 14°F to 122°F
- Flow - .6 to 2.5 Cv

### Viking Xtreme Series Valves



C11

- Inline or bar manifold
- 1/8 through 1/2 inch ports
- Pressures VAC to 232 PSIG
- Temperatures -40°F to 140°F
- Flow - .7 to 2.7 Cv

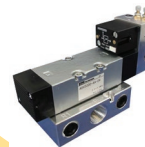
### B Series Valves



C41

- Inline, subbase or bar manifold
- 1/8 through 3/4 inch ports
- Pressures VAC to 145 PSIG
- Temperatures 5°F to 120°F
- Flow - .75 to 7.0 Cv

### Air Saver Valve Units



C74

- Large reduction in air consumption
- Savings in compressor power consumption
- Reduction in plant CO<sup>2</sup> emissions
- Big contribution to energy-saving activities
- Improved efficiency

### ADEX Series Valves



C83

- Inline, subbase or bar manifold
- M3, M5, 1/8 inch ports
- Pressures VAC to 100 PSIG
- Temperatures 32°F to 122°F
- Flow - .1 to .47 Cv

### N Series - Inline Poppet Valves



C96

- Inline mounted
- 3/8 through 1-1/2 inch ports
- Pressures 30 to 250 PSIG
- Temperatures 0°F to 200°F
- Flow - 3.6 to 29.9 Cv



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## Subbase & Manifold Valves

### H Series Micro Valve



D2

- Subbase or manifold
- 4mm through 1/4 tube
- Pressures VAC to 145 PSIG
- Temperatures 5°F to 120°F
- Flow - .35 Cv

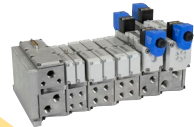
### Moduflex Series Valves



D28

- Inline or stacking
- 4mm tube, 1/4, 3/8 inch ports
- Pressures VAC to 120 PSIG
- Temperatures 5°F to 140°F
- Flow - .18 to .80 Cv

### H Series ISO Valve



D71

- Subbase or manifold
- 1/8 through 3/4 inch ports
- Pressures VAC to 145 PSIG
- Temperatures 5°F to 120°F
- Flow - .55 to 6.0 Cv

### Network Connectivity



D145

- Network connectivity for H Series and Moduflex valves
- Up to 256 inputs
- Up to 256 outputs
- Digital or analog

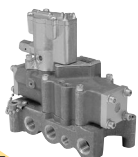
### DX ISOMAX Series



D213

- Subbase or manifold
- 1/8 through 3/4 inch ports
- Pressures VAC to 145 PSIG
- Temperatures 14°F to 140°F
- Flow - .55 to 4.15 Cv

### Valvair II Series



D257

- Subbase or manifold
- 3/8 through 1-1/2 inch ports
- Pressures VAC to 225 PSIG
- Temperatures 0°F to 200°F
- Flow - 1.9 to 12.0 Cv

## Manual / Mechanical Valves

### Directair 2 & 4



E2

- Manual / mechanical
- 1/8 and 1/4 inch ports
- Pressures VAC to 150 PSIG
- Temperatures 32°F to 175°F
- Flow - .20 to .84 Cv

### Viking Xtreme Lever Series



E14

- Manual / mechanical
- 1/8, 1/4 and 3/8 inch ports
- Pressures:
  - Type A & B - VAC to 232 PSIG
  - Type C & D - VAC to 174 PSIG
- Temperatures -40°F to 140°F
- Flow - .5 to 2.7 Cv

### 42 Lever / Pedal Series



E21

- Manual / mechanical
- 1/4 and 3/8 inch ports
- Pressures VAC to 150 PSIG
- Temperatures 0°F to 140°F
- Flow - 1.3 to 2.9 Cv

### MO Series



E24

- Air Pilot, Manual / mechanical
- 1/4 and 1 inch ports
- Pressures VAC to 225 PSIG
- Temperatures -15°F to 200°F
- Flow - .5 to 1.25 Cv

### Safety



E52

- LV/EZ shut off valves
- Port sizes 3/8 through 1-1/4 inch
- Max. supply pressure 300 PSIG
- Max. operating temperature 175°F
- Cv from 3.7 to 14
- Two hand tiedown controls

### Brass Poppet, Sliding Seal



E62

- 4-way, 3-position rotary disc, direct air operated valves
- Pressures 0 to 150 PSIG
- Temperatures 18°F to 200°F
- Flow - 2.5 to 6.2 Cv

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## Manual / Mechanical Valves

### Control Panel Products



- A wide variety of push buttons and selector switches
- Visual indicators
- Foot pedal switches
- Modular pneumatic / electric push buttons

E67

### Sensing / Limit Switches



- Limit switches in a variety of sizes and configurations
- Pressure switches with many adjustable ranges
- Components designed specifically for pneumatic technology using pressure variation, air bleed or blocking for detection

E77

## Accessories

### Flow Control & Check Valves



- Flow controls
  - 1/8 to 1-1/2 inch ports
- Check valves
  - 1/8 to 3/4 inch ports

F2

### Misc Accessories



- Exhaust mufflers
- Quick exhaust & shuttle valves
- Threshold valves
- Tank valves
- Blow guns

F14

### Integrated Fittings



- Flow controls
- Check valves
- Blocking valves

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## Part Number Index, Safety Guides, Offer of Sale



- Part Number to Page Number Index
- Safety Guide
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# PNEUMATIC DIVISION E-TOOLS

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## Pneumatic Division Part Lookup Tool

### Part Lookup Tool Overview

The purpose of this application is to provide users with more in depth detail, such as replacement kits or current inventory for specific pneumatic part numbers. The tool also provides cross reference information for products that have been previously obsoleted. Searches can be made by searching a portion or all of a part number. Use the drop down options available to narrow your search.



### Part Lookup Tool Contents

- Replacement KITS by part number
- Obsolete cross reference
- Inventory/stock levels
- Pricing (with distributor login only)
- Bulk part search
- Shipping location
- Lead time

### How to access the Tool

U.S. Parker Pneumatic Distributors

- [www.pdnpartlookup.com](http://www.pdnpartlookup.com)
- Or download the “Distributor Toolbox” app



Guest Users

- [www.pdnplu.com](http://www.pdnplu.com)

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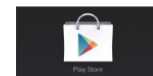
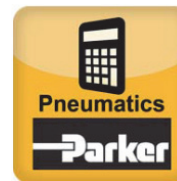
## Pneumatic Division Size & Selection Calculators

### Size, Selection and Cost of Air Calculators Overview

The purpose of this application is to provide users and designers of pneumatic systems with a handy collection of compressed air cost calculators, conversion tools and air valve (Cv) and flow (SCFM) calculations for air cylinder actuation. The size and select calculators are available to anyone for use. See details below.

### How to access the Tool

- [www.parkerpdncalc.com](http://www.parkerpdncalc.com)
- Or download the “Pneumatics” calculator app



### Calculator Contents

- Cost calculator for leaks
- Cost calculator for compressors
- Cost calculator for reverse flow regulators
- Vacuum flow through an orifice
- Air flow through an orifice
- Annual cost of air cylinder operation
- Valve/FRL sizing for cylinder actuation
- And more!



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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# The Parker 5-Year Extended Warranty

**P**arker Hannifin Corporation will extend its warranty on all pneumatic components to sixty (60) months providing they are correctly installed and protected by Parker pneumatic filters which are properly maintained. Components covered by this warranty include all cylinders, valves, and pneumatic automation components manufactured by Parker in any of our global facilities. This warranty covers our components anywhere in the world you may ship your equipment.

Parker's obligation under this warranty is limited to the replacement or repair of any failed components. The buyer understands that the seller will not be liable for any other costs or damages.

The buyers of quality Parker components and filters benefit by having ONE source for all pneumatic needs - **Parker.**



**Jennifer Parmentier**  
President  
Motion Systems Group





## Application Engineering Data

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**Saving Money and Space by Sizing Your Valves Properly**

This catalog gives you a flow rating (Cv) for each valve in the Parker Hannifin line. You can “plug” your requirements into the following simple formula, and determine the Cv needed to do the job. By not oversizing, you’ll save space and money, and you’ll ensure the valve you select will do the job.

Converting the Job Requirements Into Cv (Capacity Co-efficient).

$$Cv = \frac{\text{Cylinder Area (Sq. In.)} \times \text{Stroke (In.)} \times \text{Compression Factor (Table 2)} \times \text{“A” (Table 2)}}{\text{Stroke Time (sec.)} \times 28.8}$$

Let’s work through an example:

We want to extend a 3 1/4" bore cylinder which has a 12" stroke in one second, and we have a supply pressure of 80 PSI to do the work. Here’s what we know:

- Cylinder Area for a 3-1/4" Bore, from Table 1 .....8.30 sq. in.
- Cylinder Stroke..... 12 in.
- Stroke Time Required in Seconds.....1 sec.
- Compression Factor at 80 PSI, from Table 2..... 6.4
- “A” Constant for 80 PSI, from Table 2......048

Substituting in the formula, we have:

$$Cv = \frac{8.30 \times 12 \times 6.4 \times .048}{1 \times 28.8} = 1.06$$

Any valve, therefore, which has a Cv of at least 1.06, will extend our cylinder the specified distance in the required time.

**Choosing the Valve “Series”**

Your next step is to choose a basic valve design to do the job. For a quick guide to valve designs, see Table 3.

Having selected the basic valve design, consult the Capacity Co-efficient (Cv) tables which describe the individual valve capacities.

**Selecting the Valve Model, Options and Accessories**

Having determined Cv, series, port size, flow-path configuration (pre-determined by circuit design), and actuation method, you’re ready to choose the exact valve model number.

Read the pertinent catalog pages; note the exact model numbers, options and accessories you want. Then phone or write your Parker Hannifin air valve distributor. They will give you prompt, accurate service.

Note: Need circuit design help? Contact your local Parker Hannifin distributor. They are backed up by our regional Sales Engineers and offices. Between them, you’ll find answers to all of your questions.

**Table 1**  
**Effective Square-Inch Areas for Standard-Bore-Size Cylinders**

Bore Size	Cylinder Area (Sq. In.)	Bore Size	Cylinder Area (Sq. In.)
3/4"	.44	4"	12.57
1"	.79	4-1/2"	15.90
1-1/8"	.99	5"	19.64
1-1/4"	1.23	6"	28.27
1-1/2"	1.77	7"	38.48
1-3/4"	2.41	8"	50.27
2"	3.14	10"	78.54
2-1/2"	4.91	12"	113.10
3-1/4"	8.30	14"	153.94
3-5/8"	10.32		

**Table 2**  
**Compression Factors and “A” Constants**

Inlet Pressure (PSIG)	Compression Factor	“A” Constants for Various Pressure Drop*		
		2 PSI ΔP	5 PSI ΔP	10 PSI ΔP
10	1.6	.152	.103	
20	2.3	.126	.084	.065
30	3.0	.111	.073	.055
40	3.7	.100	.065	.048
50	4.4	.091	.059	.044
60	5.1	.085	.055	.040
70	5.7	.079	.051	.037
80	6.4	.075	.048	.035
90	7.1	.071	.046	.033
100	7.8	.068	.044	.032
110	8.5	.065	.042	.030
120	9.2	.063	.040	.029
130	9.9	.061	.039	.028
140	10.6	.058	.037	.027
150	11.2	.057	.036	.026
160	11.9	.055	.035	.025
170	12.6	.053	.034	.024
180	13.3	.052	.033	.024
190	14.0	.051	.032	.023
200	14.7	.050	.032	.023

**Note:** Use “A” constant at 5 PSI ΔP for most applications. On very critical applications, use “A” at 2 PSI ΔP. You will find in many cases, a 10 PSI ΔP is not detrimental, and can save money and mounting space.

\* Tabulated values are the solution of  $\frac{1}{22.48} \sqrt{\frac{GT}{(P_1 - P_2) P_2}}$  where T is for 68°F and G = 1 for Air.

**Table 3**  
**Characteristics of the Major Valve Designs**

<b>A. Poppet</b> 3-Way and 4-Way	1. High flow capacities 2. Minimum lubrication requirements 3. Fast response 4. Self-cleaning poppet seats 5. Pressures of 15 to 150 PSIG (modifications for vacuum to 250 PSIG)
<b>B. Spool Valves (WCS)</b> 3-Way and 4-Way	1. Low friction 2. Lower operating pressures 3. Fast response 4. Less wear 5. Long Cycle Life - Under pressure, radial expansion of the seal occurs to maintain sealing contact with the valve bore 6. Non-Lube Service - No lubrication required for continuous valve shifting 7. Bi-Directional Spool Seals - Common spool used for any pressure, including vacuum
<b>C. Packed Bore</b> 4-Way	1. Wide range of flow capacities 2. Wide range of flow-path configurations 3. Pilot-operated models available 4. Pressures of vacuum to 150 PSIG
<b>D. Rotary Or Reciprocating Disc</b> 4-Way, manually operated	1. Inexpensive 2. Versatility in manual actuation

**Cv – Capacity Co-efficients** (sometimes called Flow Factors). Each flow path through the valve has its own Cv value. All Cv ratings for each valve cataloged on this page are listed on the front side of this sheet.

Q = Flow in Standard Cubic Feet per minute (14.7 PSIA at 60°F)  
 $Cv = \frac{Q}{22.48} \sqrt{\frac{GT}{(P_1 - P_2) P_2}}$   
 P<sub>1</sub> = Inlet Absolute Pressure (gauge pressure + 14.7)  
 P<sub>2</sub> = Outlet Absolute Pressure (gauge pressure + 14.7)  
 Note: P<sub>2</sub> must be greater than .53 x P<sub>1</sub>  
 G = Specific Gravity of flowing medium (Air, G = 1)  
 T = Absolute Temperature of Air (460 + °F)

Cv = Q x “A” (Table 2)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Air Preparation Units**

**Symbol Description**

	<b>Filter / Separator</b> with manual drain
	<b>Filter / Separator</b> with automatic drain
	<b>Oil Removal Filter</b>
	<b>Automatic Drain</b>
	<b>Lubricator</b> less drain
	<b>Lubricator</b> with manual drain
	<b>Lubricator</b> with automatic filling
	<b>Air Line Pressure Regulator</b> adjustable, relieving
	<b>Air Line Pressure Regulator</b> pilot controlled, relieving
	<b>Filter / Regulator</b> (piggyback) manual drain relieving (with gauge)
	<b>Filter / Regulator</b> (piggyback) auto drain relieving
	<b>Air Line Combo F-R-L</b> simplified

**Pneumatic Valves**

**Symbol Description**

	<b>Check</b>
	<b>Flow Control</b>
	<b>Relief Valve</b>
	<b>2-Position, 2-Way</b>
	<b>2-Position, 3-Way</b>
	<b>2-Position, 4-Way</b>
	<b>2-Position, 4-Way 5-Ported</b>

**Pneumatic Valves**

**Symbol Description**

	<b>3-Position, 4-Way, APB</b> ports closed, center pos.
	<b>3-Position, 4-Way, CE 5-Ported</b> cylinder ports open to exhaust in center position
	<b>3-Position, 4-Way, PC 5-Ported</b> pressure port open to cylinder ports in center position
	<b>Quick Exhaust</b>
	<b>Shuttle</b>

**Valve Actuators**

**Symbol Description**

	<b>Manual</b> general symbol
	<b>Push Button</b>
	<b>Lever</b>
	<b>Pedal or Treadle</b>
	<b>Mechanical</b> cam, toggle, etc.
	<b>Spring</b>
	<b>Detent</b> line indicates which detent is in use
	<b>Piezo</b>
	<b>Solenoid</b>
	<b>Internal Pilot Supply</b>
	<b>Remote Pilot Supply</b> complete
	<b>Remote Pilot Supply</b> simplified
	<b>And / Or Composite</b> solenoid and pilot or manual override
	<b>And / Or Composite</b> solenoid and pilot or manual override and pilot

**Cylinders**

**Symbol Description**

	<b>Standard</b> double acting
	<b>Single Acting</b>
	<b>Double Rod</b>
	<b>Spring Return</b>
	<b>Ram Type</b>
	<b>Telescope</b>
	<b>Tandem</b>
	<b>Duplex</b>

**Lines and Functions**

**Symbol Description**

	<b>Solid Line - Main Line</b>
	<b>Dashed Line - Pilot Line</b>
	<b>Dotted Line - Exhaust or Drain Line</b>
	<b>Center Line - Enclosure Outline</b>
	<b>Lines Crossing</b> (90° intersection not necessary)
	<b>Lines Joining</b> (90° intersection not necessary)
	<b>Lines Joining</b>
	<b>Flow Direction</b> hydraulic medium
	<b>Flow Direction</b> gaseous medium
	<b>Energy Source</b>
	<b>Line with Fixed Restriction</b>
	<b>Line with Adjustable Restriction</b>
	<b>Flexible Line</b>
	<b>Plugged Port, Test Station, Power Take-off</b>
	<b>Quick Disconnect Without Checks</b> connected
	<b>Quick Disconnect Without Checks</b> disconnected
	<b>Quick Disconnect With Checks</b> connected
	<b>Quick Disconnect With Checks</b> disconnected
	<b>Quick Disconnect With One Check</b> connected
	<b>Quick Disconnect With One Check</b> disconnected

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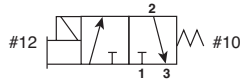
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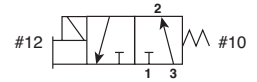
**3-Way, 2-Position, Normally Closed**



**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

**Energized position** – Solenoid #12 energized. Pressure at inlet port 1 is connected to outlet port 2, exhaust port 3 is blocked.

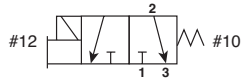
**3-Way, 2-Position, Normally Open**



**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 3 connected to outlet port 2, exhaust port 1 is blocked.

**Energized position** – Solenoid #12 energized. Pressure at inlet port 3 blocked, outlet port 2 connected to exhaust port 1.

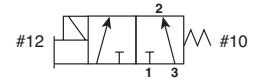
**3-Way, 2-Position, Diverter**



**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 2 connected to outlet port 3. Port 1 is blocked.

**Energized position** – Solenoid #12 energized. Pressure at inlet port 2 is connected to outlet port 1. Port 3 is blocked.

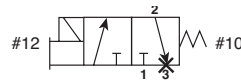
**3-Way, 2-Position, Selector**



**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 1 is blocked. Pressure at inlet port 3 is connected to outlet port 2.

**Energized position** – Solenoid #12 energized. Pressure at inlet port 1 is connected to outlet port 2. Pressure at port 3 is blocked.

**2-Way, 2-Position, Normally Closed**

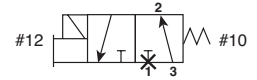


**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 1 blocked, port 2 is connected to port 3, which is plugged.

**Energized position** – Solenoid #12 energized. Pressure at inlet port 1 is connected to outlet port 2. Port 3 is blocked.

X Plug port 3.

**2-Way, 2-Position, Normally Open**

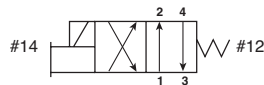


**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 3 is connected to outlet port 2. Port 1 is blocked.

**Energized position** – Solenoid #12 energized. Pressure at inlet port 3 is blocked. Port 2 is connected to port 1, which is plugged.

X Plug port 1.

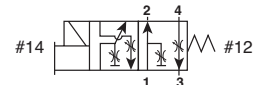
**4-Way, 2-Position**



**De-energized position** – Solenoid #14 de-energized. Pressure at inlet port 1 connected outlet port 2. Outlet port 4 connected to exhaust port 3.

**Energized position** – Solenoid #14 energized. Pressure at inlet port 1 is connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**4-Way, 2-Position with Flow Controls**



**De-energized position** – Solenoid #14 de-energized. Pressure at inlet port 1 connected outlet port 2. Outlet port 4 connected to exhaust port 3.

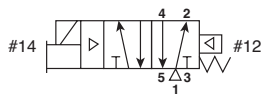
**Energized position** – Solenoid #14 energized. Pressure at inlet port 1 is connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

Flow Controls meter exhaust from ports 2 and 4 separately into port 3.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

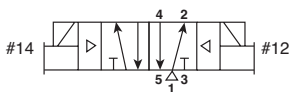
**Single Solenoid**  
**4-Way, 2-Position**



**De-energized position** – Solenoid operator #14 de-energized. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

**Energized position** – Solenoid operator #14 energized. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

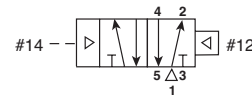
**Double Solenoid**  
**4-Way, 2-Position**



**Solenoid operator #14 energized last.** Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**Solenoid operator #12 energized last.** Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

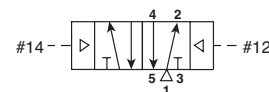
**Single Remote Pilot**  
**4-Way, 2-Position**



**Normal position** – Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

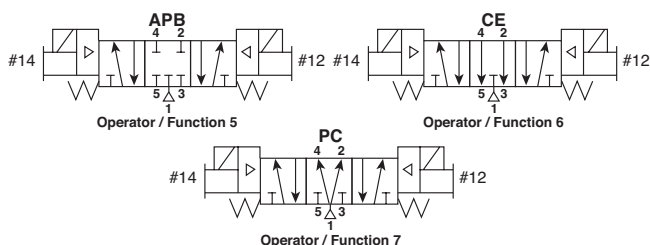
**Operated position** – Maintained air signal at port 14. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**Double Remote Pilot**  
**4-Way, 2-Position**



**Momentary air signal at port 14 last.** Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**Momentary air signal at port 12 last.** Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.



**Double Solenoid**  
**4-Way, 3-Position**

**With #12 operator energized** – inlet port 1 connected to cylinder port 2, cylinder port 4 connected to exhaust port 5.

**With #14 operator energized** – inlet port 1 connected to cylinder port 4, cylinder port 2 connected to exhaust port 3.

**Function 5: All Ports Blocked**

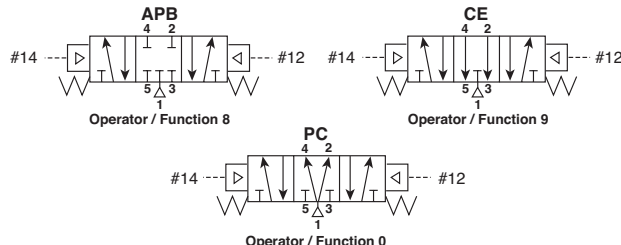
All ports blocked in the center position.

**Function 6: Center Exhaust**

Cylinder ports 2 and 4 connected to exhaust ports 3 and 5 in center position. Port 1 is blocked.

**Function 7: Pressure Center**

Pressure port 1 connected to cylinder ports 2 and 4, and exhaust ports 3 and 5 blocked in center position.



**Double Remote Pilot**  
**4-Way, 3-Position**

**With #12 operator signaled** – inlet port 1 connected to cylinder port 2, cylinder port 4 connected to exhaust port 5.

**With #14 operator signaled** – inlet port 1 connected to cylinder port 4, cylinder port 2 connected to exhaust port 3.

**Function 8: All Ports Blocked**

All ports blocked in the center position.

**Function 9: Center Exhaust**

Cylinder ports 2 and 4 connected to exhaust ports 3 and 5 in center position. Port 1 is blocked.

**Function 0: Pressure Center**

Pressure port 1 connected to cylinder ports 2 and 4, and exhaust ports 3 and 5 blocked in center position.

**Dual Pressure:**

May be used for dual pressure service with pressure at ports 3 & 5. (Use either external pilot source option “K”, “W” or “X”, or dual pressure pilot source option “D” or “E”.) If pilot source “D” or “E” is selected, the high pressure must be at port #3. If pilot source “K”, “W” or “X” is selected, the external pilot must be plumbed to port #14 or “X” respectively. Note: The “B6” valve is also available with dual pressure using Port 5 for high pressure (Option “G” & “H”). This is only to be used if converting from a “42” (“CM”) Series traditional valve.

In the 3-Position valve, the effect of dual pressure is extremely important when the valve is in the center position, as the CE and PC functions are reversed. Therefore, care should be used when selecting a 3-Position valve.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



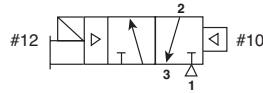
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**Single Solenoid  
 3-Way, 2-Position, NC (NNP)**

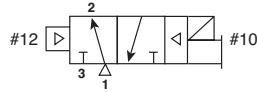


**Normally Closed:**

**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

**Energized position** – Solenoid #12 energized. Pressure at inlet port 1 connected to outlet port 2, exhaust port 3 is blocked.

**Single Solenoid  
 3-Way, 2-Position, NO (NP)**

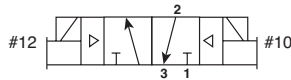


**Normally Open:**

**De-energized position** – Solenoid #10 de-energized. Pressure at inlet port 1 connected to outlet port 2, exhaust port 3 is blocked.

**Energized position** – Solenoid #10 energized. Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

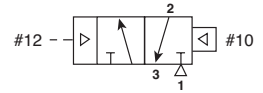
**Double Solenoid  
 3-Way, 2-Position**



**Solenoid operator #12 energized last.** Pressure at inlet port 1 connected to outlet port 2, exhaust port 3 is blocked.

**Solenoid operator #10 energized last.** Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

**Single Remote Pilot  
 3-Way, 2-Position, NC (NNP)**

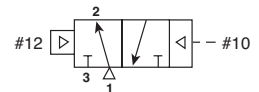


**Normally Closed:**

**Normal position** – Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

**Operated position** – Maintained air signal at port 12. Pressure at inlet port 1 connected to outlet port 2, exhaust port 3 is blocked.

**Single Remote Pilot  
 3-Way, 2-Position, NO (NP)**

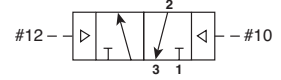


**Normally Open:**

**Normal position** – Pressure at inlet port 1 connected to outlet port 2, exhaust port 3 is blocked.

**Operated position** – Maintained air signal at port 10. Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

**Double Remote Pilot  
 3-Way, 2-Position**



**Momentary air signal at port 12 last.** Pressure at inlet port 1 connected to outlet port 2, exhaust port 3 is blocked.

**Momentary air signal at port 10 last.** Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

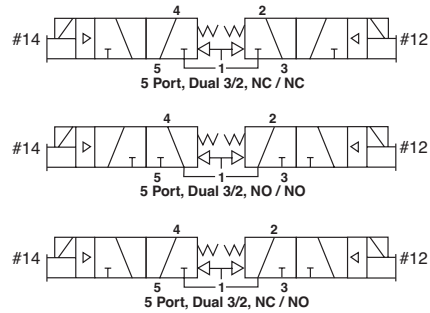
**Double Solenoid / Remote Pilot**  
**Dual 3-Way, 2-Position NC / NC (NNP)**

With #14 & #12 operators both de-energized – pressure at inlet port 1 blocked, outlet port 4 connected to exhaust port 5, outlet port 2 connected to exhaust port 3.

With #14 operator energized – pressure at inlet port 1 connected to outlet port 4, exhaust port 5 blocked, outlet port 2 connected to exhaust port 3.

With #12 operator energized – pressure at inlet port 1 connected to outlet port 2, exhaust port 3 blocked, outlet port 4 connected to exhaust port 5.

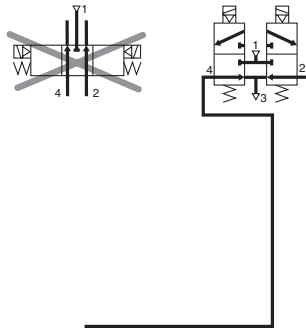
With #14 & #12 operators both energized – pressure at inlet port 1 connected to outlet ports 4 & 2, exhaust ports 3 & 5 blocked.



**Dual 3/2 valves replace 3-position valves for better performance**

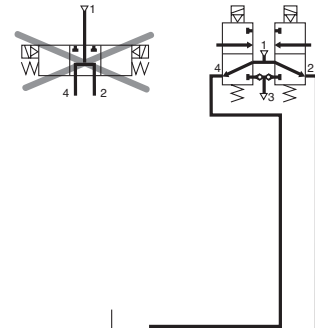
**3-position center exhaust**

A traditional 5/3 center exhaust valve is now replaced by a double 3/2 NC+NC valve module. Both cylinder chambers are exhausted and rod and piston are free to move.



**3-position pressure center**

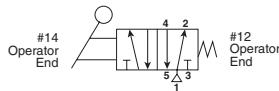
A traditional 5/3 pressure center valve is now replaced by a double 3/2 NO+NO valve module. The function is identical.



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**Lever Valves – Parallel & Perpendicular Operated**

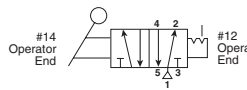
**2-Position, Spring Return**



**Single Pressure at Port #1** – The Hand Lever alternately pressurizes port 2 or 4 while exhausting at port 3 or 5. When actuating Hand Lever, port 4 is pressurized; when releasing Hand Lever, spring returns the spool, pressurizing port 2.

**Dual Pressure** – Pressure at port 3 & 5 alternately pressurizes port 2 or 4 while exhausting at port 1. When actuating Hand Lever, port 2 is pressurized; when releasing Hand Lever, spring returns the spool, pressurizing port 4. (Must be ordered as dual pressure)

**2-Position, Detent**

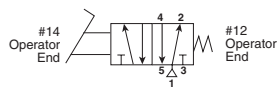


**Single Pressure at Port #1** – The Hand Lever alternately pressurizes port 2 or 4 while exhausting at port 3 or 5. When pulling Hand Lever, port 4 is pressurized; when pushing Hand Lever, port 2 is pressurized. Spool stays in last actuated position.

**Dual Pressure** – Pressure at port 3 & 5 alternately pressurizes port 2 or 4 while exhausting at port 1. When pulling Hand Lever, port 2 is pressurized; when pushing Hand Lever, port 4 is pressurized. Spool stays in last actuated position. (Must be ordered as dual pressure.)

**Foot Pedal Operated**

**2-Position, Spring Return**

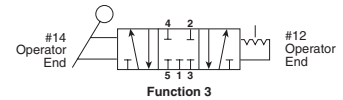


**CAUTION:**  
 This valve shall not be used to actuate a punch press.  
 Do not use this valve on punch presses or press brakes.  
 See OSHA 1910.217.

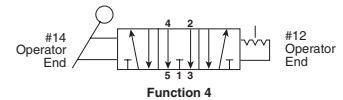
See Dimension page for Pedal Guard Kit.

**Single Pressure at Port #1** – The Foot Pedal alternately pressurizes port 2 or 4 while exhausting at port 3 or 5. When pressing Foot Pedal down, port 4 is pressurized; when releasing Foot Pedal, spring returns the spool, pressurizing port 2.

**Dual Pressure** – Pressure at port 3 & 5 alternately pressurizes port 2 or 4 while exhausting at port 1. When pressing Foot Pedal down, port 2 is pressurized; when releasing Foot Pedal, spring returns the spool, pressurizing port 4. (Must be ordered as dual pressure)



Function 3



Function 4

**3-Position, Detent**

**Single Pressure at Port #1** – The Hand Lever alternately pressurizes port 2 or 4 while exhausting at port 3 or 5. When pulling Hand Lever, port 4 is pressurized; when pushing Hand Lever, port 2 is pressurized. When Hand Lever is vertical, it is in the center position - either APB or CE. Spool stays in last actuated position.

**Center Functions**

**All Ports Blocked – Function 3**

**Center Exhaust – Function 4**

**CAUTION:**  
 For 3-Position lever function, do not restrict exhaust ports with speed controls.



**Electrical Enclosure IP Ratings**

		2nd Numeral: Degree of protection with respect to harmful ingress of water								
		0	1	2	3	4	5	6	7	8
1st Numeral: Degree of Protection with respect to persons and solid objects	Non-Protected	0	Protected against dripping water	Protected against dripping water of ±15° angle	Protected against spraying water of ±60° angle	Protected against splashing water	Protected against water jets	Protected against heavy seas	Protected against immersion	Protected against submersion
	IP00	IP01	IP02							
	Protected against solid objects greater than Ø50mm	1	IP10	IP11	IP12	IP13				
	Protected against solid objects greater than Ø12mm	2	IP20	IP21	IP22	IP23				
	Protected against solid objects greater than Ø2.5mm	3	IP30	IP31	IP32	IP33	IP34			
	Protected against solid objects greater than Ø1.0mm	4	IP40	IP41	IP42	IP43	IP44	IP45	IP46	
	Dust protected Depression 200mm water column, air flow 80 x volume of enclosure	5					IP54	IP55	IP56	
Dust-tight Same test procedure	6						IP65	IP66	IP67	IP68

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**Functionality Explanation**

Fluid Power		Universal Description		Electrical	
Function	Symbol			Function	Symbol
Normally Closed (N.C.)	2-Way	3-Way	Normally Non-Passing (NNP)	Normally Open (N.O.)	
Normally Open (N.O.)	2-Way	3-Way	Normally Passing (NP)	Normally Closed (N.C.)	



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

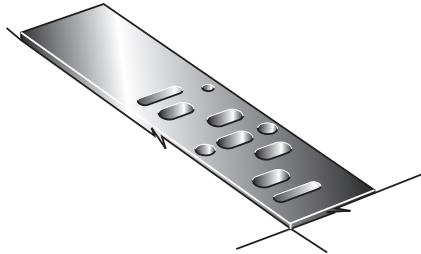




**International Standards Organization**

Crafted a set of rules you must follow to call your product an “ISO valve”.  
In valves ISO standard identifies the pneumatic interface between valve and the base.  
Defines pattern of mounting screws.  
Allows products to be interchangeable between manufacturers.

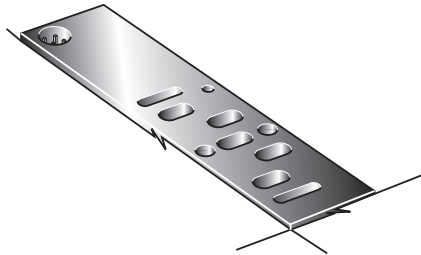
**15407-1**



**External Electrical Connection Subbase Valves**

The ISO Standard 15407-1 specifies an interface pattern for a common subbase valve consisting of pressure passages 1, 3, 5, 2, & 4, pilot passages 12 & 14. The width of the pattern and location of the 2-bolt holes are also specified. This ISO standard specifies 2 different sizes – 18mm as the smallest and 26mm as the largest.

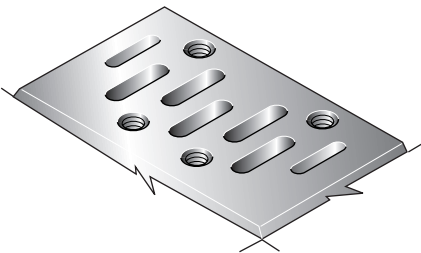
**15407-2**



**Body-to-Base Plug-In Subbase Valves**

The ISO Standard 15407-2 specifies an interface pattern for a common subbase valve consisting of pressure passages 1, 3, 5, 2, & 4, pilot passages 12 & 14, and a plug-in electrical connector. The width of the pattern and location of the 2-bolt holes are also specified. This ISO standard specifies 2 different sizes – 18mm as the smallest and 26mm as the largest.

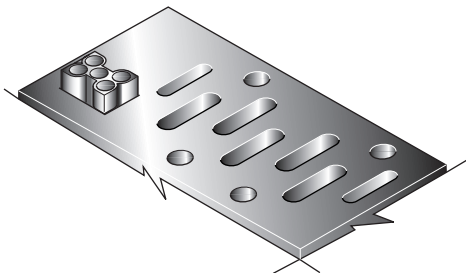
**5599-1**



**External Electrical Connection Subbase Valves**

The ISO Standard 5599-1 specifies an interface pattern for a common subbase valve consisting of pressure passages 1, 3, 5, 2, & 4, and pilot passages 12 & 14. The width of the pattern and location of the 4 bolt holes are also specified. There are no specifications for the type of external electrical connection used to control the valve.

**5599-2**

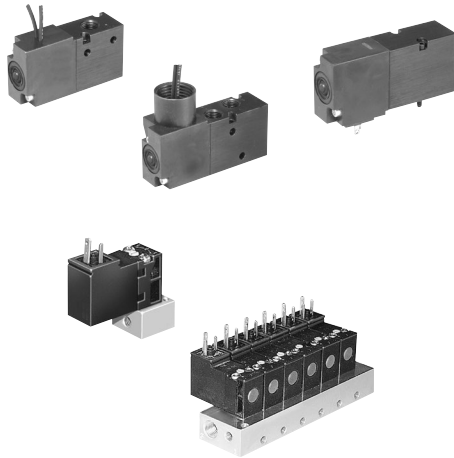


**Body-to-Base Plug-In Subbase Valves**

The ISO Standard 5599-2 specifies an interface pattern for a common subbase valve consisting of pressure passages 1, 3, 5, 2, & 4, pilot passages 12 & 14, and a plug-in electrical connector. The width of the pattern and location of the 4-bolt holes are also specified. This ISO standard specifies 6 different sizes – 1 as the smallest up to 6 as the largest. Manufacturers who produce ISO 5599-2 valves typically offer sizes 1, 2 & 3.



**Pneumatic Valve Products**  
**Direct Acting Valve Series**



**XM Series**

Features	B2
Common Part Number / Ordering Information	B3-B5
Accessories	B6
Technical Data	B7
Dimensional Data	B8

**15mm Solenoid Valve**

Features	B9
Ordering Information	B10-B11
Dimensional Data	B11

**B**

Direct Acting Valves



**Features**

**XM Valve Series**

XM series is a 1/8 inch ported, 3-way and 4-way, 2-position, spring return, normally open or normally closed, general purpose air valve.

**Ports**

- 1/8" NPT

**Mounting**

- Inline
- IEM bar manifold
- Subbase valve manifold

**Solenoids**

- Continuous duty rated
- 24" grommet
- 15mm 3-pin (9.4mm pin spacing)
- 1/2" conduit
- 12VDC to 240VAC

**Balanced poppet**

- 3-way N.O. & N.C.
- Diverter
- Selector
- Vacuum option

**ROHS compliant**

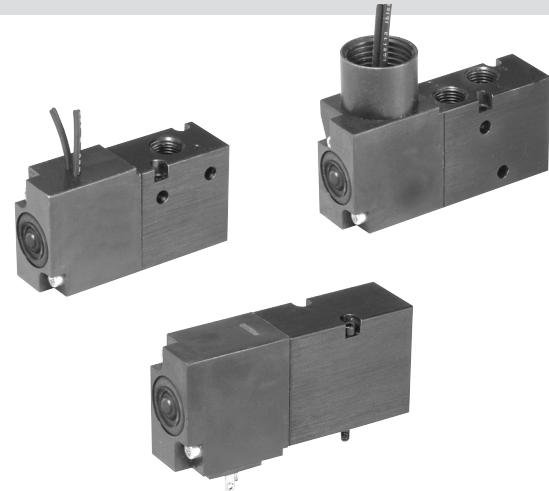
**Material specifications**

Body	Aluminum
Center post and armature	Stainless steel
Stem	Brass
Spring	Stainless steel
Seals	Buna N
Center post sleeve	Acetal
Coil	General purpose Class B, encapsulated

**Performance information**

Code	Electrical			Power Consumption (W / VA)	Holding Current (Amps)	Flow	
	Voltage		Cv Chart			3-Way	4-Way
	AC	DC					
	60Hz	50Hz					
42	24	22	—	4.8VA	.200	.15	.15
45*	—	—	12	4.5W	.375	.15	.15
49	—	—	24	4.5W	.188	.15	.15
53	120	110	—	4.32VA	.036	.15	.15
57	240	220	—	4.32VA	.018	.15	.15

\* Mobile voltage, +25/-30%  
 Note: Voltage tolerance: +10 / -15%  
 Cv tested per ANSI / (NFPA) T3.21.3



**Operating information**

3-way, N operating pressure:	0 to 125 PSIG
3-way, V* operating pressure:	28" Hg to 25 PSIG
4-way, N operating pressure:	28" Hg to 125 PSIG
Temperature range:	32°F to 125°F (0°C to 50°C)

\* For vacuum service

**Response time**

Code	Voltage	0 Cu. In. Test Chamber		12 Cu. In. Test Chamber	
		Fill	Exhaust	Fill	Exhaust
49	24VDC	.011	.007	.240	.384
53	120VAC	.011	.020	.240	.384







Average Fill Time (Seconds): With 100 PSIG supply, time required to fill from 0-90 PSIG and exhaust from 100 PSIG to 10 PSIG is measured from instant of energizing, or de-energizing solenoid. Times shown are average.  
 Tested per ANSI / (NFPA) T3.21.8.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)






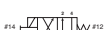
**B**  
 Direct Acting Valves  
 XM Series  
 15mm Solenoid Valves

**3-way Inline Valves**

	Symbol	Port Size	Cv	Voltage	Valve Type	Weight	Part Number
		1/8"	.15	24" Grommet, 24VDC	Inline	4 oz	<b>XM30NBG49A</b>
		1/8"	.15	24" Grommet, 120VAC	Inline	(.11 Kg)	<b>XM30NBG53A</b>
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 24VDC	Inline	4 oz	<b>XM30NB549A</b>
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 120VAC	Inline	(.11 Kg)	<b>XM30NB553A</b>
		1/8"	.15	1/2" Conduit / 24" leads, 24VDC	Inline	5 oz	<b>XM30NBH49A</b>
		1/8"	.15	1/2" Conduit / 24" leads, 120VAC	Inline	(.14 Kg)	<b>XM30NBH53A</b>


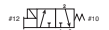

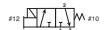
Note: All units with non-locking flush override. Can be used as N.O / N.C. / Diverter / Selector function.

**4-way Inline Valves**

	Symbol	Port Size	Cv	Voltage	Valve Type	Weight	Part Number
		1/8"	.15	24" Grommet, 24VDC	Inline	4.3 oz	<b>XM40NBG49A</b>
		1/8"	.15	24" Grommet, 120VAC	Inline	(.12 Kg)	<b>XM40NBG53A</b>
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 24VDC	Inline	4.3 oz	<b>XM40NB549A</b>
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 120VAC	Inline	(.12 Kg)	<b>XM40NB553A</b>
		1/8"	.15	1/2" Conduit / 24" leads, 24VDC	Inline	5.3 oz	<b>XM40NBH49A</b>
		1/8"	.15	1/2" Conduit / 24" leads, 120VAC	Inline	(.15 Kg)	<b>XM40NBH53A</b>


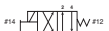


Note: All units with non-locking flush override.

**3-way Subbase Mount Valves**

	Symbol	Port Size	Cv	Voltage	Valve Type	Weight	Part Number
		1/8"	.15	24" Grommet, 24VDC	Subbase mount	4 oz	<b>XM3VNBG49A</b>
		1/8"	.15	24" Grommet, 120VAC	Subbase mount	(.11 Kg)	<b>XM3VNBG53A</b>
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 24VDC	Subbase mount	4 oz	<b>XM3VNB549A</b>
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 120VAC	Subbase mount	(.11 Kg)	<b>XM3VNB553A</b>

Note: All units with non-locking flush override. Can be used as N.O / N.C. / Diverter / Selector function.

**4-way Subbase Mount Valves**

	Symbol	Port Size	Cv	Voltage	Valve Type	Weight	Part Number
		1/8"	.15	24" Grommet, 24VDC	Subbase mount	4.3 oz	<b>XM4VNBG49A</b>
		1/8"	.15	24" Grommet, 120VAC	Subbase mount	(.12 Kg)	<b>XM4VNBG53A</b>
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 24VDC	Subbase mount	4.3 oz	<b>XM4VNB549A</b>
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 120VAC	Subbase mount	(.12 Kg)	<b>XM4VNB553A</b>

Note: All units with non-locking flush override.

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Model Number Index**

**B**  
 Direct Acting Valves  
 XM Series  
 15mm Solenoid Valves

**XM 4 0 N B G49 - A**

Operator / Function	
3-Way, Direct Operated, Single Solenoid, Spring Return	3
4-Way, Direct Operated, Single Solenoid, Spring Return	4

Engineering Level	
A	Current

Port Size / Thread Type	
1/8" NPT Inline	0*
Subbase Valve Less Base	V

Options	
Blank	None
F0*	Flow Control

\* 4-Way Valves Only.

\* Available on IEM manifolds.

Pilot Source / Exhaust	
Direct Operated / Standard Pressure	N*
Direct Operated / Vacuum Service	V**

\* 3-Way Valve Positive Pressure,  
 4-Way Valve Vacuum or Positive Pressure  
 \*\* 3-Way Valve Vacuum Pressure.

Overrides	
Flush - Non-Locking	B

Enclosures / Lead Length				
		Voltage		
		AC		DC
		60Hz	50Hz	
542	15mm 3-Pin DIN 9.4mm	24	22	
545*	15mm 3-Pin DIN 9.4mm			12
<b>549</b>	<b>15mm 3-Pin DIN 9.4mm</b>			<b>24</b>
<b>553</b>	<b>15mm 3-Pin DIN 9.4mm</b>	<b>120</b>	<b>110</b>	
G42	Grommet / Flying Leads 24"	24	22	
<b>G45*</b>	<b>Grommet / Flying Leads 24"</b>			<b>12</b>
<b>G49</b>	<b>Grommet / Flying Leads 24"</b>			<b>24</b>
<b>G53</b>	<b>Grommet / Flying Leads 24"</b>	<b>120</b>	<b>110</b>	
G57	Grommet / Flying Leads 24"	240	220	
H42 <sup>†</sup>	1/2" Conduit / Flying Leads 24"	24	22	
H45 <sup>††</sup>	1/2" Conduit / Flying Leads 24"			12
<b>H49<sup>†</sup></b>	<b>1/2" Conduit / Flying Leads 24"</b>			<b>24</b>
<b>H53<sup>†</sup></b>	<b>1/2" Conduit / Flying Leads 24"</b>	<b>120</b>	<b>110</b>	

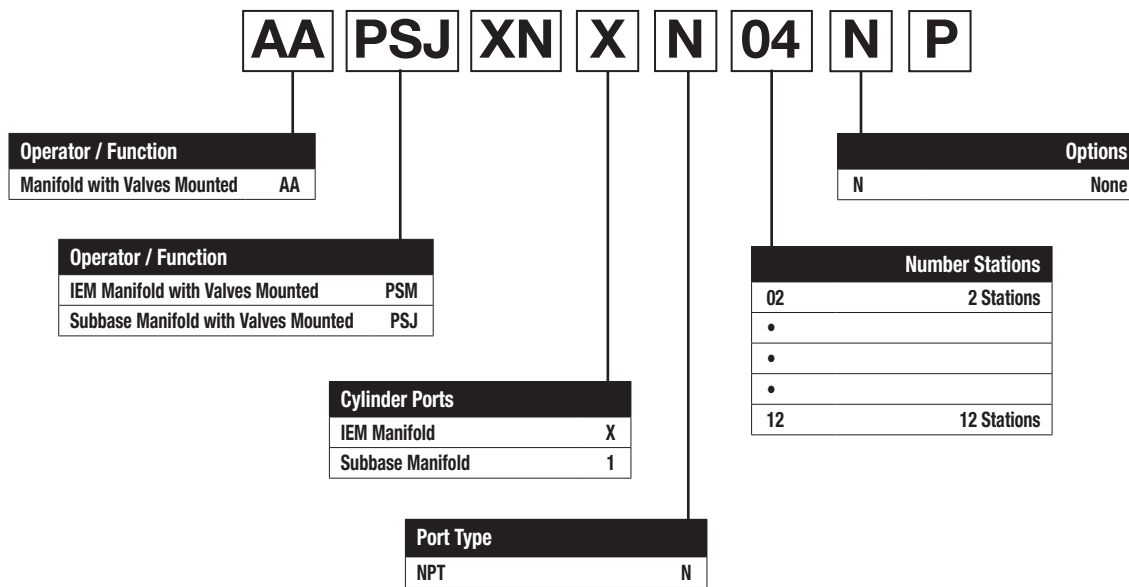
\* Mobile Voltage Rated.  
<sup>†</sup> Inline Version Only.

**Notes:**  
**Inline Valves**  
 Conduit Inline valves cannot be mounted to IEM or Sub-base Manifolds.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**How to Order Manifold Assemblies**



**IEM Bar Manifold Assembly**

First line item describes IEM Assembly. Subsequent line items listed identify each station in the Manifold starting with Station Number 1.

**Ordering Example**

Item	Qty	Part Number
001	1	AAPSMXNXN04NP
002	2	XM30NBG49A - Station 1, 2 - Normally Closed
003	1	XM40NBG49A - Station 3
004	1	XM40NBG49FOA - Station 4

Notes: When ordering Add-A-Folds, list valves left to right when looking at the Port 1/3 side of the manifold. All 3-Way valves will be assembled as 3-Way N.C. valves.

**Component Ordering Example**

Item	Qty	Part Number
001	1	PSMXNXN04NP (IEM Kit)
002	2	XM30NBG49A (Valve)
003	1	XM40NBG49A (Valve)
004	1	XM40NBG49FOA (Valve)

**Subbase Manifold Assembly**

First line item describes Subbase Assembly. Subsequent line items listed identify each station in the Manifold starting with Station Number 1.

**Ordering Example**

Item	Qty	Part Number
001	1	AAPSJXN1N04NP
002	2	XM3VNBG49A - Station 1, 2 - Normally Closed
003	1	XM4VNBG49A - Station 3
004	1	XM4VNBG49FOA - Station 4

Notes: When ordering Add-A-Folds, list valves left to right when looking at the Port 2/4 side of the manifold. All 3-Way valves will be assembled as 3-Way N.C. valves. Isolator Discs are required for N.O. functions.

**Component Ordering Example**

Item	Qty	Part Number
001	1	PSXM31010P (End Plate Kit)
002	4	PSXM530CP (Subbase Kit)
003	2	XM3VNBG49A (Valve)
004	1	XM4VNBG49A (Valve)
005	1	XM4VNBG49FOA (Valve)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Manifold**



Description	Part Number
IEM bar manifold (NPT)	<b>PSMXNXN##NP</b>

## - stations 02 to 12 (04 Shown)

**Subbase**



Description	Part Number
Manifold subbase kit (NPT)	<b>PSXM530CP</b>

**Plug-in Electrical Connectors - 9.4mm**



Description	Indication	Voltage	Part Number
Unwired Plug	None	N/A	<b>PESC10</b>
	LED & Suppression	12/24V	<b>PESC2020B</b>
		120VAC	<b>PESC2001F</b>

**Accessories**



Description	Part Number
End plate kit (NPT)	<b>PSXM31010P</b>



Description	Part Number
Blanking plate kit	<b>PSXM8310P</b>
Subbase Kit includes: (1) Plate, (3) Screws, (4) Gaskets	
Fits subbase or IEM type manifold.	



Description	Part Number
Mounting Bracket - Inline valve	<b>PSXM8288P</b>



Description	Part Number
Isolator plugs - Subbase manifold	<b>PSXM40900P</b>

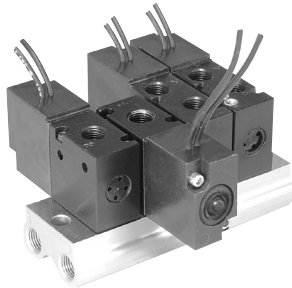


Description	Part Number
IEM valve / manifold o-ring kit	<b>PSXM2186P</b>



Description	Part Number
Subbase valve / manifold bolt kit	<b>PSXM8100P</b>

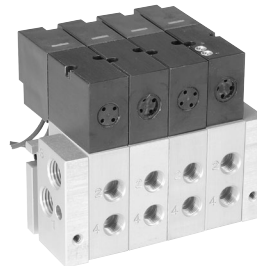
**IEM Bar Manifold Assembly**



IEM Bar Manifold allows for mounting of 3-Way and 4-Way Inline valves on the same manifold. 3-Way Valves can be mounted on the same manifold to provide a Normally Closed or Normally Open function by rotating the valves 180°. 4-Way valves can be mounted with or without Flow Controls.

IEM Bar Manifold Assemblies consist of valves and an IEM Manifold. Valves and IEM Manifold can be ordered separately.

**Subbase Manifold Assembly**



Subbase Manifold allows for mounting of 3-Way and 4-Way Subbase Valves can be mounted on the same manifold. 3-Way Valves can be mounted on the same manifold to provide a Normally Closed or Normally Open function through the use of port isolation kits. 4-Way valves can be mounted with or without Flow Controls.

Subbase Manifold Assemblies consist of Valves, End Plate Kit and Manifold Subbase Kits. Valves, End Plate Kit and Manifold Subbase Kits can be ordered separately.

**B**

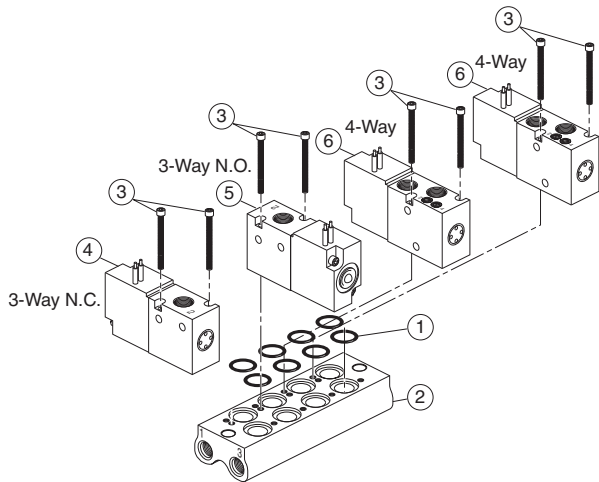
Direct Acting Valves

XM Series

15mm Solenoid Valves

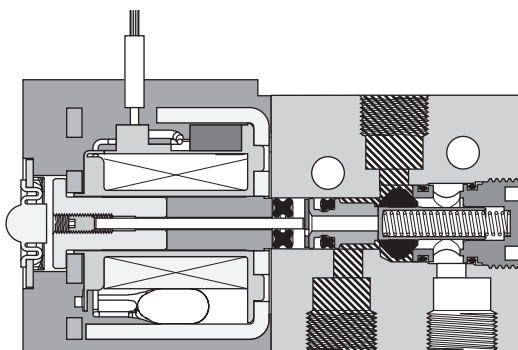
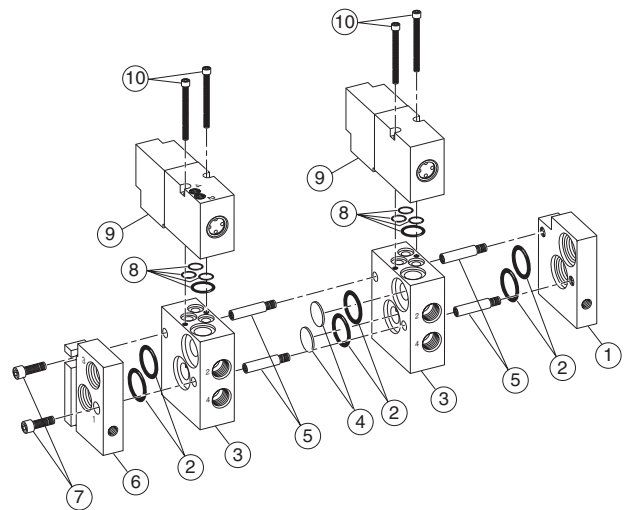
**Inline Valve on IEM Bar Manifold Assembly**

IEM Bar Manifold Assembly's are assembled by adding Inline Valves to an IEM Bar Manifold. O-rings are installed at each valve station in the counterbore on the top of the manifold. Valves are installed with 2 mounting screws. For 3-Way N.C. valve operation, line up the solenoid end of the Valve with Port 1 on the Manifold. For 3-Way N.O. operation, line up the solenoid end of the valve with Port 3 on the manifold. For 4-Way valve operation, line up the Solenoid end of the valve with Port 1 on the manifold. If manifolds are factory assembled, all 3-Way valves are N.C. To convert from N.C. to N.O. operation, remove valve from the base and place valve 180° from the original position with the solenoid end lined up with the 3-Port on the manifold.

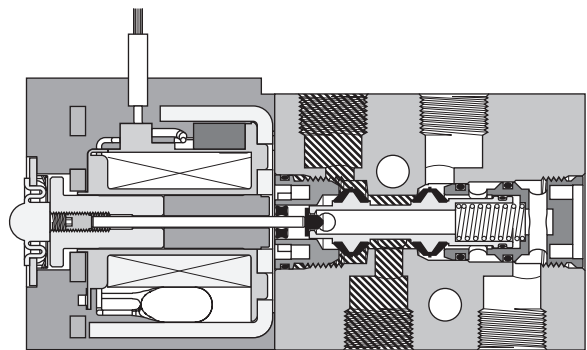


**Subbase Valve and Manifold Assembly**

Subbase Manifold Assembly's are assembled by adding tie rods and manifold bases to the end plate kit of the subbase end plate kit as shown below. Valves are added to each subbase per manifold design. 4-Way and 3-Way valves are mounted with Solenoids Coils facing away from subbase delivery ports 2 and 4. For 3-Way N.O. Functions, valves must be isolated from the other 3-Way N.C. and 4-Way valves on the manifold. This is achieved by placing port isolator discs in between the subbase of the first 3-Way N.O. Valve and the subbase of the last 3-Way N.C. or 4-Way valve in the Subbase Manifold. Inlet pressure is connected to Port 3 of the manifold for the 3-Way N.O. valves. Inlet pressure is connected to the Port 1 of the manifold for the 3-Way N.C. and 4-Way valves. Separate Inlet Pressure Ports and Exhaust Ports are required for N.O. and N.C. 3-way function valves.



**3-Way Inline Valve**  
 Shown Energized



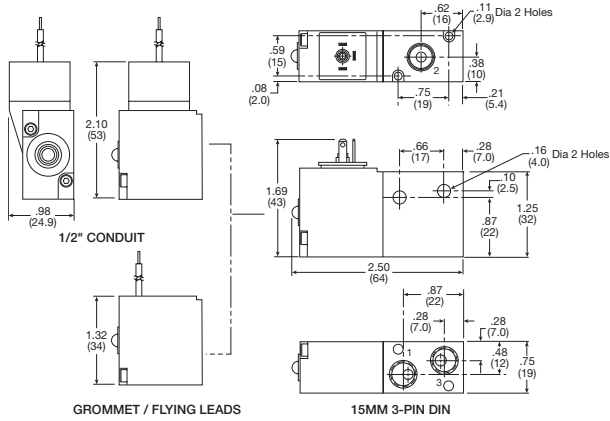
**4-Way Inline Valve**  
 Shown De-Energized

Pressure Exhaust



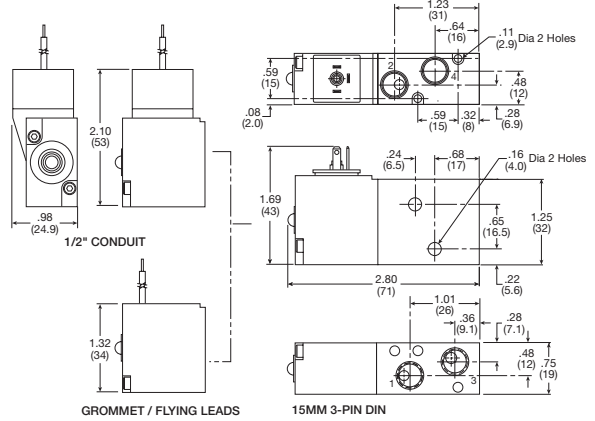
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**XM 3-way Inline**



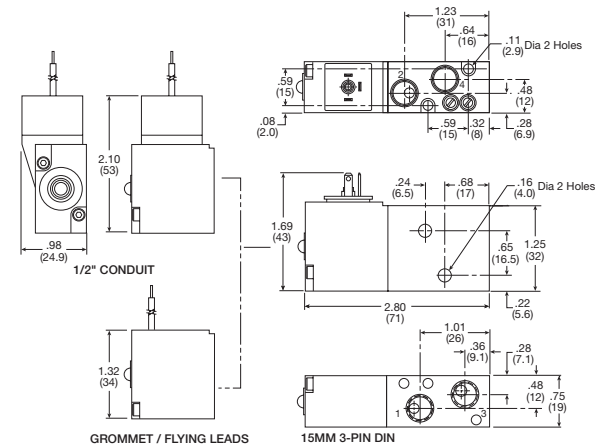
Inches (mm)  
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

**XM 4-way Inline**



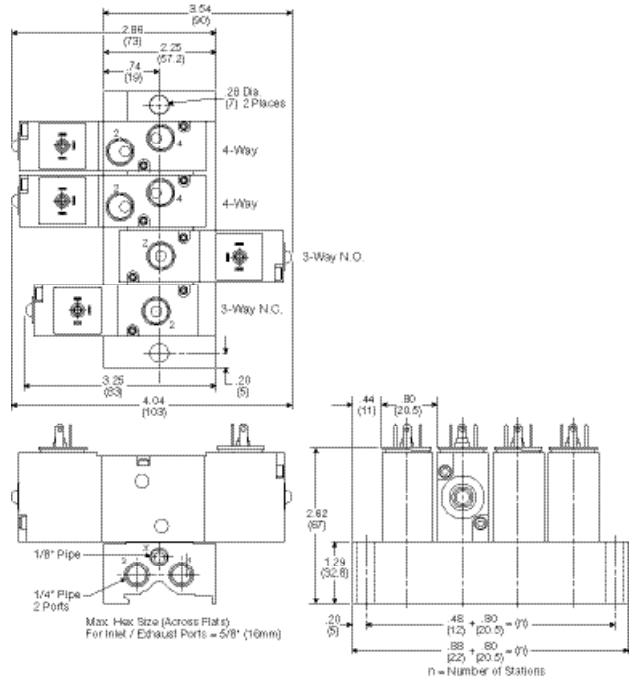
Inches (mm)  
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

**XM 4-way Inline with Flow Controls**

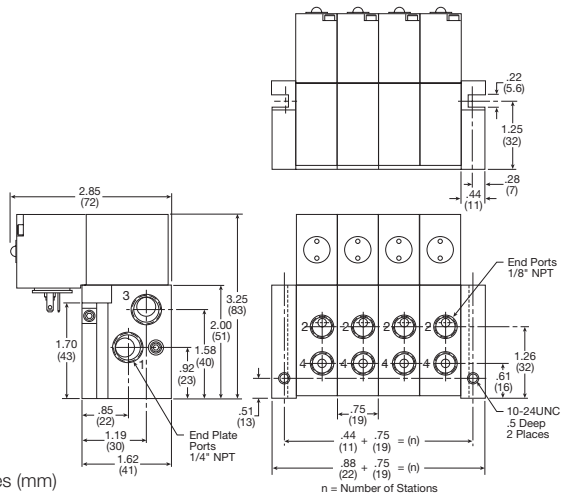


Inches (mm)  
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

**XM IEM Manifold**

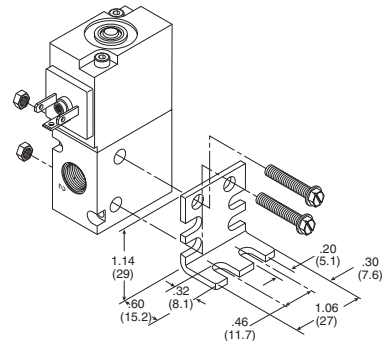


**XM IEM Subbase**



Inches (mm)

**Mounting Bracket Dimensions**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B**  
 Direct Acting Valves  
 XM Series  
 15mm Solenoid Valves



**Features**

**15mm Solenoid Valve**

A compact 15mm, 3-way subbase or manifold mounted valve. Ideally suited for use in stationary or mobile equipment applications, where flow rates and low temperatures are a key consideration.

**Features**

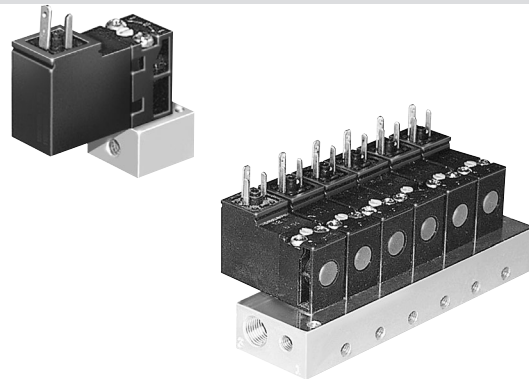
- Compact and simple design
- Utilizes 15mm solenoid operators
- Manifold allows mounting of normally open and normally closed operators simultaneously
- Up to 20 stations available

**Solenoids**

- 15mm low watt solenoids are UL certified and approved to be CE marked
- Wide range of voltages available

**Applications**

- Piloting for process control valves
  - pharmaceutical equipment
  - waste water treatment systems
  - food processing
  - chemical batching
- Industrial laundry equipment
- Paint spray & dyeing equipment
- Textile winding applications
- Vacuum and conveyor applications



**Operating information**

Operating pressure:	Vacuum to 145 PSIG (Vacuum to 10 bar)
Operating temperature:	
Standard Flow:	5°F to 140°F (-15°C to 60°C)
High Flow:	5°F to 122°F (-15°C to 50°C)
Mobile Applications (47 & 48 Voltage Options):	-40°F to 158°F (-40°C to 70°C)
Storage temperature:	
All applications:	-40°F to 158°F (-40°C to 70°C)

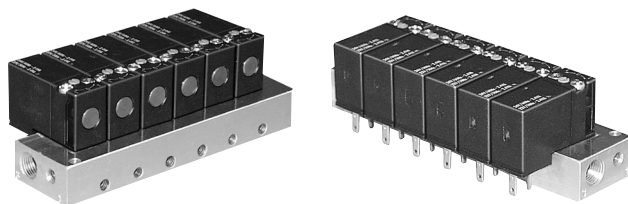
**Material specifications**

Body	Glass filled polyamide
Internal metal parts	Steel
Screws	Steel
Bottom plug	Thermoplastic
Poppet seals	Nitrile for standard, fluorocarbon for mobile

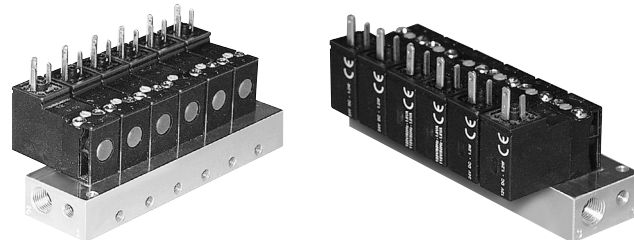
**Technical data**

Electrical interface per:	DIN 43650 Form C (EN175301-803C) 8mm pin spacing
Pneumatic interface per:	AFNOR E 0652 110 N
Protection:	IP65 (Washdown)
Air flow:	Standard flow 0.033 Cv (33 Lpm) (1.2W) (1.6VA)
Voltage tolerance:	All voltages except 47 & 48: Rated voltage +10% / -15% options 47 & 48: Rated voltage +25% / -30%

**Manifold - Pins Down**



**Manifold - Pins Up**



**B**

Direct Acting Valves

XM Series

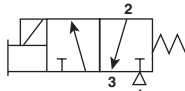
15mm Solenoid Valves



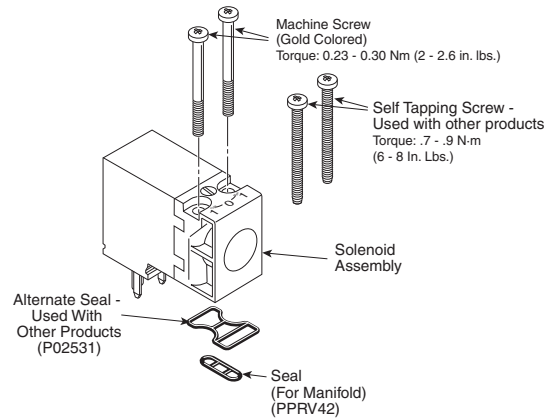
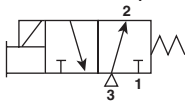
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**15mm Solenoid Kit Information**

**3/2 Normally Non-passing (NNP) /  
 Normally Closed (NC) Valves**



**3/2 Normally Passing (NP) /  
 Normally Open (NO) Valves**



**NC (NNP) Solenoids / Kits**

	## Voltage (S = Standard, O = Optional, — = N/A)					Kit No.
	42 (24VAC)	45 (12VDC)	49 (24VDC)	53 (120VAC)	57 (230VAC)	
* Override						
B (Non-lock, Flush)	O	O	S	S	O	<b>PS2982*##P</b> Pins: UP NC / NNP 1.2W / 1.6VA
C (Lock, Flush)	O	O	S	S	O	
D (Non-lock, Ext)	—	—	O	O	—	
B (Non-lock, Flush)	O	O	S	S	—	<b>PS3541*##P</b> Pins: DOWN NC / NNP 1.8W / 2.4VA
C (Lock, Flush)	O	O	S	S	—	
D (Non-lock, Ext)	—	—	O	O	—	
E (Lock, Ext)	—	—	O	O	—	
B (Non-lock, Flush)	O	O	O	O	O	<b>PS3441*##P</b> Pins: DOWN NC / NNP 1.2W / 1.6VA
C (Lock, Flush)	O	O	O	O	O	
B (Non-lock, Flush)	—	O	S	S	—	<b>PS3202*##P</b> Pins: UP NO / NP 1.2W / 1.6VA

\* Override, ## Voltage

**Female Electrical Connectors**

**15mm 3-Pin DIN 43650C (Use with enclosure "5")**

Description		Connector	Connector with Cord
Unlighted	18 Inches	<b>PS2932BP</b>	<b>PS2932HBP</b>
Unlighted	6 Feet	<b>PS2932BP</b>	<b>PS2932JBP</b>
Light - 12VAC or DC	6 Feet	<b>PS294675BP</b>	<b>PS2946J75BP*</b>
Light - 24VAC or DC	6 Feet	<b>PS294679BP</b>	<b>PS2946J79BP*</b>
Light - 110/120VAC	6 Feet	<b>PS294683BP</b>	<b>PS2946J83BP*</b>
Light - 240/230VAC		<b>PS294687BP</b>	N/A

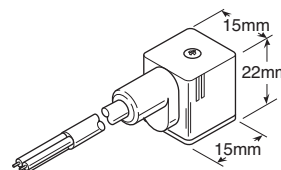
\* LED with surge suppression.

**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord.  
 IP65 rated when properly installed.

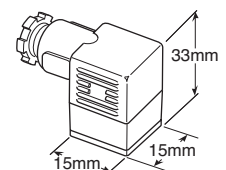
**Engineering Data:**

- Conductors: 2 poles plus ground
- Cable range (Connector only): 4 to 6mm (0.16 to 0.24 Inch)
- Contact spacing: 8mm

☐ Most popular.



Connector with cord

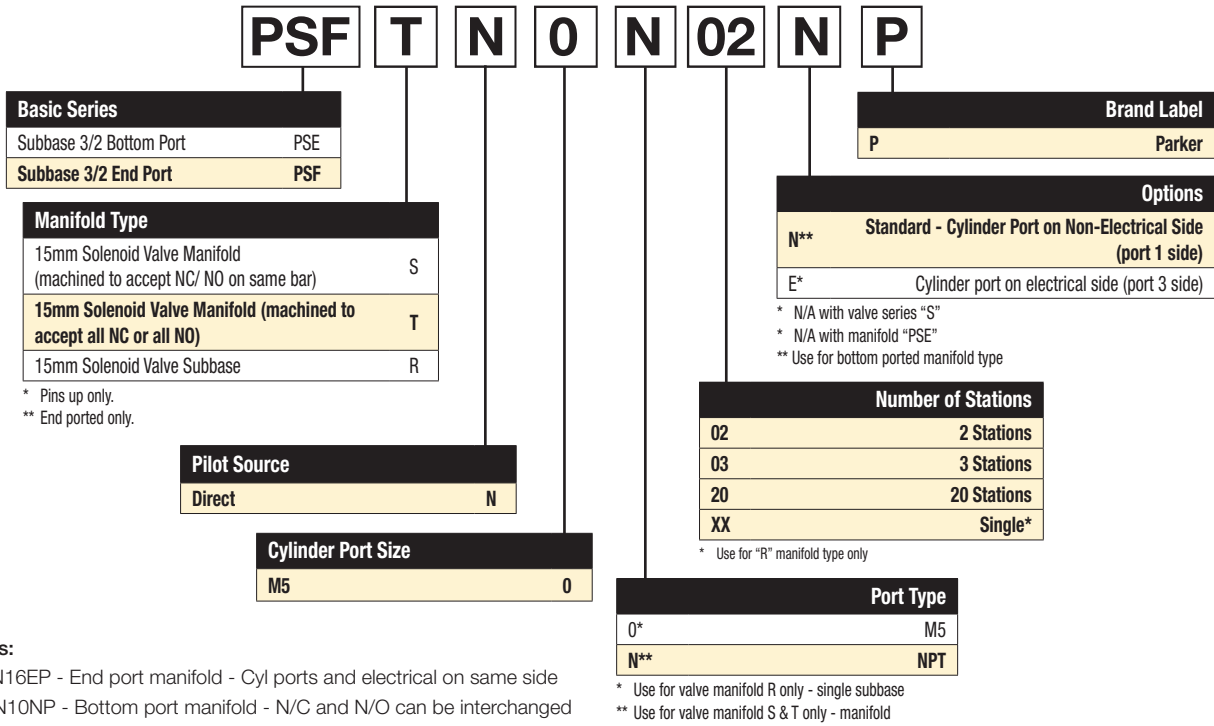


Connector only



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Model Number Index**

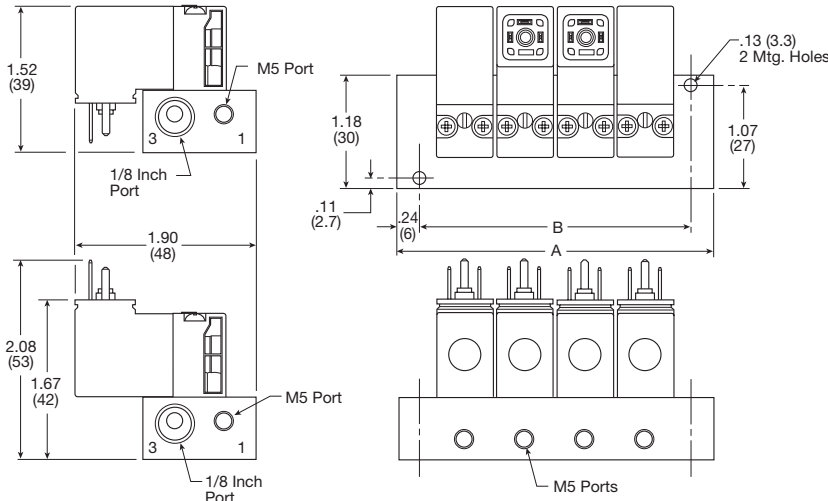


**Examples:**

PSFTNON16EP - End port manifold - Cyl ports and electrical on same side  
 PSESNON10NP - Bottom port manifold - N/C and N/O can be interchanged  
 PSFTNON10NP - End port manifold - Cyl ports and electrical are opposite

**Manifold Dimensions**

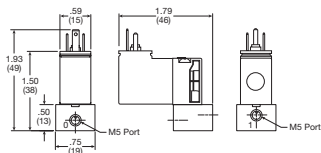
Special mounting considerations must be made for connector assembly clearance when mounting solenoid valves with pins down.



Number of Stations	Dim. A	Dim. B
2	2.04 (52)	1.57 (40)
3	2.68 (68)	2.20 (56)
4	3.31 (84)	2.83 (72)
5	3.94 (100)	3.46 (88)
6	4.57 (116)	4.09 (104)
7	5.20 (132)	4.72 (120)
8	5.83 (148)	5.35 (136)
9	6.46 (164)	5.98 (152)
10	7.09 (180)	6.61 (168)
11	7.72 (196)	7.24 (184)
12	8.35 (212)	7.87 (200)
13	8.98 (228)	8.50 (216)
14	9.61 (244)	9.13 (232)
15	10.23 (260)	9.76 (248)
16	10.87 (276)	10.39 (264)
17	11.50 (292)	11.02 (280)
18	12.13 (308)	11.65 (296)
19	12.76 (324)	12.28 (312)
20	13.39 (340)	12.91 (328)

**Subbase Dimensions**

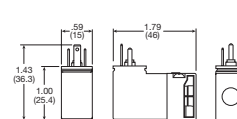
Pins up only.



Most popular.

**15mm Solenoid Dimensions**

Pins up only.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B**

Direct Acting Valves

XM Series

15mm Solenoid Valves

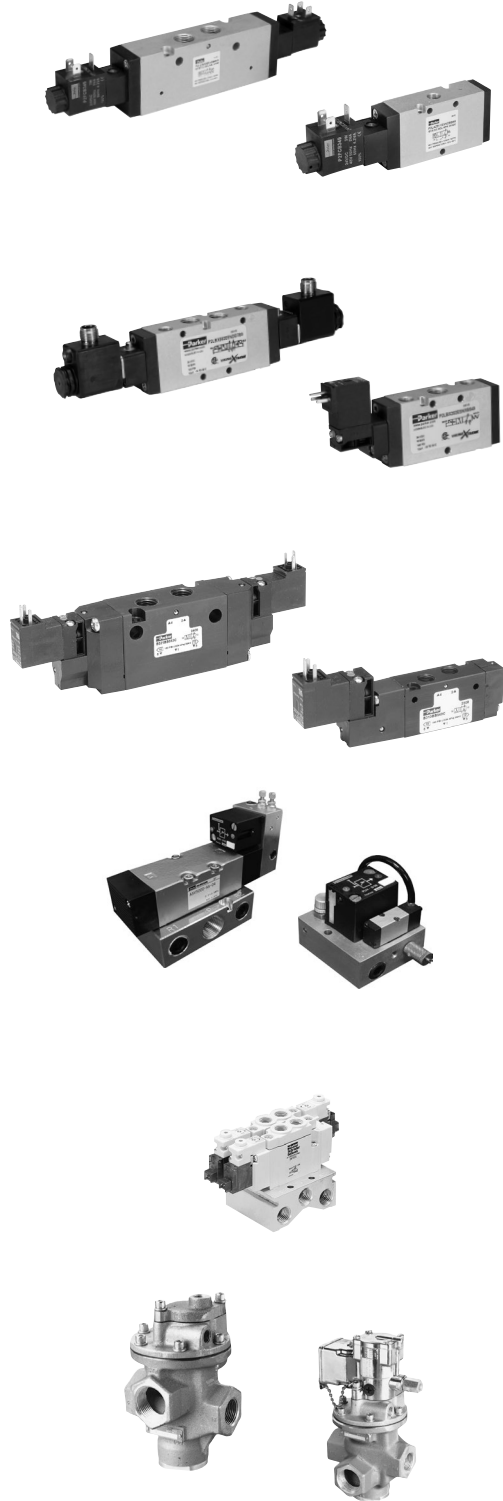


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

B12

**Parker Hannifin Corporation**  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Pneumatic Valve Products**  
**Inline Valve Series**



**Viking Lite Series**

Features	C2
Common Part Numbers / Ordering Information	C3-C5
Accessories	C6
Dimensional Data	C7-C10

**Viking Xtreme Series**

Features	C11
Common Part Numbers / Ordering Information	C12-C19
Accessories	C20-C23, C28-C30
Technical Data	C24-C27, C29
Dimensional Data	C30-C38

**B3, B5 & B6 Series**

Features	C39
Common Part Numbers / Ordering Information	C40-C45
Accessories	C46-C48
Technical Data	C49-C54
Dimensional Data	C55-C58

**B7 & B8 Series**

Features	C59
Common Part Numbers / Ordering Information	C60-C62
Accessories	C63-C65
Technical Data	C66-C68
Dimensional Data	C69-C71

**Air Saver Series**

Features	C72-C73
Specifications	C74
Ordering Information / Dimensional Data	C75-C80

**ADEX Series**

Features	C81
Common Part Numbers / Ordering Information	C82
Accessories	C83-C87
Technical Data	C88-C89
Dimensional Data	C90-C93

**N Series**

Features	C94
Common Part Numbers / Ordering Information	C95-C98
Technical Data	C99-C104
Dimensional Data	C105-C112

**C**

**Inline Valves**





## Viking Lite Series

The Viking Lite valve range is robust, versatile and combines a large flow capacity with short change-over times, designer may choose 1/8, 1/4 or 3/8 port sizes along with 24VDC and 120VAC voltage options. Viking Lite valves are fitted with dynamic bi-directional spool seals suitable for pressures up to 10 bar and ambient temperatures between -10°C to + 50°C. When in service, radial expansion of the spool seal occurs to maintain sealing contact with the valve bore. This sealing method reduces friction and produces a lower required pilot pressure. Valves do not require lubrication in operation but they can also be installed in systems that are lubricated.

### Ports

- P2LAZ: 1/8 inch NPT & BSPP, Cv = 0.6
- P2LBZ: 1/4 inch NPT & BSPP, Cv = 1.5
- P2LCZ: 3/8 inch NPT & BSPP, Cv = 2.5

### Mounting

- Inline
- IEM aluminum bar

### Solenoids

2.5 watts  
- 22mm, 3-pin (DIN 43650)  
24VDC and 120VAC

### • Certification / approval

- IP65 Rated, RoHS, CE

### Materials

Valve body	Anodized aluminium
End covers	Anodized aluminium
Spool	Aluminium
Piston	Acetal plastic / Anodized aluminium
End cover seals	Nitrile rubber
End cover screws	Zinc plated steel
Springs	Stainless steel
Mounting screws for solenoid	Stainless steel
Spool seals	Nitrile

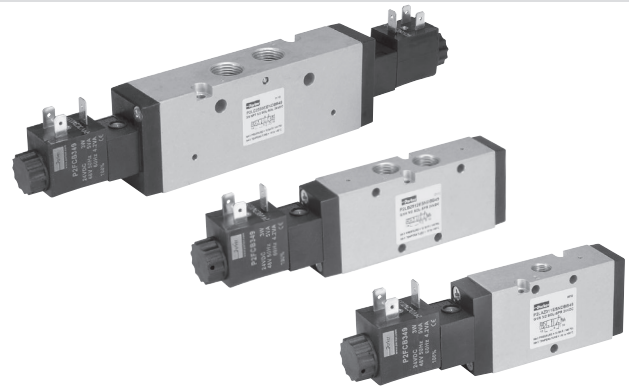
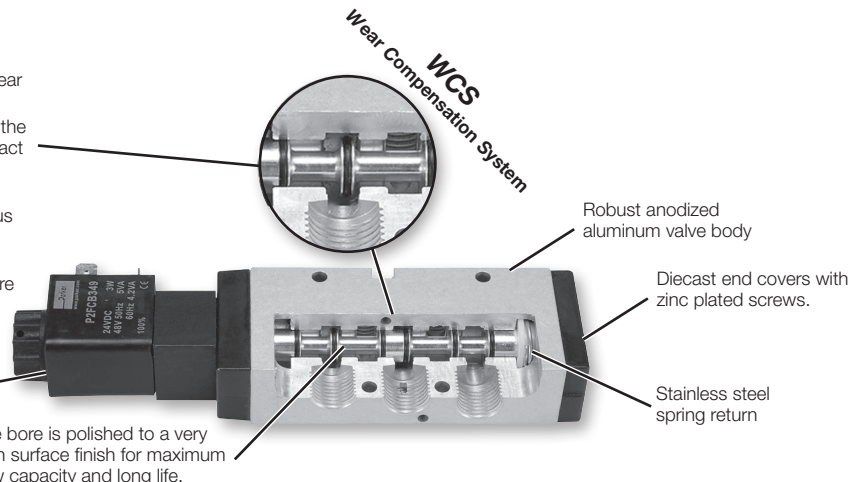
### Features

#### WCS

- Maximum Performance
  - Low friction - fast response - less wear
- Long Cycle Life
  - Under pressure, radial expansion of the seal occurs to maintain sealing contact with the valve bore
- Non-Lube Service
  - No lubrication required for continuous valve shifting
- Bi-Directional Spool Seals
  - Common spool used for any pressure

- Solenoid operated, IP65, RoHS, CE
- 90° rotation

The bore is polished to a very high surface finish for maximum flow capacity and long life.



### Operating information

Operating pressure: 145 PSIG (10 bar)  
Minimum: See chart  
Operating temperature: 14°F to 122°F (-10°C to 50°C)

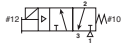

### Minimum operating pressure, PSIG (bar)

Valve type - Internal pilot	P2LAZ	P2LBZ	P2LCZ
Single solenoid - spring return	43.5 (3.0)	43.5 (3.0)	43.5 (3.0)
Single remote pilot - spring return	43.5 (3.0)	43.5 (3.0)	43.5 (3.0)
Double solenoid - 2-position	22 (1.5)	22 (1.5)	22 (1.5)
Double remote pilot - 2-position	22 (1.5)	22 (1.5)	22 (1.5)
Double solenoid - 3-position (APB, PC, CE)	43.5 (3.0)	43.5 (3.0)	43.5 (3.0)
Double remote pilot - 3-position (APB, PC, CE)	43.5 (3.0)	43.5 (3.0)	43.5 (3.0)

### Recommended air quality for valves

For best possible service life and trouble free operation, ISO 8573-1 quality class 3.4.3 should be used. This means 5µm filter (standard filter) dew point +3°C for indoor operation (a lower dew point should be selected for outdoor operation) and oil concentration 1.0 mg oil/m<sup>3</sup>, which is what a standard compressor with a standard filter gives.

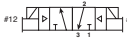

**3/2 - 2-Position Single Solenoid, Non-locking Manual Override**

Port size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	15 / 35	0.35 (0.16)	24VDC	<b>P2LAZ391ESNDBB49</b>	<b>P2LAZ311ESNDBB49</b>
				120VAC	<b>P2LAZ391ESNDBB53</b>	<b>P2LAZ311ESNDBB53</b>
1/4	1.5	18 / 45	0.35 (0.16)	24VDC	<b>P2LBZ392ESNDBB49</b>	<b>P2LBZ312ESNDBB49</b>
				120VAC	<b>P2LBZ392ESNDBB53</b>	<b>P2LBZ312ESNDBB53</b>
3/8	2.5	27 / 45	0.77 (0.35)	24VDC	<b>P2LCZ393ESNDBB49</b>	<b>P2LCZ313ESNDBB49</b>
				120VAC	<b>P2LCZ393ESNDBB53</b>	<b>P2LCZ313ESNDBB53</b>

P2LAZ Shown



**3/2 - 2-Position Double Solenoid, Non-locking Manual Override**

Port Size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	10 / 10	0.40 (0.18)	24VDC	<b>P2LAZ391EENDBB49</b>	<b>P2LAZ311EENDBB49</b>
				120VAC	<b>P2LAZ391EENDBB53</b>	<b>P2LAZ311EENDBB53</b>
1/4	1.5	12 / 12	0.40 (0.18)	24VDC	<b>P2LBZ392EENDBB49</b>	<b>P2LBZ312EENDBB49</b>
				120VAC	<b>P2LBZ392EENDBB53</b>	<b>P2LBZ312EENDBB53</b>
3/8	2.5	17 / 17	0.80 (0.36)	24VDC	<b>P2LCZ393EENDBB49</b>	<b>P2LCZ313EENDBB49</b>
				120VAC	<b>P2LCZ393EENDBB53</b>	<b>P2LCZ313EENDBB53</b>

P2LAZ Shown

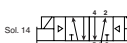

**5/2 - 2-Position Single Solenoid, Non-locking Manual Override**

Port Size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	15 / 35	.037 (0.17)	24VDC	<b>P2LAZ591ESNDBB49</b>	<b>P2LAZ511ESNDBB49</b>
				120VAC	<b>P2LAZ591ESNDBB53</b>	<b>P2LAZ511ESNDBB53</b>
1/4	1.5	18 / 45	0.44 (0.20)	24VDC	<b>P2LBZ592ESNDBB49</b>	<b>P2LBZ512ESNDBB49</b>
				120VAC	<b>P2LBZ592ESNDBB53</b>	<b>P2LBZ512ESNDBB53</b>
3/8	2.5	27 / 45	0.95 (0.43)	24VDC	<b>P2LCZ593ESNDBB49</b>	<b>P2LCZ513ESNDBB49</b>
				120VAC	<b>P2LCZ593ESNDBB53</b>	<b>P2LCZ513ESNDBB53</b>

P2LAZ Shown



**5/2 - 2-Position Double Solenoid, Non-locking Manual Override**

Port Size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	10 / 10	.042 (0.19)	24VDC	<b>P2LAZ591EENDBB49</b>	<b>P2LAZ511EENDBB49</b>
				120VAC	<b>P2LAZ591EENDBB53</b>	<b>P2LAZ511EENDBB53</b>
1/4	1.5	12 / 12	0.46 (0.21)	24VDC	<b>P2LBZ592EENDBB49</b>	<b>P2LBZ512EENDBB49</b>
				120VAC	<b>P2LBZ592EENDBB53</b>	<b>P2LBZ512EENDBB53</b>
3/8	2.5	17 / 17	0.97 (0.44)	24VDC	<b>P2LCZ593EENDBB49</b>	<b>P2LCZ513EENDBB49</b>
				120VAC	<b>P2LCZ593EENDBB53</b>	<b>P2LCZ513EENDBB53</b>

P2LAZ Shown

**5/3 - 3-Position, All Ports Blocked, Non-locking Manual Override**

Port Size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	18 / 40	0.57 (0.26)	24VDC	<b>P2LAZ691EENDBB49</b>	<b>P2LAZ611EENDBB49</b>
				120VAC	<b>P2LAZ691EENDBB53</b>	<b>P2LAZ611EENDBB53</b>
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	<b>P2LBZ692EENDBB49</b>	<b>P2LBZ612EENDBB49</b>
				120VAC	<b>P2LBZ692EENDBB53</b>	<b>P2LBZ612EENDBB53</b>
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	<b>P2LCZ693EENDBB49</b>	<b>P2LCZ613EENDBB49</b>
				120VAC	<b>P2LCZ693EENDBB53</b>	<b>P2LCZ613EENDBB53</b>

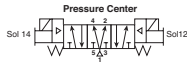
P2LAZ Shown

**Most popular.** Notes: Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

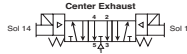
5/3 - 3-Position, Pressure Center, Non-locking Manual Override



P2LAZ Shown

Port Size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	18 / 40	0.57 (0.26)	24VDC	<b>P2LAZ791EENDBB49</b>	<b>P2LAZ711EENDBB49</b>
				120VAC	<b>P2LAZ791EENDBB53</b>	<b>P2LAZ711EENDBB53</b>
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	<b>P2LBZ792EENDBB49</b>	<b>P2LBZ712EENDBB49</b>
				120VAC	<b>P2LBZ792EENDBB53</b>	<b>P2LBZ712EENDBB53</b>
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	<b>P2LCZ793EENDBB49</b>	<b>P2LCZ713EENDBB49</b>
				120VAC	<b>P2LCZ793EENDCB53</b>	<b>P2LCZ713EENDBB53</b>

5/3 - 3-Position, Center Exhaust



P2LAZ Shown

Port Size	Cv	Response time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	18 / 40	0.57 (0.26)	24VDC	<b>P2LAZ891EENDBB49</b>	<b>P2LAZ811EENDBB49</b>
				120VAC	<b>P2LAZ891EENDBB53</b>	<b>P2LAZ811EENDBB53</b>
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	<b>P2LBZ892EENDBB49</b>	<b>P2LBZ812EENDBB49</b>
				120VAC	<b>P2LBZ892EENDBB53</b>	<b>P2LBZ812EENDBB53</b>
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	<b>P2LCZ893EENDBB49</b>	<b>P2LCZ813EENDBB49</b>
				120VAC	<b>P2LCZ893EENDBB53</b>	<b>P2LCZ813EENDBB53</b>

Notes: Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C)

Viking Lite Single & Double Solenoid Operated Valves

**P2L A Z 5 91 ES N D C B 49**

**Valve Size**

1/8"	A
1/4"	B
3/8"	C

**Series**

Viking Lite	Z
-------------	---

**Valve Type / Function**

Internal pilot supply to solenoid	
3/2 NC - 2-Position	3
5/2 2-Position	5
5/3 3-Position, APB	6
5/3 3-Position, PC	7
5/3 3-Position, CE	8

**Voltage / Frequency**

49	24VDC
53	120VAC
Blank	Valve Less Coil

**Enclosures / Lead Length**

B	22mm Rectangular 3-Pin - Type B Industrial (Male Only)
N	Valve Less Coil

**Overrides**

C	Extended - Locking
B	Flush - Non-Locking

**Solenoid Pilot Type**

D	Pilot Exhaust Vented
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**Main port thread**

G1/8 (P2LA)	11
G1/4 (P2LB)	12
G3/8 (P2LC)	13
1/8" NPT (P2LA)	91
1/4" NPT (P2LB)	92
3/8" NPT (P2LC)	93

**Valve Type**

N	14°F to 122°F (-10°C to 50°C)
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**12 End Operator**

EE	Double Solenoid
ES*	Single Solenoid, Spring Return

\* Not available with 3-position valves.

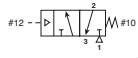
Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Part Numbers / Ordering Information

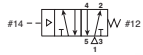
Single Remote Air Pilot, 3-way, 2-position



P2LBZ Shown

Port Size (NPT)	Cv	Response Time (msec)	Weight lb (kg)	Valve Type	Part Number
1/8"	0.7	15 / 45	0.25 (0.11)	P2LAX	<b>P2LAZ391PS</b>
1/4"	1.3	25 / 65	0.25 (0.11)	P2LBX	<b>P2LBZ392PS</b>
3/8"	2.5	25 / 65	0.67 (0.30)	P2LCX	<b>P2LCZ393PS</b>

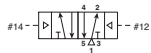
Single Remote Air Pilot, 4-way, 2-position



P2LBZ Shown

Port Size (NPT)	Cv	Response Time (msec)	Weight lb (kg)	Valve Type	Part Number
1/8"	0.7	15 / 45	0.27 (0.12)	P2LAX	<b>P2LAZ591PS</b>
1/4"	1.3	20 / 55	0.27 (0.12)	P2LBX	<b>P2LBZ592PS</b>
3/8"	2.5	25 / 85	0.85 (0.35)	P2LCX	<b>P2LCZ593PS</b>

Double Remote Air Pilot, 4-way, 2-position



P2LBZ Shown

Port Size (NPT)	Cv	Response Time (msec)	Weight lb (kg)	Valve Type	Part Number
1/8"	0.7	11 / 11	0.22 (0.10)	P2LAX	<b>P2LAZ591PP</b>
1/4"	1.3	13 / 13	0.26 (0.12)	P2LBX	<b>P2LBZ592PP</b>
3/8"	2.5	18 / 18	0.77 (0.35)	P2LCX	<b>P2LCZ593PP</b>

Notes: Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Lite Remote Air Pilot Operated Valves

**P2LAZ591PS**

Valve Size	
1/8"	A
1/4"	B
3/8"	C

Operators / Return	
PP	Double Remote Pilot, 5/32" (4mm) tube
PS*	Single Remote Pilot, Spring Return, 5/32" (4mm) Tube

\* Not available with 3-position valves.

Valve Type / Function	
<i>Internal Pilot Supply To Solenoid</i>	
3/2 NC - 2-Position	3
5/2 2-Position	5
5/3 3-Position, APB	6
5/3 3-Position, PC	7
5/3 3-Position, CE	8

Main Port Thread	
11	G1/8 (P2LA)
12	G1/4 (P2LB)
13	G3/8 (P2LC)
<b>91</b>	<b>1/8" NPT (P2LA)</b>
<b>92</b>	<b>1/4" NPT (P2LB)</b>
<b>93</b>	<b>3/8" NPT (P2LC)</b>

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Accessories

IEM Bar Manifold, Inline Valve Only\*



Valve Series	Valve Function	# of Stations	Weight lb (kg)	Manifold Only (NPT)	Manifold Only (BSPP)
P2LAZ / P2LBZ	3-way	2	0.84 (0.38)	91213202SXZN	91213202SXZ
P2LAZ / P2LBZ	3-way	4	1.41 (0.64)	91213204SXZN	91213204SXZ
P2LAZ / P2LBZ	3-way	6	1.96 (0.89)	91213206SXZN	91213206SXZ
P2LAZ / P2LBZ	3-way	8	2.54 (1.15)	91213208SXZN	91213208SXZ
P2LAZ / P2LBZ	3-way	10	3.09 (1.40)	91213210SXZN	91213210SXZ

Kits include: Manifold, valve hold down bolts, gaskets.



Valve Series	Valve Function	# of Stations	Weight lb (kg)	Manifold Only (NPT)	Manifold Only (BSPP)
P2LAZ	4-way	2	0.68 (0.31)	9121658068N	9121658068
P2LAZ	4-way	4	1.06 (0.48)	9121658075N	9121658075
P2LAZ	4-way	6	1.39 (0.63)	9121658076N	9121658076
P2LAZ	4-way	8	1.76 (0.80)	9121658077N	9121658077
P2LAZ	4-way	10	2.16 (0.98)	9121658078N	9121658078

Kits include: Manifold, valve hold down bolts, gaskets.



Valve Series	Valve Function	# of Stations	Weight lb (kg)	Manifold Only (NPT)	Manifold Only (BSPP)
P2LBZ	4-way	2	1.53 (0.69)	9121594805XN	9121594805X
P2LBZ	4-way	4	2.49 (1.13)	9121594806XN	9121594806X
P2LBZ	4-way	6	3.44 (1.56)	9121594807XN	9121594807X
P2LBZ	4-way	8	4.41 (2.00)	9121594808XN	9121594808X
P2LBZ	4-way	10	5.40 (2.45)	9121594812XN	9121594812X

Kits include: Manifold, valve hold down bolts, gaskets.

\* For odd number of stations, consider Viking Xtreme bar manifold.

IEM Bar Manifold, Inline Valve Only



Valve Series	Valve Function	# of Stations	Manifold Only (NPT & BSPP)
P2LCZ	4-way		Use Viking Xtreme IEM bar manifold

Note: Only 4-way Viking Lite will mount on Viking Xtreme manifold. If 3-way desired, use 4-way and plug part #2 for N.C. valve function.

Manifold Accessories / Parts



Valve Series	Description	Weight lb (kg)	Kit Number
P2LAZ / P2LBZ *	3-way: Blanking kit with mounting screws (2)	0.22 (0.10)	912132BPSXZ
P2LAZ *	4-way: Blanking kit with mounting screws (2)	0.11 (0.05)	9121658063
P2LBZ *	4-way: Blanking kit with mounting screws (2)	0.04 (0.02)	9121594809X

\*Note: O-ring for blanking kit included with manifold. For replacement o-rings or fastener bolts, use Viking Xtreme Kits.

22mm Rectangular 3-Pin – Type B Industrial  
(Use with Enclosure “B”)

Description	Connector with 6' (2m) Cord	Connector
Unlighted	PS2429JBP	PS2429BP
Light – 24VDC	PS2430J79BP*	PS243079BP
Light – 120V/60Hz	PS2430J83BP*	PS243083BP

\* LED with surge suppression.

Note: Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

Engineering data:

conductors: 2 poles plus ground; cable range (connector only): 6 to 8mm (0.24 To 0.31 Inch); contact spacing: 11mm

Most popular.

Replacement Parts

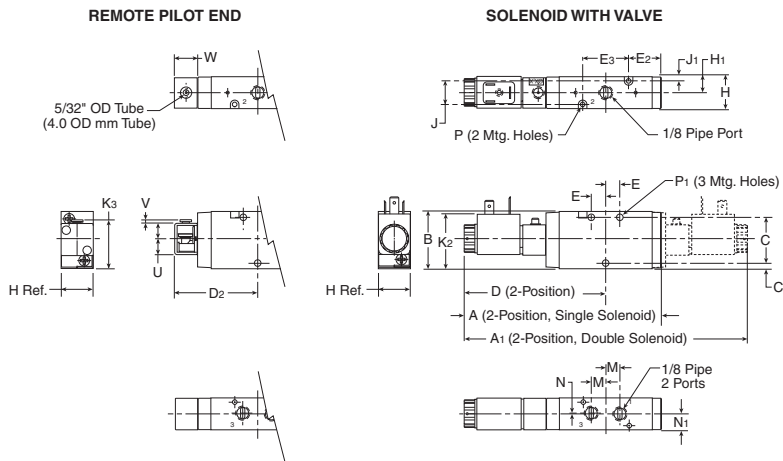
Description	Part Number
24VDC solenoid coil kit	P2FCB449
110VAC solenoid coil kit	P2FCB453
Remote pilot kit	P2FP1P
*Includes adaptor, gasket, screws	
Solenoid nut, diffuser	PS1556
Solenoid nut, vented	PS2892P



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**P2LAZ 3/2 Single & Double Operators – Solenoid & Remote Air Pilot**

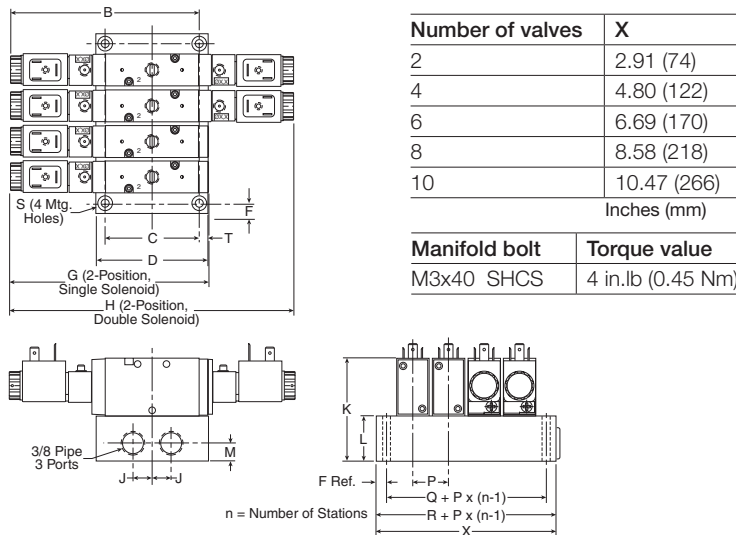


**P2LAZ 3/2  
 Solenoid & Remote Air Pilot**

A	A1	B	C	C1	D
5.35 (136)	7.68 (195)	1.57 (40)	1.26 (32)	.16 (4)	3.84 (97.5)
D2	E	E2	E3	H	H1
2.28 (58)	.39 (10)	.91 (23)	1.26 (32)	.87 (22)	.43 (11)
J	J1	K2	K3	M	N
.65 (16.5)	.11 (2.75)	1.50 (38)	1.31 (33.2)	.39 (10)	.02 (.5)
N1	P	P1	U	V	W
.43 (11)	∅ .12 ∅ (3.1)	∅ .17 ∅ (4.3)	0.43 (11)	0.087 (2.2)	0.59 (15.2)

Inches (mm)

**P2LAZ 3/2 Single & Double Operators – IEM Aluminum Bar Manifold**

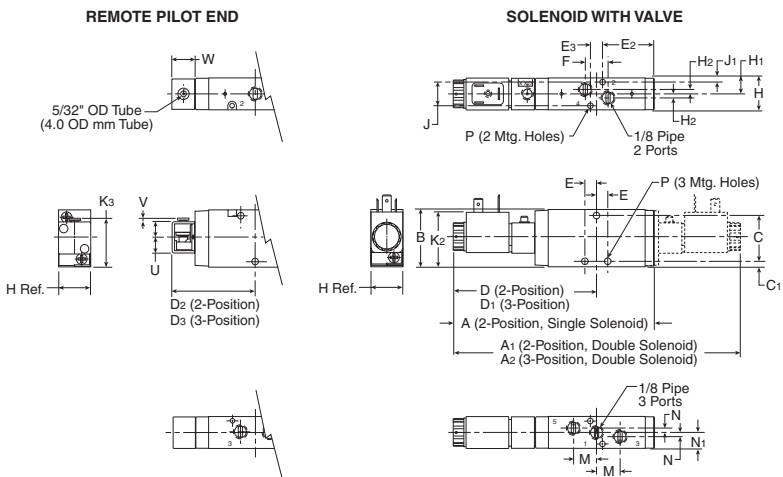


**P2LAZ 3/2  
 IEM Aluminum Bar Manifold**

B	C	D	F	G
5.06 (128.5)	2.44 (62)	2.99 (76)	.28 (7)	5.35 (136)
H	J	K	L	M
7.68 (195)	.51 (13)	2.78 (70.5)	1.20 (30.5)	.47 (12)
P	Q	R	S	T
.94 (24)	1.42 (36)	1.97 (50)	∅ .22 ∅ (5.5)	.88 (7)

Inches (mm)

**P2LAZ 5/2 & 5/3 Single & Double Operators – Solenoid & Remote Air Pilot**



**P2LAZ 5/2 & 5/3  
 Solenoid & Remote Air Pilot**

A	A1	A2	B	C	C1
5.47 (139)	7.76 (197)	8.70 (221)	1.57 (40)	1.30 (33)	.14 (3.5)
D	D1	D2	D3	E	E2
3.88 (98.5)	4.35 (110.5)	2.33 (59.3)	2.80 (71)	.31 (8)	1.86 (47.3)
E3	F	H	H1	H2	J
.33 (8.5)	.63 (16)	.87 (22)	.43 (11)	.12 (3)	.63 (16)
J1	K2	K3	M	N	N1
.12 (3)	1.50 (38)	1.31 (33.2)	.63 (16)	.12 (3)	.43 (11)
P	U	V	W		
∅ .16 ∅ (4.1)	0.43 (11)	0.087 (2.2)	0.59 (15.2)		

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

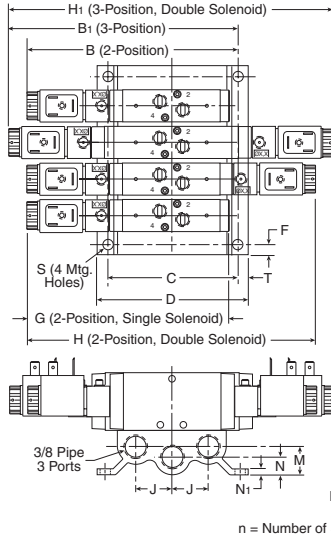
Air Saver Unit

ADEX Series

"N" Series



**P2LAZ 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold**



Number of valves	X
2	3.07 (78)
4	4.96 (126)
6	6.85 (174)
8	8.74 (222)
10	10.63 (270)

Manifold bolt	Torque value
M4x45 Screw MRX	9 in.lb (0.75 Nm)

**P2LAZ 5/2 & 5/3  
 IEM Aluminum Bar Manifold**

B	B <sub>1</sub>	C	D	F
5.10 (149.5)	6.36 (161.5)	3.46 (88)	4.02 (102)	.28 (7)

G	H	H <sub>1</sub>	J	K
5.47 (139)	7.76 (197)	8.70 (221)	.96 (24.5)	2.76 (70)

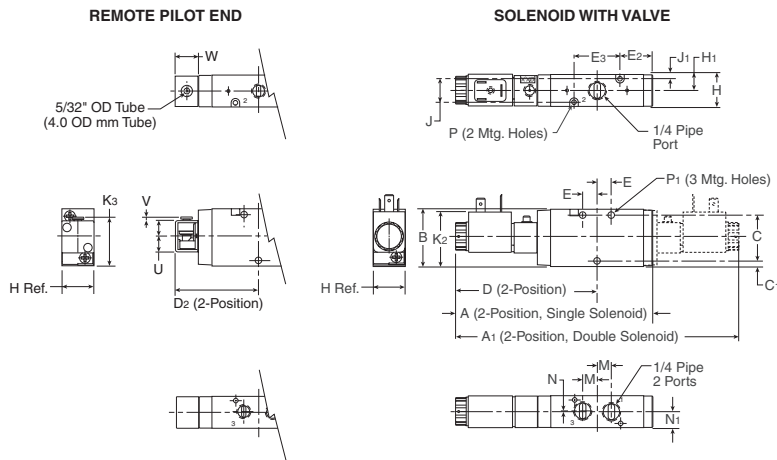
L	M	N	N <sub>1</sub>	P
1.18 (30)	.75 (19)	.47 (12)	.16 (4)	.94 (24)

Q	R	S	T
1.57 (40)	2.13 (54)	∅.28 ∅ (7)	.28 (7)

Inches (mm)

**P2LBZ 3/2 Single & Double Operators – Solenoid & Remote Air Pilot**



**P2LBZ 3/2  
 Solenoid & Remote Air Pilot**

A	A <sub>1</sub>	B	C	C <sub>1</sub>	D
5.35 (136)	7.68 (195)	1.57 (40)	1.26 (32)	.16 (4)	3.84 (97.5)

D <sub>2</sub>	E	E <sub>1</sub>	E <sub>3</sub>	H	H <sub>1</sub>
2.28 (58)	.39 (10)	.91 (23)	1.26 (32)	.87 (22)	.43 (11)

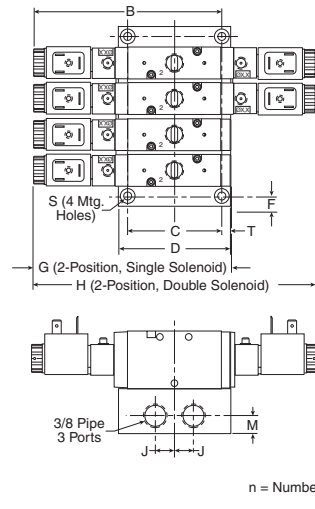
J	J <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	M	N
.65 (16.5)	.11 (2.75)	1.50 (38)	1.31 (33.2)	.39 (10)	.02 (.5)

N <sub>1</sub>	P	P <sub>1</sub>	U	V	W
.43 (11)	∅.12 ∅ (3.1)	∅.17 ∅ (4.3)	0.43 (11)	0.087 (2.2)	0.59 (15.2)

Inches (mm)

**P2LBZ 3/2 Single & Double Operators – IEM Aluminum Bar Manifold**



Number of valves	X
2	2.91 (74)
4	4.80 (122)
6	6.69 (170)
8	8.58 (218)
10	10.47 (266)

Manifold bolt	Torque value
M3x40 SCHS	4 in.lb (0.45 Nm)

**P2LBZ 3/2  
 IEM Aluminum Bar Manifold**

B	C	D	F	G
5.06 (128.5)	2.44 (62)	2.99 (76)	.28 (7)	5.35 (136)

H	J	K	L	M
7.68 (195)	.51 (13)	2.78 (70.5)	1.20 (30.5)	.47 (12)

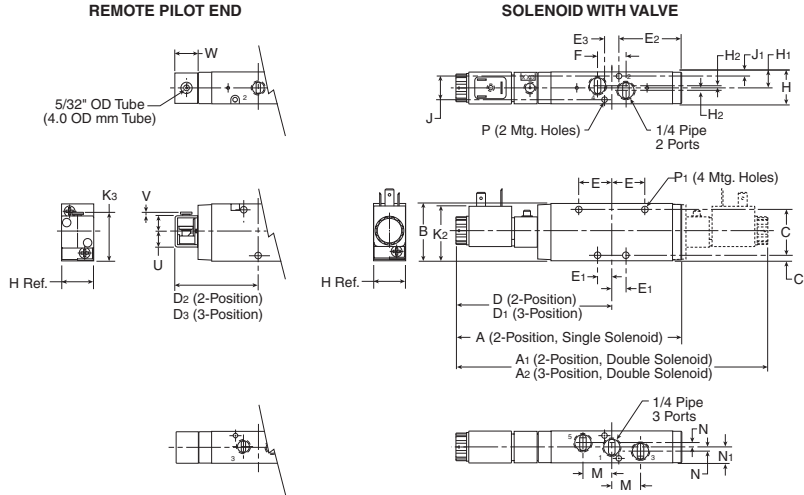
P	Q	R	S	T
.94 (24)	1.42 (36)	1.97 (50)	∅.22 ∅ (5.5)	.88 (7)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**P2LBZ 5/2 & 5/3 Single & Double Operators – Solenoid & Remote Air Pilot**

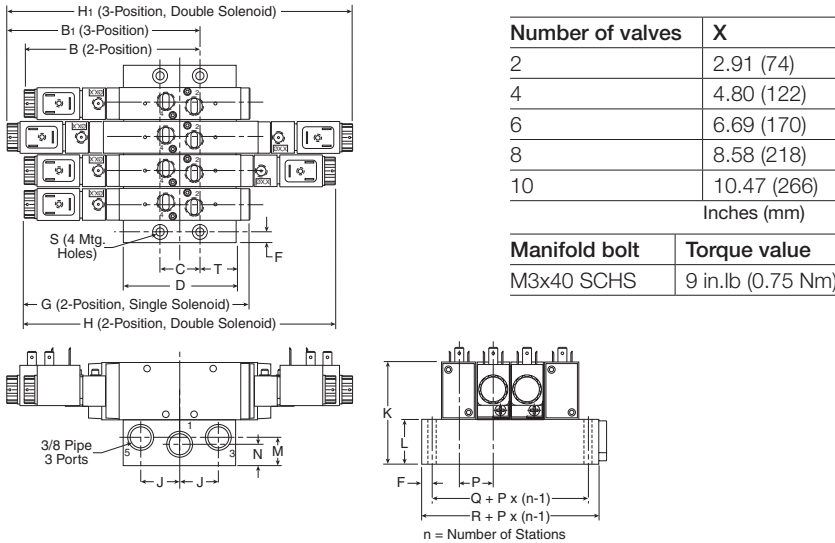


**P2LBZ 5/2 & 5/3  
 Solenoid & Remote Air Pilot**

<b>A</b>	<b>A1</b>	<b>A2</b>	<b>B</b>	<b>C</b>	<b>C1</b>
6.14 (156)	8.46 (215)	9.29 (236)	1.57 (40)	1.26 (32)	.16 (4)
<b>D</b>	<b>D1</b>	<b>D2</b>	<b>D3</b>	<b>E</b>	<b>E1</b>
4.23 (107.5)	4.65 (118)	2.68 (68)	3.09 (78.5)	.91 (23)	.39 (10)
<b>E2</b>	<b>E3</b>	<b>F</b>	<b>H</b>	<b>H1</b>	<b>H2</b>
1.14 (29)	.39 (10)	.79 (20)	.87 (22)	.43 (11)	.06 (1.5)
<b>J</b>	<b>J1</b>	<b>K2</b>	<b>K3</b>	<b>M</b>	<b>N</b>
.65 (16.5)	.11 (2.8)	1.50 (38)	1.31 (33.2)	.79 (20)	.08 (2)
<b>N1</b>	<b>P</b>	<b>P1</b>	<b>U</b>	<b>V</b>	<b>W</b>
.43 (11)	Ø .12 Ø (3.1)	Ø .17 Ø (4.3)	0.43 (11)	0.087 (2.2)	0.59 (15.2)

Inches (mm)

**P2LBZ 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold**



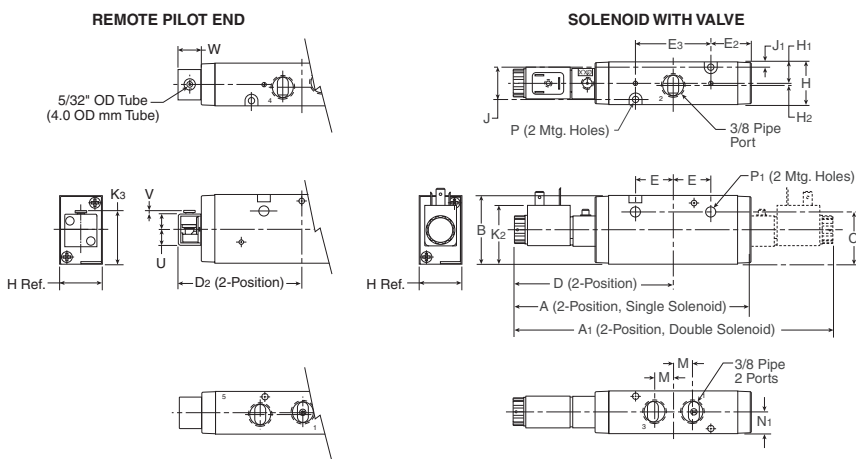
<b>Number of valves</b>	<b>X</b>
2	2.91 (74)
4	4.80 (122)
6	6.69 (170)
8	8.58 (218)
10	10.47 (266)
Inches (mm)	
<b>Manifold bolt</b>	<b>Torque value</b>
M3x40 SCHS	9 in.lb (0.75 Nm)

**P2LBZ 5/2 & 5/3  
 IEM Aluminum Bar Manifold**

<b>B</b>	<b>B1</b>	<b>C</b>	<b>D</b>	<b>F</b>
4.43 (112.5)	4.84 (123)	1.04 (26.5)	2.99 (76)	.28 (7)
<b>G</b>	<b>H</b>	<b>H1</b>	<b>J</b>	<b>K</b>
6.14 (156)	8.46 (215)	9.29 (236)	1.02 (26)	2.781 (70.5)
<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>	<b>Q</b>
1.20 (30.5)	.75 (19)	.57 (14.5)	.94 (24)	1.57 (40)
<b>R</b>	<b>S</b>	<b>T</b>		
1.97 (50)	Ø .22 Ø (5.5)	.97 (25)		

Inches (mm)

**P2LCZ 3/2 Single & Double Operators – Solenoid & Remote Pilot**



**P2LCZ 3/2  
 Solenoid & remote Air Pilot**

<b>A</b>	<b>A1</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>D2</b>
6.50 (165)	8.66 (220)	1.89 (48)	1.46 (37)	4.33 (110)	2.78 (70.5)
<b>E</b>	<b>E2</b>	<b>E3</b>	<b>H</b>	<b>H1</b>	<b>H2</b>
1.04 (26.5)	1.10 (28)	2.09 (53)	1.18 (30)	.59 (15)	.06 (1.55)
<b>J</b>	<b>J1</b>	<b>K2</b>	<b>K3</b>	<b>M</b>	<b>N1</b>
.91 (23)	.14 (3.5)	1.50 (38)	1.46 (37.2)	.53 (13.5)	.59 (15)
<b>P</b>	<b>P1</b>	<b>U</b>	<b>V</b>	<b>W</b>	
Ø .17 Ø (4.4)	Ø .27 Ø (6.9)	0.43 (11)	0.087 (2.2)	0.59 (15.2)	

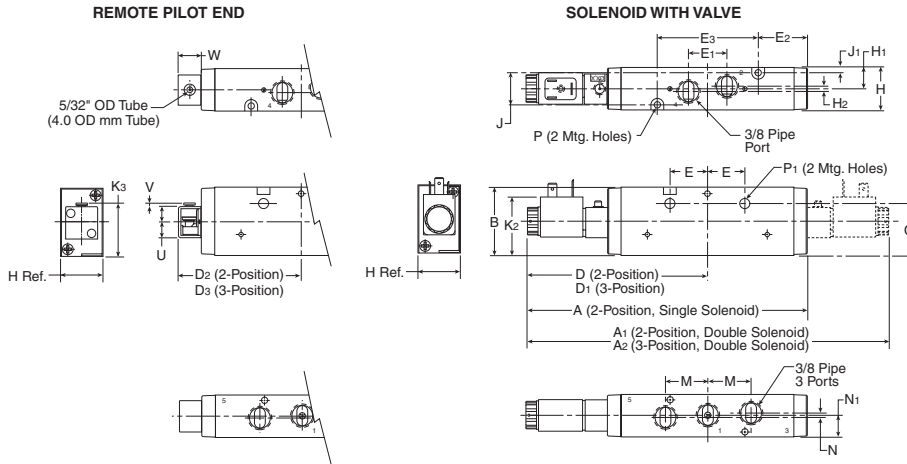
Inches (mm)

**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**P2LCZ 5/2 & 5/3 Single & Double Operators – Solenoid & Remote Air Pilot**

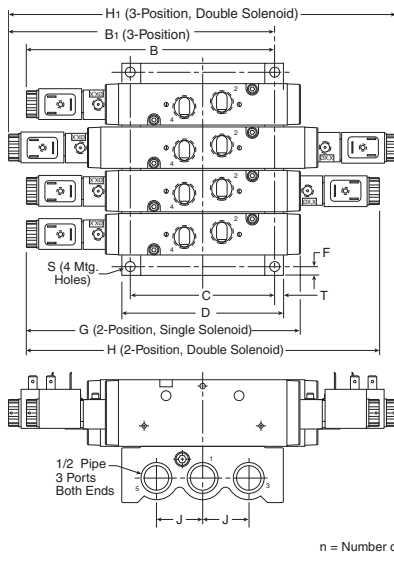


**P2LBZ 5/2 & 5/3  
 Solenoid & Remote Air Pilot**

<b>A</b>	<b>A1</b>	<b>A2</b>	<b>B</b>	<b>C</b>
7.68 (195)	9.88 (251)	10.70 (272)	1.89 (48)	1.46 (37)
<b>D</b>	<b>D1</b>	<b>D2</b>	<b>D3</b>	<b>E</b>
4.94 (125.5)	5.35 (136)	3.39 (86)	3.80 (96.5)	1.04 (26.5)
<b>E1</b>	<b>E2</b>	<b>E3</b>	<b>H</b>	<b>H1</b>
1.06 (27)	1.71 (43.5)	2.80 (71)	1.18 (30)	.59 (15)
<b>H2</b>	<b>J</b>	<b>J1</b>	<b>K2</b>	<b>K3</b>
.12 (.3)	.91 (23)	.14 (3.5)	1.50 (38)	1.48 (37.5)
<b>M</b>	<b>N</b>	<b>N1</b>	<b>P</b>	<b>P1</b>
1.18 (30)	.08 (2)	.59 (15)	Ø .17 (Ø 4.4)	Ø .27 (Ø 6.9)
<b>U</b>	<b>V</b>	<b>W</b>		
0.43 (11)	0.087 (2.2)	0.59 (15.2)		

Inches (mm)

**P2LCZ 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold**



<b>Number of valves</b>	<b>X</b>
2	3.29 (84)
4	5.96 (152)
6	8.44 (215)
8	10.93 (278)
10	13.41 (341)
Inches (mm)	

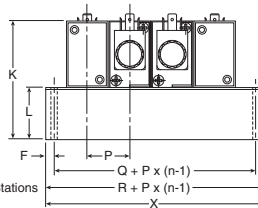
<b>Manifold bolt</b>	<b>Torque value</b>
M4x50 SCHS	15 in.lb (2.0 Nm)

**P2LCZ 5/2 & 5/3  
 IEM Aluminum Bar Manifold**

<b>C</b>	<b>D</b>	<b>F</b>	<b>G</b>	<b>H</b>
3.97 (101)	4.41 (112)	.24 (6)	7.68 (195)	9.88 (251)
<b>H1</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>P</b>
10.70 (272)	1.26 (32)	3.43 (87)	1.54 (39)	1.24 (31.5)
<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>	
1.77 (45)	2.24 (57)	Ø .26 (Ø 6.5)	.24 (6)	

Inches (mm)

n = Number of Stations



**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Features

Viking Xtreme Series

The Viking Xtreme valve range is robust, versatile and combines high performance with compact installation dimensions. Large flow capacity, short change-over times and low change-over pressure are important characteristics of this valve range.

Ports

- P2LAX: 1/8 inch NPT & BSPP
- P2LBX: 1/4 inch NPT & BSPP
- P2LCX: 3/8 inch NPT & BSPP
- P2LDX: 1/2 inch NPT & BSPP

Mounting

- Inline
- IEM aluminum bar

Solenoids

- 1.2 watts to 7.3 watts
- 22mm (Type B) & 30mm 3-pin (DIN 43650)
- 15mm 3-pin (EN 17530-803)
- M12, 4-pin, surge suppression
- Grommet, surge suppression
- Conduit
- Deutsche Connectors, surge suppression

12VDC to 240VAC

Certification / approval

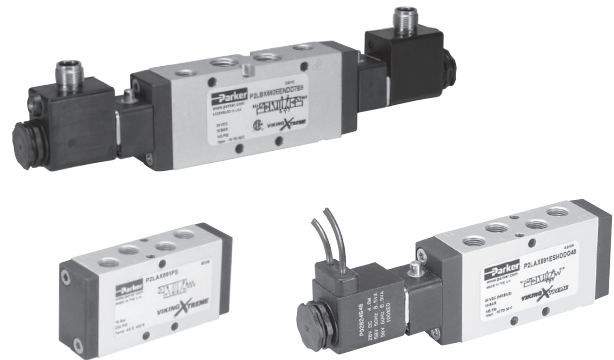
- IP65 Rated, RoHS, CE
- cCSAus Approved to 145 PSIG (10 bar)
- Canada Registration Number available (CRN)
- ATEX option available

Mobile applications

- Viking Xtreme tested to +5g shock and vibration
- Solenoids operate with wide voltage tolerance bands
- Corrosion resistant design
- Passed 500 hour salt spray test

Material specifications

Body	Anodized aluminum
End caps	Anodized aluminum
Coils	Thermoplastic
Fasteners	Stainless steel
Spool	Aluminum and nitrile rubber
Springs	Stainless steel



**Operating information**

Operating pressure:  
 Normal: Vacuum to 145 PSIG (Vacuum to 10 bar)  
 Xtreme: (P2LAX & P2LBX) Vacuum to 232 PSIG (Vacuum to 16 bar)  
 (P2LCX & P2LDX) Vacuum to 174 PSIG (Vacuum to 12 bar)  
 Minimum: See chart

Operating temperature:  
 Normal: 14°F to 122°F (-10°C to 50°C)  
 Xtreme: -40°F to 158°F (-40°C to 70°C)

Minimum operating pressure, PSIG (bar)

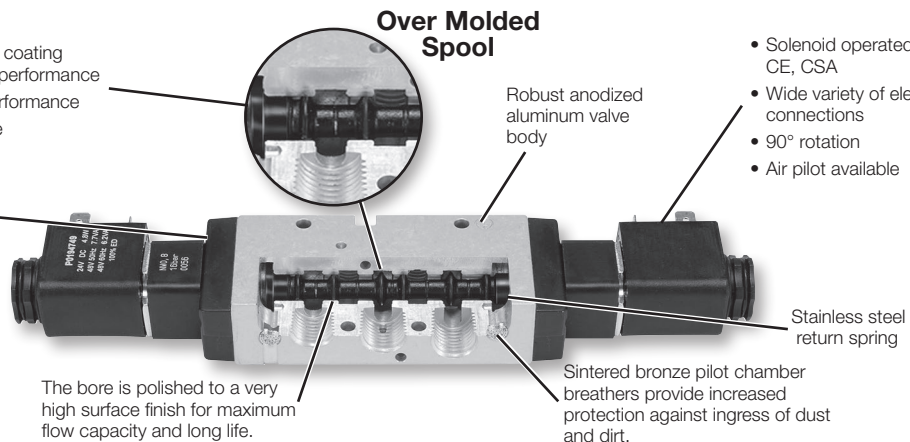
Valve Type - Internal Pilot	P2LAX	P2LBX	P2LCX	P2LDX
Single solenoid - spring return	46 (3.2)	51 (3.5)	51 (3.5)	51 (3.5)
Single remote pilot - spring return	46 (3.2)	51 (3.5)	51 (3.5)	51 (3.5)
Double solenoid - 2-position	22 (1.5)	22 (1.5)	22 (1.5)	22 (1.5)
Double remote pilot - 2-position	22 (1.5)	22 (1.5)	22 (1.5)	22 (1.5)
Double solenoid - 3-position (APB, PC, CE)	51 (3.5)	51 (3.5)	51 (3.5)	51 (3.5)
Double remote pilot - 3-position (APB, PC, CE)	51 (3.5)	51 (3.5)	51 (3.5)	51 (3.5)

Features

Over Molded Spool





- Aluminum spool with nitrile rubber coating ground to exact size for optimum performance
- Precision ground for maximum performance
- Wide operating temperature range
  - Low temperature to -40°

Diecast end covers with stainless steel screws to resist aggressive environments.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Single Solenoid, 3-way, 2-position, Normal Operating Pressure / Temperature, Non-locking Manual Override**

Solenoid	Port Size (NPT)	Cv	Valve Type	Response Time (msec)	Weight lb (kg)	Voltage	Part Number		
 <p>P2LAX 22mm DIN Shown</p>	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	<b>P2LAX391ESNDDDB49</b>		
						120VAC	<b>P2LAX391ESNDDDB53</b>		
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	<b>P2LBX392ESNDDDB49</b>	
							120VAC	<b>P2LBX392ESNDDDB53</b>	
	3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC	<b>P2LCX393ESNDDDB49</b>		
						120VAC	<b>P2LCX393ESNDDDB53</b>		
	1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC	<b>P2LDX394ESNDDDB49</b>		
						120VAC	<b>P2LDX394ESNDDDB53</b>		
	 <p>P2LAX 18" Grommet Shown</p>	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	<b>P2LAX391ESNDDDG49</b>	
							120VAC	<b>P2LAX391ESNDDDG53</b>	
			1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	<b>P2LBX392ESNDDDG49</b>
								120VAC	<b>P2LBX392ESNDDDG53</b>
3/8"		2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC	<b>P2LCX393ESNDDDG49</b>		
						120VAC	<b>P2LCX393ESNDDDG53</b>		
1/2"		2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC	<b>P2LDX394ESNDDDG49</b>		
						120VAC	<b>P2LDX394ESNDDDG53</b>		
 <p>P2LAX M12 Coil Shown</p>		1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	<b>P2LAX391ESNDD7B9</b>	
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	<b>P2LBX392ESNDD7B9</b>	
		3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC	<b>P2LCX393ESNDD7B9</b>	
		1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC	<b>P2LDX394ESNDD7B9</b>	
 <p>P2LAX 15mm DIN Shown</p>	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	<b>P2LAX391ESNXB549</b>		
						120VAC	<b>P2LAX391ESNXB553</b>		
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	<b>P2LBX392ESNXB549</b>		
						120VAC	<b>P2LBX392ESNXB553</b>		
	3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC	<b>P2LCX393ESNXB549</b>		
						120VAC	<b>P2LCX393ESNXB553</b>		
	1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC	<b>P2LDX394ESNXB549</b>		
						120VAC	<b>P2LDX394ESNXB553</b>		

**Notes:** Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.  
Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

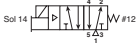




 Most popular.

**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Single Solenoid, 4-way, 2-position, Normal Operating Pressure / Temperature, Non-locking Manual Override**

Solenoid	Port Size (NPT)	Cv	Valve Type	Response Time (msec)	Weight lb (kg)	Voltage	Part Number
  P2LBX 22mm DIN Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC 120VAC	P2LAX591ESNDDDB49 P2LAX591ESNDDDB53
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	P2LBX592ESNDDDB49 P2LBX592ESNDDDB53
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC 120VAC	P2LCX593ESNDDDB49 P2LCX593ESNDDDB53
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC 120VAC	P2LDX594ESNDDDB49 P2LDX594ESNDDDB53
 P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC 120VAC	P2LAX591ESNDDG49 P2LAX591ESNDDG53
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	P2LBX592ESNDDG49 P2LBX592ESNDDG53
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC 120VAC	P2LCX593ESNDDG49 P2LCX593ESNDDG53
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC 120VAC	P2LDX594ESNDDG49 P2LDX594ESNDDG53
 P2LAX M12 Coil Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC	P2LAX591ESNDD7B9
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX592ESNDD7B9
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC	P2LCX593ESNDD7B9
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC	P2LDX594ESNDD7B9
 P2LAX 15mm DIN Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC 120VAC	P2LAX591ESNXB549 P2LAX591ESNXB553
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	P2LBX592ESNXB549 P2LBX592ESNXB553
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC 120VAC	P2LCX593ESNXB549 P2LCX593ESNXB553
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC 120VAC	P2LDX594ESNXB549 P2LDX594ESNXB553

**Notes:** Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.  
 Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

 Most popular.



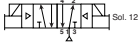




For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**C**

Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air Saver Unit  
 ADEX Series  
 "N" Series



**Double Solenoid, 4-way, 2-position, Normal Operating Pressure / Temperature, Non-locking Manual Override**

	Solenoid	Port Size (NPT)	Cv	Valve Type	Response Time (msec)	Weight lb (kg)	Voltage	Part Number	
  22mm DIN	P2LAX 22mm DIN Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	<b>P2LAX591EENDDDB49</b> <b>P2LAX591EENDDDB53</b>	
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	<b>P2LBX592EENDDDB49</b> <b>P2LBX592EENDDDB53</b>	
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	<b>P2LCX593EENDDDB49</b> <b>P2LCX593EENDDDB53</b>	
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	<b>P2LDX594EENDDDB49</b> <b>P2LDX594EENDDDB53</b>	
	P2LBX 22mm DIN Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	<b>P2LAX591EENDDG49</b> <b>P2LAX591EENDDG53</b>	
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	<b>P2LBX592EENDDG49</b> <b>P2LBX592EENDDG53</b>	
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	<b>P2LCX593EENDDG49</b> <b>P2LCX593EENDDG53</b>	
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	<b>P2LDX594EENDDG49</b> <b>P2LDX594EENDDG53</b>	
	 18" Grommet	P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	<b>P2LAX591EENDD7B9</b> <b>P2LAX591EENDD7B9</b>
			1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC	<b>P2LBX592EENDD7B9</b> <b>P2LBX592EENDD7B9</b>
			3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	<b>P2LCX593EENDD7B9</b> <b>P2LCX593EENDD7B9</b>
			1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	<b>P2LDX594EENDD7B9</b> <b>P2LDX594EENDD7B9</b>
 M12 Coil with LED	P2LBX M12 Coil Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	<b>P2LAX591EENXB549</b> <b>P2LAX591EENXB553</b>	
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	<b>P2LBX592EENXB549</b> <b>P2LBX592EENXB553</b>	
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	<b>P2LCX593EENXB549</b> <b>P2LCX593EENXB553</b>	
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	<b>P2LDX594EENXB549</b> <b>P2LDX594EENXB553</b>	
 15mm DIN	P2LAX 15mm DIN Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	<b>P2LAX591EENXB549</b> <b>P2LAX591EENXB553</b>	
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	<b>P2LBX592EENXB549</b> <b>P2LBX592EENXB553</b>	
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	<b>P2LCX593EENXB549</b> <b>P2LCX593EENXB553</b>	
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	<b>P2LDX594EENXB549</b> <b>P2LDX594EENXB553</b>	

**Notes:** Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.  
Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).


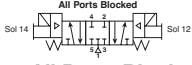

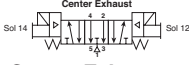


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C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Double Solenoid, 4-way, 3-position All Ports Blocked, 3-position Center Exhaust,  
Normal Operating Pressure / Temperature, Non-locking Manual Override**

								Part number	
		Port Size (NPT)	Valve Cv	Response Time (msec)	Weight lb (kg)	Voltage	All Ports Blocked	Center Exhaust	
 22mm DIN P2LBX 22mm DIN Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC 120VAC	<b>P2LAX691EENDDDB49</b> <b>P2LAX691EENDDDB53</b>	<b>P2LAX891EENDDDB49</b> <b>P2LAX891EENDDDB53</b>	 Sol 14 Sol 12
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC 120VAC	<b>P2LBX692EENDDDB49</b> <b>P2LBX692EENDDDB53</b>	<b>P2LBX892EENDDDB49</b> <b>P2LBX892EENDDDB53</b>	
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC 120VAC	<b>P2LCX693EENDDDB49</b> <b>P2LCX693EENDDDB53</b>	<b>P2LCX893EENDDDB49</b> <b>P2LCX893EENDDDB53</b>	
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC 120VAC	<b>P2LDX694EENDDDB49</b> <b>P2LDX694EENDDDB53</b>	<b>P2LDX894EENDDDB49</b> <b>P2LDX894EENDDDB53</b>	
 18" Grommet P2LBX 18" Grommet Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC 120VAC	<b>P2LAX691EENDDG49</b> <b>P2LAX691EENDDG53</b>	<b>P2LAX891EENDDG49</b> <b>P2LAX891EENDDG53</b>	 Sol 14 Sol 12
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC 120VAC	<b>P2LBX692EENDDG49</b> <b>P2LBX692EENDDG53</b>	<b>P2LBX892EENDDG49</b> <b>P2LBX892EENDDG53</b>	
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC 120VAC	<b>P2LCX693EENDDG49</b> <b>P2LCX693EENDDG53</b>	<b>P2LCX893EENDDG49</b> <b>P2LCX893EENDDG53</b>	
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC 120VAC	<b>P2LDX694EENDDG49</b> <b>P2LDX694EENDDG53</b>	<b>P2LDX894EENDDG49</b> <b>P2LDX894EENDDG53</b>	
 M12 Coil with LED P2LBX M12 Coil Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC	<b>P2LAX691EENDD7B9</b>	<b>P2LAX891EENDD7B9</b>	
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC	<b>P2LBX692EENDD7B9</b>	<b>P2LBX892EENDD7B9</b>	
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC	<b>P2LCX693EENDD7B9</b>	<b>P2LCX893EENDD7B9</b>	
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC	<b>P2LDX694EENDD7B9</b>	<b>P2LDX894EENDD7B9</b>	
 15mm DIN P2LBX 15mm DIN Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC 120VAC	<b>P2LAX691EENXB549</b> <b>P2LAX691EENXB553</b>	<b>P2LAX891EENXB549</b> <b>P2LAX891EENXB553</b>	
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC 120VAC	<b>P2LBX692EENXB549</b> <b>P2LBX692EENXB553</b>	<b>P2LBX892EENXB549</b> <b>P2LBX892EENXB553</b>	
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC 120VAC	<b>P2LCX693EENXB549</b> <b>P2LCX693EENXB553</b>	<b>P2LCX893EENXB549</b> <b>P2LCX893EENXB553</b>	
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC 120VAC	<b>P2LDX694EENXB549</b> <b>P2LDX694EENXB553</b>	<b>P2LDX894EENXB549</b> <b>P2LDX894EENXB553</b>	

**Notes:** Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.  
Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).




 Most popular.



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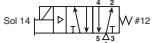


Common Part Numbers

Single Solenoid, 3-way, 2-position, Xtreme Operating Pressure / Temperature, Non-locking Manual Override

Solenoid	Port Size (NPT)	Cv	Valve Type	Response Time (msec)	Weight lb (kg)	Voltage	Part Number
  P2LBX 22mm DIN Shown	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	<b>P2LAX391ESHDDDB47</b>
						24VDC	<b>P2LAX391ESHDDDB48</b>
	1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	<b>P2LBX392ESHDDDB47</b>
						24VDC	<b>P2LBX392ESHDDDB48</b>
	3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	<b>P2LCX393ESHDDDB47</b>
						24VDC	<b>P2LCX393ESHDDDB48</b>
	1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	<b>P2LDX394ESHDDDB47</b>
						24VDC	<b>P2LDX394ESHDDDB48</b>
 P2LBX 18" Grommet Shown	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	<b>P2LAX391ESHDDG47</b>
						24VDC	<b>P2LAX391ESHDDG48</b>
	1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	<b>P2LBX392ESHDDG47</b>
						24VDC	<b>P2LBX392ESHDDG48</b>
	3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	<b>P2LCX393ESHDDG47</b>
						24VDC	<b>P2LCX393ESHDDG48</b>
	1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	<b>P2LDX394ESHDDG47</b>
						24VDC	<b>P2LDX394ESHDDG48</b>

**Notes:** Above valves have Mobile Rated Coils and are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C). See model code matrix for additional options. Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Single Solenoid, 4-way, 2-position, Xtreme Operating Pressure / Temperature Non-locking Manual Override

Solenoid	Port Size (NPT)	Cv	Valve Type	Response Time (msec)	Weight lb (kg)	Voltage	Part Number
  P2LBX 22mm DIN Shown	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	<b>P2LAX591ESHDDDB47</b>
						24VDC	<b>P2LAX591ESHDDDB48</b>
	1/4"	1.3	P2LBX	20 / 55	0.84 (0.38)	12VDC	<b>P2LBX592ESHDDDB47</b>
						24VDC	<b>P2LBX592ESHDDDB48</b>
	3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	<b>P2LCX593ESHDDDB47</b>
						24VDC	<b>P2LCX593ESHDDDB48</b>
	1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	<b>P2LDX594ESHDDDB47</b>
						24VDC	<b>P2LDX594ESHDDDB48</b>
 P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	<b>P2LAX591ESHDDG47</b>
						24VDC	<b>P2LAX591ESHDDG48</b>
	1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	<b>P2LBX592ESHDDG47</b>
						24VDC	<b>P2LBX592ESHDDG48</b>
	3/8"	2.5	P2LCX	28 / 85	1.01 (0.46)	12VDC	<b>P2LCX593ESHDDG47</b>
						24VDC	<b>P2LCX593ESHDDG48</b>
	1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	<b>P2LDX594ESHDDG47</b>
						24VDC	<b>P2LDX594ESHDDG48</b>

**Notes:** Above valves have Mobile Rated Coils and are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C). See model code matrix for additional options. Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).



 Most popular.



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C  
 Inline Valves  
 Viking  
 Lite  
 Viking  
 Extreme  
 B3, B5, B6  
 Series  
 B7, B8  
 Series  
 Air Saver  
 Unit  
 ADEX  
 Series  
 "N"  
 Series

**Double Solenoid, 4-way, 2-position, Xtreme Operating Pressure / Temperature, Non-locking Manual Override**



Solenoid	Port Size (NPT)	Cv	Valve Type	Response Time (msec)	Weight lb (kg)	Voltage	Part Number
 <p>22mm DIN</p>	1/8"	0.7	P2LAX	11 / 11	0.60 (0.27)	12VDC	<b>P2LAX591EEHDDDB47</b>
						24VDC	<b>P2LAX591EEHDDDB48</b>
	1/4"	1.3	P2LBX	13 / 13	0.93 (0.42)	12VDC	<b>P2LBX592EEHDDDB47</b>
						24VDC	<b>P2LBX592EEHDDDB48</b>
	3/8"	2.5	P2LCX	18 / 18	1.06 (0.48)	12VDC	<b>P2LCX593EEHDDDB47</b>
						24VDC	<b>P2LCX593EEHDDDB48</b>
1/2"	2.7	P2LDX	18 / 18	1.06 (0.48)	12VDC	<b>P2LDX594EEHDDDB47</b>	
					24VDC	<b>P2LDX594EEHDDDB48</b>	
 <p>18" Grommet</p>	1/8"	0.7	P2LAX	11 / 11	0.60 (0.27)	12VDC	<b>P2LAX591EEHDDG47</b>
						24VDC	<b>P2LAX591EEHDDG48</b>
	1/4"	1.3	P2LBX	13 / 13	0.93 (0.42)	12VDC	<b>P2LBX592EEHDDG47</b>
						24VDC	<b>P2LBX592EEHDDG48</b>
	3/8"	2.5	P2LCX	18 / 18	1.06 (0.48)	12VDC	<b>P2LCX593EEHDDG47</b>
						24VDC	<b>P2LCX593EEHDDG48</b>
1/2"	2.7	P2LDX	18 / 18	1.06 (0.48)	12VDC	<b>P2LDX594EEHDDG47</b>	
					24VDC	<b>P2LDX594EEHDDG48</b>	

P2LBX 22mm DIN Shown

P2LAX 18" Grommet Shown

**Notes:** Above valves have Mobile Rated Coils and are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C). See model code matrix for additional options. Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

**Double Solenoid, 4-way, 3-position All Ports Blocked, 3-position Center Exhaust, Xtreme Operating Pressure / Temperature Non-locking Manual Override**

Solenoid	Port Size	Cv	Valve Type (NPT)	Response Time (msec)	Weight lb (kg)	Voltage	Part number		
							All Ports Blocked	Center Exhaust	
 <p>22mm DIN</p>	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	12VDC	<b>P2LAX691EEHDDDB47</b>	<b>P2LAX891EEHDDDB47</b>	
							24VDC	<b>P2LAX691EEHDDDB48</b>	<b>P2LAX891EEHDDDB48</b>
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	12VDC	24VDC	<b>P2LBX692EEHDDDB47</b>	<b>P2LBX892EEHDDDB47</b>
								<b>P2LBX692EEHDDDB48</b>	<b>P2LBX892EEHDDDB48</b>
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	12VDC	24VDC	<b>P2LCX693EEHDDDB47</b>	<b>P2LCX893EEHDDDB47</b>
								<b>P2LCX693EEHDDDB48</b>	<b>P2LCX893EEHDDDB48</b>
1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	12VDC	24VDC	<b>P2LDX694EEHDDDB47</b>	<b>P2LDX894EEHDDDB47</b>	
							<b>P2LDX694EEHDDDB48</b>	<b>P2LDX894EEHDDDB48</b>	
 <p>18" Grommet</p>	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	12VDC	<b>P2LAX691EEHDDG47</b>	<b>P2LAX891EEHDDG47</b>	
							24VDC	<b>P2LAX691EEHDDG48</b>	<b>P2LAX891EEHDDG48</b>
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	12VDC	24VDC	<b>P2LBX692EEHDDG47</b>	<b>P2LBX892EEHDDG47</b>
								<b>P2LBX692EEHDDG48</b>	<b>P2LBX892EEHDDG48</b>
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	12VDC	24VDC	<b>P2LCX693EEHDDG47</b>	<b>P2LCX893EEHDDG47</b>
								<b>P2LCX693EEHDDG48</b>	<b>P2LCX893EEHDDG48</b>
1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	12VDC	24VDC	<b>P2LDX694EEHDDG47</b>	<b>P2LDX894EEHDDG47</b>	
							<b>P2LDX694EEHDDG48</b>	<b>P2LDX894EEHDDG48</b>	

P2LBX 22mm DIN Shown

P2LBX 18" Grommet Shown

**Notes:** Above valves have Mobile Rated Coils and are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C). See model code matrix for additional options. Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

 Most popular.



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Viking Xtreme Single & Double Solenoid Operated Valves

**P2L A X 5 91 ES H D D G 49**

Valve Size	
1/8"	A
1/4"	B
3/8"	C
1/2"	D

Series	
Viking Xtreme	X

Voltage	
<b>B9 ‡</b>	<b>24 VDC w/ Surge Suppression &amp; LED</b>
42	24VAC
45	12VDC
<b>46 †</b>	<b>12VDC Mobile with Surge Suppression</b>
<b>47*</b>	<b>12 VDC Mobile</b>
<b>48*</b>	<b>24 VDC Mobile</b>
<b>49</b>	<b>24VDC</b>
<b>53</b>	<b>120VAC</b>
57	240VAC
Blank	Valve Less Coil

\* Only available with enclosures "A", "B", "G" & "5".  
 ‡ Enclosure "7" only  
 † Enclosure "G", "T", "V" only.

Valve Type / Function	
<b>Internal Pilot Supply to Solenoid*</b>	
3/2 NC - 2-Position	3
5/2 2-Position	5
5/3 3-Position, APB	6
5/3 3-Position, PC	7
5/3 3-Position, CE	8
<b>External Pilot Supply to the Solenoids Through Ports #12 &amp; #14</b>	
3/2 NC - 2-Position	L
5/2 2-Position	N
5/3 3-Position, APB	P
5/3 3-Position, PC	Q
5/3 3-Position, CE	R

\* Size A & B solenoid valves can be field converted from internal to external pilot. See page C25 for details.

Main Port Thread	
G1/8 (P2LA)	11
G1/4 (P2LB)	12
G1/4 (P2LB) NAMUR Mount	1N*
G3/8 (P2LC)	13
G1/2 (P2LD)	14
<b>1/8" NPT (P2LA)</b>	<b>91</b>
<b>1/4" NPT (P2LB)</b>	<b>92</b>
<b>1/4" NPT (P2LB) NAMUR Mount</b>	<b>9N*</b>
<b>3/8" NPT (P2LC)</b>	<b>93</b>
<b>1/2" NPT (P2LD)</b>	<b>94</b>

\* NAMUR mount available for 5/2, 2-position only.

Operator Return	
Double Solenoid	EE
Single Solenoid, Spring Return	ES*

\* Not available with 3-position valves.

Enclosures / Lead Length	
<b>5 †</b>	<b>15mm, 3-Pin DIN 43650C, 8mm Pin Spacing</b>
<b>7 §</b>	<b>M12 4-Pin Coil with Surge Suppression &amp; LED</b>
A	30mm Square 3-Pin – ISO 4400 Form A (male only)
<b>B</b>	<b>22mm Rectangular 3-Pin – Type B Industrial (male only)</b>
E*	Intrinsically Safe, FM / CSA
F †	Hazardous Duty 1/2" NPT, FM / CSA
<b>G</b>	<b>Grommet - 18" Leads</b>
H	1/2" NPT Conduit - 18" Leads
N**	Valve Less "A - V, 7" Enclosure
<b>T #</b>	<b>Grommet, Single Solenoid, 2-Pin Deutsche Connector, Surge Suppression</b>
<b>V #</b>	<b>Grommet, Double Solenoid, 4-Pin Deutsche Connector, Surge Suppression</b>
X †	Valve Less 15mm Solenoid

\* Only available with voltage code "49" & override option "A", valve type "N" Only. Solenoid coil only CSA approved.

\*\* Solenoid pilot type "D" & "N" only.

# Voltage code "46" only.

‡ Valve type "N" Only. Solenoid coil only CSA approved.

† Solenoid pilot type "X" only.

§ Voltage code "B9" only. Valve type "N" only.

Operator Type / Operating Pressure and Temperature	
Normal, Vacuum to 145 PSIG (10 bar), 14°F to 122°F (-10°C to 50°C), CSA Approved	N
Xtreme, Vacuum to 145 PSIG (10 bar), -40°F to 140°F (-40°C to 70°C), CSA Approved	K
Xtreme, Vacuum to 232 PSIG (16 bar), -40°F to 140°F (-40°C to 70°C)	H*

\* P2LC and P2LD solenoid operated valves have a maximum pressure rating of 175 PSIG (12 bar)

Solenoid Pilot Type	
<b>D**</b>	<b>Vented Pilot Exhaust</b>
N**	Tapped Pilot Exhaust
X*	15mm Solenoid Vented Pilot Exhaust

\* Available enclosure "5", "X" and operator type "N" only.

\*\* Not available on enclosure "5" & "X".

Overrides	
A**	No Override
<b>B †</b>	<b>Flush - Non-Locking</b>
<b>C *</b>	<b>Flush - Locking</b>
<b>D</b>	<b>Extended Non-Locking</b>
<b>E †</b>	<b>Extended - Locking</b>
X †	Valve Less 15mm Solenoid

\* Override for valve type "N" only.

\*\* Not available on enclosure "5", 15mm solenoid. Available solenoid pilot type "D" & "N" only.

† Available solenoid pilot type "X" only.

Most popular.

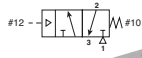



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



Part Numbers / Ordering Information



Single Remote Pilot, 3-way, 2-position, Xtreme Operating Pressure / Temperature

Port Size (NPT)	Cv	Response Time (msec)	Weight lb (kg)	Valve Type	Part Number
1/8"	0.7	15 / 45	0.68 (0.31)	P2LAX	<b>P2LAX391PS</b>
1/4"	1.3	25 / 65	0.68 (0.31)	P2LBX	<b>P2LBX392PS</b>
3/8"	2.5	25 / 65	0.88 (0.40)	P2LCX	<b>P2LCX393PS</b>
1/2"	2.7	25 / 65	0.88 (0.40)	P2LDX	<b>P2LDX394PS</b>

P2LAX Shown


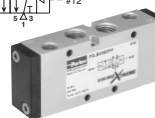
Single Remote Pilot, 4-way, 2-position, Xtreme Operating Pressure / Temperature

Port Size (NPT)	Cv	Response Time (msec)	Weight lb (kg)	Valve Type	Part Number
1/8"	0.7	15 / 45	0.33 (0.15)	P2LAX	<b>P2LAX591PS</b>
1/4"	1.3	20 / 55	0.68 (0.31)	P2LBX	<b>P2LBX592PS</b>
3/8"	2.5	25 / 85	0.90 (0.41)	P2LCX	<b>P2LCX593PS</b>
1/2"	2.7	25 / 85	0.90 (0.41)	P2LDX	<b>P2LDX594PS</b>

P2LAX Shown


Double Remote Pilot, 4-way, 2-position, Xtreme Operating Pressure / Temperature

Port Size (NPT)	Cv	Response Time (msec)	Weight lb (kg)	Valve Type	Part Number
1/8"	0.7	11 / 11	0.33 (0.15)	P2LAX	<b>P2LAX591PP</b>
1/4"	1.3	13 / 13	0.68 (0.31)	P2LBX	<b>P2LBX592PP</b>
3/8"	2.5	18 / 18	0.90 (0.41)	P2LCX	<b>P2LCX593PP</b>
1/2"	2.7	18 / 18	0.90 (0.41)	P2LDX	<b>P2LDX594PP</b>

P2LAX Shown

Double Remote Pilot, 4-way, 3-position All Ports Blocked, 3-position Center Exhaust, Xtreme Operating Pressure / Temperature



Port Size (NPT)	Cv	Response Time (msec)	Weight lb (kg)	Valve Type	Part Number	
					All Ports Blocked	Center Exhaust
1/8"	0.5	18 / 50	0.31 (0.14)	P2LAX	<b>P2LAX691PP</b>	<b>P2LAX891PP</b>
1/4"	0.9	25 / 65	0.73 (0.33)	P2LBX	<b>P2LBX692PP</b>	<b>P2LBX892PP</b>
3/8"	1.8	30 / 90	0.93 (0.42)	P2LCX	<b>P2LCX693PP</b>	<b>P2LCX893PP</b>
1/2"	1.9	30 / 90	0.93 (0.42)	P2LDX	<b>P2LDX694PP</b>	<b>P2LDX894PP</b>

P2LAX Shown

Notes: Above valves are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C). See model code matrix for additional options.  
Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Xtreme Remote Air Pilot Operated Valves

**Operating information**

Operating pressure:  
(P2LAX & P2LBX)  
Vacuum to 232 PSIG (Vacuum to 16 bar)  
(P2LCX & P2LDX)  
Vacuum to 174 PSIG (Vacuum to 12 bar)

Operating temperature:  
-40°F to 158°F (-40°C to 70°C)

**P2L A X 5 91 PS**

Valve Size	
1/8"	A
1/4"	B
3/8"	C*
1/2"	D*

\* P2LCX and P2LDX manual & remote air pilot valves have a maximum pressure rating of 175 PSIG (12 bar).

Valve Type / Function	
3/2 NC - 2-Position	3
5/2 2-Position	5
5/3 3-Position, APB	6
5/3 3-Position, PC	7
5/3 3-Position, CE	8

Operators / Return	
PP	Double Remote Pilot
PS*	Single Remote Pilot, Spring Return

\* Not available with 3-position valves.

Main Port Thread	
11	G1/8 (P2LA)
12	G1/4 (P2LB)
1N*	G1/4 NPT (P2LB) NAMUR Mount
13	G3/8 (P2LC)
14	G1/2 (P2LD)
91	1/8" NPT (P2LA)
92	1/4" NPT (P2LB)
9N*	1/4 NPT (P2LB) NAMUR Mount
93	3/8" NPT (P2LC)
94	1/2" NPT (P2LD)

\* 5/2, 2-position valve only.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C

Inline Valves

Viking Lite

Viking Xtreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series



**ATEX Certified Single & Double Solenoid Operated Valves**

Viking ATEX valves meet ATEX directive 94/9/EC with the following classification : CE Ex II 2GD c 135oc. This directive lays down minimum safety requirements for products intended for use in potentially explosive atmospheres. The Directive is commonly referred to as the 'ATEX' Directive ('ATmospheres EXplosibles'), but may also be called the ATEX Equipment Directive or ATEX 95. Both ATEX certified solenoid, remote pilot and manual operated valves, as well as complete solenoid pilot assemblies are available.



ATEX classification details:

- CE Ex: fulfils the ATEX directive
- II : Group II Equipment Area
- 2GD : Equipment Category 2. Gas Zone 1,2 and Dust Zone 21,22
- c : Safe Design ( EN13463-5 )
- 135°C : Real temperature of the surface of product for test

Temperature Class of Solenoid : T4 135°C, ATEX 8-22T

**Operating information**

Operating pressure: Vacuum to 145 PSIG (vacuum to 10 bar)  
 Operating temperature: 14°F to 122°F (-10°C to 50°C)

**C**  
 Inline Valves  
 Viking  
 Lite  
 Viking  
 Extreme  
 B3, B5, B6  
 Series  
 B7, B8  
 Series  
 Air-Saver  
 Unit  
 ADEX  
 Series  
 "N"  
 Series

**P2L A X 5 91 ES A D D M 49**

<b>Valve Size</b>		<b>Voltage</b>
1/8"	A	49
1/4"	B	24VDC
3/8"	C	
1/2"	D	

<b>Valve Type / Function</b>		<b>Enclosures</b>
<b>Internal Pilot Supply To Solenoid</b>		M
2-Position Valve	5	ATEX 8-22T EExm T4 135°C
3-Position Valve APB	6	
3-Position Valve PC	7	
3-Position Valve CE	8	
<b>External Pilot Supply to Solenoids Through Ports #12 &amp; #14</b>		<b>Overrides</b>
2-Position Valve	N	D
3-Position Valve APB	P	Extended Non-Locking
3-Position Valve PC	Q	
3-Position Valve CE	R	

<b>Solenoid Pilot Type</b>
D Vented Pilot Exhaust
N Tapped Pilot Exhaust (M5)

<b>Operator Return</b>
EE Double Solenoid
ES* Single Solenoid, Spring Return

\* Not available with 3-position valves.

<b>Main Port Thread</b>	
G1/8 (P2LA)	11
G1/4 (P2LB)	12
G3/8 (P2LC)	13
G1/2 (P2LD)	14
1/8" NPT (P2LA)	91
1/4" NPT (P2LB)	92
3/8" NPT (P2LC)	93
1/2" NPT (P2LD)	94

**NOTE:**

- ATEX Valve includes a coil with sealed 3 meter cable.
- Replacement solenoid kit P2FS13A3DM49 includes coil with sealed 3 meter cable, valve armature, solenoid, solenoid nut, screws and o-rings.

These products are designed for utilization in applications falling under the scope of ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations required for the installation and the maintenance of these products are complying with related standards.

IEM Bar Manifold, Viking Xtreme Solenoid / Remote Pilot Valves †



Valve Series	Valve Function	## - Stations	Manifold Only (NPT)	Manifold Only (BSPP)
P2LAX*	3-way	02 - 12	P2LAXGAXN##NP	P2LAXGAXG##NP
P2LAX*	4-way	02 - 12	P2LAXMAXN##NP	P2LAXMAXG##NP
P2LBX*	3-way	02 - 12	P2LBXGAXN##NP	P2LBXGAXG##NP
P2LBX*	4-way	02 - 12	P2LBXMAXN##NP	P2LBXMAXG##NP
P2LCX*	3-way / 4-way	02 - 12	P2LCXMAXN##NP	P2LCXMAXG##NP

Kits include: (1) manifold, valve hold down bolts and o-rings. Replace ## with number of valve stations. Valve size A, B, C only.

\* Enclosure option A,E & F can not be mounted on size A & B manifolds and enclosure F can not be mounted on size C manifolds due to width of solenoid,

Enclosure option A & E can be mounted on size A & B manifolds if valve is a single solenoid valve and if every other valve is mounted in reverse (staggered).

† Consider Viking Lite manifolds for alternative solutions.

IEM Bar Manifold Add-A-Fold Assembly (Viking Xtreme Solenoid / Remote Air Pilot Valves Only)



Valve Series	Valve Function	## - Stations	Manifold Only (NPT)	Manifold Only (BSPP)
P2LAX*	3-way	02 - 12	AAP2LAXGAXN##NP	AAP2LAXGAXG##NP
P2LAX*	4-way	02 - 12	AAP2LAXMAXN##NP	AAP2LAXMAXG##NP
P2LBX*	3-way	02 - 12	AAP2LBXGAXN##NP	AAP2LBXGAXG##NP
P2LBX*	4-way	02 - 12	AAP2LBXMAXN##NP	AAP2LBXMAXG##NP
P2LCX*	3-way / 4-way	02 - 12	AAP2LCXMAXN##NP	AAP2LCXMAXG##NP

Kits include: (1) manifold, valve hold down bolts, o-rings and assembly. Replace ## with number of valve stations. Valve size A, B, C only.

\* Enclosure option A,E & F can not be mounted on size A & B manifolds and enclosure F can not be mounted on size C manifolds due to width of solenoid,

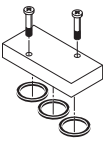
How to Order: 1. List Add-A-Fold assembly part number as line item 1

2. List the desired valves series part number in subsequent line items after the Add-A-Fold Assembly part number to complete the ordering code. Include all valves and blanking kits required. The left most station is station # 1 looking at the #12 end of the manifold.

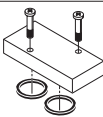
Example: Viking Size B, 2 Station manifold, with 2, 4-way single solenoid valves

Line	Qty	Part number	Comment
1	1	AAP2LBXMAXN02NP	Add-A-Fold Assembly, 2-station IEM bar manifold
2	2	P2LBX592ESHDDB49	4-way, Station 1, 2

Blanking Plate



Type	Kit Number
P2LAX 4-way	9121658063
P2LBX 4-way	9121594809X
P2LCX 3 & 4 way	P2LCXK20P



P2LAX 3-way	912132BPSXZ
P2LBX 3-way	912132BPSXZ

Kit includes: plate, screws, o-rings

Manifold Bolts

Type	Qty.	Kit Number
P2LAX	12	P2LAXK87P
P2LBX	12	P2LBXK87P
P2LCX	12	P2LCXK87P

Manifold O-rings

Type	Qty.	Kit Number
P2LAX	30	P2LAXK84P
P2LBX	18	P2LBXK84P
P2LCX	12	P2LCXK84P

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Solenoids with Deutsche Connections : Environmentally-Sealed Transportation Connectors**

Viking valves with solenoid options “T” & “V” include a grommet lead wire solenoid with internal surge suppression connected to Deutsche DTP Series male connectors. Heat shrunk cover holds the grommet lead wires together between the solenoid and deutsche connector. An environmentally-sealed connector designed specifically for cable to cable applications in harsh environments such as on the engine or transmission, under the hood, on the chassis or in the cab applications. On signal

level circuits where even a small degradation in connection may be critical, these connectors will provide the reliability and performance when properly connected to DTP female connector assemblies. Thermoplastic housings with silicone seals are used to allow the connector to withstand conditions of extreme temperature and moisture. Properly wired and mated connection will withstand immersion under three feet of water without loss of electronic qualities or leakage.

**Deutsche Connector & Solenoid Information**

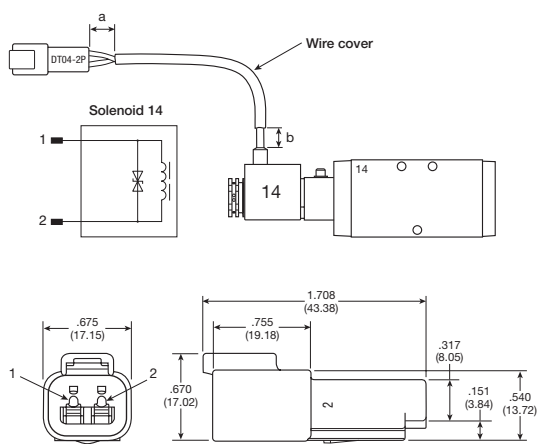
		“T” Single Solenoid Option	“V” Double Solenoid Option
Solenoid Kit		<b>P2FCT446</b>	<b>P2FCV446</b>
Connector Information	Housing material	Thermoplastic	Thermoplastic
	Grommet seal material	Silicone	Silicone
	Connector housing / seal number	DT04-2P*	DT04-4P*
	Contact material	Copper alloy	Copper alloy
	Contact number	0460-202-16141*	0460-202-16141*
	Sealing plug ( Wedge ) material	Thermoplastic	Thermoplastic
	Wedge number	W2P*	W4P*
	Temperature rating of connector	-67°F (-55°C) to +257°F (+125°C)	-67°F (-55°C) to +257°F (+125°C)
Solenoid	Voltage	12VDC +10%, -30% mobile with bi-directional surge suppression	12VDC +10%, -30% mobile with bi-directional surge suppression
	Number of solenoids	1	2
	Connector pin out	pin 1 & 2	12 solenoid : pin 1 & 2 14 solenoid : pin 3 & 4
	Wire length (Connector to solenoid)	19" (483mm)	12 Solenoid : 19" (482mm) 14 Solenoid : 7.75" (196.5mm)
	Exposed insulated wire ( a )	0.25" (6.4mm) - 0.5" (12.7mm)	0.25" (6.4mm) - 0.5" (12.7mm)
	Exposed insulated wire ( b )	0.75" (19.1mm) - 1.5" (38.1mm)	0.75" (19.1mm) - 1.5" (38.1mm)
	Wire cover material	Heat shrunk PVC	Heat shrunk PVC

\* Deutsche Industrial reference numbers. Male connections provided, mating female components and assemblies can be sourced from qualified Deutsche connector distributors.

**Enclosure / Lead Length - Option “T”**



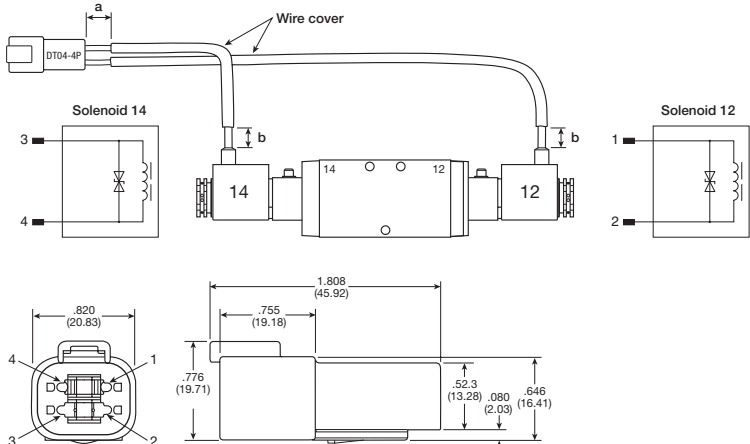
Solenoid Kit P2FCT446 shown



**Enclosure / Lead Length - Option “V”**



Solenoid Kit P2FCV446 shown



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

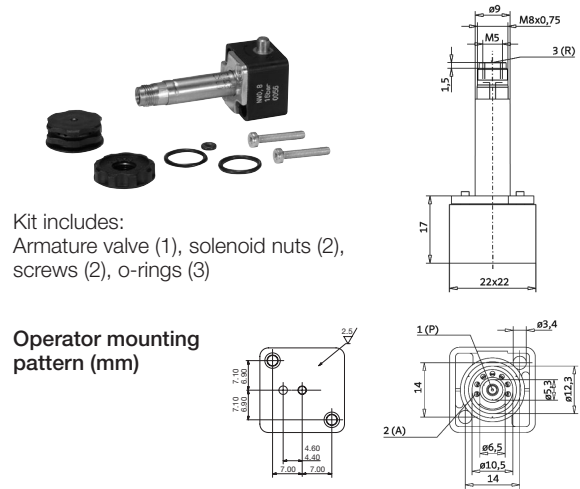
**Pilot Operator Kits**

**P2FP13 N 4 C**

Type	Overrides
Pilot Operator Kit P2FP13	A No override
	C* Locking (bistable) Flush - Plastic
	D Non-Locking (monostable) Extended - Brass

\* Only available with "N" Pressure / Temperature option.

Pressure / Temperature	
145 PSIG (10 bar) 14°F to 122°F (-10°C to 50°C)	N
232 PSIG (16 bar) -40°F to 158°F (-40°C to 70°C)	H



**Solenoid Pilot Operators & Coils**

**Solenoid pilot options**

The P2FP13\*4\* (NC) 3/2 solenoid pilot operators are designed for piloting pneumatic control valves with compressed air or other inert gases.

The P2FP operator is available for Normal operating pressures up to 10 bar or the Xtreme maximum operating pressure of 16 bar and wide band voltage tolerances required for mobile applications.

**Corrosion resistant design**

The pilot valve body is manufactured in thermoplastic PA6 material and the core tube brass / stainless steel. The plunger / core is made from stainless steel and the valve seats from FKM.

**Solenoid pilot exhaust**

These operators all exhaust out of the top of the core tube which is tapped M5. The standard solenoid nut (Solenoid pilot type "D") fitted to the core tube is a diffuser nut which allows the exhaust to escape to atmosphere. This port also minimizes ingress of dirt into the valve through this port. The alternative plastic knurled nut (Solenoid pilot type "N") can be specified (refer to part number system) if the exhaust air needs captured and piped away using the M5 tapped port.

**Mobile applications**

Viking Xtreme valves are tested to +5g shock and vibration. Solenoid operated valves are designed to operate with wide voltage tolerance bands within the ambient temperature ranges stated in the technical section.

**Coils**

Coils are wound with enameled copper wire, having a temperature index of 180°C with class F insulation (155°C) and are encapsulated in Thermoplastic resin. When fitted with suitable connector and correct gasket, they give protection to IP65.

Most popular.

**Manual override options**

The pilot operators can be supplied with locking or non-locking manual override. The standard manual override is the monostable (spring return) extended brass override. Alternatively the bistable (locking) override can be specified as an alternative for the Normal duty 10 bar option.

**Spares**

Solenoid operators are available as spares complete with mounting screws and seals. Coils and connectors should be ordered separately unless ATEX certified and intrinsically safe is needed. ATEX certified operators and coils must be ordered together.

**Transients**

Interrupting the current through the solenoid coil produces momentary voltage peaks which, under unfavorable conditions, can amount to several hundred times the rated operating voltage. Normally, these transients do not cause problems, but to achieve the maximum life of relays in the circuit (and particularly of transistors, thyristors and integrated circuits) it is desirable to provide protection by means of voltage-dependent resistors (varistors). All connectors / cable plugs with LEDs include this type of circuit protection.

**Materials**

<b>Pilot Valve</b>	
Body .....	Polyamide
Armature tube:	
Normal pilot operator .....	Brass
Xtreme pilot operator.....	Stainless steel
Plunger & core.....	Corrosion resistant CR-NI steel
Seals .....	FKM
Screws .....	Stainless steel
<b>Coil</b>	
Encapsulation material.....	Thermoplastic



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Solenoid Kits**

**Solenoid Enclosures**

**P2FC B 4 49**

Type	
Solenoid Kit	C

B9 ‡	Voltage
	<b>24 VDC w/ Surge Suppression &amp; LED</b>
42	24VAC
45	12VDC
	<b>12 VDC Mobile w/ surge Suppression</b>
46 †	
47*	12 VDC Mobile
48*	24 VDC Mobile
49	24VDC
53	120VAC
57	240VAC

Enclosures / Lead Length	
M12 4-Pin Coil With Surge Suppression & LED	7 §
30mm Square 3-Pin – ISO 4400 Form A (male only)	A
22mm Rectangular 3-Pin – Type B Industrial (male only)	B
Hazardous duty, FM / CSA	F*
Grommet - 18" Leads	G
1/2" NPT Conduit - 18" Leads	H
Grommet, Single Solenoid, 2-Pin Deutsche Connector, Surge Suppression	T #
Grommet, Double Solenoid, 4-Pin Deutsche Connector, Surge Suppression	V #
Grommet 72" Leads	Q
1/2" Conduit 72" Leads	R

\* Only available with voltage codes "45", "49", "53" & "57". Not for use with the Xtreme version (-40°C to 70°C).

# Voltage code 46 only.

§ Voltage code B9 only.

\* Only available with enclosures "A", "B" & "G". Additional voltages are available upon request. Contact customer support for more information.

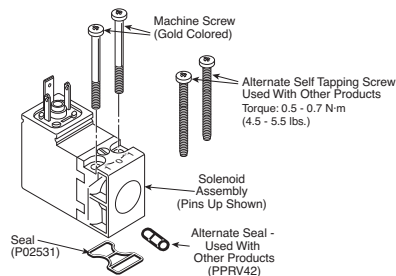
‡ Enclosure 7 only

† Enclosure G, T, V only.

**Solenoid Kits – 3-Pin, EN175301-803 (Former DIN 43650C), 15mm, 8mm**



**Standard**



**PS2982\*##P – Enclosure '5'**

* Override	## Voltage						
	42	45	47 †	48 †	49	53	57
B	O	O	S	S	S	S	O
C	O	O	S	S	S	S	O
D	O	O	O	O	O	O	O
E	O	O	O	O	O	O	O

S - Standard; O - Option

† Mobile voltage

Kit includes: Solenoid, (2) machine screws, (2) self threading screws, (1) gasket, (1) 3-cell gasket.



**Option 7**  
 M12, 4-Pin Coil with Surge Suppression



**Option A**  
 30mm Square, 3-Pin ISO 4400, DIN 43650A



**Option B**  
 22mm Rectangular, 3-Pin DIN, Type B Industrial



**Option G & Q**  
 Grommet, 18" or 72" Leads



**Option H & R**  
 1/2" Conduit, 18" or 72" Leads

**Solenoid Information (Solenoids are rated for continuous duty.)**

Voltage Code	Enclosure "5"			Enclosure "A"			Enclosure "7", "B" to "R"		
	AC 60Hz	AC 50Hz	DC	Power Consumption	Holding (Amps)	Power Consumption	Holding (amps)	Power Consumption	Holding (amps)
B9†	w	—	24	—	—	—	—	4.8W	.20
42	24	22	—	1.6VA	.065	3.9VA	.14	7.3VA	.31
45	—	—	12	1.2W	.098	2.6W	.21	4.6W	.37
46*†	—	—	12	—	—	—	—	5.5W	.46
47*	—	—	12	0.91W	.074	6.2W	.52	5.5W	.46
48*	—	—	24	0.91W	.033	6.8W	.29	6.0W	.25
49	—	—	24	1.2W	.049	2.7W	.11	4.8W	.20
53	120	110	—	1.6W	.013	4.1VA	.04	6.3VA	.05
57	240	230	—	1.6W	.007	3.7VA	.02	6.4VA	.03

\* Mobile voltages. † Surge suppression.

■ Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Intrinsically safe solenoid valves (“E” option)**

**Hazardous location class:**

**Class I; Groups A, B, C & D**

**Class II; Groups E, F, & G**

**Class III; Div. I**

For use in low voltage (24VDC) Intrinsically Safe applications. NO OTHER VOLTAGE IS APPROVED.

Comes standard with non-lighted solenoid connector.

Coil width: 30mm

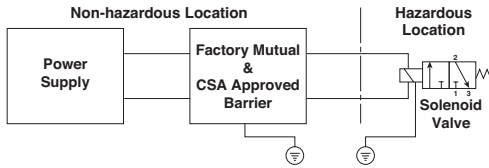
Must be connected to an FM approved Barrier.

For dimensions, reference standard solenoid models.

Maximum internally piloted valve pressure is 115 PSIG.

Pressures to 145 PSIG can be used when external pilot is utilized and pilot pressure is limited to 115 PSIG.

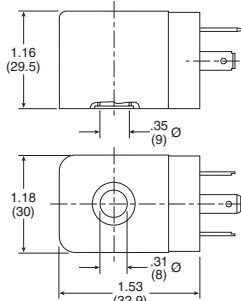
The intrinsically safe coil width (30mm) is wider than the body width of valve type A & B valves. If mounted on a manifold, the valves need to be staggered to fit and must be single solenoid valves only.



**Intrinsically safe solenoid pilot assembly kits**

Description	Part number
24VDC	<b>P2FS13N1AE49</b>

Kit includes: coil, armature, connector, o-ring & screws



**Hazardous duty solenoid valves (“F” option)**

**Hazardous location class:**

**Class I; Zone I EX, M, II & T4**

**Class I; Div. I, Groups A, B, C, & D**

**Class II & III; Div. I, Groups E, F, & G**

Comes standard with 1/2" conduit connection.

Coil width: 36mm

Voltage range = ±10%

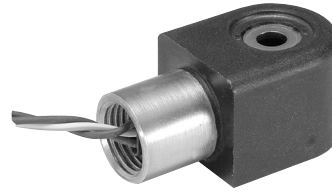
Ambient temperature range = -20°C (-4°F) to 60°C (140°F)

Duty factor = 100%

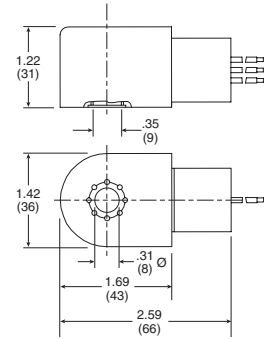
IP65 Rated (with connected conduit connector)

**Notes:**

- Maximum non-hazardous location voltage not to exceed 250V RMS.
- Factory Mutual requires connections per ISA RP 12.6 instructions.
- CSA requires “Installation to be in accordance with the Canadian Electrical Code, Part I.”
- The hazardous duty coil width (36mm) is wider than the body width of valve type A, B, C & D valves. Valves can not be mounted to IEM manifolds without installing a blanking plate between valves.



**Option F  
 Hazardous Duty FM / CSA**



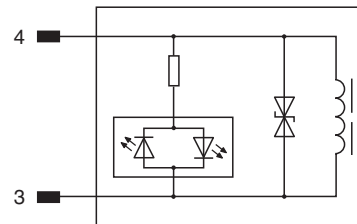
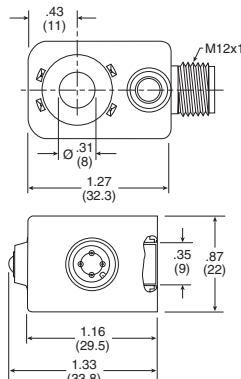
**M12, 24VDC solenoid coil (“7” option)**

Connection type: M12, metal thread, M12 x 1

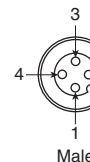
DIN EN 60947-5-2 appendix D

LED color: yellow

Bi-directional surge suppression



- Not Used
- Not Used
- +/- (blue)
- +/- (black)

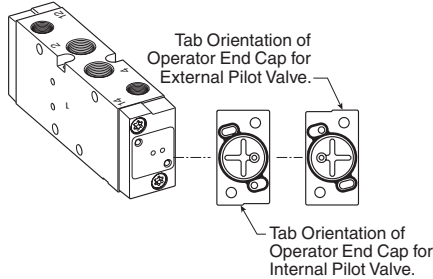


4-Pin Female Wiring Diagram  
 (only Pins 4 & 3 are used)  
 Per ISO 20401

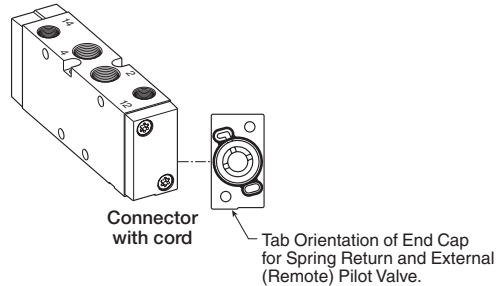


**Internal to external pilot conversion (size A & B only)**

To convert from Internal to External Pilot Valve, simply remove the (2) fasteners that attach the end cap to the valve body. Rotate the end cap 180° and attach back to the valve body. For single solenoid valves, only the 14-End needs to be rotated. For double solenoid valves, both ends must be converted for proper function.



The 12 & 14-Ports are always tapped no matter what Valve Type / Function is selected. For Internal Pilot Function, ports do NOT need to be plugged.



**22mm Rectangular 3-Pin – Type B Industrial  
 (Use with Enclosure “B”)**

Description	Connector with 6' (2m) Cord	Connector
Unlighted	<b>PS2429JBP</b>	<b>PS2429BP</b>
Light – 24V60Hz, 24VDC	<b>PS2430J79BP*</b>	<b>PS243079BP</b>
Light – 120V/60Hz	<b>PS2430J83BP*</b>	<b>PS243083BP</b>
Light – 240V/60Hz	N/A	<b>PS243087BP</b>

\* LED with surge suppression.

**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

**Engineering Data:**

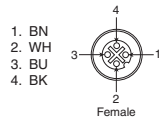
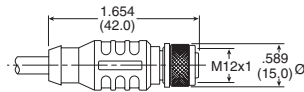
Conductors: 2 Poles Plus Ground; Cable Range (Connector Only): 6 to 8mm (0.24 to 0.31 Inch); Contact Spacing: 11mm

**M12 A-code Cables**

Description	Part Number
4-Pin female to flying lead cable, PVC, 2m	<b>RKC 4.4T-2</b>

**RKC Female Sockets**

\* Only pins 3 and 4 are used with solenoids Option "7".



4-Pin Female Wiring Diagram

**15mm Solenoid Mount**

Description	Part Number
15mm solenoid mount	<b>P2FA22-15</b>



Kit includes: adapter (1), O-rings (2), gasket (1), screws (4)

  Most popular.

**15mm 3-Pin DIN 43650C  
 (Use with Enclosure “5”)**

Description	Cord Length	Connector	Connector only	Connector with Cord
Unlighted	18 Inches	<b>PS2932BP</b>	<b>PS2932BP</b>	<b>PS2932HBP</b>
Unlighted	6 Feet	<b>PS2932BP</b>	<b>PS2932BP</b>	<b>PS2932JBP</b>
Light – 12VAC or DC	6 Feet	<b>PS294675BP</b>	<b>PS294675BP</b>	<b>PS2946J75BP*</b>
Light – 24VAC or DC	6 Feet	<b>PS294679BP</b>	<b>PS294679BP</b>	<b>PS2946J79BP*</b>
Light – 110/120VAC	6 Feet	<b>PS294683BP</b>	<b>PS294683BP</b>	<b>PS2946J83BP*</b>
Light – 240/230VAC		<b>PS294687BP</b>	N/A	N/A

\* LED with surge suppression.

**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

**Engineering data:**

Conductors: 2 poles plus ground Cable range (connector only): 4 to 6mm (0.16 to 0.24 Inch) Contact spacing: 8mm

**30mm Square 3-Pin – ISO 4400, DIN 43650A  
 (Use with Enclosure “A”)**

Description	Connector with 6' (2m) Cord	Connector
Unlighted	<b>PS2028JCP</b>	<b>PS2028BP</b>
Light – 6-48V, 50/60Hz, 6-48VDC	<b>PS2032J79CP*</b>	<b>PS203279BP</b>
Light – 120V/60Hz	<b>PS2032J83CP*</b>	<b>PS203283BP</b>

\* LED with surge suppression.

**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

**Engineering data:**

Conductors: 2 poles plus ground; cable range (connector only): 8 to 10mm (0.31 To 0.39 Inch); contact spacing: 18mm

**Replacement Solenoid Nut**

Description	Part Number	Description	Part Number
Solenoid diffuser nut	<b>PS1556</b>	Solenoid vented nut	<b>PS2892P</b>



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C  
 Inline Valves  
 Viking  
 Lite  
 Viking  
 Extreme  
 B3, B5, B6  
 Series  
 B7, B8  
 Series  
 Air-Saver  
 Unit  
 ADEX  
 Series  
 "N"  
 Series

It is the users responsibility to verify product performance when applied at maximum tolerance ranges of multiple technical specifications simultaneously.

### Operating temperature

- **Normal**.....14°F to 122°F (-10°C to 50°C)
- **Xtreme**..... -40°F to 158°F (-40°C to 70°C)

### Flow Rating

Valve Size	Port Size	2-Position	3-Position
P2LAX	1/8"	0.7	0.5
P2LBX	1/4"	1.3	0.9
P2LCX	3/8"	2.5	1.8
P2LDX	1/2"	2.7	1.9

### Operating pressure\*

**Maximum: Normal.....145 PSIG (10 bar)**  
**Xtreme.....232 PSIG (16 bar)**

**Minimum:**

Valve Type - Internal Pilot	Minimum PSIG (bar)			
	P2LAX	P2LBX	P2LCX	P2LDX
Single solenoid - spring return	46 (3.2)	51 (3.5)	51 (3.5)	51 (3.5)
Single remote pilot - spring return	46 (3.2)	51 (3.5)	51 (3.5)	51 (3.5)
Double solenoid - 2-position	22 (1.5)	22 (1.5)	22 (1.5)	22 (1.5)
Double remote pilot - 2-position	22 (1.5)	22 (1.5)	22 (1.5)	22 (1.5)
Double solenoid - 3-position (APB, PC, CE)	51 (3.5)	51 (3.5)	51 (3.5)	51 (3.5)
Double remote pilot - 3-position (APB, PC, CE)	51 (3.5)	51 (3.5)	51 (3.5)	51 (3.5)

Valve Type - External Pilot	P2LAX	P2LBX	P2LCX	P2LDX
All Viking series	Vacuum			

\* P2LC and P2LD solenoid operated valves have a maximum pressure rating of 175 PSIG (12 bar).

Size A and B solenoid valves can be field converted from internal pilot to external pilot and visa versa. See previous page for information.

### Solenoid voltage characteristics

#### Non-Mobile Coil -

**Voltage Code 42, 45, 49, 53, 57**

15mm, DIN 43650C (Enclosure: 5)  
 +10%, -15%

#### Mobile Coil -

**Voltage Code 47, 48**

15mm, Din 43650C (Enclosure: 5)  
 +25%, -30%

**Voltage Code 46**

(Enclosure G, T, V)  
 +10%, -30%

## Inline Valve Products, Viking Xtreme Viking Xtreme Series

### Solenoid voltage characteristics

#### Non-mobile coils -

**Voltage code B9, 42, 45, 49, 53, 57**

Enclosure (7, A, B, E, F, G, H)  
 +10%, -10%

#### Mobile coils - (valve type N)

##### 22mm 12 & 24VDC - Mobile (47 & 48 voltage code)

Operating Temperature			
Minimum inlet pressure (bar)	-10°C	+10°C	+50°C
3	+30 / -25% VDC	+30 / -20% VDC	+25 / -15% VDC
6	+30 / -30% VDC	+30 / -25% VDC	+25 / -20% VDC
8	+30 / -30% VDC	+30 / -30% VDC	+25 / -25% VDC
10	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC

##### 30mm 12 & 24VDC - Mobile (47 & 48 voltage code)

Operating Temperature			
Minimum inlet pressure (bar)	-10°C	+10°C	+50°C
3	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC
6	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC
8	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC
10	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC

#### Mobile coils - (valve type K & H)

##### 22mm 12 & 24VDC - Mobile (47 & 48 voltage code)

Operating Temperature				
Minimum inlet pressure (bar)	-40°C	+10°C	+50°C	+70°C
4	+30 / -25% VDC	+30 / -25% VDC	+30 / -10% VDC	+20 / -10% VDC
8	+30 / -30% VDC	+30 / -25% VDC	+30 / -15% VDC	+20 / -15% VDC
12	+30 / -30% VDC	+30 / -30% VDC	+30 / -15% VDC	+20 / -15% VDC
16	+30 / -30% VDC	+30 / -30% VDC	+30 / -20% VDC	+20 / -20% VDC

##### 30mm 12 & 24VDC - Mobile (47 & 48 voltage code)

Operating Temperature				
Minimum inlet pressure (bar)	-40°C	+10°C	+50°C	+70°C
4	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC	+15 / -30% VDC
8	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC	+15 / -30% VDC
12	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC	+15 / -30% VDC
16	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC	+15 / -30% VDC

**Note:** All table ratings are based on 100% continuous duty and 5G shock vibration. At 50% continuous duty all ratings are +30% / -30% for all Temperatures and Pressures.

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Exhaust Protector**

**Features**

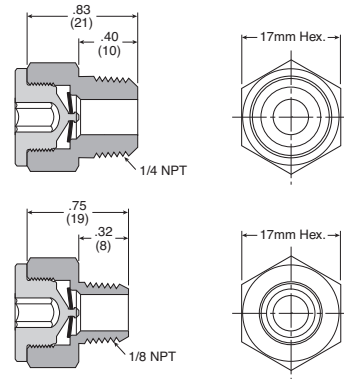
- 1/8 and 1/4 NPT male sizes
- Fitted with a brass pipe adapter and a fluorocarbon membrane
- Resistant to rust, clog, wash down and contamination

**Applications**

These protectors are intended for mobile applications, quick venting applications and alternative exhaust port breathers that require protection against clogging.

Ideal for valves exposed to harsh environmental conditions (which can cause a "caking up" in the exhaust pipe ports where the bronze mufflers or breather vents are installed).

Particularly suitable for time-sensitive applications such as axle-lift suspensions or pushers or tag axles.



**Operating information**

Operating pressure:	0 to 150 PSIG (0 to 10 bar)
Operating temperature:	-40°F to 140°F (-40°C to 60°C)

**Flow data (SCFM)**

Size	60 PSIG Inlet	90 PSIG Inlet	125 PSIG Inlet	Part Number
1/8"	40.1	56.5	75.5	<b>E90016</b>
1/4"	44.6	62.7	83.5	<b>E90017</b>

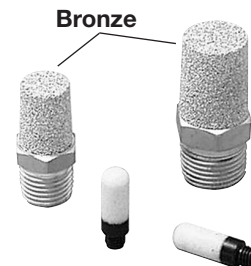
**Material specifications**

Body & pipe adapter	Brass
Membrane	Fluorocarbon

**Exhaust Mufflers**

Pipe Thread	Part Number
M5	<b>P6M-PAC5</b>
1/8" NPT	<b>EM12</b>
1/4" NPT	<b>EM25</b>
3/8" NPT	<b>EM37</b>
1/2" NPT	<b>EM50</b>

P6M - Plastic; EM - Sintered bronze



**Plastic Silencers**

Thread Size	A (mm)	B (mm)	Part Number		
			NPT	BSPT	Metric
M5	.43 (11)	.32 (8)	-	-	<b>AS-5</b>
1/8"	1.57 (40)	.63 (16)	<b>ASN-6</b>	<b>AS-6</b>	-
1/4"	2.56 (65)	.83 (21)	<b>ASN-8</b>	<b>AS-8</b>	-
3/8"	3.35 (85)	.98 (25)	<b>ASN-10</b>	<b>AS-10</b>	-
1/2"	3.74 (95)	1.18 (30)	<b>ASN-15</b>	<b>AS-15</b>	-



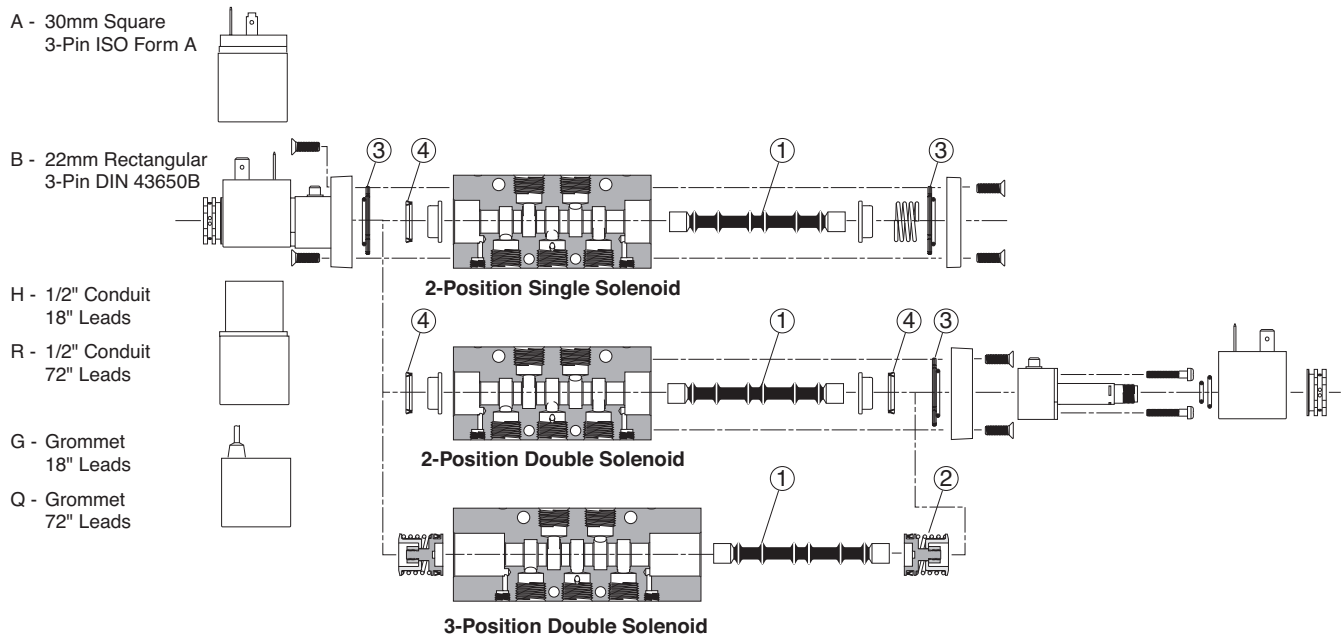
**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Spool Service Kits**

Description	Includes Items (qty.)	Part Number
Size A, 4-way, 2-position, solenoid & air pilot valves	1 (1), 3 (2), 4 (2)	<b>P2LAXSK1</b>
Size A, 4-way, 3-position, solenoid & air pilot valves	1 (1), 2 (2), 3 (2), 4 (2)	<b>P2LAXSK2</b>
Size A & Size B, 3-way, 2-position, solenoid & air pilot valves	1 (1), 3 (2), 4 (2)	<b>P2LAXBXSK1</b>
Size B, 4-way, 2 & 3-position valves	1 (1), 3 (2), 4 (2)	<b>P2LBXSK1</b>
Size C & Size D, 3-way, 2-position valves	1 (1), 3 (2), 4 (2)	<b>P2LCXDXXSK1</b>
Size C & Size D, 4-way, 2 & 3-position valves	1 (1), 3 (2), 4 (2)	<b>P2LCXDXXSK1</b>

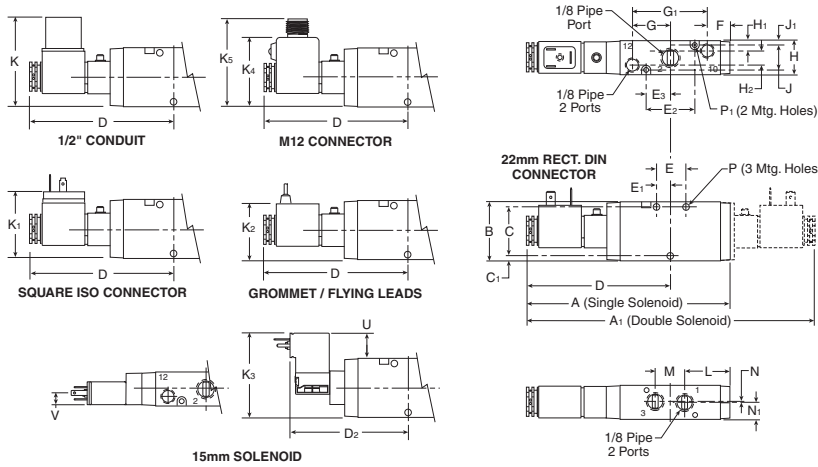


C
Inline Valves
Viking Lite
Viking Extreme
B3, B5, B6 Series
B7, B8 Series
Air Saver Unit
ADEX Series
"N" Series



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**P2LAX 3/2 Single & Double Operators – Solenoid**

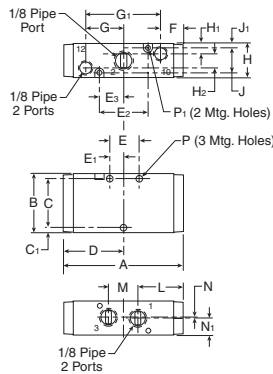


**P2LAX 3/2 (solenoid)**

<b>A</b>	<b>A1</b>	<b>B</b>	<b>C</b>	<b>C1</b>	<b>D</b>
5.35 (136)	7.60 (193)	1.57 (40)	1.26 (32)	.16 (4)	3.80 (97)
<b>D2</b>	<b>E</b>	<b>E1</b>	<b>E2</b>	<b>E3</b>	<b>F</b>
3.00 (76.8)	.79 (20)	.39 (10)	1.26 (32)	.63 (16)	.55 (14)
<b>G</b>	<b>G1</b>	<b>H</b>	<b>H1</b>	<b>H2</b>	<b>J</b>
.98 (25)	1.97 (50)	.87 (22)	.26 (6.6)	.35 (9)	.65 (16.5)
<b>J1</b>	<b>K</b>	<b>K1</b>	<b>K2</b>	<b>K3</b>	<b>K4</b>
.11 (2.9)	2.36 (60)	1.61 (41)	1.50 (38)	2.24 (57)	1.70 (43.3)
<b>K5</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>N1</b>	<b>P</b>
2.10 (53.3)	1.14 (29)	.79 (20)	.02 (0.5)	.42 (11)	Ø .17 Ø (4.3)
<b>P1</b>	<b>U</b>	<b>V</b>			
Ø .12 Ø (3.1)	0.81 (20.5)	0.29 (7.5)			

Inches (mm)

**P2LAX 3/2 Single & Double Operators – Remote Air Pilot**

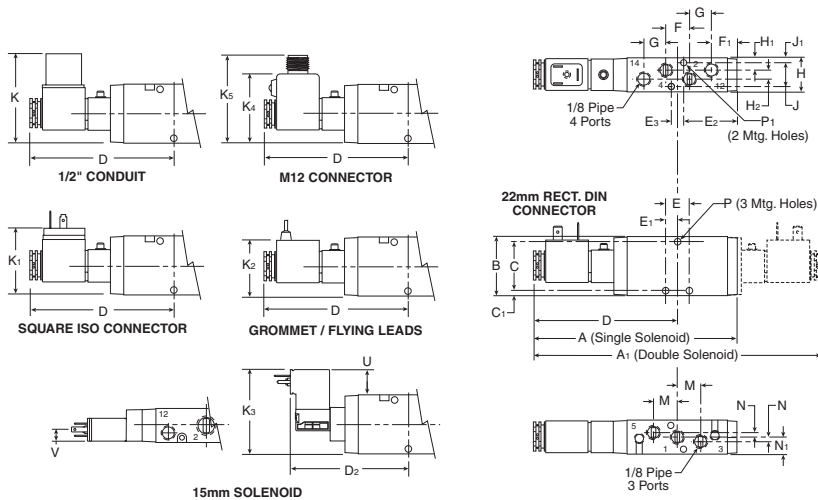


**P2LAX 3/2 (remote air pilot)**

<b>A</b>	<b>B</b>	<b>C</b>	<b>C1</b>	<b>D</b>	<b>E</b>
3.07 (78)	1.57 (40)	1.26 (32)	.16 (4)	1.54 (39)	.79 (20)
<b>E1</b>	<b>E2</b>	<b>E3</b>	<b>F</b>	<b>G</b>	<b>G1</b>
.39 (10)	1.26 (32)	.63 (16)	.55 (14)	.98 (25)	1.97 (50)
<b>H</b>	<b>H1</b>	<b>H2</b>	<b>J</b>	<b>J1</b>	<b>L</b>
.87 (22)	.26 (6.6)	.35 (9)	.65 (16.5)	.11 (2.9)	1.14 (29)
<b>M</b>	<b>N</b>	<b>N1</b>	<b>P</b>	<b>P1</b>	
.79 (20)	.02 (0.5)	.42 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)	

Inches (mm)

**P2LAX 5/2 & 5/3 Single & Double Operators, 4-way**



**P2LAX 5/2 & 5/3 (solenoid)**

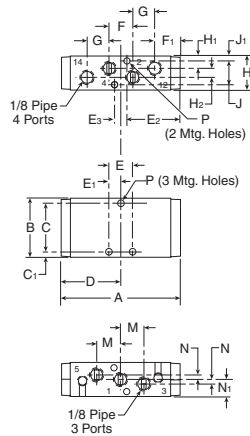
<b>A</b>	<b>A1</b>	<b>B</b>	<b>C</b>	<b>C1</b>	<b>D</b>
5.47 (139)	7.72 (196)	1.57 (40)	1.30 (33)	.14 (3.5)	3.86 (98)
<b>D2</b>	<b>E</b>	<b>E1</b>	<b>E2</b>	<b>E3</b>	<b>F</b>
3.48 (88.3)	.63 (16)	.31 (8)	1.42 (36)	.33 (8.5)	.63 (16)
<b>F1</b>	<b>G</b>	<b>H</b>	<b>H1</b>	<b>H2</b>	<b>J</b>
.67 (17)	.59 (15)	.87 (22)	.31 (8)	.24 (6)	.63 (16)
<b>J1</b>	<b>K</b>	<b>K1</b>	<b>K2</b>	<b>K3</b>	<b>K4</b>
.12 (3.9)	2.36 (60)	1.61 (41)	1.50 (38)	2.24 (57)	1.63 (41.3)
<b>K5</b>	<b>M</b>	<b>N</b>	<b>N1</b>	<b>P</b>	<b>P1</b>
2.10 (53.3)	.63 (16)	.12 (3)	.43 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)
<b>U</b>	<b>V</b>				
0.81 (20.5)	0.29 (7.5)				

Inches (mm)



**C**  
 Inline Valves  
 Viking  
 Lite  
 Viking  
 Extreme  
 B3, B5, B6  
 Series  
 B7, B8  
 Series  
 Air-Saver  
 Unit  
 ADEX  
 Series  
 "N"  
 Series

**P2LAX 5/2 & 5/3 Single & Double Operators – Remote Pilot**

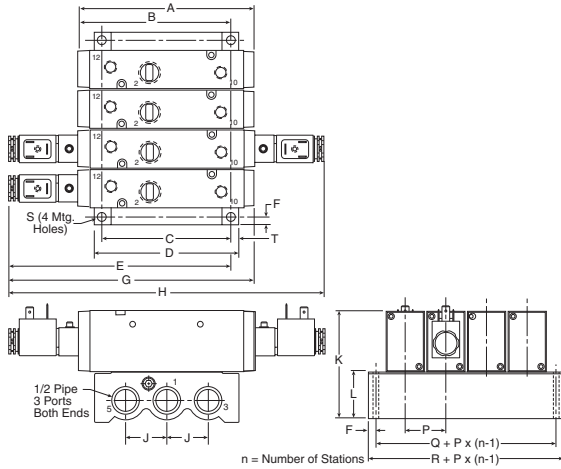


**P2LAX 5/2 & 5/3 (remote)**

A	B	C	C <sub>1</sub>	D
3.19 (81)	1.57 (40)	1.30 (33)	.14 (3.5)	1.59 (40.5)
E	E <sub>1</sub>	E <sub>2</sub>	E <sub>3</sub>	F
1.47 (16)	.31 (8)	1.42 (36)	.33 (8.5)	.63 (16)
F <sub>1</sub>	G	H	H <sub>1</sub>	H <sub>2</sub>
.67 (17)	.59 (15)	.87 (22)	.31 (8)	.24 (6)
J	J <sub>1</sub>	M	N	N <sub>1</sub>
.63 (16)	.12 (3)	.63 (16)	.12 (3)	.43 (11)
P	P <sub>1</sub>			
Ø .17 Ø (4.3)	Ø .12 Ø (3.1)			

Inches (mm)

**P2LAX 3/2 Single & Double Operators – IEM Aluminum Bar Manifold**

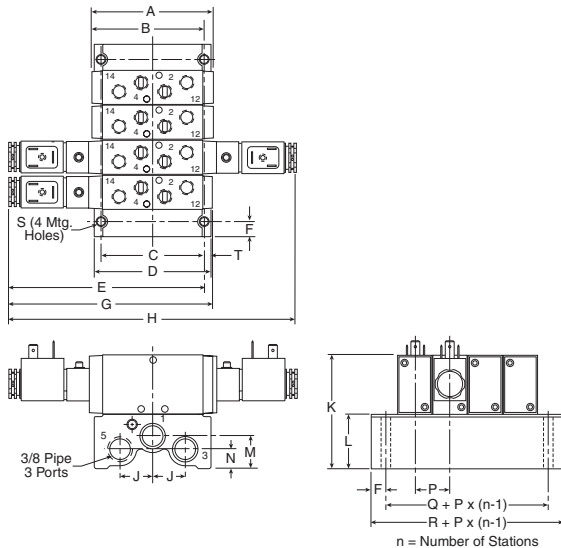


**P2LAX 3/2  
 IEM Aluminum bar manifold**

A	B	C	D	E
3.07 (78)	2.83 (72)	2.76 (70)	3.12 (79)	5.18 (132)
F	G	H	J	K
41 (10.5)	5.35 (136)	7.72 (193)	.87 (22)	3.11 (79)
L	M	N	P	Q
1.54 (39)	.87 (22)	.52 (13.2)	.93 (23.5)	1.56 (39.5)
R	S	T		
2.36 (60)	Ø .22 Ø (5.5)	.18 (4.5)		

Inches (mm)

**P2LAX 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold**



**P2LAX 5/2 & 5/3  
 IEM Aluminum bar manifold**

A	B	C	D	E
3.19 (81)	2.97 (76)	2.76 (70)	3.12 (79)	5.26 (134)
F	G	H	J	K
41 (10.5)	5.47 (139)	7.72 (196)	.87 (22)	3.11 (79)
L	M	N	P	Q
1.54 (39)	.87 (22)	.52 (13.2)	.93 (23.5)	1.56 (39.5)
R	S	T		
2.36 (60)	Ø .22 Ø (5.5)	.18 (4.5)		

Inches (mm)

**C**

Inline Valves

Viking  
 Lite

Viking  
 Xtreme

B3, B5, B6  
 Series

B7, B8  
 Series

Air Saver  
 Unit

ADEX  
 Series

"N"  
 Series



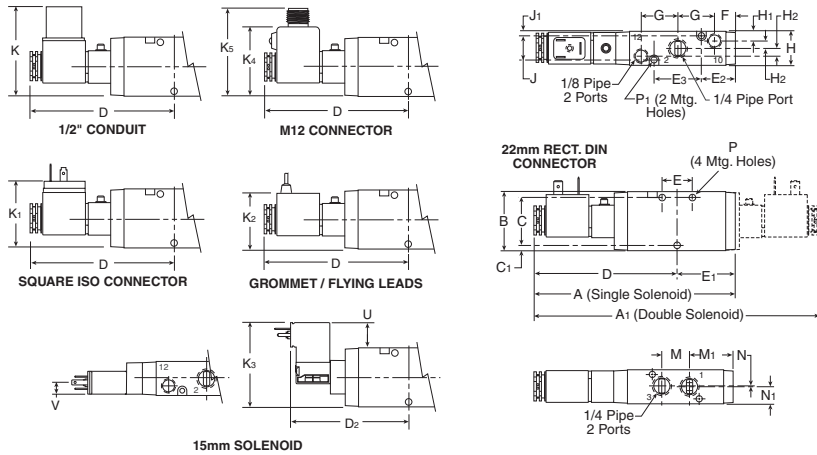
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C31

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)



**P2LBX 3/2 Single & Double Operators – Solenoid**

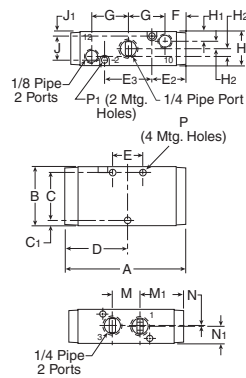


**P2LBX 3/2 (solenoid)**

A	A1	B	C	C1	D
5.35 (136)	7.60 (193)	1.57 (40)	1.26 (32)	.16 (4)	3.80 (96.5)
D2	E	E1	E2	E3	F
3.02 (76.8)	.79 (20)	1.54 (39)	.51 (13)	1.26 (32)	.55 (14)
G	H	H1	H2	J	J1
.98 (25)	.87 (22)	.26 (6.6)	.18 (4.5)	.65 (16.5)	.11 (2.9)
K	K1	K2	K3	K4	K5
2.36 (60)	1.61 (41)	1.50 (38)	2.24 (57)	1.63 (41.3)	2.10 (53.3)
M	M1	N	N1	P	P1
.79 (20)	1.14 (29)	.02 (0.5)	.42 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)
U	V				
0.81 (20.5)	0.29 (7.5)				

Inches (mm)

**P2LBX 3/2 Single & Double Operators – Remote Air Pilot**

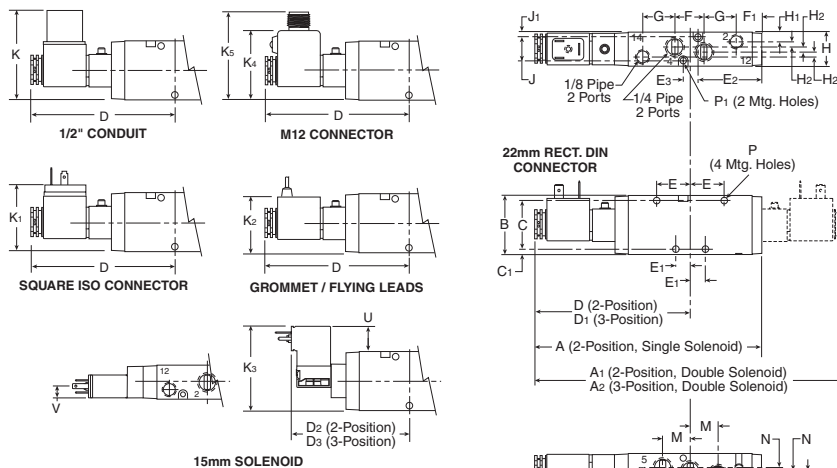


**P2LBX 3/2 (remote air pilot)**

A	B	C	C1	D	E
3.08 (78)	1.57 (40)	1.26 (32)	.16 (4)	1.54 (39)	.79 (20)
E2	E3	F	G	H	H1
.51 (13)	1.26 (32)	.55 (14)	.98 (25)	.87 (22)	.26 (6.6)
H2	J	J1	M	M1	N
.18 (4.5)	.65 (16.5)	.11 (2.9)	.79 (20)	1.14 (29)	.02 (0.5)
N1	P	P1			
.42 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)			

Inches (mm)

**P2LBX 5/2 & 5/3 Single & Double Operators – Solenoid**



**P2LBX 5/2 & 5/3 (solenoid)**

A	A1	A2	B	C	C1
6.14 (156)	8.39 (213)	9.23 (235)	1.57 (40)	1.26 (32)	.16 (4)
D	D1	D2	D3	E	E1
4.21 (107)	4.64 (118)	3.48 (88.3)	3.92 (99.6)	.91 (23)	.39 (10)
E2	E3	F	F1	G	H
1.73 (44)	.39 (10)	.79 (20)	.67 (17)	.87 (22)	.87 (22)
H1	H2	J	J1	K	K1
.26 (6.6)	.12 (3)	.65 (16.5)	.12 (3)	2.36 (60)	1.61 (41)
K2	K3	K4	K5	M	N
1.50 (38)	2.24 (57)	1.70 (43.3)	2.10 (53.3)	.79 (20)	.08 (2)
N1	P	P1	U	V	
.43 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)	0.81 (20.5)	0.29 (7.5)	

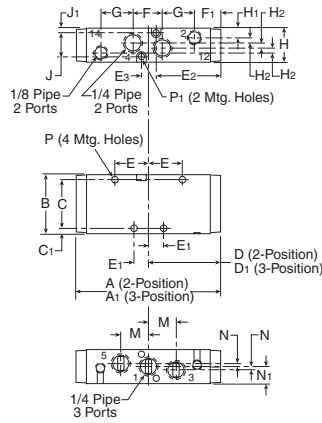
Inches (mm)

**C**  
 Inline Valves  
 Viking  
 Lite  
 Viking  
 Extreme  
 B3, B5, B6  
 Series  
 B7, B8  
 Series  
 Air-Saver  
 Unit  
 ADEX  
 Series  
 "N"  
 Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**P2LBX 5/2 & 5/3 Single & Double Operators – Remote Air Pilot**

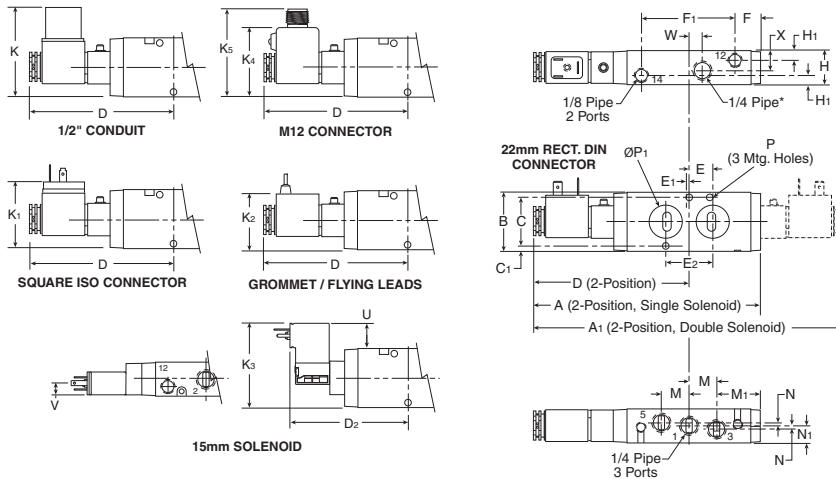


**P2LBX 5/2 & 5/3 (remote air pilot)**

A	A1	B	C	C1	D
3.95 (100)	4.61 (117)	1.57 (40)	1.26 (32)	.16 (4)	1.93 (49)
D1	E	E1	E2	E3	F
2.28 (58)	.91 (23)	.39 (10)	1.73 (44)	.39 (10)	.79 (20)
F1	G	H	H1	H2	J
.67 (17)	.87 (22)	.8 (22)	.26 (6.6)	.12 (3)	.65 (16.5)
J1	K	M	N	N1	P
.11 (2.8)	2.90 (74)	.79 (20)	.08 (2)	.43 (11)	Ø .17 Ø (4.3)
P1					
Ø .12 Ø (3.1)					

Inches (mm)

**P2LBX 5/2 Single & Double Operators – Solenoid NAMUR**



**P2LBX 5/2 (NAMUR)**

A	A1	B	C	C1	D
6.15 (156)	8.39 (213)	1.57 (40)	1.26 (32)	.16 (4)	4.21 (107)
D2	E	E1	E2	F	F1
3.48 (88.3)	.47 (12)	.08 (2)	.94 (24)	.67 (17)	2.52 (64)
K	K1	K2	K3	K4	K5
2.36 (60)	1.61 (41)	1.50 (38)	2.24 (57)	1.70 (43.3)	2.10 (53.3)
H	H1	M	M1	N	N1
.87 (22)	.26 (6.6)	.79 (20)	1.14 (29)	.08 (2)	.43 (11)
P	P1	U	V	W	X
Ø .22 Ø (5.5)	Ø .76 Ø (19.4)	0.81 (20.5)	0.29 (7.5)	0.39 (10)	0.50 (12.6)

Inches (mm)

\* Valve includes 1/4 pipe plug, o-rings and mounting bolts.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C33

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

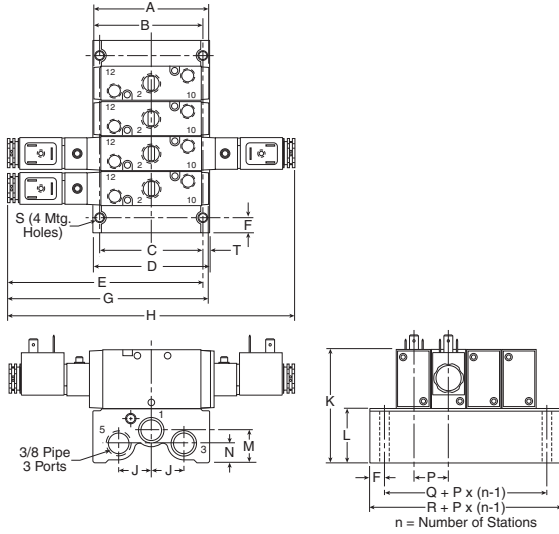
B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series

**P2LBX 3/2 Single & Double Operators – IEM Aluminum Bar Manifold**



**P2LBX 3/2**  
**IEM Aluminum bar manifold**

A	B	C	D	E
3.86 (78)	2.91 (74)	2.76 (70)	3.12 (79)	5.17 (131)

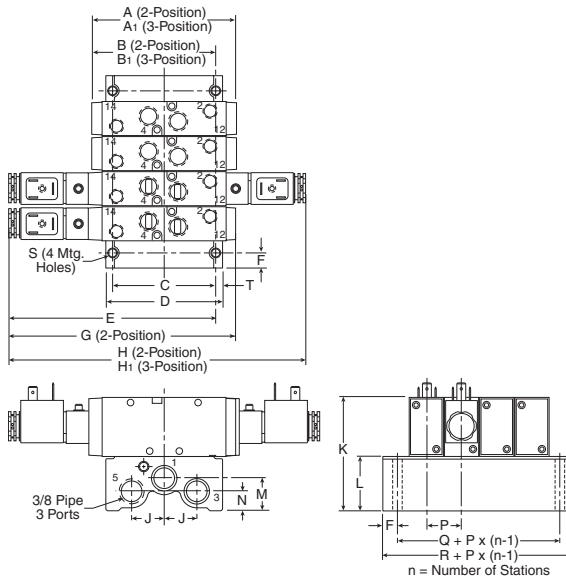
F	G	H	J	K
.40 (10.2)	5.33 (136)	7.6 (193)	.87 (22)	3.11 (79)

L	M	N	P	Q
1.47 (37)	.87 (22)	.52 (13.2)	.93 (23.5)	1.56 (39.6)

R	S	T
2.36 (60)	Ø .22 (5.5)	.18 (4.6)

Inches (mm)

**P2LBX 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold**



**P2LBX 5/2 & 5/3**  
**IEM Aluminum bar manifold**

A	A <sub>1</sub>	B	B <sub>1</sub>	C
3.86 (98)	4.70 (120)	3.42 (84)	3.73 (95)	2.76 (70)

D	E	F	G	H
3.12 (79)	5.59 (142)	.40 (10.2)	6.14 (156)	8.39 (213)

H <sub>1</sub>	J	K	L	M
9.23 (235)	.87 (22)	3.11 (79)	1.47 (37)	.87 (22)

N	P	Q	R	S
.52 (13.2)	.93 (23.5)	1.56 (39.6)	2.36 (60)	Ø .22 (5.5)

T
.18 (4.6)

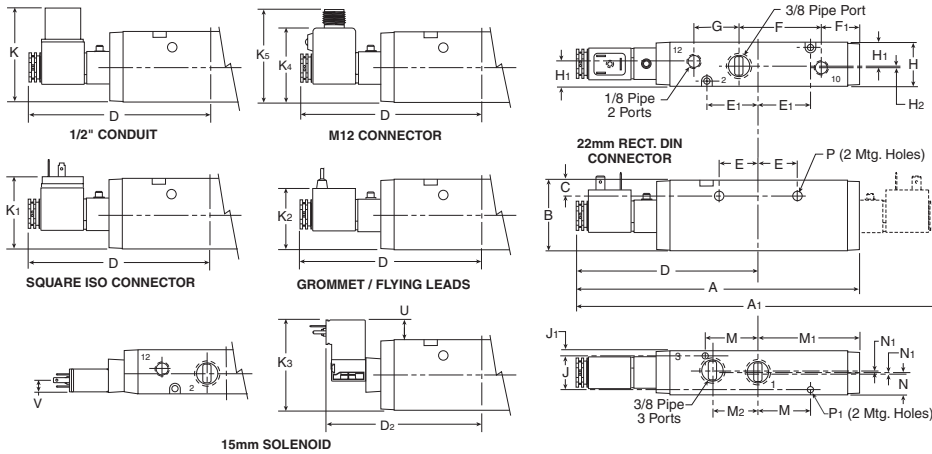
Inches (mm)

**C**  
 Inline Valves  
 Viking  
 Lite  
 Viking  
 Extreme  
 B3, B5, B6  
 Series  
 B7, B8  
 Series  
 Air-Saver  
 Unit  
 ADEX  
 Series  
 "N"  
 Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**P2LCX 3/2 Single & Double Operators – Solenoid**

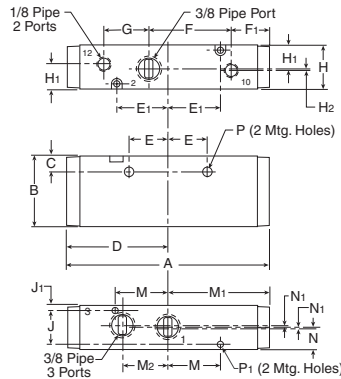


**P2LCX 3/2 (solenoid)**

<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>	<b>C</b>	<b>D</b>
7.66 (194.5)	9.80 (249)	1.89 (48)	.43 (11)	4.90 (124.5)
<b>D<sub>2</sub></b>	<b>E</b>	<b>E<sub>1</sub></b>	<b>F</b>	<b>F<sub>1</sub></b>
4.17 (105.8)	1.04 (26.5)	1.40 (35.5)	2.24 (57)	1.02 (26)
<b>G</b>	<b>H</b>	<b>H<sub>1</sub></b>	<b>H<sub>2</sub></b>	<b>J</b>
1.22 (31)	1.18 (30)	.67 (17)	.02 (0.5)	.91 (23)
<b>J<sub>1</sub></b>	<b>K</b>	<b>K<sub>1</sub></b>	<b>K<sub>2</sub></b>	<b>K<sub>3</sub></b>
.14 (3.5)	2.52 (64)	1.77 (45)	1.65 (42)	2.41 (61.3)
<b>K<sub>4</sub></b>	<b>K<sub>5</sub></b>	<b>M</b>	<b>M<sub>1</sub></b>	<b>M<sub>2</sub></b>
1.78 (45.3)	2.26 (57.3)	1.40 (35.5)	2.76 (70)	1.18 (30)
<b>N</b>	<b>N<sub>1</sub></b>	<b>P</b>	<b>P<sub>1</sub></b>	<b>U</b>
.55 (14)	.04 (1)	Ø .27 (6.9)	Ø .17 (4.4)	0.52 (13.3)
<b>V</b>	0.65 (7.5)			

Inches (mm)

**P2LCX 3/2 Single & Double Operators – Remote Air Pilot**



**P2LCX 3/2 (remote air pilot)**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
5.51 (140)	1.89 (48)	.43 (11)	2.76 (70)	1.04 (26.5)
<b>E<sub>1</sub></b>	<b>F</b>	<b>F<sub>1</sub></b>	<b>G</b>	<b>H</b>
1.40 (35.5)	2.24 (57)	1.02 (26)	1.22 (31)	1.18 (30)
<b>H<sub>1</sub></b>	<b>H<sub>2</sub></b>	<b>J</b>	<b>J<sub>1</sub></b>	<b>M</b>
.67 (17)	.02 (0.5)	.91 (23)	.14 (3.5)	1.40 (35.5)
<b>M<sub>1</sub></b>	<b>M<sub>2</sub></b>	<b>N</b>	<b>N<sub>1</sub></b>	<b>P</b>
2.76 (70)	1.18 (30)	.55 (14)	.04 (1)	Ø .27 (6.9)
<b>P<sub>1</sub></b>	Ø .17 (4.4)			

Inches (mm)

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

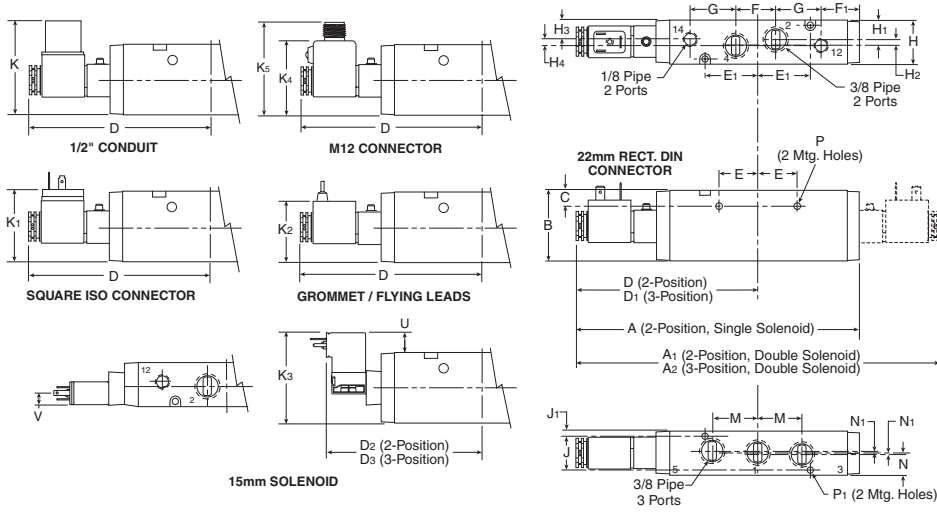
B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series

**P2LCX 5/2 & 5/3 Single & Double Operators – Solenoid**

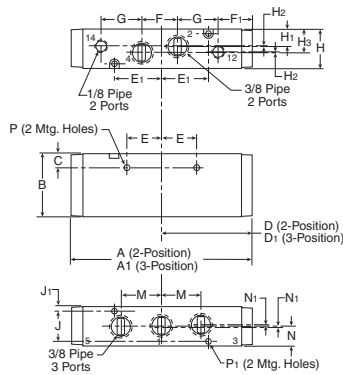


**P2LCX 5/2 & 5/3 (solenoid)**

A	A1	A2	B	C
7.68 (195)	9.84 (250)	10.71 (272)	1.89 (48)	.43 (11)
D	D1	D2	D3	E
4.92 (125)	5.35 (136)	4.17 (105.8)	4.61 (117.2)	1.04 (26.5)
E1	F	F1	G	H
1.40 (35.5)	1.06 (27)	1.02 (26)	1.22 (31)	1.18 (30)
H1	H2	H3	H4	J
.53 (13.5)	.12 (3)	.51 (13)	.16 (4)	.91 (23)
J1	K	K1	K2	K3
.14 (3.5)	2.52 (64)	1.77 (45)	1.65 (42)	2.41 (61.3)
K4	K5	M	N	N1
1.78 (45.3)	2.26 (57.3)	1.18 (30)	.55 (14)	.04 (1)
P	P1	U	V	
Ø .27 (6.9)	Ø .17 (4.4)	0.52 (13.3)	0.29 (7.5)	

Inches (mm)

**P2LCX 5/2 & 5/3 Single & Double Operators – Remote Air Pilot**

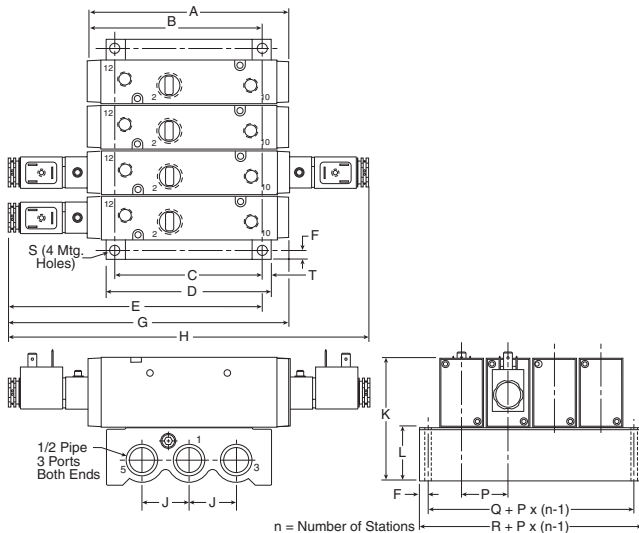


**P2LCX 5/2 & 5/3 (remote air pilot)**

A	A1	B	C	D	D1
5.51 (140)	6.38 (162)	1.89 (48)	.43 (11)	2.76 (70)	3.18 (81)
E	E1	F	F1	G	H
1.04 (26.5)	1.40 (35.5)	1.06 (27)	1.02 (26)	1.22 (31)	1.18 (30)
H1	H2	H3	J	J1	M
.51 (13)	.02 (0.5)	.12 (3)	.91 (23)	.14 (3.5)	1.18 (30)
N	N1	P	P1		
.55 (14)	.04 (1)	Ø .27 (6.9)	Ø .17 (4.4)		

Inches (mm)

**P2LCX 3/2 Single & Double Operators – IEM Aluminum Bar Manifold**



**P2LCX 3/2 IEM Aluminum bar manifold**

A	B	C	D	E	F
5.51 (140)	4.96 (126)	3.94 (100)	4.41 (112)	7.11 (180.5)	.24 (6)
G	H	J	K	L	P
7.66 (194.5)	9.80 (249)	1.26 (32)	3.43 (87)	1.54 (39)	1.24 (31.5)
Q	R	S	T		
1.77 (45)	2.24 (57)	Ø .26 (6.5)	.24 (6)		

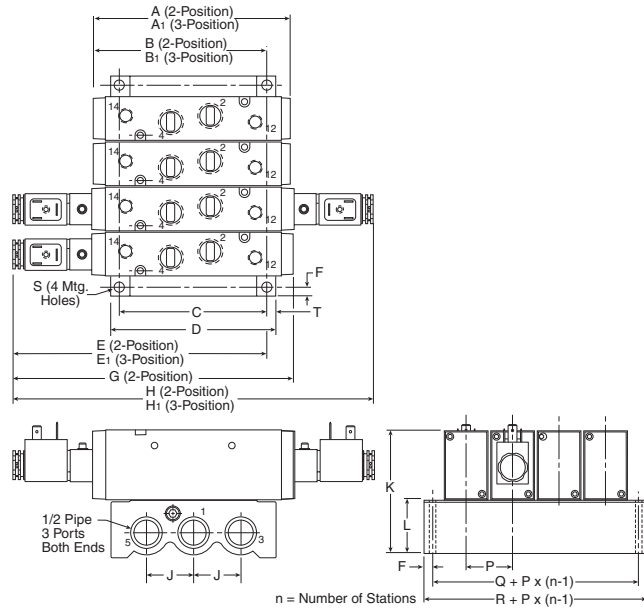
Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**C**  
 Inline Valves  
 Viking  
 Lite  
 Viking  
 Extreme  
 B3, B5, B6  
 Series  
 B7, B8  
 Series  
 Air Saver  
 Unit  
 ADEX  
 Series  
 "N"  
 Series

**P2LCX 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold**

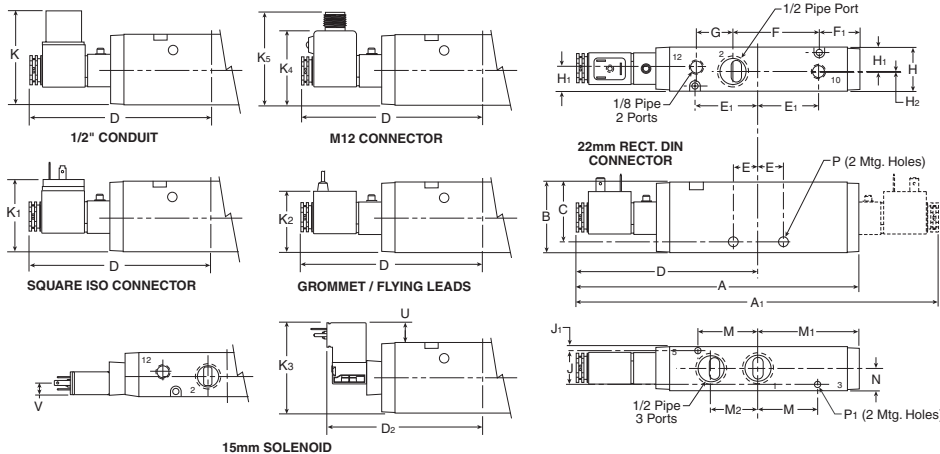


**P2PCX 5/2 & 5/3  
 IEM Aluminum bar manifold**

A	A <sub>1</sub>	B	B <sub>1</sub>	C
5.51 (140)	6.38 (162)	4.72 (120)	5.16 (131)	3.94 (100)
D	E	E <sub>1</sub>	F	G
4.41 (112)	6.89 (170)	7.13 (181)	.24 (6)	7.68 (195)
H	H <sub>1</sub>	J	K	L
9.84 (250)	10.71 (272)	1.26 (32)	3.43 (87)	1.54 (39)
P	Q	R	S	T
1.24 (31.5)	1.77 (45)	2.24 (57)	∅ .26 (6.5)	.24 (6)

Inches (mm)

**P2LDX 3/2 Single & Double Operators – Solenoid**



**P2LDX 3/2 (solenoid)**

A	A <sub>1</sub>	B	C	D
7.66 (194.5)	9.80 (249)	1.89 (48)	1.59 (40.5)	4.90 (124.5)
D <sub>2</sub>	E	E <sub>1</sub>	F	F <sub>1</sub>
4.17 (105.8)	.67 (17)	1.65 (42)	2.36 (60)	1.08 (27.5)
G	H	H <sub>1</sub>	H <sub>2</sub>	J
.98 (25)	1.18 (30)	.67 (17)	.02 (0.5)	.91 (23)
J <sub>1</sub>	K	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>
.14 (3.5)	2.52 (64)	1.77 (45)	1.65 (42)	2.41 (61.3)
K <sub>4</sub>	K <sub>5</sub>	M	M <sub>1</sub>	M <sub>2</sub>
1.78 (45.3)	2.26 (57.3)	1.65 (42)	2.76 (70)	1.30 (33)
N	P	P <sub>1</sub>	U	V
.59 (15)	∅ .26 (6.6)	∅ .17 (4.4)	0.65 (16.5)	0.29 (7.5)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C37

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

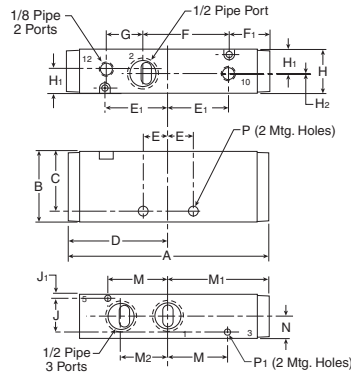
Air Saver Unit

ADEX Series

"N" Series



**P2LDX 3/2 Single & Double Operators – Remote Air Pilot**

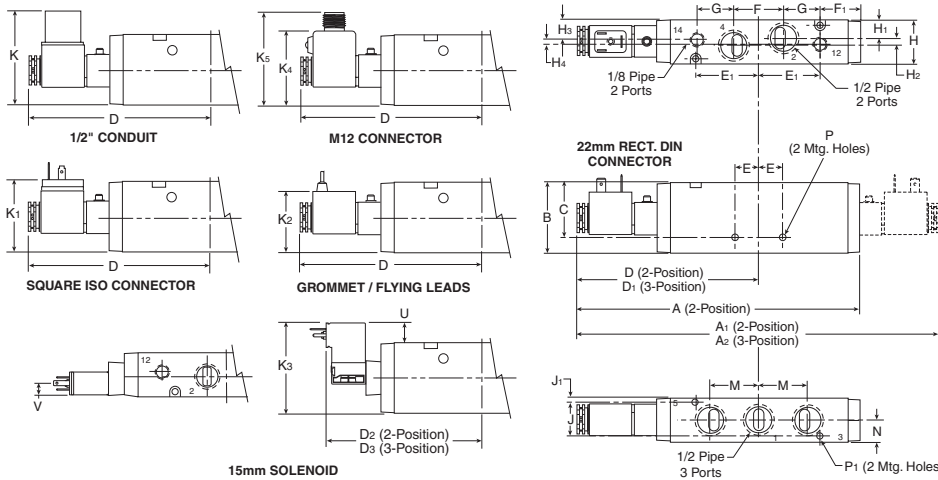


**P2LDX 3/2 (remote air pilot)**

A	B	C	D	E
5.51 (140)	1.89 (48)	1.59 (40.5)	2.76 (70)	.67 (17)
E <sub>1</sub>	F	F <sub>1</sub>	G	H
1.65 (42)	2.36 (60)	1.08 (27.5)	.98 (25)	1.18 (30)
H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	M
.67 (17)	.02 (0.5)	.91 (23)	.14 (3.5)	1.65 (42)
M <sub>1</sub>	M <sub>2</sub>	N	P	P <sub>1</sub>
2.76 (70)	1.30 (33)	.59 (15)	Ø .26 Ø (6.6)	Ø .17 Ø (4.4)

Inches (mm)

**P2LDX 5/2 & 5/3 Single & Double Operators – Solenoid**

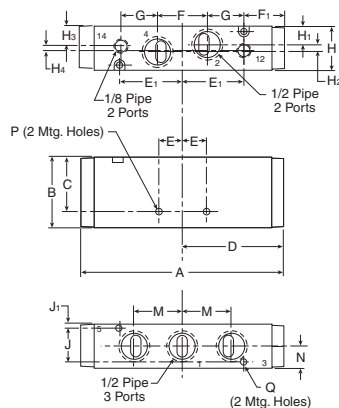


**P2LDX 5/2 & 5/3 (solenoid)**

A	A <sub>1</sub>	A <sub>2</sub>	B	C
7.67 (195)	9.84 (250)	10.7 (272)	1.89 (48)	1.59 (40.5)
D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	E
4.92 (125)	5.79 (147)	4.17 (105.3)	4.61 (117.2)	.67 (17)
E <sub>1</sub>	F	F <sub>1</sub>	G	H
1.65 (42)	1.34 (34)	1.10 (28)	.98 (25)	1.18 (30)
H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	J
.49 (12.5)	.20 (5)	.51 (13)	.16 (4)	.91 (23)
J <sub>1</sub>	K	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>
.14 (3.5)	2.52 (64)	1.77 (45)	1.65 (42)	2.41 (61.3)
K <sub>4</sub>	K <sub>5</sub>	M	N	P
1.78 (45.3)	2.26 (57.3)	1.30 (33)	.59 (15)	Ø .26 Ø (6.6)
P <sub>1</sub>	U	V		
Ø .17 Ø (4.4)	0.52 (13.3)	0.29 (7.5)		

Inches (mm)

**P2LDX 5/2 & 5/3 Single & Double Operators – Remote Pilot**



**P2LDX 5/2 & 5/3 (remote)**

A	B	C	D	E
5.47 (139)	1.89 (48)	1.59 (40.5)	2.63 (67)	.67 (17)
E <sub>1</sub>	F	F <sub>1</sub>	G	H
1.65 (42)	1.34 (34)	1.08 (27.5)	.98 (25)	1.18 (30)
H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	J
.49 (12.5)	.20 (5)	.51 (13)	.16 (4)	.91 (23)
J <sub>1</sub>	P	M	N	Q
.14 (3.5)	Ø .26 Ø (6.6)	1.29 (32.7)	.59 (15)	Ø .17 Ø (4.4)

Inches (mm)

**C**  
**Inline Valves**  
**Viking**  
**Lite**  
**Viking**  
**Extreme**  
**B3, B5, B6**  
**Series**  
**B7, B8**  
**Series**  
**Air-Saver**  
**Unit**  
**ADEX**  
**Series**  
**"N"**  
**Series**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Features

**B3, B5 & B6 Series**

B Series, an exceptional performing industrial valve in a compact size with an enhanced flow range.

Available in solenoid pilot operated and remote air pilot models. The B series features Parker's proven WCS (Wear Compensating Seal) system ensuring long life and fast response.

**Ports**

- B3: 1/8 NPT – 0.75 Cv
- B5: 1/4 & 3/8 NPT – 1.40 Cv
- B6: 3/8 NPT – 2.50 Cv

**Mounting**

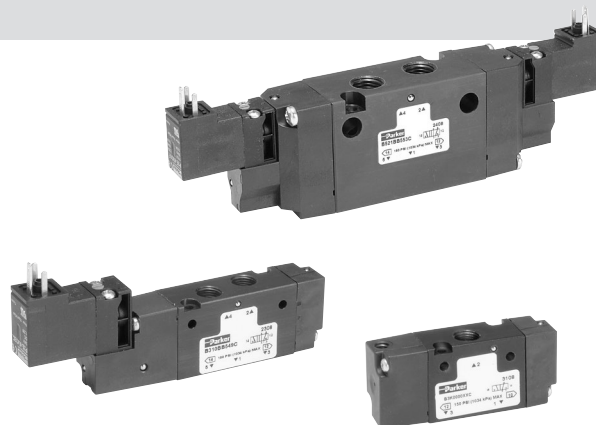
- Inline
- IEM stackable base
- IEM aluminum bar

**Solenoids**

- 1.2 W – 15mm, 3-pin EN175301-803
- 24VDC, 120VAC
- Female DIN electrical connectors

**Certification / Approval**

- Approved to be CE marked
- IP65 rated



**Operating information**

Operating pressure:	Vacuum to 145 PSIG (Vacuum to 10 bar)
Minimum:	See chart below
CSA-NRTL/C:	See chart below
Operating temperature:	5°F to 120°F (-15°C to 49°C)

**Material specifications**

Body	Anodized aluminum
End caps	Nylon polymer - 33% glass filled
Seals	Nitrile
Solenoid	Polyamide
Spool	Aluminum

**Minimum operating pressure**

Operator / Function	Internal Pilot	Minimum PSIG (kPa)		
		B3	B5	B6
1. G. H	Single solenoid - air return			
2. A. J. S	Double solenoid	20 (138)	20 (138)	20 (138)
3.	Single remote pilot - air return			
4. M	Double remote pilot	Vacuum		
5. 6. 7	Double solenoid - APB, CE, PC	30 (207)	30 (207)	30 (207)
8. 9. 0	Double remote pilot - APB, CE, PC	Vacuum		
X. Y	Single remote pilot - air return / spring assist*	35 (241)	35 (241)	35 (241)

\* Remote Pilot Signal 35-145 PSIG (241-1000 kPa).

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Common Part Numbers

Single Solenoid, 3-way, 2-position, NC



Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/8"	0.75 Cv	120VAC 24VDC	B3 Inline	<b>B3G0BB553C</b> <b>B3G0BB549C</b>
	1/4"	1.4 Cv	120VAC 24VDC	B5 Inline	<b>B5G1BB553C</b> <b>B5G1BB549C</b>
	3/8"	1.4 Cv	120VAC 24VDC	B5 Inline	<b>B5G2BB553C</b> <b>B5G2BB549C</b>

B3 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

Single Solenoid, 4-way, 2-position



Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/8"	0.75 Cv	120VAC 24VDC	B3 Inline	<b>B310BB553C</b> <b>B310BB549C</b>
	1/4"	1.4 Cv	120VAC 24VDC	B5 Inline	<b>B511BB553C</b> <b>B511BB549C</b>
	3/8"	1.4 Cv	120VAC 24VDC	B5 Inline	<b>B512BB553C</b> <b>B512BB549C</b>
	3/8"	2.7 Cv	120VAC 24VDC	B6 Inline	<b>B612BB553A</b> <b>B612BB549A</b>

B3 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

Double Solenoid, 4-way, 2-position



Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/8"	0.75 Cv	120VAC 24VDC	B3 Inline	<b>B320BB553C</b> <b>B320BB549C</b>
	1/4"	1.4 Cv	120VAC 24VDC	B5 Inline	<b>B521BB553C</b> <b>B521BB549C</b>
	3/8"	1.4 Cv	120VAC 24VDC	B5 Inline	<b>B522BB553C</b> <b>B522BB549C</b>
	3/8"	2.7 Cv	120VAC 24VDC	B6 Inline	<b>B622BB553A</b> <b>B622BB549A</b>

B5 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

ANSI / (NFPA) T3.21.3-1990 standard for Cv measurement.

15mm 3-Pin DIN 43650C, 8mm Pin Spacing

	Cord Length	Connector	Connector with Cord
Unlighted	18 Inches	<b>PS2932BP</b>	<b>PS2932HBP</b>
Unlighted	6 Feet	<b>PS2932BP</b>	<b>PS2932JBP</b>
Light – 12VAC or DC	6 Feet	<b>PS294675BP</b>	<b>PS2946J75BP *</b>
Light – 24VAC or DC	6 Feet	<b>PS294679BP</b>	<b>PS2946J79BP *</b>
Light – 110/120VAC	6 Feet	<b>PS294683BP</b>	<b>PS2946J83BP *</b>
Light – 240/230VAC		<b>PS294687BP</b>	N/A

\* LED with surge suppression.

Note: Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

Engineering data:

- Conductors: 2 poles plus ground, polarity insensitive
- Cable range (connector only): 4 to 6mm (0.16 To 0.24 Inch)
- Contact spacing: 8mm

Most popular.

15mm 3-Pin DIN 43650C to 1/2" Conduit

Description	Connector
1/2" NPTF conduit – Unlighted with 3' (1m) leads 20 AWG wire	<b>PS2998P</b>

Note: Rated up to 250VAC or VDC; 6 amps IP65 rated when properly installed.

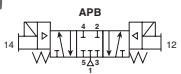
C  
Inline Valves  
Viking Lite  
Viking Extreme  
B3, B5, B6 Series  
B7, B8 Series  
Air-Saver Unit  
ADEX Series  
"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

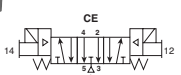
Common Part Numbers

Double Solenoid, 4-way, 3-position, APB

Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/8"	0.60 Cv	120VAC 24VDC	B3 Inline	<b>B350BB553C</b> <b>B350BB549C</b>
	1/4"	1.1 Cv	120VAC 24VDC	B5 Inline	<b>B551BB553C</b> <b>B551BB549C</b>
	3/8"	1.1 Cv	120VAC 24VDC	B5 Inline	<b>B552BB553C</b> <b>B552BB549C</b>
	3/8"	2.1 Cv	120VAC 24VDC	B6 Inline	<b>B652BB553A</b> <b>B652BB549A</b>

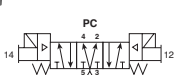
B5 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

Double Solenoid, 4-way, 3-position, CE

Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/8"	0.60 Cv	120VAC 24VDC	B3 Inline	<b>B360BB553C</b> <b>B360BB549C</b>
	1/4"	1.1 Cv	120VAC 24VDC	B5 Inline	<b>B561BB553C</b> <b>B561BB549C</b>
	3/8"	1.1 Cv	120VAC 24VDC	B5 Inline	<b>B562BB553C</b> <b>B562BB549C</b>
	3/8"	2.1 Cv	120VAC 24VDC	B6 Inline	<b>B662BB553A</b> <b>B662BB549A</b>

B5 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

Double Solenoid, 4-way, 3-position, PC

Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/8"	0.60 Cv	120VAC 24VDC	B3 Inline	<b>B370BB553C</b> <b>B370BB549C</b>
	1/4"	1.1 Cv	120VAC 24VDC	B5 Inline	<b>B571BB553C</b> <b>B571BB549C</b>
	3/8"	1.1 Cv	120VAC 24VDC	B5 Inline	<b>B572BB553C</b> <b>B572BB549C</b>
	3/8"	2.1 Cv	120VAC 24VDC	B6 Inline	<b>B672BB553A</b> <b>B672BB549A</b>

B5 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

ANSI / (NFPA) T3.21.3-1990 standard for Cv measurement.

15mm 3-Pin DIN 43650C, 8mm Pin Spacing


	Cord Length	Connector	Connector with Cord
Unlighted	18 Inches	<b>PS2932BP</b>	<b>PS2932HBP</b>
Unlighted	6 Feet	<b>PS2932BP</b>	<b>PS2932JBP</b>
Light – 12VAC or DC	6 Feet	<b>PS294675BP</b>	<b>PS2946J75BP *</b>
Light – 24VAC or DC	6 Feet	<b>PS294679BP</b>	<b>PS2946J79BP *</b>
Light – 110/120VAC	6 Feet	<b>PS294683BP</b>	<b>PS2946J83BP *</b>
Light – 240/230VAC		<b>PS294687BP</b>	N/A

\* LED with surge suppression.

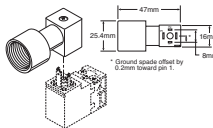
Note: Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

Engineering data:

- Conductors: 2 poles plus ground, polarity insensitive
- Cable range (connector only): 4 to 6mm (0.16 To 0.24 Inch)
- Contact spacing: 8mm

 Most popular.

15mm 3-Pin DIN 43650C to 1/2" Conduit

Description	Connector
 1/2" NPTF conduit – Unlighted with 3' (1m) leads 20 AWG wire	<b>PS2998P</b>

Note: Rated up to 250VAC or VDC; 6 amps IP65 rated when properly installed.



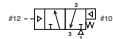
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Common Part Numbers

Single Remote Pilot, 3-way, 2-position, NC



Symbol



B3 Shown, M5 Remote Pilot Ports

Port Size	Cv	Valve Type	Part Number
1/8"	0.75 Cv	B3 Inline, remote pilot	<b>B3X0000XXC</b>
1/4"	2.7 Cv	B5 Inline, remote pilot	<b>B5X1000XXC</b>
3/8"	1.4 Cv	B5 Inline, remote pilot	<b>B5X2000XXC</b>

Single Remote Pilot, 4-way, 2-position



Symbol



B5 Shown, M5 Remote Pilot Ports

Port Size	Cv	Valve Type	Part Number
1/8"	0.75 Cv	B3 Inline, remote pilot	<b>B330000XXC</b>
1/4"	1.4 Cv	B5 Inline, remote pilot	<b>B531000XXC</b>
3/8"	1.4 Cv	B5 Inline, remote pilot	<b>B532000XXC</b>
3/8"	2.7 Cv	B6 Inline, remote pilot	<b>B632000XXA</b>

Double Remote Pilot, 4-way, 2-position



Symbol



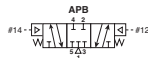
B5 Shown, M5 Remote Pilot Ports

Port Size	Cv	Valve Type	Part Number
1/8"	0.75 Cv	B3 Inline, remote pilot	<b>B340000XXC</b>
1/4"	1.4 Cv	B5 Inline, remote pilot	<b>B541000XXC</b>
3/8"	1.4 Cv	B5 Inline, remote pilot	<b>B542000XXC</b>
3/8"	2.7 Cv	B6 Inline, remote pilot	<b>B642000XXA</b>

Double Remote Pilot, 4-way, 3-position, APB



Symbol



B5 Shown, M5 Remote Pilot Ports

Port Size	Cv	Valve Type	Part Number
1/8"	0.60 Cv	B3 Inline, remote pilot	<b>B380000XXC</b>
1/4"	1.1 Cv	B5 Inline, remote pilot	<b>B581000XXC</b>
3/8"	1.1 Cv	B5 Inline, remote pilot	<b>B582000XXC</b>
3/8"	2.1 Cv	B6 Inline, remote pilot	<b>B682000XXA</b>

ANSI / (NFPA) T3.21.3-1990 standard for Cv measurement.

Most popular.

C  
Inline Valves  
Viking Lite  
Viking Extreme  
B3, B5, B6 Series  
B7, B8 Series  
Air-Saver Unit  
ADEX Series  
"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B3 Series**

**B3 1 0 B B 5 49 - C**

Basic Series	
B3 Series	B3

Engineering Level	
C	Current

Operator Function	
3-way	
Single Solenoid, 2-Position Nc - Air Return	G
Single Solenoid, 2-Position No - Air Return	H
Double Solenoid, 2-Position	J
Double Remote Pilot, 2-Position	M
Single Remote Pilot, 2-Position Nc - Air Return / Spring Assist	X
Single Remote Pilot, 2-Position No - Air Return / Spring Assist	Y
4-Way	
Single Solenoid, 2-Position - Air Return	1
Double Solenoid, 2-Position	2
Single Remote Pilot, 2-Position - Air Return	3
Double Remote Pilot, 2-Position	4
Double Solenoid, 3-Position - APB	5
Double Solenoid, 3-Position - CE	6
Double Solenoid, 3-Position - PC	7
Double Remote Pilot, 3-Position - APB	8
Double Remote Pilot, 3-Position - CE	9
Double Remote Pilot, 3-Position - PC	0

Options	
Blank	None

	AC		DC
	60Hz	50Hz	
49			24
53	120	110	
XX	Remote Pilot - M5 or Valve Less 15mm Solenoid		

Enclosure / Lead Length	
0	None, Remote Pilot Valve
5	15mm 3-Pin Din 43650c (Male Only)

Port Size / Thread Type	
3-way, 4-way *	
1/8" NPT Inline	0

\* Available for use on IEM Manifolds.

Overrides	
0	Remote Pilot Valve
B	Flush - Non-Locking
C	Flush - Locking
X	Valve Less 15mm Solenoid

Pilot Source / Pilot Exhaust	
0	Remote Pilot Valve
B†	Internal - Port #1 / Vented

† Not available for Remote Pilot Valves.

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C
Inline Valves
Viking Lite
Viking Extreme
B3, B5, B6 Series
B7, B8 Series
Air Saver Unit
ADEX Series
"N" Series



**B5 Series**

**B5 1 1 B B 5 49 - C**

Basic Series	
B5 Series	B5

Engineering Level	
C	Current

Operator Function	
3-Way	
Single Solenoid, 2-Position Nc - Air Return	G
Single Solenoid, 2-Position No - Air Return	H
Double Solenoid, 2-Position	J
Double Remote Pilot, 2-Position	M*
Single Remote Pilot, 2-Position Nc - Air Return / Spring Assist	X*
Single Remote Pilot, 2-Position No - Air Return / Spring Assist	Y*
4-Way	
Single Solenoid, 2-Position - Air Return	1
Double Solenoid, 2-Position	2
Single Remote Pilot, 2-Position - Air Return	3*
Double Remote Pilot, 2-Position	4*
Double Solenoid, 3-Position - APB	5
Double Solenoid, 3-Position - CE	6
Double Solenoid, 3-Position - PC	7
Double Remote Pilot, 3-Position - APB	8*
Double Remote Pilot, 3-Position - CE	9*
Double Remote Pilot, 3-Position - PC	0*

Options	
Blank	None

Voltage			
	AC		DC
	60Hz	50Hz	
49			24
53	120	110	
XX	Remote Pilot - M5 or Valve Less Solenoid		

Enclosure / Lead Length	
0	Remote Pilot Valve
5	15mm 3-Pin DIN 43650C (male only)
X	Valve Less 15mm Solenoid

Overrides	
0	Remote Pilot Valve
B *	Flush - Non-Locking
C *	Flush - Locking

\* Only available with encl. "5".

Port Size / Thread Type	
3-way, 4-way *	
1/4" NPT Inline	1
3/8" NPT Inline	2

\* 4-way available for use on IEM manifolds

Pilot Source / Pilot Exhaust	
Remote Pilot Valve	0
Internal - Port #1 / Vented	B †

† Not available for remote pilot valves.

\* Pilot source/pilot exhaust, override, and enclosure must be "0".

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air-Saver Unit

ADEX Series

"N" Series

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B6 Series**

**B6 1 2 B B 5 49 - A**

Basic Series	
B6 Series	B6

Engineering Level	
C	Current

Operator function	
4-way	
Single Solenoid, 2-Position - Air Return	1
Double Solenoid, 2-Position	2
Single Remote Pilot, 2-Position - Air Return	3
Double Remote Pilot, 2-Position	4
Double Solenoid, 3-Position - APB	5
Double Solenoid, 3-Position - CE	6
Double Solenoid, 3-Position - PC	7
Double Remote Pilot, 3-Position - APB	8
Double Remote Pilot, 3-Position - CE	9
Double Remote Pilot, 3-Position - PC	0

Options	
Blank	None

Voltage			
	AC		DC
	60Hz	50Hz	
49			24
53	120	110	
XX	Remote Pilot - M5 or Valve Less 15mm Solenoid		

Port Size / Thread Type	
4-way	
3/8" NPT Inline	2*

\* Available for use on IEM manifolds.


Enclosure / Lead Length	
0	Remote Pilot Valve
5	15mm 3-Pin DIN 43650C (male only)
X	Valve Less 15mm Solenoid

Pilot Source / Pilot Exhaust	
None. Remote Pilot Valve	0
Internal - Port #1 / Vented	B†

† Not available for remote pilot valves.

Overrides <sup>§</sup>	
Remote Pilot Valve	0
Flush - Non-Locking	B *
Flush - Locking	C *
Valve Less 15mm Solenoid	X

\* Available for use on IEM manifolds.

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C
Inline Valves
Viking Lite
Viking Extreme
B3, B5, B6 Series
B7, B8 Series
Air Saver Unit
ADEX Series
"N" Series

**Accessories**

**B3 B5 B6 IEM Manifold, Inline Valves Only**



Valve Series	Valve Function	## – Stations	Manifold Kit Only (NPT)
B3	4-way	2	PSM3BXN02NP
		4	PSM3BXN04NP
		6	PSM3BXN06NP
		8	PSM3BXN08NP
B5	4-way	2	PSM5BXN02NP
		4	PSM5BXN04NP
		6	PSM5BXN06NP
		8	PSM5BXN08NP
B6	4-way	2	PSM6BXN02NP
		4	PSM6BXN04NP
		6	PSM6BXN06NP
		8	PSM6BXN08NP

Kits include: (1) manifold, valve hold down bolts, O-rings.

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air-Saver Unit

ADEX Series

"N" Series

Most popular.



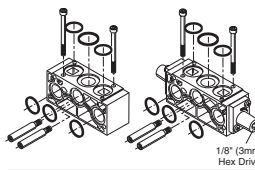
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Accessories**

**IEM Stackable Manifolds**

- Individual Manifold Bases stack together to form lightweight custom length manifold system.
- Easy-to-connect male / female tie rods for modular assembly.
- Utilizes B3 and B5 4-way Inline Valves.
- Low-cost built-in Flow Controls with heavy-duty brass adjusting needles to control meter-out exhaust flow.
- Accessories include Isolator Plugs for pressure isolation and Universal Blanking Plates for auxiliary inlet and exhaust supply and future valve additions.

		Kit Number	
Series	Type	Standard	Flow Control
B3	4-way	PS2917P	PS2918P
B5	4-way	PS2817P	PS2818P

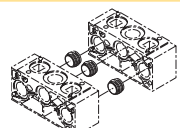


1/8" (3mm) Hex Drive

Kit includes: (1) manifold base, (2) hold-down bolts, tie-rods, gaskets and o-rings.

**Isolator Plugs**

Series	Description	Kit Number
B3	4-way, IEM stackable	PS2919P
B5	4-way, IEM stackable	PS2819P

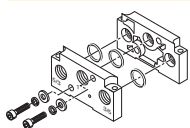


Used to isolate the #1, #3 or #5 gallery between two manifold bases. (IEM stackable only)

Kit includes: (3) plugs and (6) o-rings

**End Plate Kits**

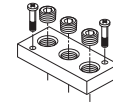
Series	Type	Port Type	Kit Number
B3	4-way, NPT	1/4	PS2915P
B5	4-way, NPT	3/8	PS2815P



Kit includes: right and left end plate, o-rings, socket head cap screws, flat washers and lockwashers.

 Most popular.

**Blanking Plate**



		IEM Universal	IEM
		NPT	Blank
B3	4-way	PS2920P	PS2969P
B5	4-way	PS2820P	PS2869P
B6	4-way	PS2620P	—

Kit includes: (1) plate, (2) screws, seal / gaskets

C	Inline Valves
	Viking Lite
	Viking Extreme
	B3, B5, B6 Series
	B7, B8 Series
	Air Saver Unit
	ADEX Series
	"N" Series

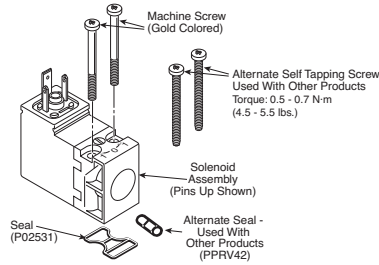


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Solenoid Kits – B3 ‘C’, B5 ‘C’, B6 ‘A’, 3-Pin, EN175301-803 (Former DIN 43650C), 15mm**



**Standard**



**PS2982\*##P – Enclosure ‘5’**

	## Voltage	
Override *	49	53
B	S	S
C	S	S

S - Standard;

Kit includes: Solenoid, (2) machine screws, (2) self threading screws, (1) gasket, (1) 3-cell gasket.

**15mm 3-Pin DIN 43650C, 8mm Pin Spacing**

	Cord Length	Connector	Connector with Cord
Unlighted	18 Inches	<b>PS2932BP</b>	<b>PS2932HBP</b>
Unlighted	6 Feet	<b>PS2932BP</b>	<b>PS2932JBP</b>
Light – 12VAC or DC	6 Feet	<b>PS294675BP</b>	<b>PS2946J75BP *</b>
Light – 24VAC or DC	6 Feet	<b>PS294679BP</b>	<b>PS2946J79BP *</b>
Light – 110/120VAC	6 Feet	<b>PS294683BP</b>	<b>PS2946J83BP *</b>
Light – 240/230VAC		<b>PS294687BP</b>	N/A

\* LED with surge suppression.

**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord.  
 IP65 rated when properly installed.

**Engineering data:**

- Conductors: 2 poles plus ground, polarity insensitive
- Cable range (connector only): 4 to 6mm (0.16 To 0.24 Inch)
- Contact spacing: 8mm

**15mm 3-Pin DIN 43650C to 1/2" Conduit**

Description	Connector
1/2" NPTF conduit – Unlighted with 3' (1m) leads 20 AWG wire	<b>PS2998P</b>

**Note:** Rated up to 250VAC or VDC; 6 amps  
 IP65 rated when properly installed.

Most popular.

**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Solenoid Information (Solenoids are rated for continuous duty.)**

Voltage				Enclosure "5"	
Code	AC		DC	Power Consumption	Holding (Amps)
	60Hz	50Hz			
49			24	1.2W	.049
53	120	110		1.6W	.013

**Response Time (Sec)**

Valve Size	Port Size	Enclosure "5"			
		0 Cu. In. Test Chamber		25 * Cu. In. Test Chamber	
		Fill	Exhaust	Fill	Exhaust
<b>2-Position Single Solenoid / Internal Air Return</b>					
B3	1/8"	.024	.026	.149	.242
B5	1/4"	.038	.040	.106	.156
B5 *	3/8"	.039	.041	.150	.245
B6 *	3/8"	.037	.038	.096	.132
<b>2-Position Double Solenoid</b>					
B3	1/8"	.013	.015	.122	.213
B5	1/4"	.016	.018	.082	.132
B5 *	3/8"	.016	.018	.129	.222
B6 *	3/8"	.016	.017	.074	.110
<b>3-Position Double Solenoid</b>					
B3	1/8"	.021	.023	.091	.141
B5	1/4"	.022	.023	.091	.141
B5 *	3/8"	.022	.024	.135	.229
B6 *	3/8"	.024	.026	.094	.139

**Average Fill Time (Seconds):** With 100 PSIG supply, time required to fill from 0-90 PSIG and exhaust from 100 PSIG to 10 PSIG is measured from instant of energizing, or de-energizing 120V/60Hz solenoid. Times shown are average.

\* For 3/8" ported, 50 cu. in. test chamber is used. For 1/2" & 3/4", a 200 cu. in. test chamber is used.

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

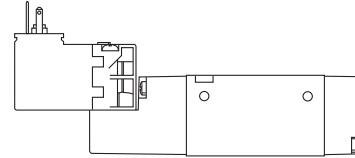


**B3C Series**

**Spool / Body Service Kits**

*Kit Includes:*

PS2901CP	4-Way, 2-Pos	Item 15, 21 (2), 24, 25, 31 (2), grease packet
PS2902CP	4-Way, 3-Pos APB	Item 16, 21 (2), 31 (2), grease packet
PS2903CP	4-Way, 3-Pos CE	Item 16, 21 (2), 31 (2), grease packet
PS2904CP	4-Way, 3-Pos PC	Item 16, 21 (2), 31 (2), grease packet
PS2971CP	3-Way, 2-Pos	Item 15, 21 (2), 24, 25, 31 (2), grease packet



**Valve to Manifold Kits**

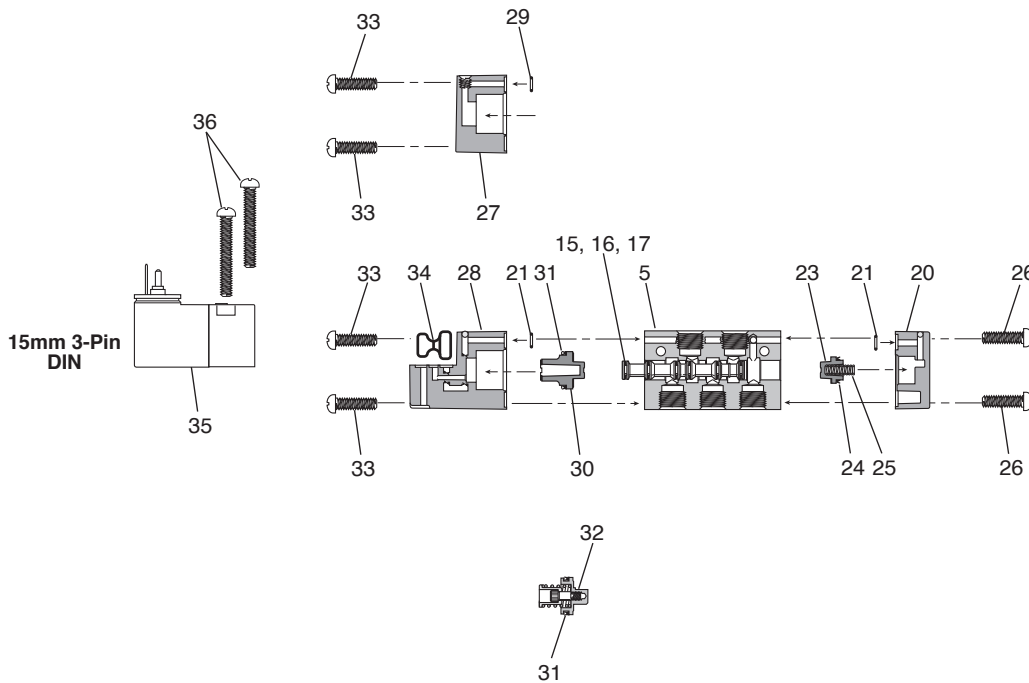
PS2980P	Gasket (10) - Inline 3-Way Valve to Segmented Manifold
PS2981P	Gasket (10) - Inline 4-Way Valve to Segmented Manifold
PS2984P	O-ring (10) - Inline Valve to IEM Bar Manifold
PS2987P	Mounting Bolts (10) - Inline Valve / Subbase Valve

**Manifold to Manifold Kit**

PS2996P	Gasket (10), Tie Rods (10) - 4-Way Manifold
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**Solenoid Kit Kit Includes: 35, 36, 34**

PS2982*##P	3-Pin, EN175301-803, 15mm
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**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air Saver Unit  
 ADEX Series  
 "N" Series

**Item List** – Parts not sold separately.

Item	Description	Item	Description	Item	Description
5	Inline Body - Tapped Ports	25*	Spring, Return Assist	33	Screws - Operator Adapter
15*	Spool - 2-Position (Seals Assembled)	26	Screws - Return Operator	34*	Gasket - Solenoid to Adapter
16*	Spool - 3-Position (Seals Assembled)	27	Remote Pilot Operator	35*	15mm Solenoid
17*	Spool Seal	28a	Solenoid Adapter - Vent Exhaust	36*	Self Tapping Screw - Solenoid (Effective May 99)
20	Return Operator	29	O-ring - Remote Pilot	36*	Machine Screw - Solenoid (Jan 96 - May 99)
21*	Gasket - Body to Operator	30	Operator Piston - 2-Position		
23	Return Piston	31*	Lip Seal - Operator Piston		
24*	Lip Seal - Return Piston	32	Operator Piston Mechanism - 3-Position		

**Note:** \* Parts are available in kits shown.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B5C Series**

**Spool / Body Service Kits**

PS2801*P	4-Way, 2-Pos	<i>Kit Includes:</i>
PS2802*P	4-Way, 3-Pos APB	Item 2, 10 (2), 14, 15, 116, 6 (2), grease packet
PS2803*P	4-Way, 3-Pos CE	Item 3, 6 (2), 10 (2), 13 (2), grease packet
PS2804*P	4-Way, 3-Pos PC	Item 3, 6 (2), 10 (2), 13 (2), grease packet
PS2871*P	3-Way, 2-Pos NC	Item 2, 10 (2), 14, 15, 116, 6 (2), grease packet

\* Fluorocarbon Seal Kit (i.e. PS2801VP)

**Valve to Manifold Kits**

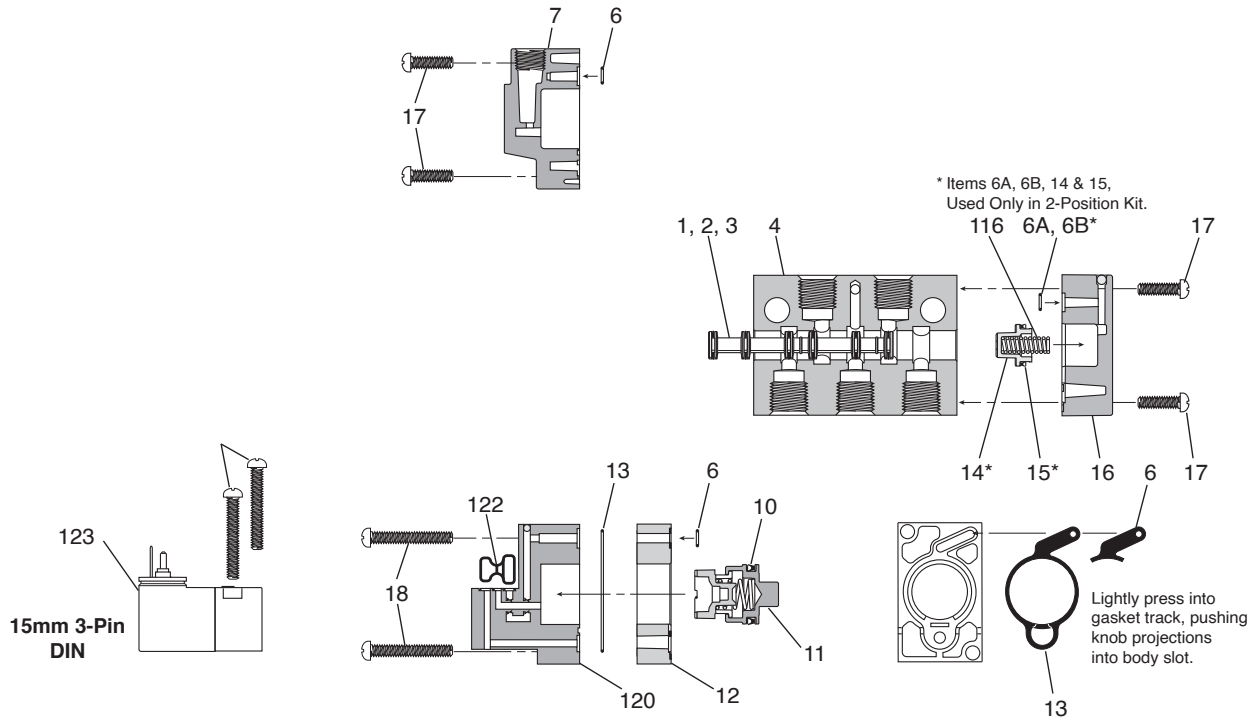
PS2884P	O-ring (10) - Inline Valve to IEM Manifold (All)
PS2887P	Mounting Bolts (10) - Inline & Subbase Valve

**Manifold to Manifold Kit**

PS2896P	Gasket (10), Tie Rods (10) - 4-Way Manifold
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**Solenoid Kit** *Kit Includes: 25, 122, 123*

PS2982*##P	3-Pin, EN175301-803, 15mm
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**Item List – Parts not sold separately.**

Item	Description	Item	Description	Item	Description
1*	Spool Seal	10*	Lip Seal - Operator Piston	18*	Screws - Operator Adapter - 3-Position
2*	Spool - 2-Position (Seals Assembled)	11	Operator Piston Mechanism - 3-Position	25a*	Self Tapping Screw - Solenoid (Effective May 99)
3*	Spool - 3-Position (Seals Assembled)	12	Adapter - 3-Position	25b*	Machine Screw - Solenoid (Jan 96 - May 99)
4	Inline Body	13*	Gasket - 3-Position Adapter to Body	116*	Spring, Return Assist
6A*	Gasket - Body to Operator	14	Return Piston	120a	Solenoid Adapter - Vent Exhaust
6B	O-ring - Body to Operator (Effective July 2007)	15*	Lip Seal - Return Piston	122*	Gasket - Solenoid to Adapter
7	Remote Pilot Operator	16	Return Operator	123*	15mm Solenoid
		17*	Screws - Operator Adapter - 2-Position		

**Note:** \* Parts are available in kits shown.

C
Inline Valves
Viking Lite
Viking Extreme
B3, B5, B6 Series
B7, B8 Series
Air Saver Unit
ADEX Series
"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B6A Series**

**Spool / Body Service Kits**

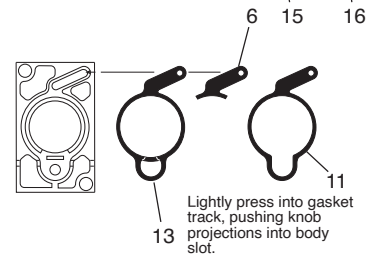
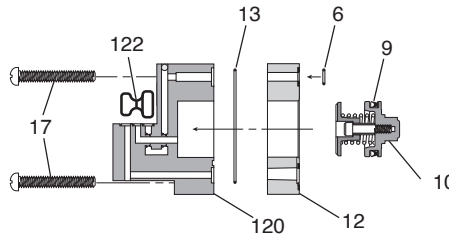
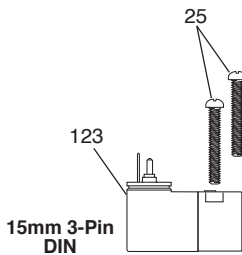
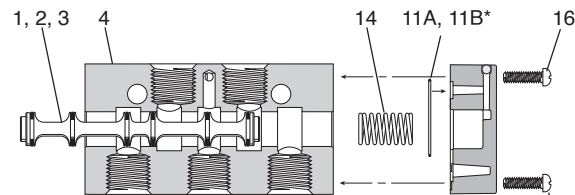
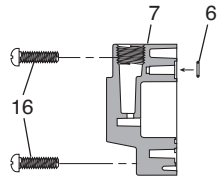
		<i>Kit Includes:</i>
PS2601P	4-Way, 2-Pos	Item 2, 6 (2), 9 (2), 11, 14, grease packet
PS2602P	4-Way, 3-Pos APB	Item 3, 6 (2), 9 (2), 13 (2), grease packet
PS2603P	4-Way, 3-Pos CE	Item 3, 6 (2), 9 (2), 13 (2), grease packet
PS2604P	4-Way, 3-Pos PC	Item 3, 6 (2), 9 (2), 13 (2), grease packet

**Solenoid Kit** *Kit Includes: 25, 122, 123*

PS2982\*##P 3-Pin, EN175301-803, 15mm

**Valve to Manifold Kits**

PS2684P	O-ring (10) - Inline Valve to IEM Manifold
PS2887P	Mounting Bolts (10) - Inline Valve



\* Item 11A & 11B used in 2-Position Kit Only

**Item List** – Parts not sold separately.

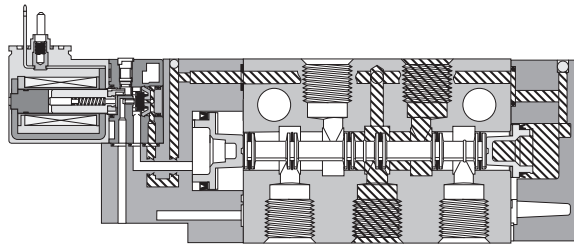
Item Description	Item Description	Item Description
1* Spool Seal	10 Operator Piston Mechanism - 3-Position	15a Return Operator
2* Spool - 2-Position (Seals Assembled)	11A* Gasket - Body to Return Cap	16* Screws - Operator Adapter - 2-Position
3* Spool - 3-Position (Seals Assembled)	11B* O-ring - Body to Operator (Effective Feb. 2008)	17* Screws - Operator Adapter - 3-Position
4 Inline Body - 4-Way	12 Adapter - 3-Position	120a Solenoid Adapter - Vent Exhaust
6* Gasket - Body to Operator	13 Gasket - 3-Position Adapter to Body	122* Gasket - Solenoid to Adapter
7 Remote Pilot Operator	14* Spring, Return Assist	123* 15mm Solenoid
9* Lip Seal - Operator Piston		

**Note:** \* Parts are available in kits shown. For kit components, order VALVE LESS SOLENOID for assembled and tested repair valve.

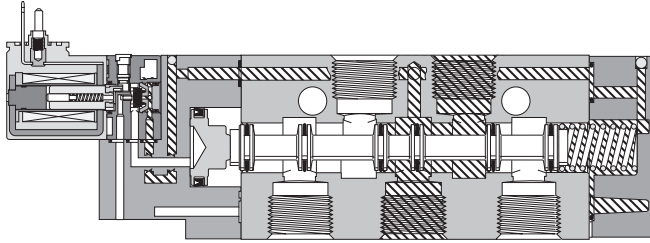
C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



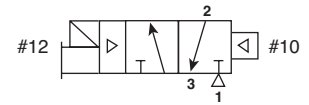
**B5 Single Solenoid Inline - Air Return**  
 Shown De-Energized



**B6 Single Solenoid Inline - Spring / Air Return**  
 Shown De-Energized

 Pressure  Exhaust

**Single Solenoid  
 3-Way, 2-Position  
 NC (NNP)**

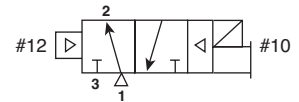


**Normally Closed:**

*De-energized position* – Solenoid #12 de-energized. Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

*Energized position* – Solenoid #12 energized. Pressure at inlet port 1 connected to outlet port 2, exhaust port 3 is blocked.

**Single Solenoid  
 3-Way, 2-Position  
 NO (NP)**



**Normally Open:**

*De-energized position* – Solenoid #10 de-energized. Pressure at inlet port 1 connected to outlet port 2, exhaust port 3 is blocked.

*Energized position* – Solenoid #10 energized. Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

**3-Way Configuration**

**B3, B5:**

Looking at the #1 and #3 ports, the solenoid (or remote operator) is on the #3 port end for NC and the #1 port end for NO. The same spool is used for both.

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

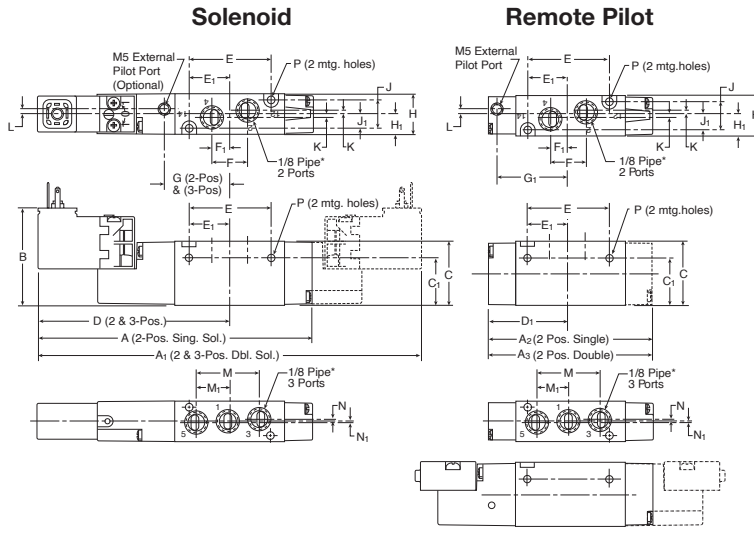
B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series

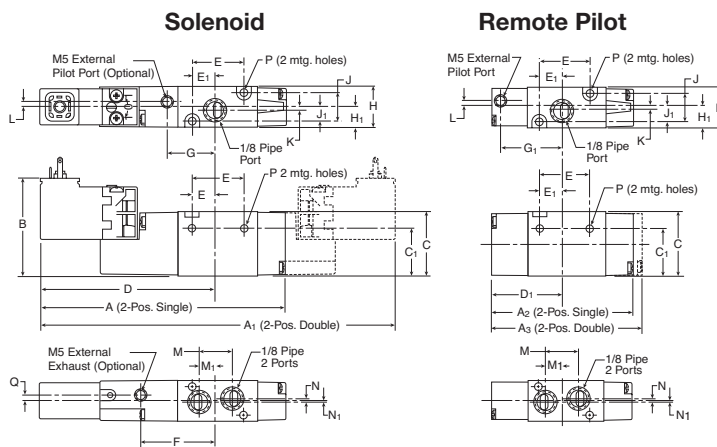
**B3 Single & Double Operators – 4-way Inline**



**B3 4-Way Inline**

<b>A</b> 4.67 (119)	<b>A1</b> 6.44 (164)	<b>A2</b> 3.12 (79)	<b>A3</b> 3.33 (85)	<b>B</b> 1.66 (42)
<b>C</b> 1.13 (39)	<b>C1</b> .84 (21)	<b>D</b> 3.22 (82)	<b>D1</b> 1.66 (42)	<b>E</b> 1.47 (37)
<b>E1</b> .74 (19)	<b>F</b> .63 (16)	<b>F1</b> .32 (8)	<b>G</b> 1.13 (29)	<b>G1</b> 1.50 (38)
<b>H</b> .71 (18)	<b>H1</b> .36 (9)	<b>J</b> .51 (13)	<b>J1</b> .26 (7)	<b>K</b> .06 (2)
<b>L</b> .11 (3)	<b>M</b> 1.12 (28)	<b>M1</b> .56 (14)	<b>N</b> .05 (1)	<b>N1</b> .05 (1)
<b>P</b> Ø .13 Ø (3.3)				
Inches (mm)				

**B3 Single & Double Operators – 3-way Inline**



**B3 3-Way Inline**

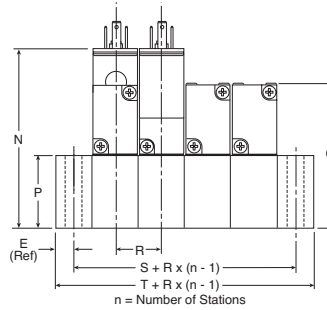
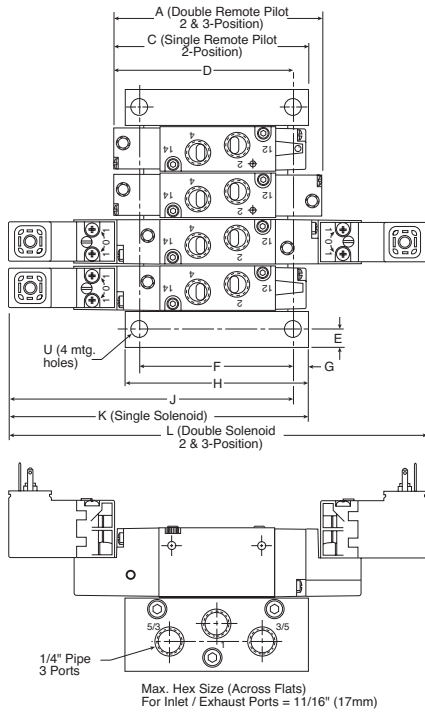
<b>A</b> 4.20 (107)	<b>A1</b> 5.96 (151)	<b>A2</b> 2.65 (67)	<b>A3</b> 2.86 (73)	<b>B</b> 1.66 (42)
<b>C</b> 1.13 (39)	<b>C1</b> .84 (21)	<b>D</b> 2.93 (74)	<b>D1</b> 1.38 (35)	<b>E</b> .98 (25)
<b>E1</b> .44 (11)	<b>F</b> 1.32 (34)	<b>G</b> .85 (22)	<b>G1</b> 1.22 (31)	<b>H</b> .71 (18)
<b>H1</b> .36 (9)	<b>J</b> .51 (13)	<b>J1</b> .26 (7)	<b>K</b> .06 (2)	<b>L</b> .11 (3)
<b>M</b> .63 (16)	<b>M1</b> .27 (7)	<b>N</b> .12 (3)	<b>N1</b> .06 (2)	<b>P</b> Ø .13 Ø (3.3)
<b>Q</b> .08 (2)				
Inches (mm)				

**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B3 Single & Double Operators – 4-way IEM Stackable**

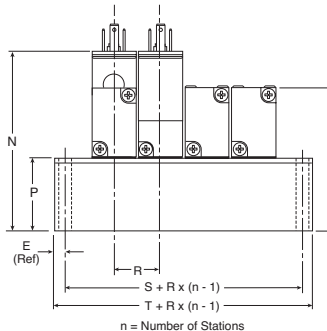
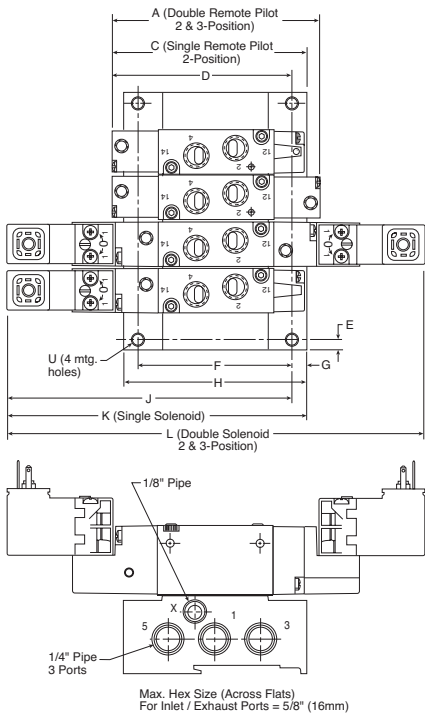


**B3 4-Way IEM Stackable**

<b>A</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
3.33 (84.6)	3.12 (79.2)	2.91 (73.9)	.30 (7.6)	2.49 (63.3)
<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
.25 (6.4)	3.00 (76.2)	4.46 (113.3)	4.67 (118.6)	6.43 (163.3)
<b>N</b>	<b>P</b>	<b>Q</b>	<b>R</b>	
2.91 (73.9)	1.25 (31.8)	2.38 (60.5)	.74 ±.01 (18.8) ± .3	
<b>S</b>	<b>T</b>	<b>U</b>		
1.34 (34.0)	1.94 (49.3)	Ø .28 Ø (7.1)		

Inches (mm)

**B3 Single & Double Operators – 4-way IEM Aluminum Bar**



**B3 4-Way IEM Aluminum Bar Manifold**

<b>A</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
3.33 (84.6)	3.17 (80.5)	2.94 (74.7)	.25 (6.4)	2.54 (64.5)
<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
.23 (5.9)	3.00 (76.2)	4.50 (114.2)	4.73 (120.1)	6.43 (163.3)
<b>N</b>	<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>
2.94 (74.7)	1.28 (32.5)	2.41 (61.2)	.81 (20.5)	1.13 (28.8)
<b>T</b>	<b>U</b>			
1.64 (41.6)	Ø .23 Ø (5.8)			

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C55

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

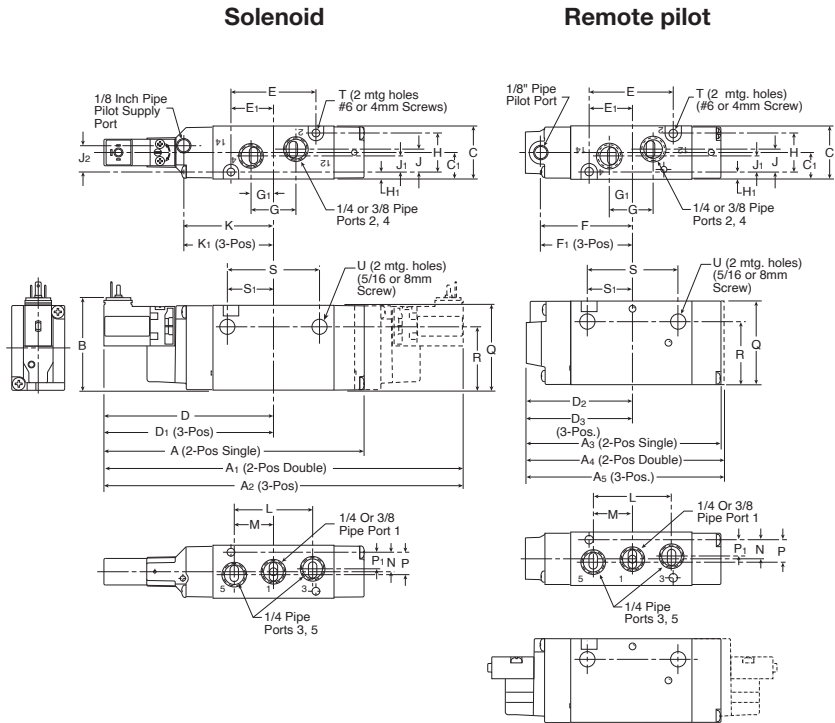
"N" Series



**Dimensional Data**

**B5 Series**

**B5 Single & Double Operators – 4-way Inline**

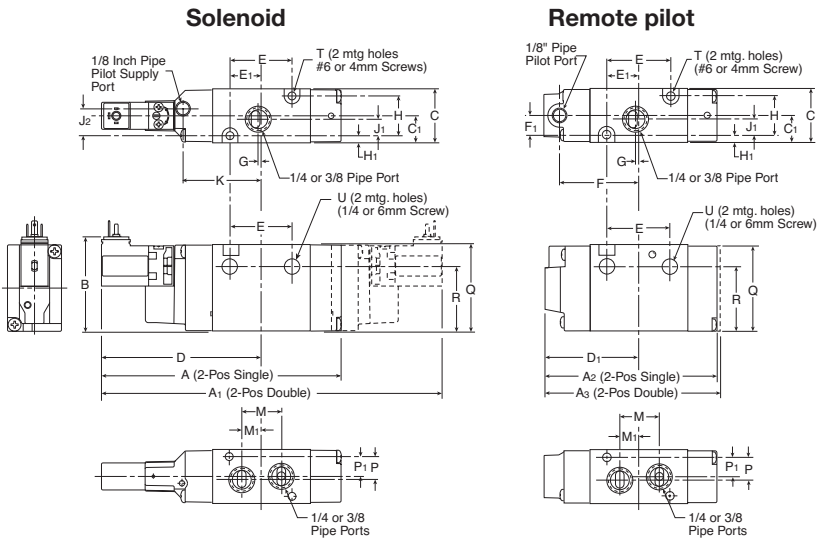


**B5 4-Way Inline**

<b>A</b> 5.78 (147)	<b>A1</b> 7.51 (191)	<b>A2</b> 8.45 (215)	<b>A3</b> 4.37 (110)	<b>A4</b> 4.70 (119)
<b>A5</b> 5.64 (143)	<b>B</b> 2.06 (52)	<b>C</b> 1.18 (30)	<b>C1</b> .59 (15)	<b>D</b> 3.76 (96)
<b>D1</b> 4.23 (107)	<b>D2</b> 2.35 (60)	<b>D3</b> 2.82 (72)	<b>E</b> 1.89 (48)	<b>E1</b> .95 (24)
<b>F</b> 2.01 (51)	<b>F1</b> 2.47 (63)	<b>G</b> 1.00 (25)	<b>G1</b> .50 (13)	<b>H</b> .87 (22)
<b>H1</b> .16 (4)	<b>J</b> .51 (13)	<b>J1</b> .36 (9)	<b>J</b> .58 (15)	<b>K</b> 2.00 (51)
<b>K1</b> 2.47 (63)	<b>L</b> 1.75 (44)	<b>M</b> .88 (22)	<b>N</b> .43 (48)	<b>P</b> .50 (13)
<b>P1</b> .37 (92)	<b>Q</b> 1.89 (48)	<b>R</b> 1.41 (36)	<b>S</b> 2.05 (52)	<b>S1</b> 1.03 (26)
<b>T</b> Ø .177 Ø (4.5)	<b>U</b> Ø .34 Ø (9)			

Inches (mm)

**B5 Single & Double Operators – 3-way Inline**



**B5 3-Way Inline**

<b>A</b> 5.29 (134)	<b>A1</b> 7.03 (179)	<b>A2</b> 3.88 (99)	<b>A3</b> 4.21 (107)	<b>B</b> 2.06 (52)
<b>C</b> 1.18 (30)	<b>C1</b> .59 (15)	<b>D</b> 3.43 (87)	<b>D1</b> 2.11 (54)	<b>E</b> 1.40 (36)
<b>E1</b> .70 (18)	<b>F</b> 1.77 (45)	<b>F1</b> .43 (11)	<b>G</b> .06 (2)	<b>H</b> .87 (22)
<b>H1</b> .16 (4)	<b>J1</b> .36 (9)	<b>J2</b> .58 (15)	<b>K</b> 1.67 (42)	<b>M</b> .88 (22)
<b>M1</b> .44 (11)	<b>P</b> .50 (13)	<b>P1</b> .37 (9)	<b>Q</b> 1.89 (48)	<b>R</b> 1.41 (36)
<b>T</b> Ø .177 Ø (4.5)	<b>U</b> Ø .26 Ø (6.6)			

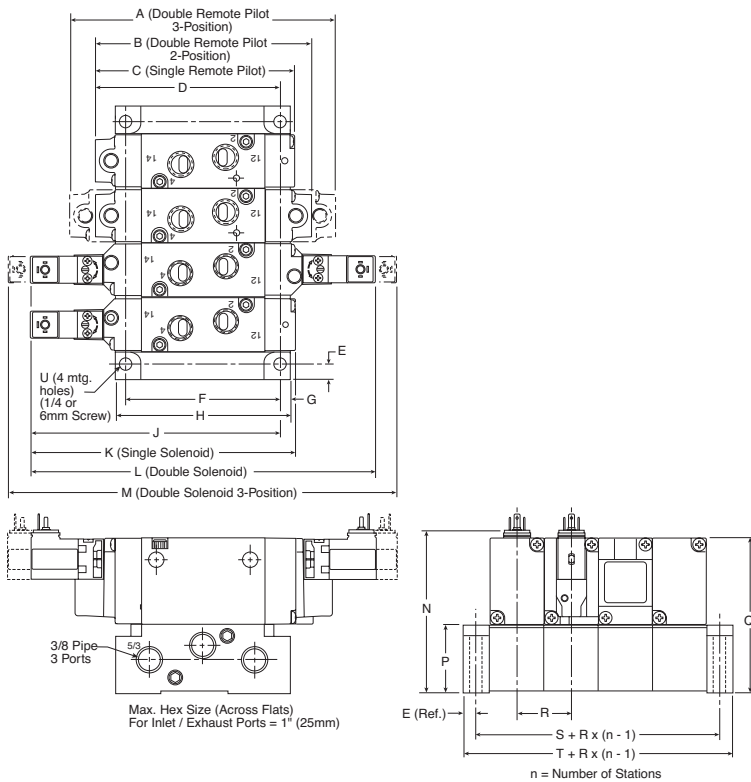
Inches (mm)

**C**  
 Inline Valves  
 Viking  
 Lite  
 Viking  
 Extreme  
 B3, B5, B6  
 Series  
 B7, B8  
 Series  
 Air-Saver  
 Unit  
 ADEX  
 Series  
 "N"  
 Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B5 Single & Double Operators – 4-way IEM Stackable**

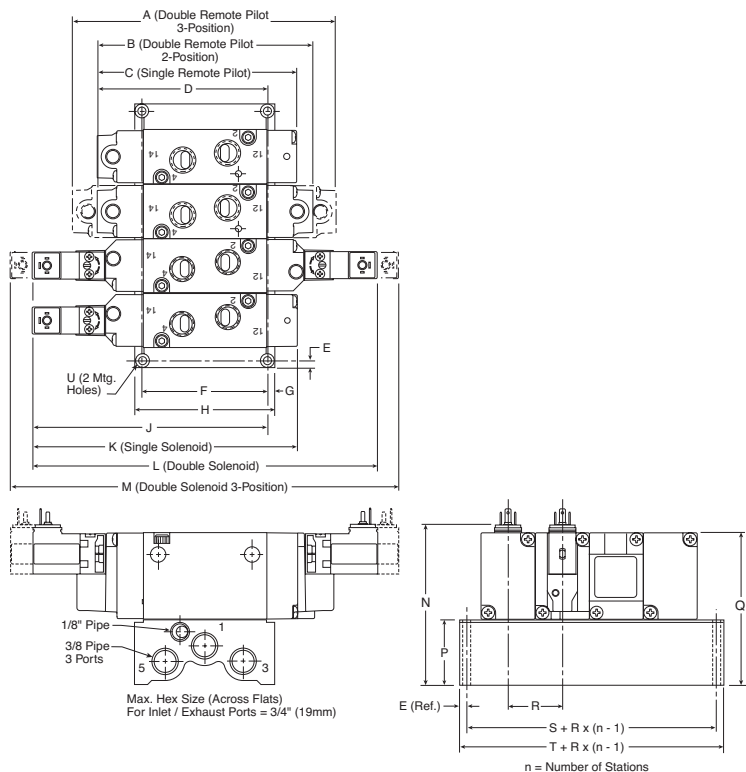


**B5 4-Way IEM Stackable**

A	B	C	D	E
5.64 (143.3)	4.70 (119.4)	4.37 (110.0)	4.29 (109.0)	.29 (7.4)
F	G	H	J	K
3.44 (87.4)	.24 (6.1)	3.92 (99.6)	5.48 (139.2)	5.78 (146.8)
L	M	N	P	Q
7.52 (191.0)	8.46 (214.9)	3.56 (90.4)	1.50 (38.1)	3.42 (86.9)
R	S	T	U	
1.21 ± .01 (30.7) ± (.3)	1.79 (45.5)	2.37 (60.2)	Ø .28 Ø (7.1)	

Inches (mm)

**B5 Single & Double Operators – 4-way IEM Aluminum Bar**



**B5 4-Way IEM Aluminum Bar Manifold**

A	B	C	D	E
5.64 (143.3)	4.70 (119.4)	4.37 (110.0)	3.74 (95.0)	.18 (4.6)
F	G	H	J	K
2.78 (70.6)	.17 (4.3)	3.12 (79.2)	5.15 (130.8)	5.78 (146.8)
L	M	N	P	Q
7.52 (191.0)	8.46 (214.9)	3.50 (89.0)	1.44 (36.6)	3.36 (85.3)
R	S	T	U	
1.26 (32.0)	1.78 (45.2)	2.14 (54.4)	Ø .22 Ø (5.5)	

Inches (mm)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

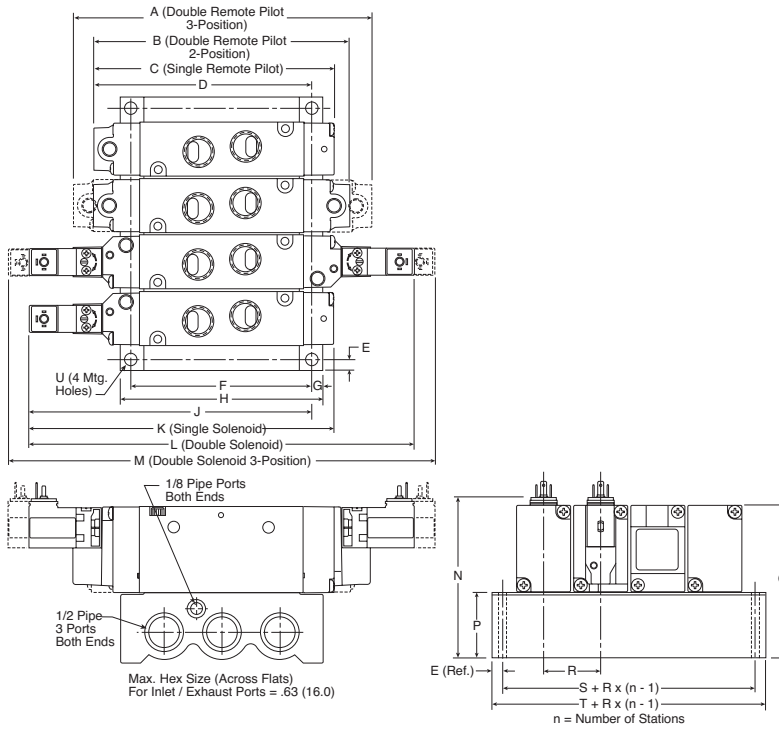
C57

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Dimensional Data**

**B6 Series**

**B6 Single & Double Operators – 4-way IEM Aluminum Bar**



**B6 4-Way IEM Aluminum Bar Manifold**

A	B	C	D	E
6.54 (166.0)	5.59 (142.1)	5.26 (133.7)	4.76 (121.0)	.24 (6.0)
F	G	H	J	K
3.94 (100.0)	.24 (6.0)	4.41 (112.0)	6.17 (156.8)	6.67 (169.5)
L	M	N	P	Q
8.41 (213.7)	9.35 (237.6)	3.60 (91.3)	1.54 (39.0)	3.43 (87.0)
R	S	T	U	
1.24 (31.5)	1.77 (45.0)	2.24 (57.0)	ø .26 ø (6.5)	

Inches (mm)

C  
Inline Valves  
Viking Lite  
Viking Extreme  
B3, B5, B6 Series  
B7, B8 Series  
Air-Saver Unit  
ADEX Series  
"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Features**

**B7 and B8 High Flow Inline**

B7 and B8 Size valves are an exceptional performing industrial valve with a high flow range up to 7.00 Cv.

Available in solenoid pilot operated and remote air pilot models. The B series features Parker's proven WCS (Wear Compensating Seal) system ensuring long life and fast response.

**Ports**

- B7: 1/2 inch – 5.90 Cv
- B8: 3/4 inch – 7.00 Cv

**Mounting**

- Inline
- IEM aluminum bar

**Solenoids**

- 1.2 W – 15mm, 3-pin EN175301-803
- 2.5 to 7.3 watt - conduit, grommet, 22mm & 30mm, 3-pin DIN (433650)
- 24VDC, 120VAC
- Female DIN electrical connectors

**Certification / Approval**

- Approved to be CE marked
- IP65 rated
- cCSAus<sup>‡</sup>



**Operating information**

Operating pressure:	Vacuum to 145 PSIG (Vacuum to 10 bar)
Minimum:	See chart below
CSA-NRTL/C:	See chart below
Operating temperature:	5°F to 120°F (-15°C to 49°C)

**Material specifications**

Body	Anodized aluminum
End caps	Nylon polymer - 33% glass filled
Seals	Nitrile
Solenoid	Polyamide
Spool	Aluminum

**Minimum operating pressure**

Operator / Function	Internal Pilot	Minimum PSIG (kPa)	
		B7	B8
1. G. H	Single solenoid - air return	35 (241)	35 (241)
2. A. J. S	Double solenoid	35 (241)	35 (241)
3.	Single remote pilot - air return	35 (241)	35 (241)
5. 6. 7	Double solenoid - APB, CE, PC	45 (310)	45 (310)
8. 9. 0	Double remote pilot - APB, CE, PC	Vacuum	
V,W,X,Y	Single remote pilot - air return / spring assist	35 (241)	35 (241)
<b>External pilot *†</b>			
All	"B" series	Vacuum	

\* External Pilot Pressure / Remote Pilot Signal 35-145 PSIG (241-1000 kPa).

**‡ CSA-NRTL/C operating pressure**

Note: For CSA-NRTL/C approved solenoid valves – insert an 'L' at the end of the valve part number.

Valve	Maximum PSIG (kPa)
B7 & B8	145 (1000) *†

\* Enclosure Option E is CSA / FM approved at source. For certification of valve / solenoid assembly, consult factory.

† Not Available with Enclosure 5

C	Inline Valves
	Viking Lite
	Viking Extreme
	B3, B5, B6 Series
	B7, B8 Series
	Air Saver Unit
	ADEX Series
	"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Common Part Numbers

Single Solenoid, 3-way, 2-position, NC



Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/2"	5.9 Cv	120VAC 24VDC	B7 Inline	<b>B7V3BB553A</b> <b>B7V3BB549A</b>
	3/4"	7.0 Cv	120VAC 24VDC	B8 Inline	<b>B8V4BB553A</b> <b>B8V4BB549A</b>

B7 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

Single Solenoid, 4-way, 2-position



Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/2"	5.9 Cv	120VAC 24VDC	B7 Inline	<b>B713BB553A</b> <b>B713BB549A</b>
	3/4"	7.0 Cv	120VAC 24VDC	B8 Inline	<b>B814BB553A</b> <b>B814BB549A</b>

B7 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

Double Solenoid, 4-way, 2-position



Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	1/2"	5.9 Cv	120VAC 24VDC	B7 Inline	<b>B723BB553A</b> <b>B723BB549A</b>
	3/4"	7.0 Cv	120VAC 24VDC	B8 Inline	<b>B824BB553A</b> <b>B824BB549A</b>

B7 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

ANSI / (NFPA) T3.21.3-1990 standard for Cv measurement.

PS2982\*##P – Enclosure '5'

	## Voltage	
Override *	49	53
B	S	S
C	S	S

Kit includes: Solenoid, (2) machine screws, (2) self threading screws, (1) gasket, (1) 3-cell gasket.


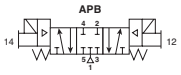
**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series




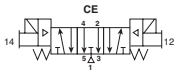
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Common Part Numbers


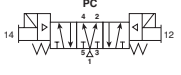
Double Solenoid, 4-way, 3-position, APB

		Port Size	Cv	Voltage	Valve Type	Part Number
		1/2"	5.7 Cv	120VAC 24VDC	B7 Inline	<b>B753BB553A</b> <b>B753BB549A</b>
		3/4"	6.6 Cv	120VAC 24VDC	B8 Inline	<b>B854BB553A</b> <b>B854BB549A</b>

Double Solenoid, 4-way, 3-position, CE

		Port Size	Cv	Voltage	Valve Type	Part Number
		1/2"	5.7 Cv	120VAC 24VDC	B7 Inline	<b>B763BB553A</b> <b>B763BB549A</b>
		3/4"	6.6 Cv	120VAC 24VDC	B8 Inline	<b>B864BB553A</b> <b>B864BB549A</b>

Double Solenoid, 4-way, 3-position, PC

		Port Size	Cv	Voltage	Valve Type	Part Number
		1/2"	5.7 Cv	120VAC 24VDC	B7 Inline	<b>B773BB553A</b> <b>B773BB549A</b>
		3/4"	6.6 Cv	120VAC 24VDC	B8 Inline	<b>B874BB553A</b> <b>B874BB549A</b>

ANSI / (NFPA) T3.21.3-1990 standard for Cv measurement.

PS2982\*##P – Enclosure ‘5’

Override *	## Voltage	
	49	53
B	S	S
C	S	S

Kit includes: Solenoid, (2) machine screws, (2) self threading screws, (1) gasket, (1) 3-cell gasket.

C	Inline Valves
	Viking Lite
	Viking Extreme
	B3, B5, B6 Series
	B7, B8 Series
	Air Saver Unit
	ADEX Series
	“N” Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**B7 & B8 Series**

**B7 1 3 A B G 53 - A**

Basic Series	
B7 Series	B7
B8 Series	B8

Engineering Level	
A	Current
AL	CSA Current

Operator Function	
<b>3-way</b>	
Single Solenoid, 2-Position Nc - Air Return / Spring Assist	V
Single Solenoid, 2-Position No - Air Return / Spring Assist	W
Single Remote Pilot, 2-Position Nc - Air Return / Spring Assist	X
Single Remote Pilot, 2-Position No - Air Return / Spring Assist	Y
<b>4-way</b>	
Single Solenoid, 2-Position - Air Return	1
Double Solenoid, 2-Position	2
Single Remote Pilot, 2-Position - Air Return	3
Double Remote Pilot, 2-Position	4
Double Solenoid, 3-Position - APB	5
Double Solenoid, 3-Position - CE	6
Double Solenoid, 3-Position - PC	7
Double Remote Pilot, 3-Position - APB	8
Double Remote Pilot, 3-Position - CE	9
Double Remote Pilot, 3-Position - PC	0

Options	
Blank	None

	Voltage <sup>§</sup>		
	AC		DC
	60Hz	50Hz	
49			24
53	120	110	

Enclosure / Lead Length	
0	None, Remote Pilot Valve
5	15mm 3-Pin DIN 43650C (male only)
A	30mm Square 3-Pin - ISO 4400 Form A (male only)
B	22mm Rectangular 3-Pin - Type B Industrial (male only)
E*	Intrinsically Safe - 30mm 3-Pin
F**	Hazardous Duty 1/2" NPT Conduit - 18" Leads
G	Grommet - 18" Leads
H	1/2" NPT Conduit - 18" Leads
N	Valve Less "A - R" Coil
X	Valve Less 15mm Solenoid

\* 24 VDC & Override "A" only.  
 \*\* 24 VDC or 120 VAC.

Port Size / Thread Type	
<b>B7 Series</b>	
1/2" NPT Inline	3*
1/2" BSPP "G" Inline	8*
<b>B8 Series</b>	
3/4" NPT Inline	4*
3/4" BSPP "G" Inline	9*

\* Available for use on IEM manifolds.

Pilot Source / Pilot Exhaust	
<b>Enclosures "0, 5 &amp; X"</b>	
None, Remote Pilot Valve	0
Internal - Port #1 / Vented	B†
External - Body / Tapped M5	K†
<b>Enclosures "A, B, E, F, G, H &amp; N"</b>	
Internal - Port #1 / Vented	B†
External - Body / Tapped 1/8"	K†

† Not available for remote pilot valves.

Overrides <sup>§</sup>	
None, Remote Pilot Valve	0
No Override	A†
Flush - Non-Locking	B*
Flush - Locking	C
Valve Less 15mm Solenoid	X

\* Only available with encl. "5".  
 † Only available with encl. "E".

**Alternative Voltages -**  
 Contact Parker for voltages other than 24VDC and 120VAC

§ Enclosure '5' - Override / Voltage Availability

S - Standard  
 O - Option

Voltage Code	Override Code	
	B	C
49	S	S
53	S	S

C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series

**INLINE Valves -**  
 Only used IF an IEM Aluminum Bar Manifold requires a common external pilot signal through the manifold for low pressure / vacuum applications.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Accessories**

**Manifolds**

**IEM Bar Manifold, Inline Valves Only**



Valve Series	Valve Function	## – Stations	Manifold Only (NPT)	Manifold Only (BSPP)
B7, B8	4-way / 3-way	2	<b>P2M7BXN02NP</b>	<b>P2M7BXG02NP</b>
B7, B8	4-way / 3-way	4	<b>P2M7BXN04NP</b>	<b>P2M7BXG04NP</b>
B7, B8	4-way / 3-way	6	<b>P2M7BXN06NP</b>	<b>P2M7BXG06NP</b>
B7, B8	4-way / 3-way	8	<b>P2M7BXN08NP</b>	<b>P2M7BXG08NP</b>

Kits include: (1) manifold, valve hold down bolts, gaskets. For external pilot valve option "X", external manifold galley must be pressurized. 4-Way or 3-Way valves can mount to same IEM Bar Manifold.

C
Inline Valves
Viking Lite
Viking Extreme
B3, B5, B6 Series
B7, B8 Series
Air Saver Unit
ADEX Series
"N" Series

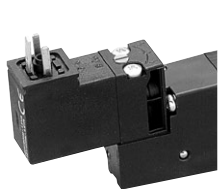
  Most popular.



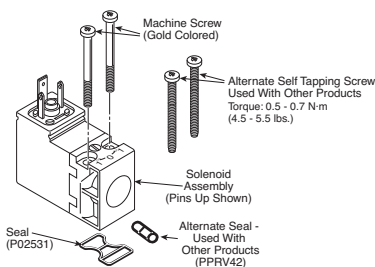
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Accessories

Solenoid Kits – B7 ‘A’, B8 ‘A’ 3-Pin, EN175301-803 (Former DIN 43650C), 15mm

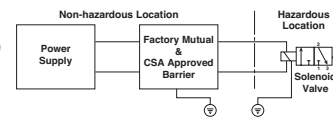


Standard



Intrinsically Safe Solenoid Valves (“E” Option)

**Hazardous Location Class:**  
Class I; Groups A, B, C & D  
Class II; Groups E, F, & G  
Class III; Div. I



For use in low voltage (24VDC) Intrinsically Safe applications.  
**NO OTHER VOLTAGE IS APPROVED. 1.6W coil.**

36mm coil width.

Comes standard with non-lighted solenoid connector.

**Must be connected to an FM approved Barrier.**

For dimensions, reference standard solenoid models.  
Maximum internally piloted valve pressure is 115 PSIG.  
Pressures to 145 PSIG can be used when external pilot is utilized and pilot pressure is limited to 115 PSIG.

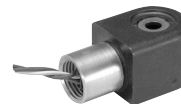
Intrinsically Safe Solenoid Pilot Assembly Kits

Description	Part Number
24VDC	<b>P2FS13N1AE49</b>

Kit includes: coil, armature, connector, o-ring and screws.

Hazardous Duty Solenoid Valves (“F” Option)

**Hazardous Location Class:**  
Class I; Zone I EX, M, II & T4  
Class I; Div. I. Groups A, B, C, & D  
Class II & III; Div. I. Groups E, F, & G



Comes standard with 1/2" conduit connection.

Voltage range = ± 10%, 4.6W

Ambient temperature range = -20°C (-4°F) to 60°C (140°F)

Duty factor = 100%

IP65 rated (with connected conduit connector)

Notes:

1. Maximum non-hazardous location voltage not to exceed 250V RMS.
2. Factory Mutual requires connections per ISA RP 12.6 instructions.
3. CSA requires "Installation to be in accordance with the Canadian Electrical Code. Part I."
4. The hazardous duty coils are wider in size than both the B5 and the B6 valve.  
If mounted on a manifold, the valves need to be staggered to fit.

Solenoid Kits Alternate Enclosures

**P2FC A 4 49**

Enclosures / Lead Length	
30mm Square 3-Pin – ISO 4400 Form A (male only)	<b>A</b>
22mm Rectangular 3-Pin – Type B Industrial (male only)	<b>B</b>
Hazardous Duty, FM / CSA	<b>F*</b>
Grommet - 18" Leads	<b>G</b>
1/2" NPT Conduit - 18" Leads	<b>H</b>

Voltage / Frequency	
<b>49</b>	24VDC
<b>53</b>	120VAC

\* Only available with voltage codes "45", "49", "53" & "57".



**Option A & E**  
30mm Square  
3-pin ISO 4400, DIN 43650A



**Option B**  
22mm Rectangular  
3-pin DIN, Type B Industrial



**Option G**  
Grommet, 18"



**Option F, H & R**  
1/2" Conduit, 18"

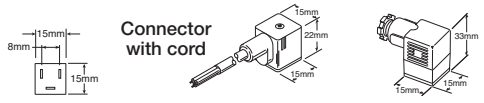
Most popular.

C
Inline Valves
Viking Lite
Viking Extreme
B3, B5, B6 Series
B7, B8 Series
Air-Saver Unit
ADEX Series
"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**15mm 3-Pin DIN 43650C, 8mm Pin Spacing**

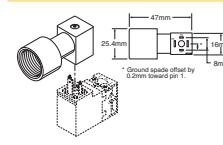


	Cord Length	Connector	Connector with Cord
Unlighted	18 Inches	<b>PS2932BP</b>	<b>PS2932HBP</b>
Unlighted	6 Feet	<b>PS2932BP</b>	<b>PS2932JBP</b>
Light – 12VAC or DC	6 Feet	<b>PS294675BP</b>	<b>PS2946J75BP *</b>
Light – 24VAC or DC	6 Feet	<b>PS294679BP</b>	<b>PS2946J79BP *</b>
Light – 110/120VAC	6 Feet	<b>PS294683BP</b>	<b>PS2946J83BP *</b>
Light – 240/230VAC		<b>PS294687BP</b>	N/A

\* LED with surge suppression.  
**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

**Engineering data:**  
 Conductors: 2 poles plus ground, polarity insensitive  
 Cable range (connector only): 4 to 6mm (0.16 To 0.24 Inch)  
 Contact spacing: 8mm

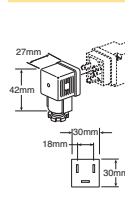
**15mm 3-Pin DIN 43650C to 1/2" Conduit**



Description	Connector
1/2" NPTF conduit – Unlighted with 3' (1m) leads 20 AWG wire	<b>PS2998P</b>

**Note:** Rated up to 250VAC or VDC; 6 amps  
 IP65 rated when properly installed.

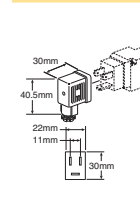
**30mm Square 3-Pin – ISO 4400, DIN 43650A  
 (Use with Enclosure "A")**



Description	Connector with 6' (2m) Cord	Connector
Unlighted	<b>PS2028JCP</b>	<b>PS2028BP</b>
Light – 6-48V, 50/60Hz, 6-48VDC	<b>PS2032J79CP *</b>	<b>PS203279BP</b>
Light – 120V/60Hz	<b>PS2032J83CP *</b>	<b>PS203283BP</b>
Light – 240V/60Hz	N/A	<b>PS203283BP</b>

\* LED with surge suppression.  
**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.  
**Engineering data:**  
 Conductors: 2 poles plus ground; cable range (connector only): 8 to 10mm (0.31 To 0.39 Inch); contact spacing: 18mm

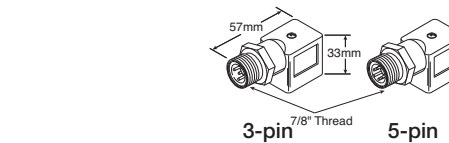
**22mm Rectangular 3-Pin – Type B Industrial  
 (Use with Enclosure "B")**



Description	Connector with 6' (2m) Cord	Connector
Unlighted	<b>PS2429JBP</b>	<b>PS2429BP</b>
Light – 24V60Hz, 24VDC	<b>PS2430J79BP *</b>	<b>PS243079BP</b>
Light – 120V/60Hz	<b>PS2430J83BP *</b>	<b>PS243083BP</b>
Light – 240V/60Hz	N/A	<b>PS243087BP</b>

\* LED with surge suppression.  
**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.  
**Engineering Data:**  
 Conductors: 2 Poles Plus Ground; Cable Range (Connector Only): 6 to 8mm (0.24 to 0.31 Inch); Contact Spacing: 11mm

**3-Pin / 5-Pin Male Automotive Connectors  
 (Use on 22mm Rectangular 3-Pin Solenoid)**



Description	3-pin	5-pin
Unlighted	<b>PS2893CP</b>	<b>PS2893DP</b>
Lighted - Voltage	<b>PS2893C##P</b>	<b>PS2893D##P</b>

## — 79 = 6 to 48VAC/VDC  
 83 = 100 to 240VAC/48 to 120 VDC

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Technical Data

Solenoid Information (Solenoids are rated for continuous duty.)

Voltage					Enclosure "5"					Voltage					B7, B8		B7, B8	
AC					Power Consumption	Holding (Amps)	AC					Power Consumption	Holding (Amps)	Enclosure "A"		Enclosure "B" to "H"		
Code	60Hz	50Hz	DC	Code			60Hz	50Hz	DC	Code	60Hz			50Hz	DC	Power Consumption	Holding (Amps)	Power Consumption
49			24		1.2W		.049	49			24		2.7W		.112	4.8W	.200	
53	120	110			1.6W		.013	53	120	110			4.1VA		.033	6.3VA	.047	

Response Time (Sec)

Valve Size	Port Size	Enclosure "5"				Enclosure "A, B, C, D, G, H"			
		0 Cu. In. Test Chamber		25 * Cu. In. Test Chamber		0 Cu. In. Test Chamber		25 * Cu. In. Test Chamber	
		Fill	Exhaust	Fill	Exhaust	Fill	Exhaust	Fill	Exhaust
<b>2-Position Single Solenoid / Internal Air Return</b>									
B7	1/2"	.073	.075	.195	.275	.049	.051	.167	.249
B8	3/4"	.072	.074	.166	.226	.049	.051	.142	.206
<b>2-Position Single Solenoid Spring / Air Return</b>									
B7	1/2"	.071	.074	.194	.275	.049	.051	.167	.249
B8	3/4"	.072	.074	.176	.239	.046	.048	.142	.204
<b>2-Position Double Solenoid</b>									
B7	1/2"	.026	.028	.145	.228	.022	.024	.138	.225
B8	3/4"	.026	.028	.123	.185	.022	.024	.115	.178
<b>3-Position Double Solenoid</b>									
B7	1/2"	.049	.051	.167	.257	.028	.030	.148	.238
B8	3/4"	.035	.037	.136	.206	.028	.030	.130	.195

**Average Fill Time (Seconds):** With 100 PSIG supply, time required to fill from 0-90 PSIG and exhaust from 100 PSIG to 10 PSIG is measured from instant of energizing, or de-energizing 120V/60Hz solenoid. Times shown are average.

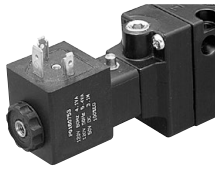
C  
Inline Valves  
Viking Lite  
Viking Extreme  
B3, B5, B6 Series  
B7, B8 Series  
Air-Saver Unit  
ADEX Series  
"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Alternate Solenoid Enclosures**

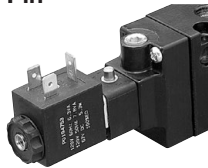
- Enclosure "A": 2.6W - 4.1VA (Coil rotates in 45° increments)
- Enclosure "B" - "H": 4.6W - 7.3VA (Coil rotates in 90° increments)



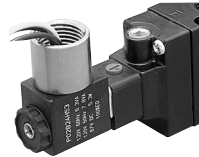
"A" 30mm 3-Pin



"G" Grommet



"B" 22mm 3-Pin



"F". "H". 1/2"  
 Conduit



Inline Valves

Viking  
 Lite

Viking  
 Extreme

B3, B5, B6  
 Series

B7, B8  
 Series

Air Saver  
 Unit

ADEX  
 Series

"N"  
 Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**B7A / B8A Series**

**Spool / Body Service Kits**

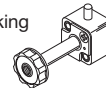
PS2501P	4-Way, 2-Pos	Item 2, 6 (2), 9 (2), 11, grease packet
PS2502P	4-Way, 3-Pos APB	Item 3, 6 (2), 9 (2), 13 (2), grease packet
PS2503P	4-Way, 3-Pos CE	Item 3, 6 (2), 9 (2), 13 (2), grease packet
PS2504P	4-Way, 3-Pos PC	Item 3, 6 (2), 9 (2), 13 (2), grease packet
PS257101P	3-Way, 2-Pos. NC	Item 2, 6, 9, grease packet
PS257102P	3-Way, 2-Pos. NO	Item 2, 6, 9, grease packet

*Kit Includes:*

**Armature / Override Kit –**

*Kit Includes:* Item 22, 23, 24 (2), 57, 58 Assembled

P2FP13N4D\* Non-Locking      P2FP13N4C\* Locking



\* Comes with a Thru Nut and A Diffuser Nut.

**Valve to Manifold Kits**

PS2584P	O-ring (10) - Inline Valve to IEM Manifold
PS2587P	Mounting Bolts (10) - Inline Valve

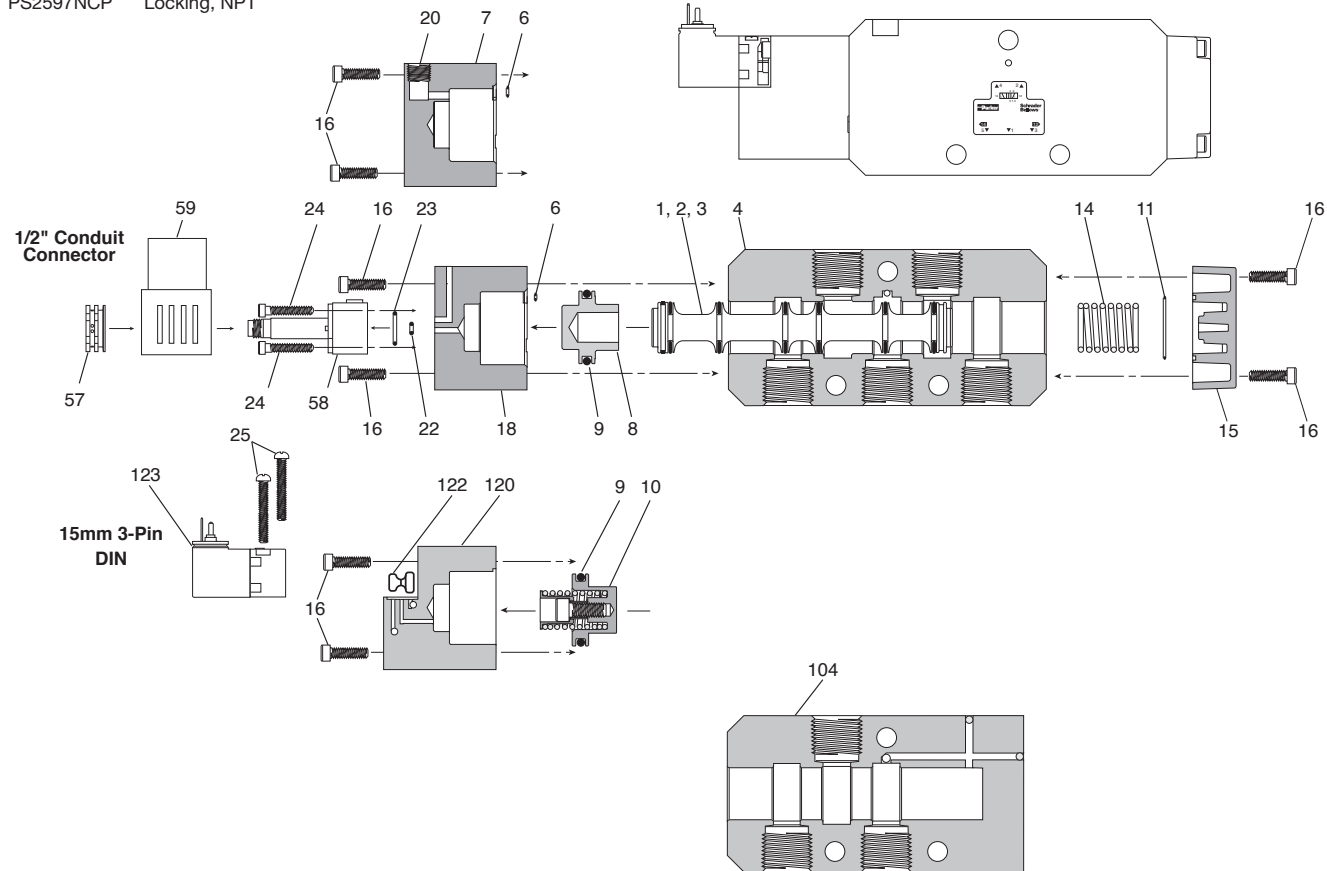
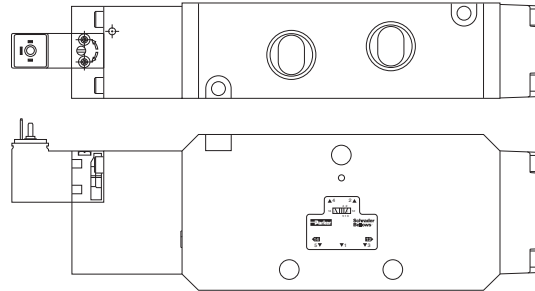
**Solenoid Kit** *Kit Includes: 25, 122, 123*

PS2982*##P	3-Pin, EN175301-803, 15mm
PS3541*##P	3-Pin, EN175301-803, 15mm Option 2

**Pilot Replacement Kit – Alternate Enclosure**

*Kit Includes:* Item 6, 8, 9, 10, 16 (4), 18, 20, 22, 23, 24 (2), 57, 58 Assembled

PS2597GBP	Non-Locking, BSPP
PS2597GCP	Locking, BSPP
PS2597NBP	Non-Locking, NPT
PS2597NCP	Locking, NPT



**Item List – Parts not sold separately.**

Item	Description	Item	Description	Item	Description
1*	Spool Seal	15a	Return Operator	58b*	Solenoid Base Assembly - Non Locking
2*	Spool - 2-Position (Seals Assembled)	16*	Screws - Operator Adapter	59*	Coil - Alternate Enclosure (see Page C51)
3*	Spool - 3-Position (Seals Assembled)	8*	Operator Adapter - Alt Enclosure	104	Inline Body - 3-Way
4	Inline Body - 4-Way	20*	1/8" NPT Pipe Plug	120a	Solenoid Adapter - Vent Exhaust
6*	Gasket - Body to Operator	22*	O-ring - Small - Solenoid Base	120b	Solenoid Adapter - Tapped Exhaust
7	Remote Pilot Operator	23*	O-ring - Large - Solenoid Base	120c	Solenoid Adapter - Ext Pilot. Vent Exhaust
8	Operator Piston - 2-Position	24*	Bolts - Solenoid Base	120d	Solenoid Adapter - Ext Pilot. Tapped Exhaust
9*	Lip Seal - Operator Piston	25*	Self Tapping Screw - Solenoid (Effective Jan 00)	122*	Gasket - Solenoid to Adapter
10	Operator Piston Mechanism - 3-Position	57*	Solenoid Nut	123*	15mm Solenoid
11*	Gasket - Body to Return Cap	58a*	Solenoid Base Assembly - Locking		
14*	Spring, Return Assist				

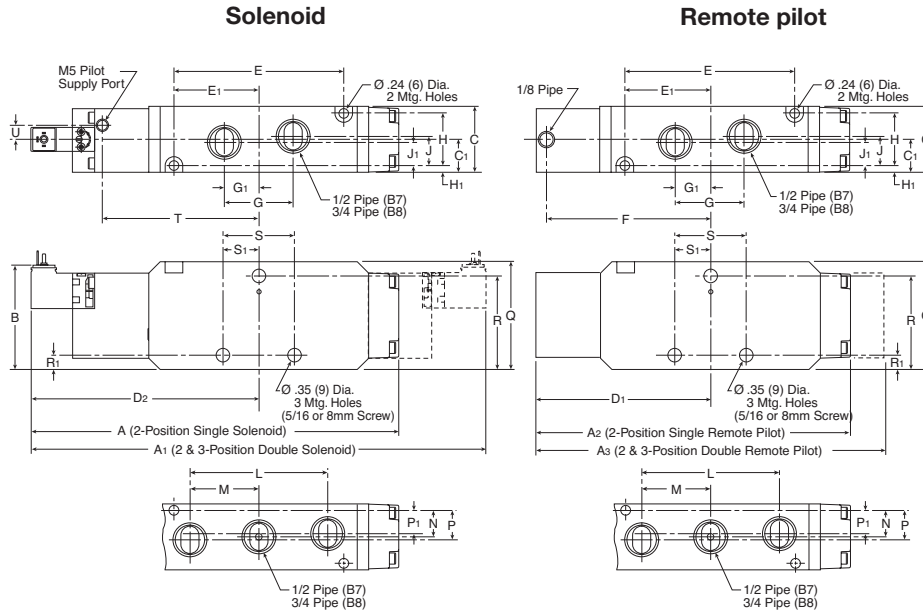
**Note:** \* Parts are available in kits shown. For kit components, order VALVE LESS SOLENOID for assembled and tested repair valve.

C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B7& B8 Single & Double Operators – 4-way Inline**



**B7 & B8 4-Way Inline**

<b>A</b> 9.13 (232)	<b>A1</b> 11.29 (287)	<b>A2</b> 7.79 (198)	<b>A3</b> 8.62 (219)	<b>B</b> 2.59 (66)
<b>C</b> 1.65 (42)	<b>C1</b> .83 (21)	<b>D1</b> 4.29 (109)	<b>D2</b> 5.63 (143)	<b>E</b> 4.21 (107)
<b>E1</b> 2.13 (54)	<b>F</b> 4.06 (103)	<b>G</b> 1.73 (44)	<b>G1</b> .87 (22)	<b>H</b> 1.29 (33)
<b>H1</b> .16 (4)	<b>J</b> .75 (19)	<b>J1</b> .59 (15)	<b>L</b> 3.39 (86)	<b>M</b> 1.69 (43)
<b>N</b> .67 (17)	<b>P</b> .75 (19)	<b>P1</b> .59 (15)	<b>Q</b> 2.68 (68)	<b>R</b> 2.32 (59)
<b>R1</b> .35 (9)	<b>S</b> 1.81 (46)	<b>S1</b> .90 (23)	<b>T</b> 3.94 (100)	<b>U</b> .35 (9)

Inches (mm)

**C**

Inline Valves

Viking  
Lite

Viking  
Extreme

B3, B5, B6  
Series

B7, B8  
Series

Air Saver  
Unit

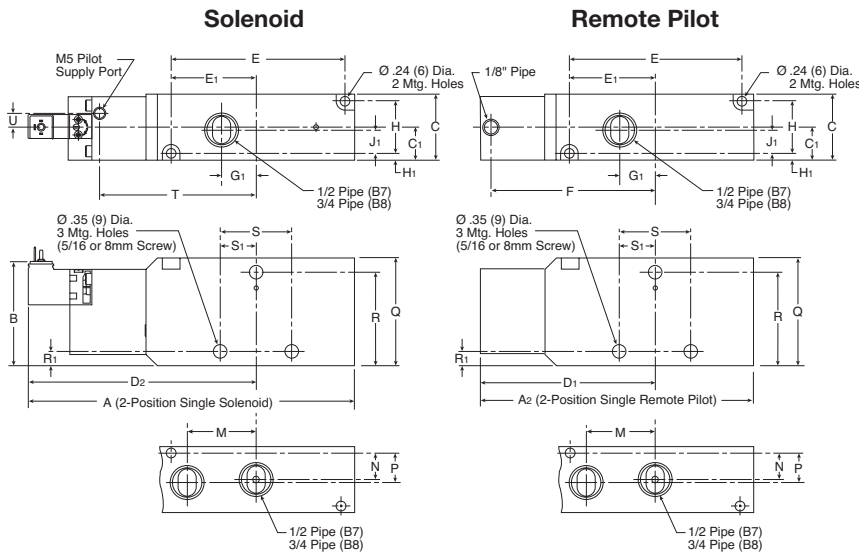
ADEX  
Series

"N"  
Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B7 & B8 Single Operators – 3-way Inline**

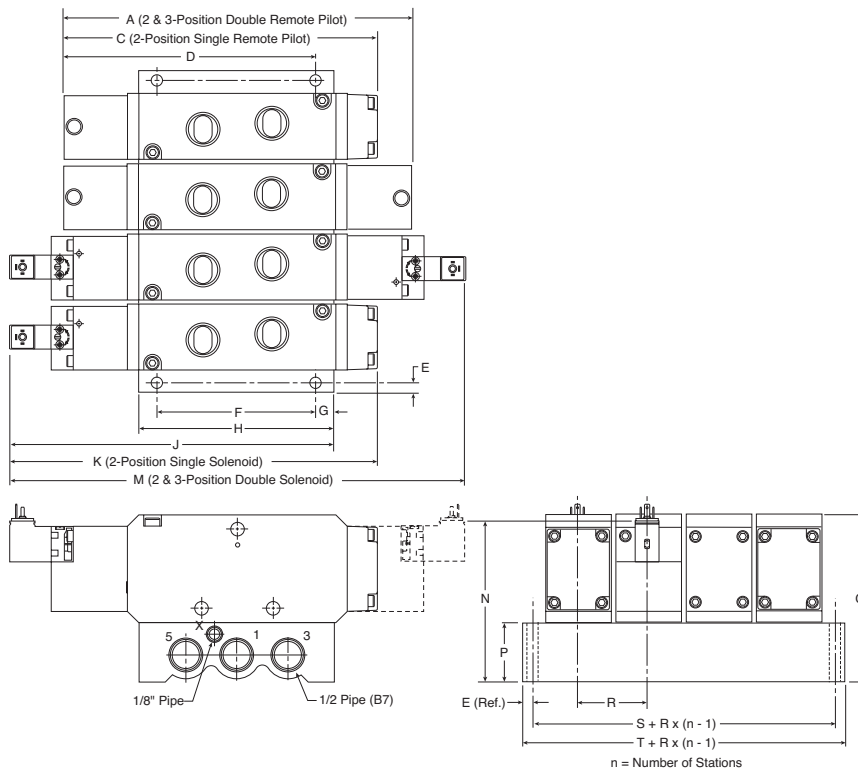


**B7 & B8 3-Way Inline**

<b>A</b> 7.99 (203)	<b>A<sub>2</sub></b> 6.65 (169)	<b>B</b> 2.59 (66)	<b>C</b> 1.65 (42)	<b>C<sub>1</sub></b> .83 (21)
<b>D<sub>1</sub></b> 4.29 (109)	<b>D<sub>2</sub></b> 5.63 (143)	<b>E</b> 4.21 (107)	<b>E<sub>1</sub></b> 2.13 (54)	<b>F</b> 4.06 (103)
<b>G<sub>1</sub></b> .86 (22)	<b>H</b> 1.29 (33)	<b>H<sub>1</sub></b> .16 (4)	<b>J<sub>1</sub></b> .59 (15)	<b>M</b> 1.69 (43)
<b>N</b> .67 (17)	<b>P</b> .75 (19)	<b>Q</b> 2.68 (68)	<b>R</b> 2.32 (59)	<b>R<sub>1</sub></b> .35 (9)
<b>S</b> 1.81 (46)	<b>S<sub>1</sub></b> .90 (23)	<b>T</b> 3.94 (100)	<b>U</b> .35 (9)	

Inches (mm)

**B7 & B8 Single & Double Operators – 4-way IEM Aluminum Bar**



**B7 & B8 4-Way IEM Aluminum Bar Manifold**

<b>A</b> 7.79 (198)	<b>C</b> 8.62 (219)	<b>D</b> 6.26 (159)	<b>E</b> .24 (6)	<b>F</b> 3.94 (100)
<b>G</b> .45 (11.5)	<b>H</b> 4.84 (123)	<b>J</b> 8.07 (205)	<b>K</b> 9.13 (232)	<b>M</b> 11.29 (287)
<b>N</b> 4.00 (101.5)	<b>P</b> 1.48 (37.5)	<b>Q</b> 4.15 (105.5)	<b>R</b> 1.77 (45)	<b>S</b> 2.24 (57)
<b>T</b> 2.72 (69)				

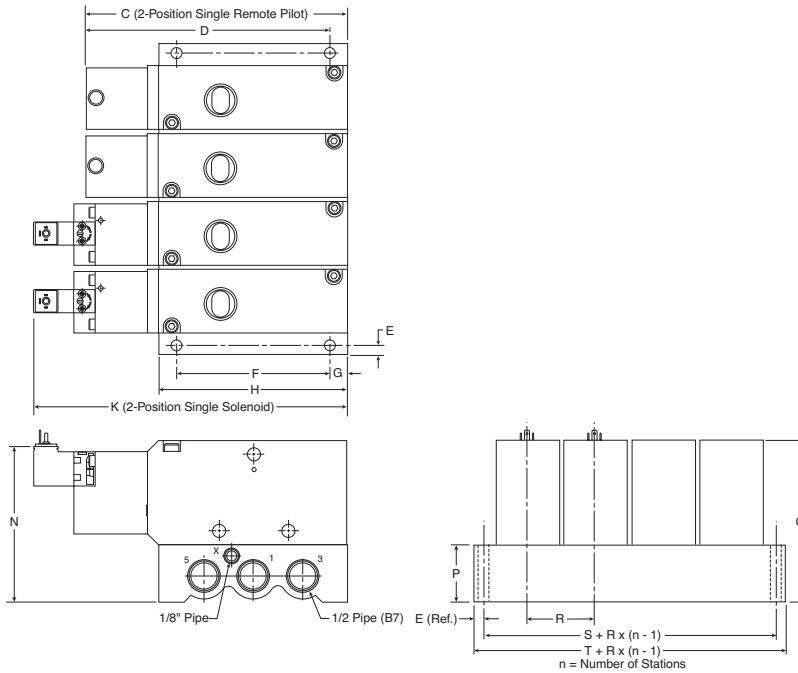
Inches (mm)

**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**B7 & B8 Single Operators – 3-way IEM Aluminum Bar**

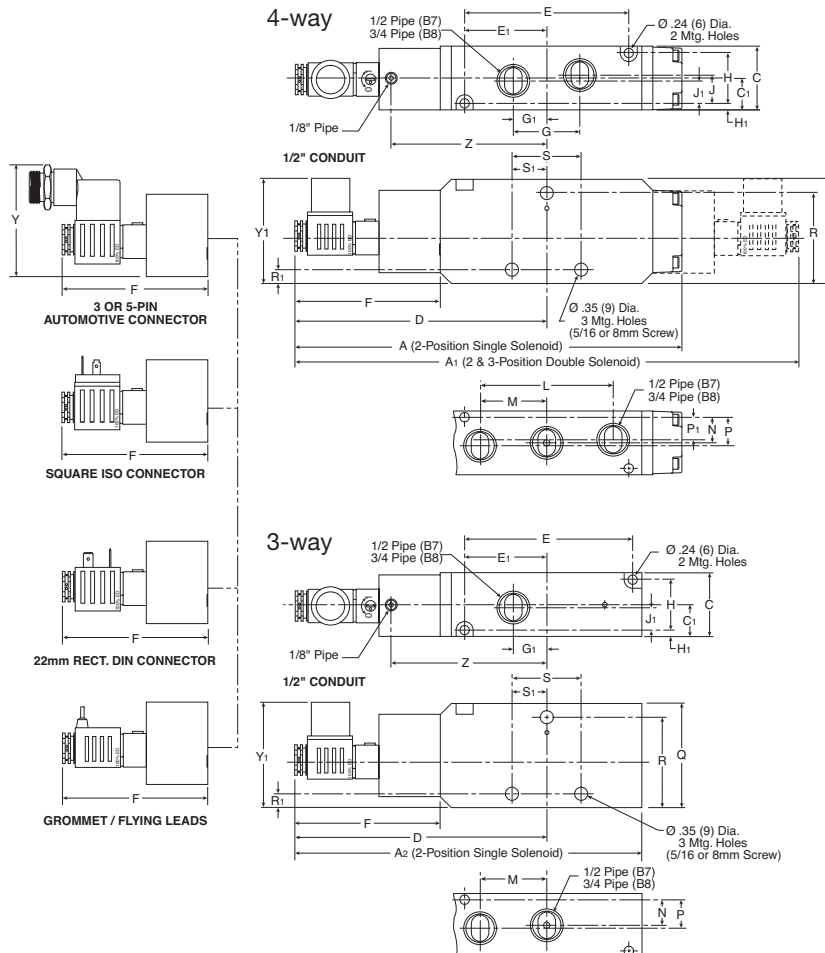


**B7 & B8 3-Way IEM Aluminum Bar Manifold**

C	D	E	F	G
6.65 (169)	4.92 (124.9)	.24 (6)	3.94 (100)	.45 (11.5)
H	K	N	P	Q
4.84 (123)	7.99 (203)	4.00 (101.5)	1.48 (37.5)	4.15 (105.5)
R	S	T		
1.77 (45)	2.24 (57)	2.72 (69)		

Inches (mm)

**B7 & B8 3 & 4-way Alternative Electrical Enclosures**



**B7 & B8 3 & 4-Way Alternative Electrical Enclosures**

A	A <sub>1</sub>	A <sub>2</sub>	C	C <sub>1</sub>
9.92 (252)	12.91 (328)	8.78 (223)	1.65 (42)	.83 (21)
D	E	E <sub>1</sub>	F	G
6.46 (164)	4.21 (107)	2.13 (54)	3.74 (95)	1.73 (44)
G <sub>1</sub>	H	H <sub>1</sub>	J	J <sub>1</sub>
.86 (22)	1.29 (33)	.16 (4)	.75 (19)	.59 (15)
L	M	N	P	P <sub>1</sub>
3.39 (86)	1.69 (43)	.67 (17)	.75 (19)	.59 (15)
Q	R	R <sub>1</sub>	S	S <sub>1</sub>
2.68 (68)	2.32 (59)	.35 (9)	1.81 (46)	.90 (23)
Y	Y <sub>1</sub>	Z		
2.87 (73)	2.71 (69)	3.98 (101)		

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C71

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series

Features

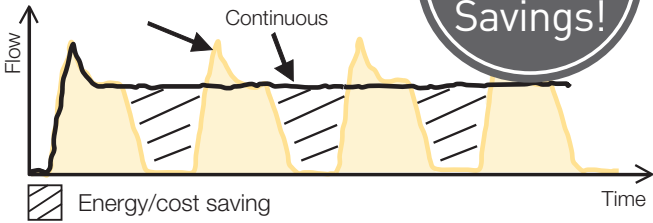
An easy solution to your environmental protection efforts!  
The Air Saver Unit contributes to power savings and CO<sub>2</sub> reduction.

# Parker Air Saver Unit

Up to  
**50%\***  
Savings!

## Pulsing air technology reduces consumption.

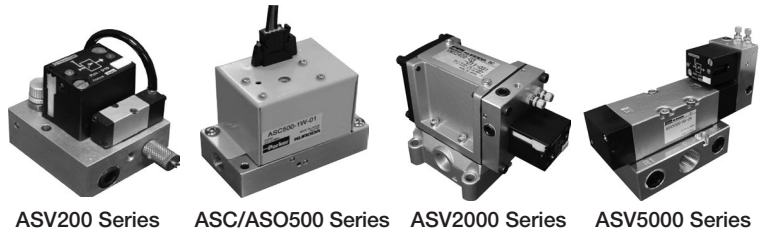
The Air Saver Unit is a valve that converts a continuous air blow to a pulsed air blow without the need for any other external control. Air is blown with a series of ON and OFF pulses. When the blow is OFF, there is no air consumption.



When using an Air Saver Unit several significant benefits can be achieved. Air blowing accounts for almost 50% of all compressed air used in plants. By using switching valve technology the Air Saver Unit can reduce air consumption by up to 50%!

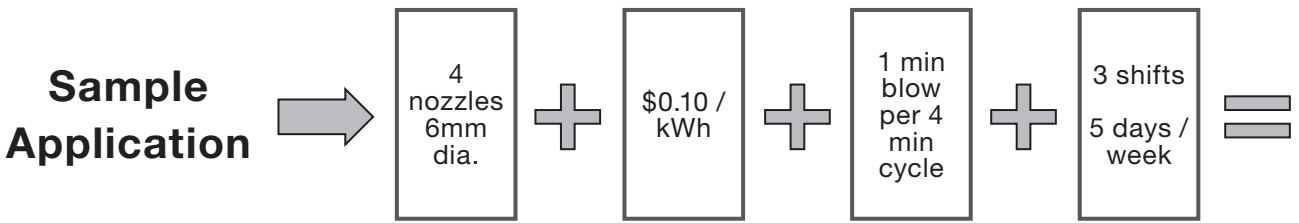
\* To achieve the benefits of pulsed air, the Air Saver Unit should be installed no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

- Large reductions in air consumption.
- Savings in compressor power consumption.
- Reduction in plant CO<sub>2</sub> emissions.
- Big contribution to energy-saving activities.
- Improved efficiency.



Inline Valves  
Viking Lite  
Viking Extreme  
B3, B5, B6 Series  
B7, B8 Series  
Air Saver Unit  
ADEX Series  
"N" Series

Try our fast and easy online savings calculator! [www.linktovms.com/airsaver](http://www.linktovms.com/airsaver)



ENGINEERING YOUR SUCCESS.

Prepared for \_\_\_\_\_ Prepared by \_\_\_\_\_ **Air Saver Unit Valve Calculator**  
Summary Sheet

**VALUE IMPACT SUMMARY**

Reduced Total Annual Air Discharge Per Blowing Nozzle (cfm) by:	3,232,005
Reduced Annual CO <sub>2</sub> Emissions Generated (Per Blowing Nozzle - in Tons) by:	5.77 tons
Reduced Annual Air Generating Costs Per Blowing Nozzle by:	\$ 892.03
Quantity of Air Blowing Nozzles With Same Application Specifications	4
Reduced Annual Air Generating Costs For All Nozzles by:	<b>\$ 3,568.13</b>
Reduced Annual CO <sub>2</sub> Emissions Generated (For All Blowing Nozzles) by:	<b>23.07</b>



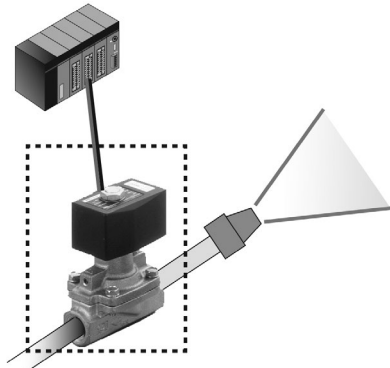
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Features**

**Installation is simple and reduction in air consumption can be realized immediately.**

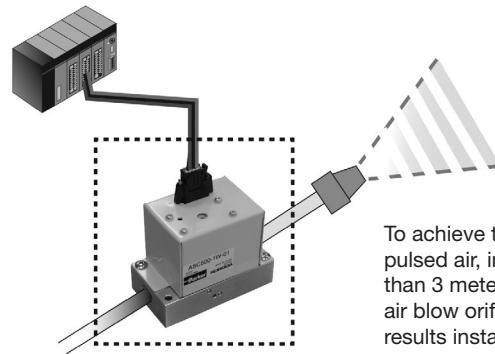
- When using an electrically operated solenoid valve to control the air blow, an Air Saver Unit can quickly and easily be retrofitted providing an immediate reduction in air consumption with no changes to the PLC program.

**Before introduction of the unit**



**After introduction of the unit**

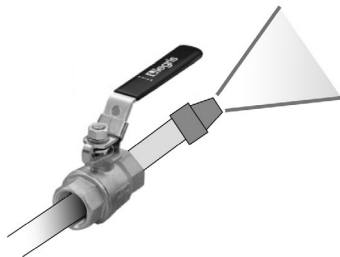
- Easy to install. Change the current solenoid valve to Air Saver Unit. (ASC500 or ASO500)
- Program change of controller is not necessary.



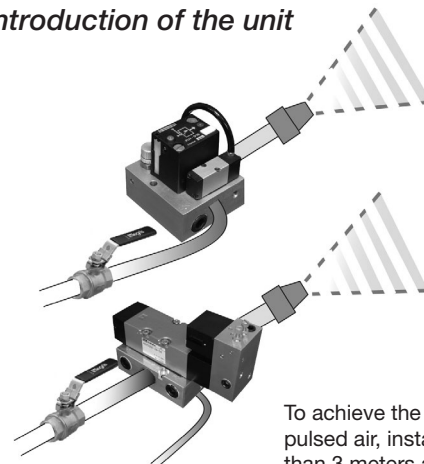
To achieve the benefits of pulsed air, install no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

- When using manual valves such as ball valves, simply install either ASV200, ASV500 or ASV2000 units which do not need electrical power. Installing the unit brings immediate reduction in air consumption and improved compressor efficiency.

**Before introduction of the unit**



**After introduction of the unit**



To achieve the benefits of pulsed air, install no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

**[Company A] Food & Beverage manufacturer**

“When we tested ASV5000, we achieved about 55% reduction of our air consumption. Because air blow efficiency was improved, we plan to use more Air Saver Units in other areas in the plant”.

**[Company B] Manufacturer of office document machines**

“We are working on energy-saving activities. In those activities, we decided to use an Air Saver Unit. We have more than 100 points of air blow and we reduced our air consumption by 42% using this unit”.



Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series








“N” Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Specifications**

								<b>Unit</b>
	<b>ASV200</b>	<b>ASV2000</b>	<b>ASV5000</b>	<b>ASV13000</b>	<b>ASV15000</b>	<b>ASC500</b>	<b>ASO500</b>	<b>Unit</b>
<b>Function</b>	Normally closed						Normally open	--
<b>Fluid</b>	Non lubricated air							--
<b>Flow (at 72.5 psi)</b>	5.3	70.6	176.6	459.1	529.7	15.9	15.9	scfm
<b>Adjustable Pulse Frequency</b>	Up to 5	Up to 5	Up to 5	Up to 1	Up to 1	2-22	2-22	Hz
<b>Port Size</b>	M5	3/8"	1/2"	1"	1-1/4"	1/8"	1/8"	NPT (BSPP)
<b>Operating Temperature</b>	23 to 122							° F
<b>Pressure Range</b>	43.5 - 116	0 - 116				29 - 101.5	29 - 72.5	PSI
<b>Pilot Air Supply</b>	Internal pilot	43.5 - 116 *				Internal pilot		PSI
<b>Blow</b>	Pulse blow					Pulse/Continuous blow		--
<b>Rated Voltage</b>	Electrical power is not necessary					DC 24 V		V
<b>Power Consumption</b>	-					1.2 W		W
<b>Grade Of Insulation</b>	-					NEMA 1		--
<b>Permissible Voltage Fluctuation</b>	-					+ or - 10		%
<b>Wiring</b>	-					e-CON standard 4 pole sockets		--
<b>Filtration</b>	Dry w/ 40 µm filtration †							--

**Notes:**

- \* External pilot of 43.5 - 116 is required, to ensure proper operation.
- † For maximum life of the unit we recommend 5 micron, but 40 micron filtration is acceptable and will not void warranty.

To achieve the benefits of pulsed air, the Air Saver Unit should be installed no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

**C**  
**Inline Valves**  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air Saver Unit  
 ADEX Series  
 "N" Series



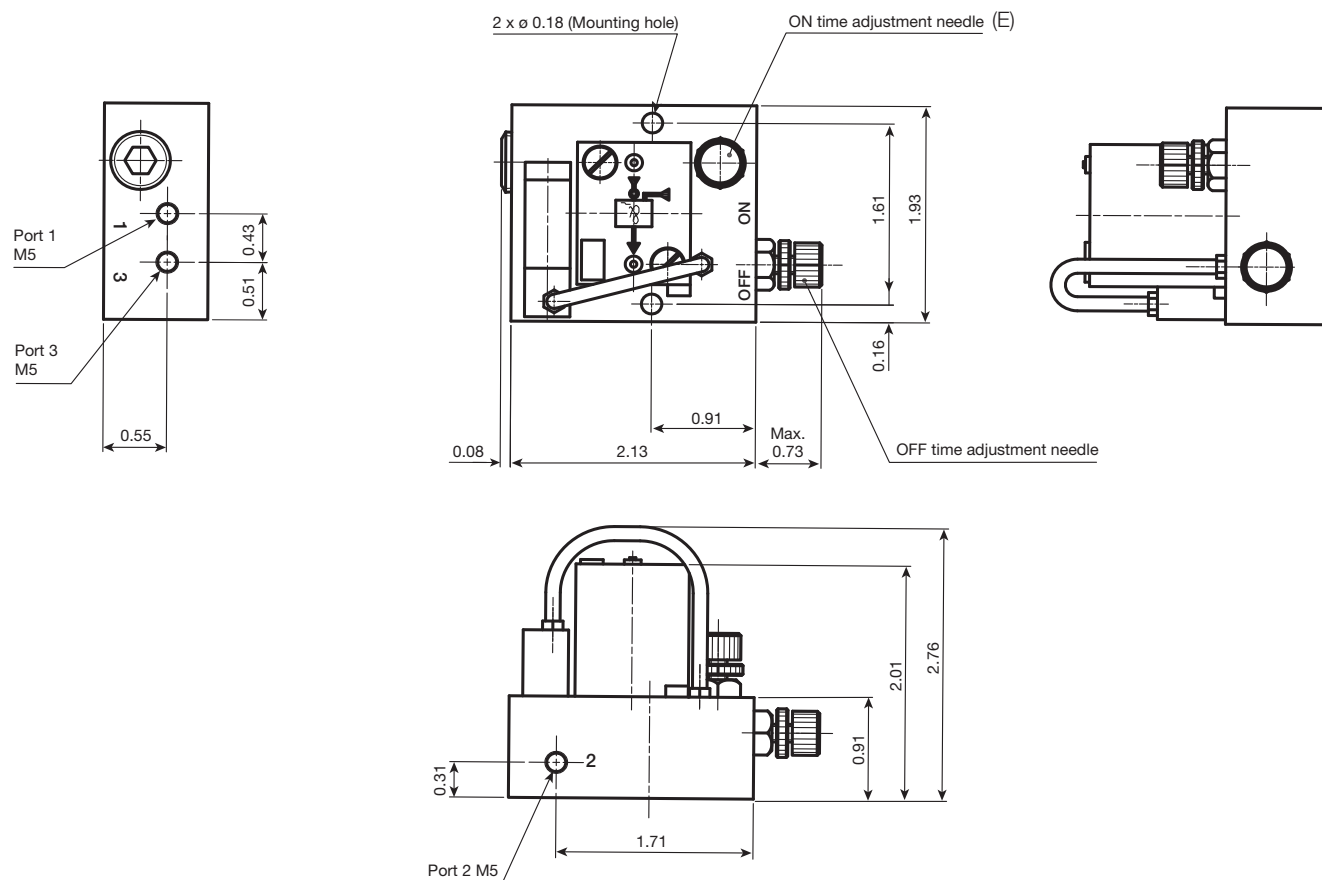
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



Ordering Information ASV200-AA-M5

Function	Fluid	Flow @ 72.5 psi	Port Size	Operating Temperature	Pressure Range, psi	Pilot air Supply, psi	Blow Type	Grease	Part Number
Normally closed	Dry air	5.3 scfm	M5	23-122°F (A)	43.5-116	Internal pilot	Pulse	Food grade	<b>ASV200-AA-M5</b>
								Petrolatum (B), (for painting applications) (C), (D)	<b>WPASV200-AA-M5</b>

Dimensions: ASV200-AA-M5



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Output port (Blow nozzle side)
- Port 3: Exhaust port\*

\* In order to keep out dust, the air muffler is recommended for exhaust port.

Notes:

- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.
- E. Adjustable to maximum frequency of 5Hz.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C75

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C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

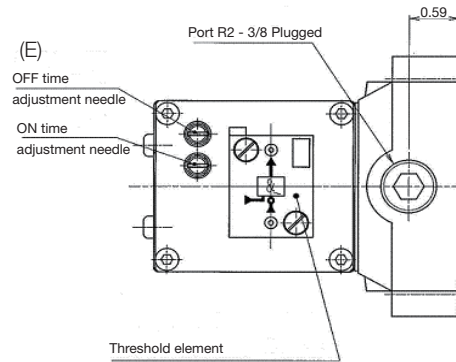
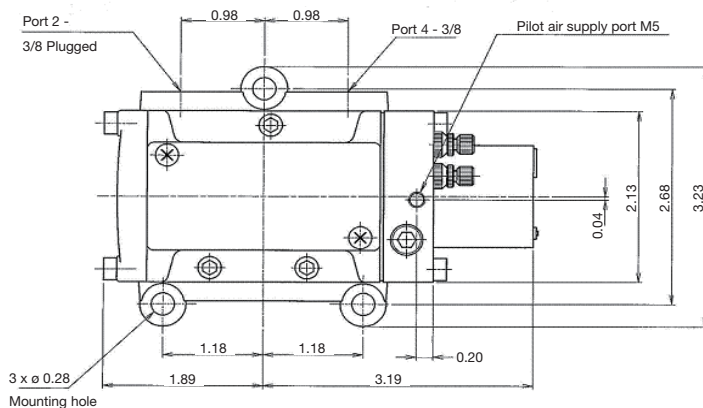
"N" Series



Ordering Information ASV2000-AA-xx

Function	Fluid	Flow @ 72.5 psi	Port Size	Operating Temperature	Pressure Range, psi	Pilot air Supply, psi	Blow Type	Grease	Port Type	Part Number
Normally closed	Dry air	70.6 scfm	3/8"	23-122°F (A)	0-116	43.5-116	Pulse	Standard	NPT	<b>ASV2000-AA-97</b>
									BSP	<b>ASV2000-AA-17</b>
									NPT (B), (C)	<b>WPASV2000-AA-97</b>
									BSP (D)	<b>WPASV2000-AA-17</b>

Dimensions: ASV2000-AA-97 (NPT model)



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Plugged
- Port 3: Plugged
- Port 4: Output port (Blow nozzle side)
- Port R2: Plugged
- Port X: M5 pilot air supply >43.5 psi is required

Notes:

- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.
- E. Adjustable to maximum frequency of 5Hz.

Most popular.

C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air Saver Unit  
 ADEX Series  
 "N" Series



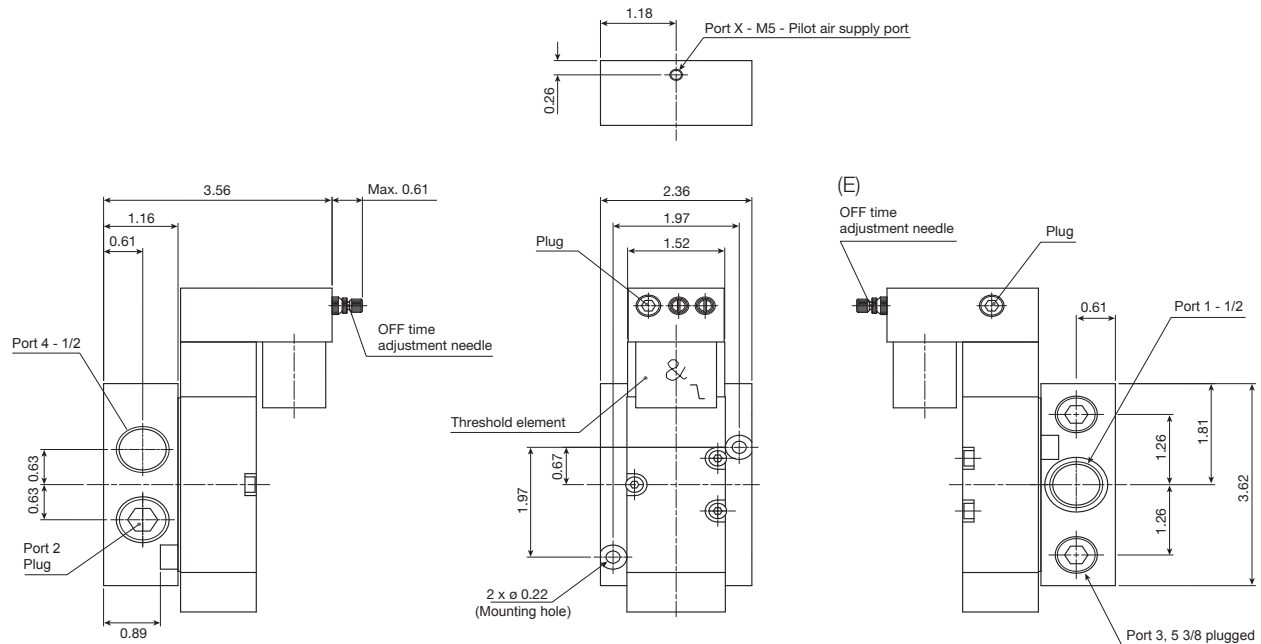
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



Ordering Information ASV5000-AA-xx

Function	Fluid	Flow @ 72.5 psi	Port Size	Operating Temperature	Pressure Range, psi	Pilot air Supply, psi	Blow Type	Grease	Port Type	Part Number
Normally closed	Dry air	176.6 scfm	1/2"	23-122°F (A)	0-116	43.5-116	Pulse	Food grade	NPT	<b>ASV5000-AA-91</b>
									BSP	<b>ASV5000-AA-21</b>
									NPT	<b>WPASV5000-AA-91</b>
									BSP	<b>WPASV5000-AA-21</b>

Dimensions: ASV5000-AA-91 (NPT model)



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Plugged
- Port 3: Plugged
- Port 4: Output port (Blow nozzle side)
- Port 5: Plugged
- Port X: M5 pilot air supply >43.5 psi is required

Notes:

- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.
- E. Adjustable to maximum frequency of 5Hz.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C77

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C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

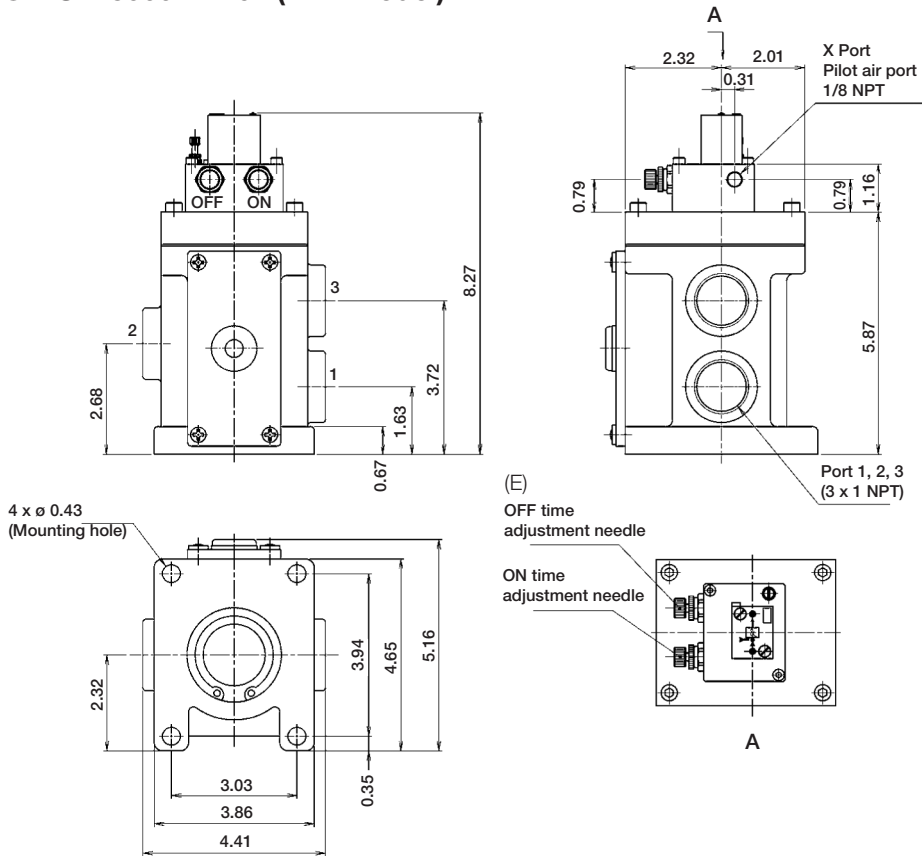
"N" Series



Ordering Information ASV13000-AA-xx

Function	Fluid	Flow @ 72.5 psi	Port Size	Operating Temperature	Pressure Range, psi	Pilot air Supply, psi	Blow Type	Grease	Port Type	Part Number
Normally closed	Dry air	459.1 scfm	1"	23-122°F (A)	0-116	43.5-116	Pulse	Petrolatum (for painting applications)	(B), NPT	<b>WPASV13000-AA-94</b>
									(C), BSPP	<b>WPASV13000-AA-34</b>

Dimensions: ASV13000-AA-94 (NPT model)



Piping

Port 1: Supply port (Compressor side)  
 Port 2: Output port (Blow nozzle side)  
 Port 3: Plugged  
 Port X: 1/8 NPT pilot air supply  
 >43.5 psi is required

Notes:

- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications
- E. Adjustable to maximum frequency of 1Hz.

Most popular.



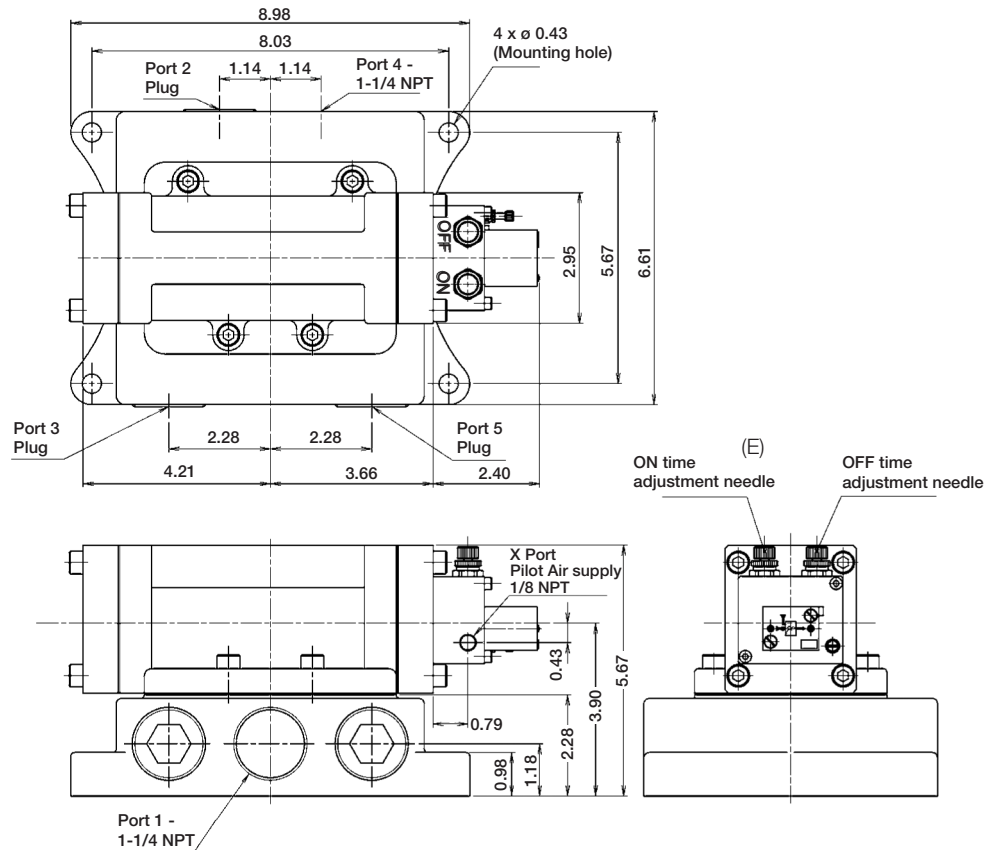
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



Ordering Information ASV15000-AA-xx

Function	Fluid	Flow @ 72.5 psi	Port Size	Operating Temperature	Pressure Range, psi	Pilot air Supply, psi	Blow Type	Grease	Port Type	Part Number
Normally closed	Dry air	529.7 scfm	1-1/4"	23-122°F (A)	0-116	43.5-116	Pulse	Petrolatum (B), (for painting applications) (C), (D)	NPT	<b>WPASV15000-AA-92</b>
									BSPP	<b>WPASV15000-AA-42</b>

Dimensions: ASV15000-AA-92 (NPT model)



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Plug (1-1/4)
- Port 3: Plug (1-1/4)
- Port 4: Output port (Blow nozzle side)
- Port 5: Plug (1-1/4)
- Port X: 1/8 NPT pilot air supply  
>43.5 psi is required

Notes:

- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.
- E. Adjustable to maximum frequency of 1Hz.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

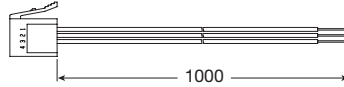


Ordering Information ASC500-1W / ASO500-1W

Function	Fluid	Flow @ 72.5 psi	Port Size	Operating Temperature	Pressure Range, psi	Pilot air Supply, psi	Blow Type	Port Type	Part Number
Normally closed	Dry air	15.9 scfm	1/8"	23-122°F	29-72.5	Internal pilot	Pulse/continuous	NPT	ASC500-1W-90
								BSPP	ASC500-1W-10
Normally open	Dry air	15.9 scfm	1/8"	23-122°F (A)	29-72.5	Internal pilot	Pulse/continuous	NPT	ASO500-1W-90
								BSPP	ASO500-1W-10

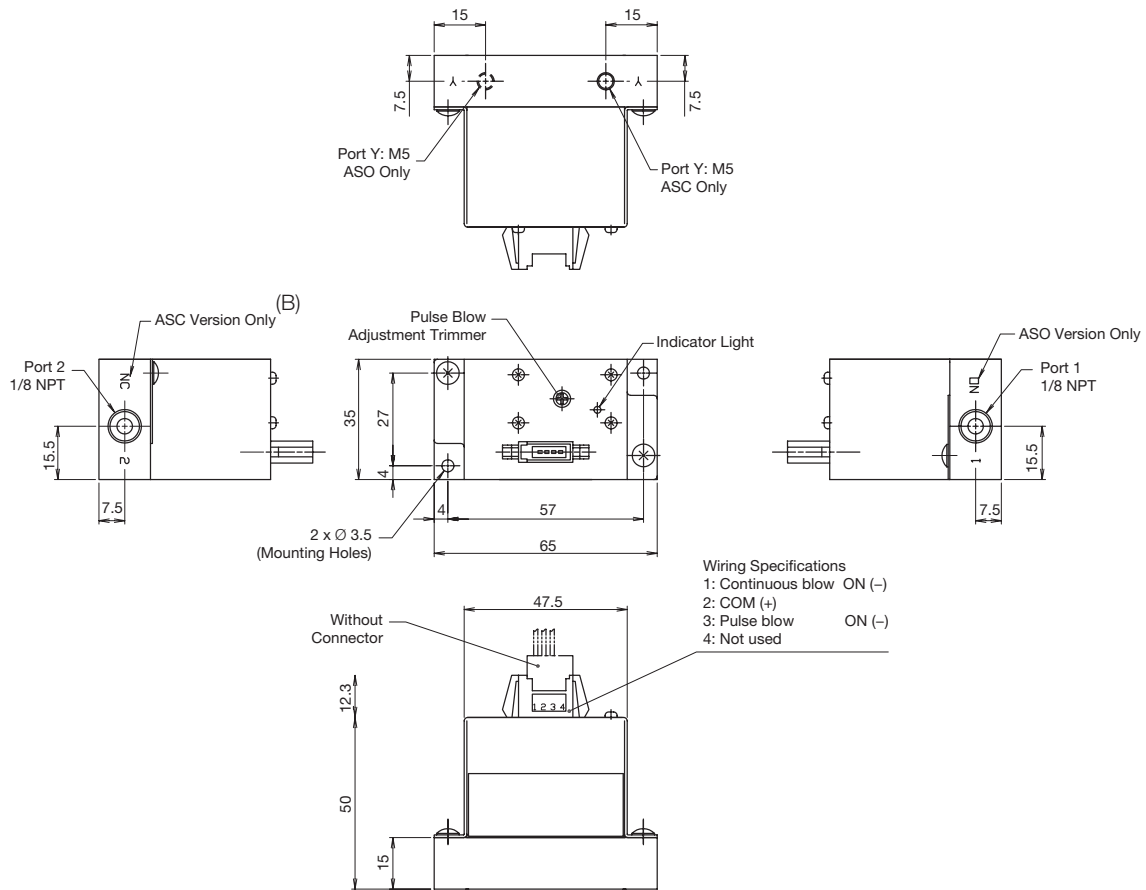
Cable

Cable with specific connector (AWG26 ASC/ASO in common)



ASC-D24-CL10

Dimensions: ASC500-1W-90 / ASO500-1W-90 (NPT model)



Piping

Port 1: Supply port (Compressor side)  
 Port 2: Output port (Blow nozzle side)  
 Y port: Pilot exhaust port\*

\* In order to avoid dust, it is recommended to attach an air muffler.

Notes:

- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Adjustable to maximum frequency of 22Hz.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C80

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Features

**ADEX Series**

ADEX Series are miniature low power consumption solenoid valves, ideal for powering small to mid-sized pneumatic actuators used in automation and process applications. ADEX's versatility is further enhanced through its three mounting styles and electronic connectivity options.

**Features**

- Compact body size
- Fast response < 10ms

**Ports**

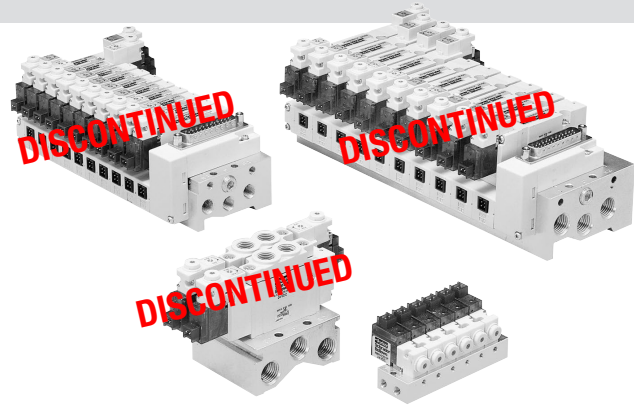
- A00: M3 – .02 Cv
- A05: M5 – .18 Cv
- A12: 1/8 inch – .47 Cv

**Mounting**

- Inline
- Subbase mount

**Solenoids**

- 0.6 W
- 5VDC, 12VDC, 24VDC and 110/220VAC
- LED and surge suppression



**Operating information**

Maximum operating pressure\*:  
 A05 & A12 Vacuum to 100 PSIG (Vacuum to 6.8 bar)  
 A00 (NC) Vacuum to 100 PSIG (Vacuum to 6.8 bar)  
 A00 (NO) Vacuum to 70 PSIG (Vacuum to 4.8 bar)  
 Minimum operating pressure: See chart below  
 Operating temperature:  
 Intermittent Duty (AC & DC Voltage): 32°F to 122°F (0°C to 50°C)  
 Voltage Rated +10 / -10%  
 Continuous Duty (DC Voltage Only): 32°F to 104°F (0°C to 40°C)  
 Voltage Rated +0 / -10%

\* When using vacuum and pressure simultaneously on ports 1 & 3, normally closed valve, the maximum pressure is 85 PSIG (586 kPa).  
 When using vacuum and pressure simultaneously on ports 1 & 3, normally open valve, the maximum pressure is 58 PSIG (400 kPa).

**Material specifications**

Body	Anodized aluminum
End caps	Anodized aluminum
Coils	Thermoplastic
Fasteners	Stainless steel
Spool	Aluminum and nitrile rubber

**Minimum operating pressure**

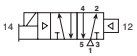
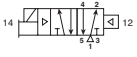
Description	Internal Pilot		External Pilot		
	PSIG	kPa	PSIG	kPa	
4-way	Single Solenoid	22	152	Vacuum	
				36	248
				Vacuum	
4-way	Double Solenoid – 2-position	15	104	Vacuum	
				36	248
4-way	Double Solenoid – 3-position	30	207	Vacuum	
				36	248
3-way	A00 Series	Vacuum			

\* When using vacuum and pressure on ports 1 & 3 – 85 PSIG (586 kPa) NC; 58 PSIG (400 kPa) NO.





For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Single Solenoid, 4-way, 2-position

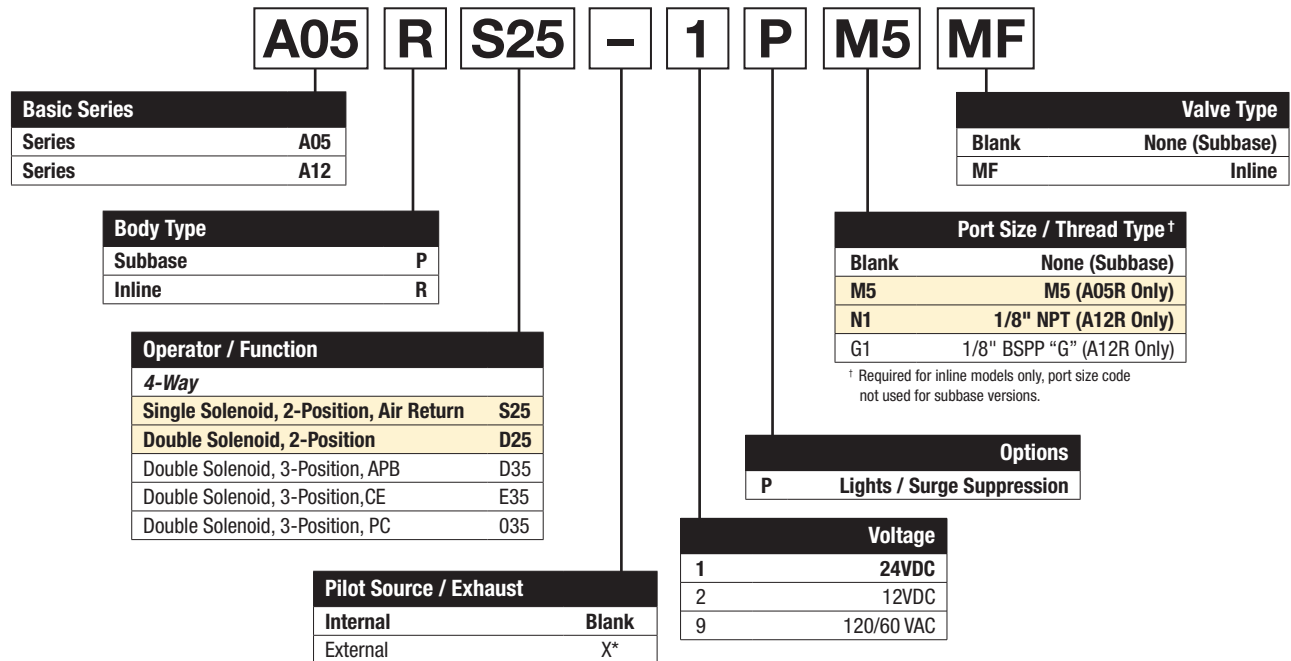
Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	M5	.17 Cv	24VDC	A05 inline	<b>A05RS251PM5MF</b>
	1/8"	.47 Cv	24VDC	A12 inline	<b>A12RS251PN1MF</b>
	Less base	.18 Cv	24VDC	A06 subbase	<b>A05PS251P</b>
	Less base	.44 Cv	24VDC	A12 subbase	<b>A12PS251P</b>

Double Solenoid, 4-way, 2-position

Symbol	Port Size	Cv	Voltage	Valve Type	Part Number
	M5	.17 Cv	24VDC	A05 inline	<b>A05RD251PM5MF</b>
	1/8"	.47 Cv	24VDC	A12 inline	<b>A12RD251PN1MF</b>
	Less base	.18 Cv	24VDC	A06 subbase	<b>A05PD251P</b>
	Less base	.44 Cv	24VDC	A12 subbase	<b>A12PD251P</b>

Locking flush override. Mounting screws and gaskets included with valve.

A05 / A12 4-way, 2 & 3-position, P / R Types



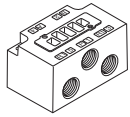
 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series

**A05 & A12 Subbases**

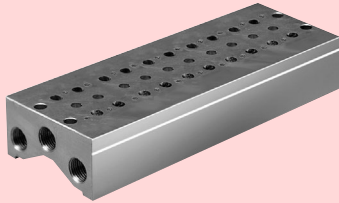


A05PB

Valve Type	Port Size	Part Number
A05	1/8" NPT	<b>A05PBN1</b>
	1/8" BSPP "G"	<b>A05PBG1</b>
A12	1/4" NPT	<b>A12PBN2</b>
	1/4" BSPP "G"	<b>A12PBG2</b>

**Kit Includes:** (1) Subbase (Hold down bolts and gasket are included with valve)

**A05 Valve IEM Bar Manifold**



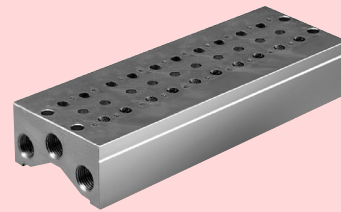
MMFU10A05F Shown

4-way, NPTF (Individual wiring type)	<b>MMFU##A05F</b>
4-way, NPTF (Collective wiring type)	<b>MMCU##A05F</b>

## – stations 2 to 20  
## – stations 2 to 12  
(Even numbers only)

*Pilot Exhaust for IEM Manifold –  
is captured through the "3" and "5" galley.*

**A12 Valve IEM Bar Manifold**



MMFU10A12F Shown

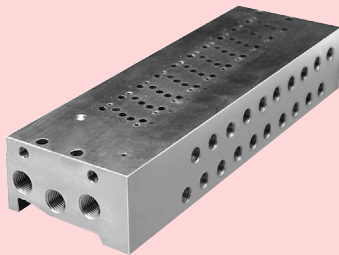
4-way, NPTF (Individual wiring type)	<b>MMFU##A12F</b>
4-way, NPTF (Collective wiring type)	<b>MMCU##A12F</b>

## – stations 2 to 20  
## – stations 2 to 12  
(Even numbers only)

*Pilot Exhaust for IEM Manifold –  
is captured through the "3" and "5" galley.*

**DISCONTINUED**

**A05 Valve Subbase Bar Manifold (5-Ported)**



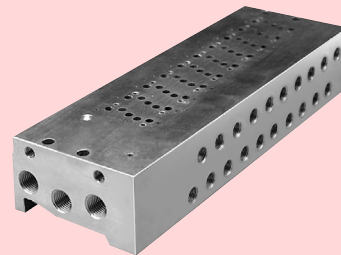
4-way, M5 (Individual Wiring Type)	<b>MMFS##A05FM5</b>
4-way, M5 (Collective Wiring Type)	<b>MMCS##A05FM5</b>

## – stations 2 to 20  
## – stations 2 to 12  
(Even numbers only)

**Internally Piloted Manifolds –**  
Pilot exhaust is captured through the "3" and "5" galley.

**Externally Pilot Manifold –**  
Pilot exhaust is captured through the "Y" galley.

**A12 Valve Subbase Bar Manifold (5-Ported)**



4-way, 1/8" NPTF (Individual Wiring Type)	<b>MMFS##A12FF1</b>
4-way, 1/8" NPTF (Collective Wiring Type)	<b>MMCS##A12FF1</b>

## – stations 2 to 20  
## – stations 2 to 12  
(Even numbers only)

**Internally Piloted Manifolds –**  
Pilot exhaust is captured through the "3" and "5" galley.

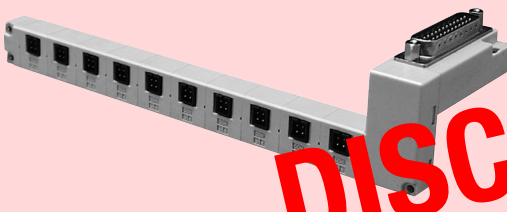
**Externally Pilot Manifold –**  
Pilot exhaust is captured through the "Y" galley.

  Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Collective Wiring**



**DISCONTINUED**

**Type**

Manifold collective wiring system

**Options**

DL	D-sub 25
ML	26-pin ribbon

**Number of stations\***

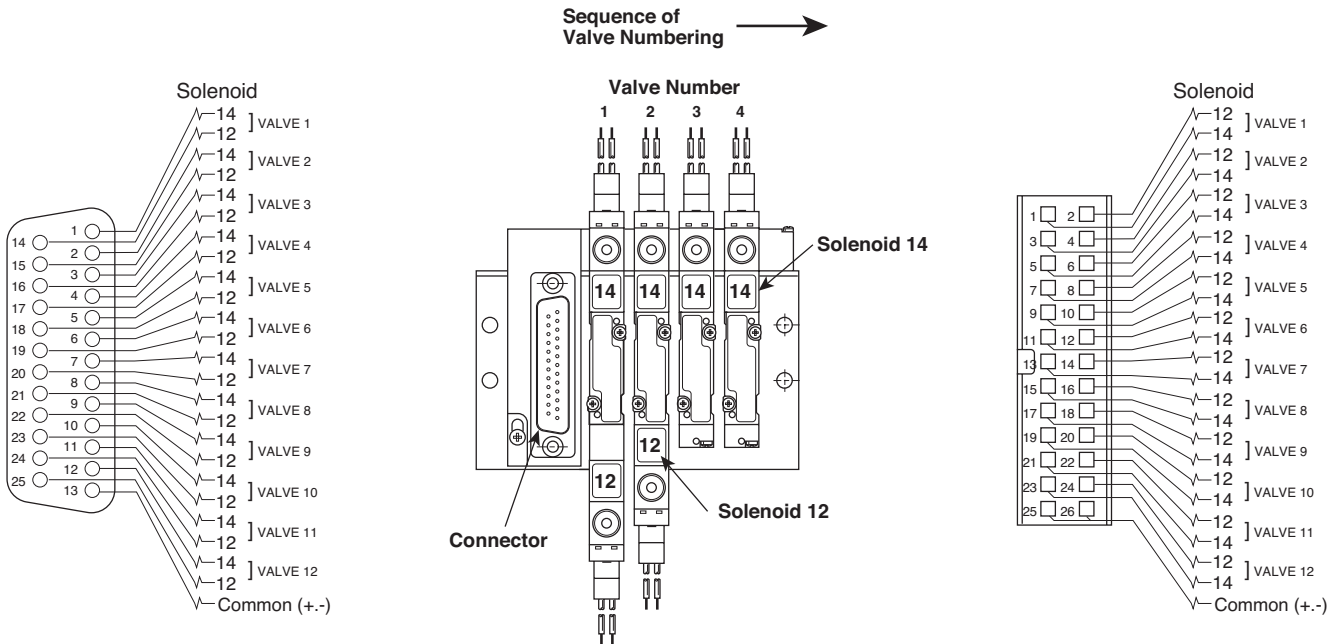
2 Stations	2
4 Stations	4
6 Stations	6
8 Stations	8
10 Stations	10
12 Stations	12

\* Even Number of Stations Only.

**Valve size**

A05	10mm
A12	15mm

**Collective Wiring Pin Mapping  
 (Not Available for AC Voltages)**



**Pin Map for D-Sub 25 Connector**

**Valve and Solenoid Addresses**

**Pin Map for 26-Pin Ribbon Connector**

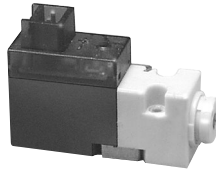
**Notes:**

- The MCS Collective Wiring System is "Polarity Neutral". Polarity is addressed with the Collective Wired Connectors (page C88). Example: When 'positive' common is used, an A05 single solenoid valve uses an A05PSCC. When 'negative' common is used, use A05PSCCM.
- The MCS Collective Wiring System provides for both the "14" and "12" addresses at each valve location. When single solenoid valves are used, skip the "12" address for both wiring and controller programming.
- Be sure that the leakage current of the controller outputs is less than 1.5 ma.



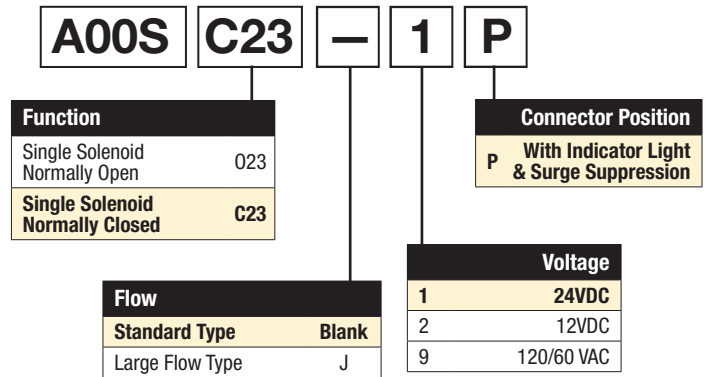
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**A00 Valve Only – Single Solenoid, 3-way, 2-position\***



**A00SC23-1P Shown**

\* Screwdriver-Operated, Locking Manual Override (LMOR).



**A00 Valve Subbase**



Valve type	All Ports	Part number
A00	M3	<b>A00S-B-M3</b>

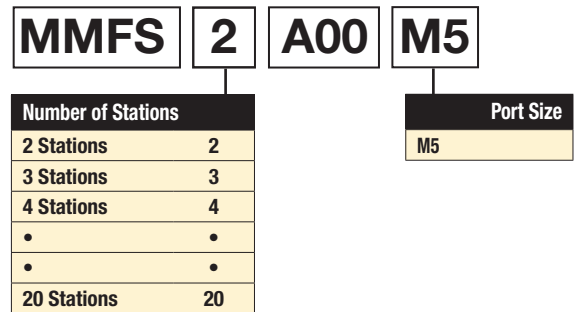
Mounting screws and gaskets included with valve.

**A00 Valve Manifold\***



**MMFS6A00M5 Shown**

\* Normally closed valves (A00SC23•P) and Normally open valves (A00S023•P) cannot be mounted on the same manifold simultaneously.  
Mounting screws and gaskets included with valve.




  Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Accessories**

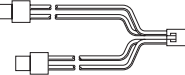
**Individual Wired Connectors P / R Type**

	Size	Voltage	Length	Part Number
	A00	DC	.5 meter	<b>A05P-DC-CL5</b>
			1 meter	<b>A05P-DC-CL10</b>
	A05		3 meter	<b>A05P-DC-CL30</b>
	A12	AC	.5 meter	<b>A05P-AC-CL5</b>
	1 meter		<b>A05P-AC-CL10</b>	

DC Voltage: Positive "+" (Red Wire)  
Negative "-" (Black Wire)

AC Voltage: Both Wires are Blue (Polarity Neutral)


**Collective Wired Connectors P / R Type**

	Size	Configuration	Part Number	
			PNP	NPN
	A05	Single	<b>A05PSCCM</b>	<b>A05PSCC</b>
	A12	Double	<b>A05PDCCM</b>	<b>A05PDCC</b>

**A05PDCC**

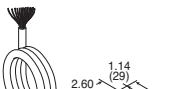
PNP = SOURCING = "Negative Common" = Yellow Wires  
NPN = SINKING = "Positive Common" = Red Wires

**Wired Connectors with Protective Cover - P / R Type**

	Size	Length	Part Number
	A00	1 meter	<b>A05P-DC-CB10</b>
	A05		
	A12		

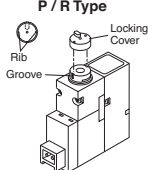
The cover is made of chloroprene rubber for electrical use, assuring excellent weather and insulation resistance. However, be careful not to place it under splash of cutting oil.

**Cable with Female D-Sub, 25-Pin Connector**

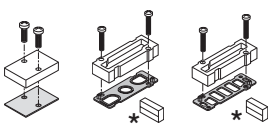
	Description	Part Number
	25-Pin, D-Sub cable, 1 meter (3.3 ft.)	<b>DSS-25W-2K</b>

**Note:** For use with ADEX MCS system only.  
Connection to control system is through 25 colored wires AWG 24. Includes (2) M2.5 screws.

**Extended Override Cover**

	Size	Orange:	Green:
		for 14 Side Solenoid	for 12 Side Solenoid
	A00	<b>A05P-LA</b>	<b>A05P-LB</b>
	A05		
	A12		

**Blanking Plate**

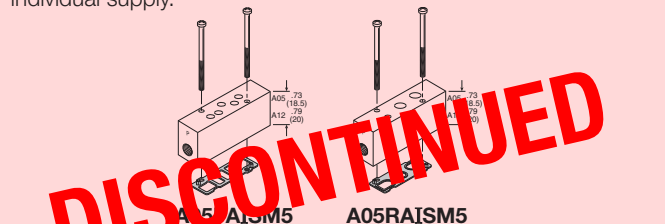
	Size	Type	Part Number
	A00	Subbase	<b>A00SBP</b>
	A05	Body ported	<b>A05RGBP</b>
		Subbase	<b>A05PG-BP</b>
A12	Body ported	<b>A12RGBP</b>	
	Subbase	<b>A12PGBP</b>	

A00SBP A05RGBP A05PGBP

\* Outlet pin cover used with collective wiring system only.

**Individual Air Supply Spacer**

Mounts between valve and manifold. Supply from the manifold is blocked and only the valve mounted on the spacer receives the individual supply.



Size	Type	Port size	Internal pilot part number	External pilot* part number
A05	Inline	M5	<b>A05RAISM5</b>	<b>A05RAXISM5</b>
	Subbase	M5	<b>A05PAISM5</b>	<b>A05PAXISM5</b>
A12	Inline	1/8" NPT	<b>A12RAISN1</b>	<b>A12RAXISN1</b>
	Subbase	1/8" NPT	<b>A12PAISN1</b>	<b>A12PAXISN1</b>

Can only be used on Collective wiring type manifolds.

\* Can only be used with External Piloted valve. External pilot is located on the X Port of the manifold

Kit Includes: (1) Spacer, (2) Screws, and (1) Gasket

**Individual Air Exhaust Spacer**

Mounts between valve and manifold. Exhaust from the manifold is blocked and only the valve mounted on the spacer has the individual exhaust.



Size	Type	Port size	Internal pilot part number	External pilot* part number
A05	Inline	M5	<b>A05RAIEM5</b>	<b>A05RAXIEM5</b>
	Subbase	M5	<b>A05PAIEM5</b>	<b>A05PAXIEM5</b>
A12	Inline	1/8" NPT	<b>A12RAIEN1</b>	<b>A12RAXIEN1</b>
	Subbase	1/8" NPT	<b>A12PAIEN1</b>	<b>A12PAXIEN1</b>

Can only be used on Collective wiring type manifolds.

\* Can only be used with External Piloted valve. External pilot is located on the X Port of the manifold

Kit Includes: (1) Spacer, (2) Screws, and (1) Gasket

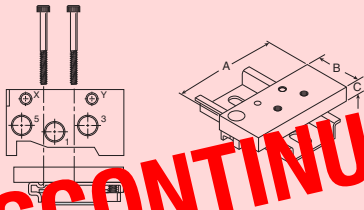
C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**DIN Rail Hardware Kit**

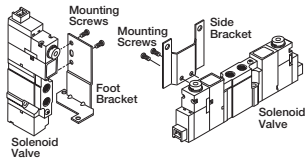


**DISCONTINUED**

Size	Type	Dimensions			Part number
		A	B	C	
A05	IEM	2.24	1.00	.31	<b>MFUA05DB</b>
	Subbase	(57)	(25)	(8)	<b>MFSA05DB</b>
A12	IEM	2.91	1.00	.39	<b>MFUA12DB</b>
	Subbase	(74)	(25)	(10)	<b>MFSA12DB</b>

Kit includes: (2) Screws, (2) Clamps

**Mounting Bracket**



Size	Type	Part Number
A05	Side	<b>A05RBS</b>
	Foot	<b>A05RBF</b>
A12	Side	<b>A12-RBS</b>
	Foot	<b>A12RBF</b>

Kit Includes: (1) Bracket, (2) Screws

**M3 & M5 Fittings**

	Description	Part Number
	M5 Plug Fitting	<b>0220 19 00</b>
	M3 to 3mm Barb	<b>BC03M3</b>
	M3 to 4mm Barb	<b>BC04M3</b>
	M5 to 3mm Barb	<b>BC03M5</b>

**Labeling Tag**

Size	Description	Part Number
A05	White Label Tag	<b>A05PN</b>
A12		

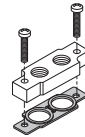
**Exhaust Mufflers**



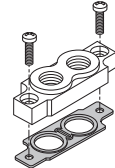
Pipe Thread	Part Number
M5	<b>P6M-PAC5</b>
1/8" NPT	<b>EM12</b>
1/4" NPT	<b>EM25</b>

P6M - Plastic; EM - Sintered Bronze

**Replacement Cylinder Port Plate Kits**



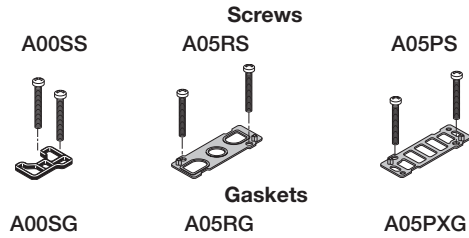
**A05RABM5**



**A12RABN1**

Size	Fitting	Part Number
A05	M5	<b>A05RABM5</b>
A12	1/8" NPT	<b>A12RABN1</b>
	1/8" BSPP "G"	<b>A12RABG1</b>

**Replacement Base Gasket Kits**



Size	Type	Gaskets	
		Gasket Only	Screw
A00	Subbase	<b>A00SG</b>	<b>A00SS</b>
	Body Ported	<b>A05RG</b>	<b>A05RS</b>
A05	Subbase Int.	<b>A05PG</b>	<b>A05PS</b>
	Subbase Ext.	<b>A05PXG</b>	<b>A05PS</b>
	Body Ported	<b>A12RG</b>	<b>A12RS</b>
A12	Subbase Int.	<b>A12PG</b>	<b>A12PS</b>
	Subbase Ext.	<b>A12PXG</b>	<b>A12PS</b>

These are spare parts, mounting screws and gaskets included with valves.



**Flow Rating (Cv)**

Size	Port Size	Mounting Style	ANSI / (NFPA)		JIS Method	
			2-Position	3-Position	2-Position	3-Position
A00	M3	Subbase	.010	—	—	—
	M5	Subbase	.017	—	—	—
A00****J	M5	Subbase	.020	—	—	—
A05	M5	Inline	.18	.16	.22	.20
	M5	Subbase	.17	.16	.32	.32
A12	1/8" Ports	Inline	.47	.43	.48	.46
	1/8" Ports	Subbase	.44	.40	.61	.42

ANSI / (NFPA) T3.21.3-1990 standard for Cv measurement.

**Response Time**

Valve Size	Port Size	0 Cu. In. Test Chamber	
		Fill	Exhaust
<b>2-Position Single Solenoid / Air Return</b>			
A00	M3	.004	.006
A05	M5	.014	.025
A12	1/8"	.016	.030
<b>2-Position Double Solenoid</b>			
A00	M3	—	—
A05	M5	.011	.015
A12	1/8"	.010	.012
<b>3-Position Double Solenoid</b>			
A00	M3	—	—
A05	M5	.013	.017
A12	1/8"	.013	.014

**Average Fill Time (Seconds):** With 100 PSIG supply, time required to fill from 0-90 PSIG and exhaust from 100 PSIG to 10 PSIG is measured from instant of energizing, or de-energizing 24VDC solenoid. Times shown are average.

Tested per ANSI / (NFPA) T3.21.8.

**Solenoid Information**

Power Consumption	Standard		
			With Indicator Light & Surge Suppressor
B3, B5, B6 Series	DC	W	0.6
		VA	1.2
	AC	100V	1.4
		110V	1.4
B7, B8 Series	<b>High Flow</b>		
			With Indicator Light & Surge Suppressor
	DC	W	0.91
		VA	—
AC	100V	—	
	110V	—	

**ANSI Cv vs. JIS Cv**

For Pneumatic Valve flow, the measurement **Cv** – Coefficient of Flow – is used to convey to the user how much air can flow through a given valve. Most valve manufacturers publish this information in their catalogs to assist the user in choosing the proper valve for their application. In publishing this data however, there are discrepancies in how the **Cv** is calculated, resulting in some **Cv**'s being **OVERSTATED** by **20 to 40%**. This can adversely affect the user's application because the valve flows **LESS** than the published **Cv**.

The reason for the large discrepancy is in the method of calculation - the ANSI (NFPA) or the JIS standard.

Parker's **Cv** valve is calculated using the ANSI (NFPA) T3.21.3-1990 standard. The ANSI (NFPA) method is a structured test using very specific tube sizes and lengths, inlet pressures and pressure drops, and volume chambers.

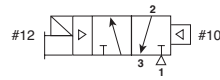
Locking Flush Override. Mounting screws and gaskets included with valve.

C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series



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**Single Solenoid  
 3-Way, 2-Position NC**

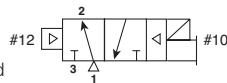


**Vacuum Applications (Device becomes NO):**

- '1' port is connected to atmosphere or compressed air † when required.
- '2' port is outlet
- '3' port is connected to vacuum

† When both vacuum and compressed air are required, maximum pressure is 85 PSIG (586 kPa).

**Single Solenoid  
 3-Way, 2-Position NO\***



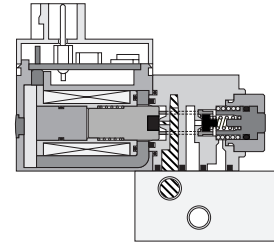
\* To obtain NO function, ports 1 & 3 are reversed (1 becomes exhaust and 3 becomes supply).

**Vacuum Applications (Device becomes NC):**

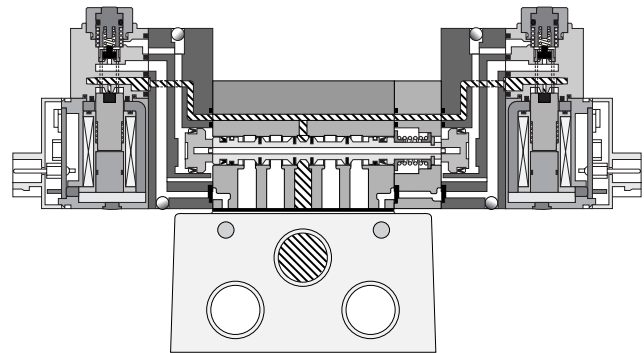
- '1' port is connected to vacuum
- '2' port is outlet
- '3' port is connected to atmosphere or compressed air † when required.

† When both vacuum and compressed air are required, maximum pressure is 58 PSIG (400 kPa).

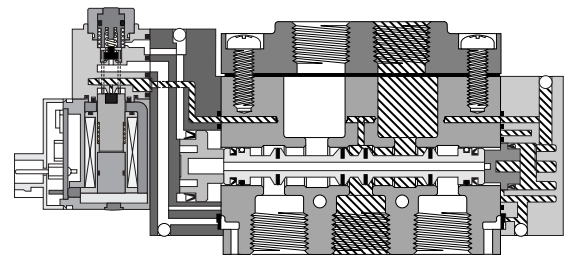
**Caution:** Normally Open and Normally Closed 3-Way valve cannot be mixed on the same manifold.



**A00S Single Solenoid Normally Closed (NC)**



**A05P Double Solenoid 3-Position Subbase Mounted**



**A12R Single Solenoid Inline**

Pressure Exhaust

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

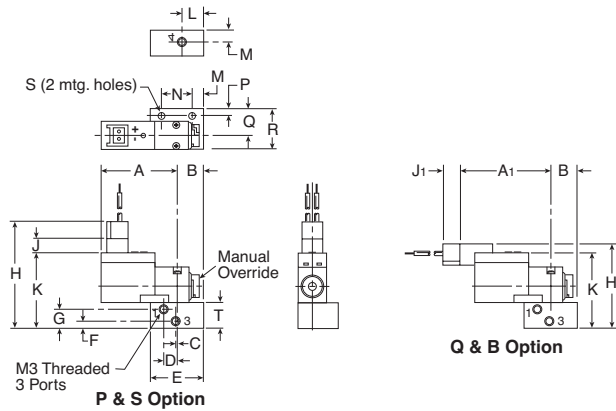
Air Saver Unit

ADEX Series

"N" Series



**A00 Subbase**

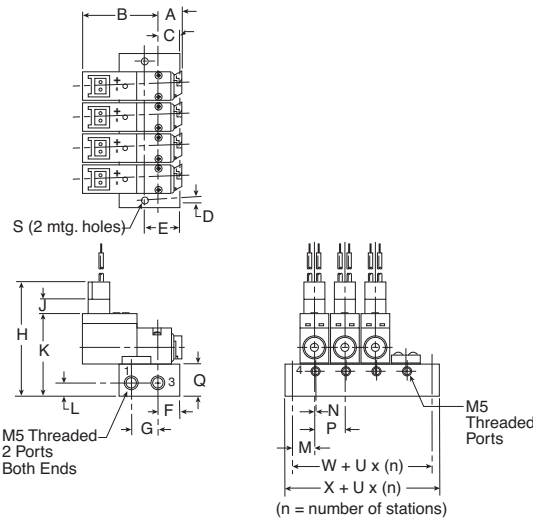


**A00 - Subbase**

A	A1	B	C	D
1.00 (25)	1.18 (30)	.41 (11)	.015 (.4)	.17 (4)
E	F	G	H	H1
.79 (20)	.12 (3)	.28 (7)	1.54 (39)	1.38 (34)
J	J1	K	L	M
.24 (6)	.20 (5)	1.11 (28)	.32 (8)	.18 (5)
N	P	Q	R	S
.47 (12)	.10 (3)	.39 (10)	.59 (15)	.106 (2.7)
T	.38 (10)			

Inches (mm)

**A00 Manifold**

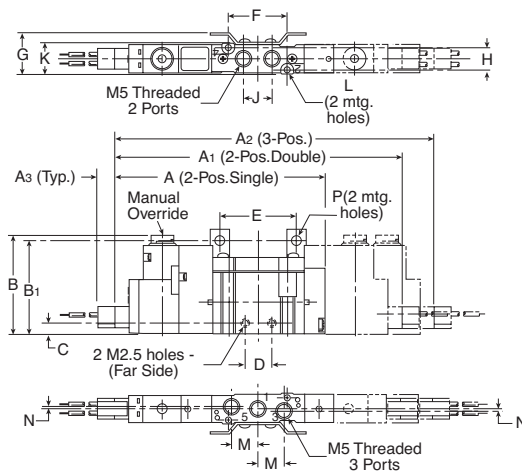


**A00 - Manifold**

A	B	C	D	E
.36 (9)	1.00 (25)	.31 (8)	.10 (3)	.51 (13)
F	G	H	J	K
.31 (8)	.39 (10)	1.63 (42)	.20 (5)	1.22 (31)
L	M	N	P	Q
.20 (5)	.33 (9)	.02 (.6)	.41 (10.5)	.47 (12)
S	U	X	W	
.125 (3.2)	.41 (10.5)	.45 (11.5)	.26 (6.5)	

Inches (mm)

**A05R Single & Double Operators - Inline**



**A05R - Inline**

A	A1	A2	A3	B
2.91 (74)	3.94 (100)	4.25 (108)	.24 (6)	1.38 (35)
B1	C	D	E	F
1.30 (33)	.16 (4)	.38 (10)	1.06 (27)	.83 (21)
G	H	J	K	L
.57 (15)	.33 (9)	.40 (10)	.45 (11.4)	Ø .08 Ø (2.1)
M	N	P		
.37 (10)	.04 (1)	Ø .14 Ø (3.5)		

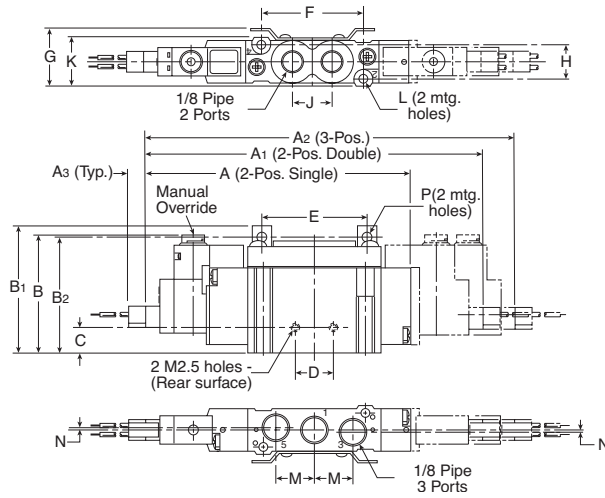
Inches (mm)

**C**  
**Inline Valves**  
**Viking Lite**  
**Viking Extreme**  
**B3, B5, B6 Series**  
**B7, B8 Series**  
**Air Saver Unit**  
**ADEX Series**  
**"N" Series**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**A12R Single & Double Operators – Inline**

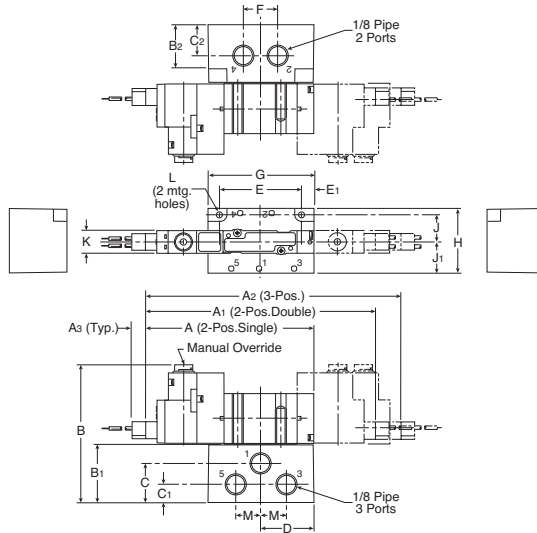


**A12R – Inline**

A	A1	A2	A3	B
3.68 (94)	4.69 (119)	5.12 (130)	.24 (6)	1.64 (42)
B1	B2	C	D	E
1.77 (45)	1.70 (43)	.35 (9)	.51 (13)	1.46 (37)
F	G	H	J	K
1.42 (36)	.80 (20)	.47 (12)	.55 (14)	.68 (17)
L	M	N	P	
Ø .12 Ø (3.1)	.55 (14)	.03 (0.8)	Ø .14 Ø (3.5)	

Inches (mm)

**A05P Single & Double Operators – Subbase**

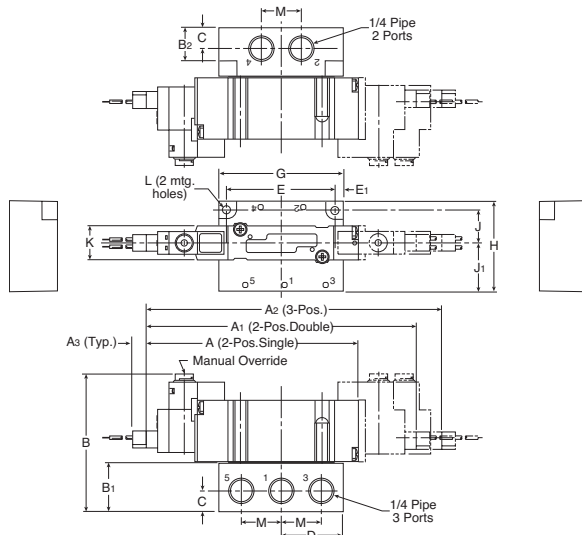


**A05P – Subbase**

A	A1	A2	A3	B
2.91 (74)	3.94 (100)	4.25 (108)	.24 (6)	2.35 (60)
B1	B2	C	C1	C2
.96 (25)	.75 (19)	.65 (17)	.30 (8)	.53 (14)
D	E	E1	F	G
.89 (23)	1.38 (35)	.20 (5)	.57 (15)	1.77 (45)
H	J	J1	K	L
.08 (28)	.45 (11.5)	.51 (13)	.39 (10)	Ø .13 Ø (3.2)
M				
.45 (12)				

Inches (mm)

**A12P Single & Double Operators – Subbase**



**A12P – Subbase**

A	A1	A2	A3	B
3.68 (94)	4.69 (119)	5.12 (130)	.24 (6)	2.41 (61)
B1	B2	C	D	E
.87 (22)	.75 (19)	.37 (10)	1.10 (28)	1.89 (48)
E1	G	H	J	J1
.16 (4)	2.20 (56)	1.59 (41)	.57 (14.5)	.87 (22)
K	L	M		
.59 (15)	Ø .17 Ø (4.3)	.71 (18)		

Inches (mm)

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

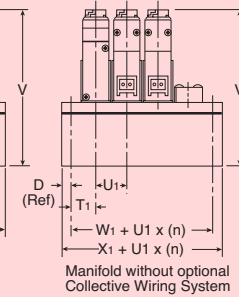
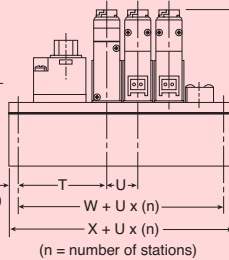
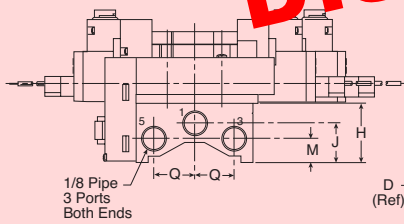
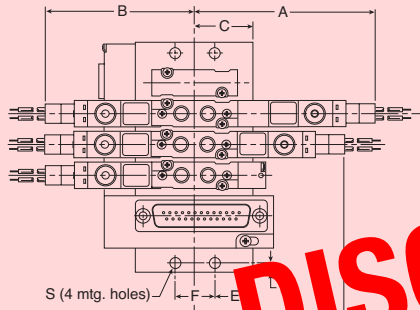
ADEX Series

"N" Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**A05R Manifold – Valve Inline**



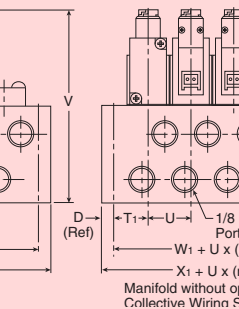
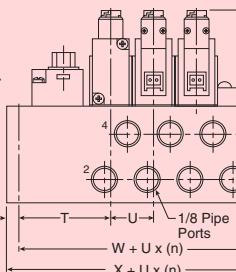
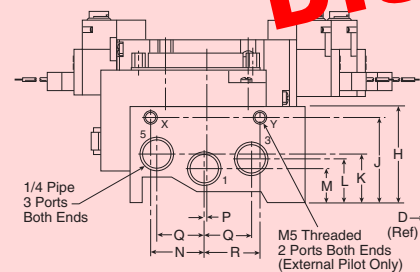
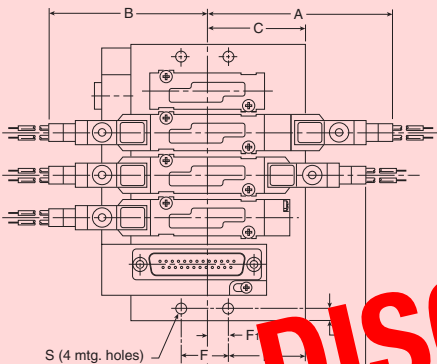
**A05R - Manifold, Valve Inline**

A	B	C	D	E
2.52 (64)	2.21 (56)	.94 (24)	.16 (4)	.61 (16)
F	G	H	J	M
.73 (19)	2.21 (56)	.94 (24)	.61 (16)	.37 (10)
S	T	T <sub>1</sub>	U	
.63 (16)	Ø .18 Ø (4.5)	1.34 (34)	.51 (13)	.49 (12.5)
U <sub>1</sub>	V	W	W <sub>1</sub>	X
.41 (10.5)	2.32 (59)	1.36 (35)	.37 (9.5)	.167 (43)
X <sub>1</sub>				
.68 (17.5)				

Inches (mm)

DISCONTINUED

**A12R Manifold – Valve Inline**



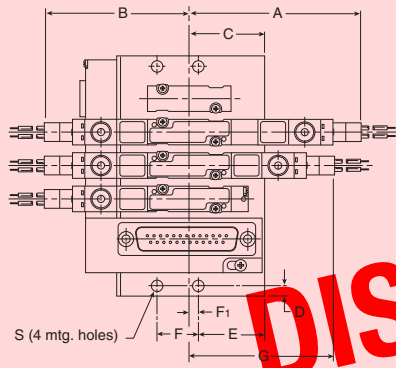
**A12R - Manifold, Valve Inline**

A	B	C	D	E
3.01 (77)	2.58 (66)	1.14 (29)	.20 (5)	.76 (19)
F	G	H	J	M
.77 (19.6)	2.58 (66)	1.08 (28)	.71 (18)	.41 (11)
Q	S	T	T <sub>1</sub>	U
.77 (20)	Ø .18 Ø (4.5)	1.48 (38)	.51 (13)	.69 (17.5)
U <sub>1</sub>	V	W	W <sub>1</sub>	X
.63 (16)	2.74 (70)	1.34 (34)	.39 (10)	1.73 (44)
X <sub>1</sub>				
.79 (20)				

Inches (mm)

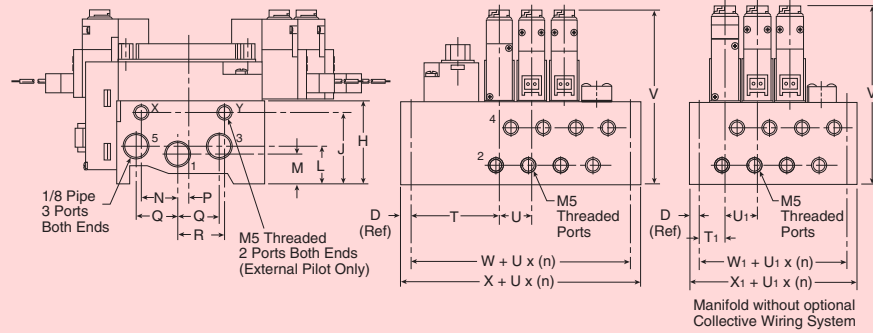
DISCONTINUED

**A05P Manifold – Side Ports**



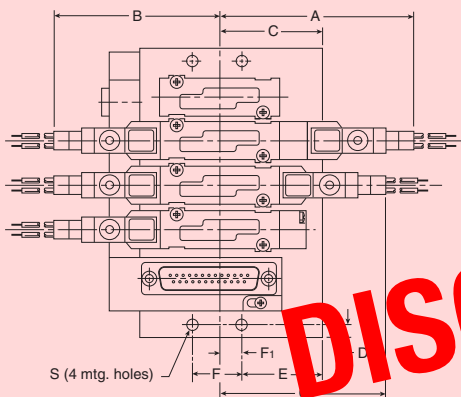
**A05P – Manifold, Side Ports**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
2.52 (64)	2.21 (56)	1.12 (29)	.16 (4)	1.00 (26)
<b>F</b>	<b>F1</b>	<b>G</b>	<b>H</b>	<b>J</b>
.16 (4)	.19 (5)	2.21 (56)	1.26 (32)	1.08 (28)
<b>M</b>	<b>N</b>	<b>P</b>	<b>Q</b>	
.59 (15)	.45 (11.5)	.55 (14)	.13 (3)	.63 (16)
<b>R</b>	<b>S</b>	<b>T</b>	<b>T1</b>	<b>U</b>
.71 (18)	∅ .18 ∅ (4.5)	1.34 (34)	.39 (10)	.49 (12.5)
<b>U1</b>	<b>V</b>	<b>W</b>	<b>W1</b>	<b>X</b>
.41 (10.5)	2.64 (67)	1.32 (34)	.37 (10)	1.65 (42)
<b>X1</b>				
.67 (18)				



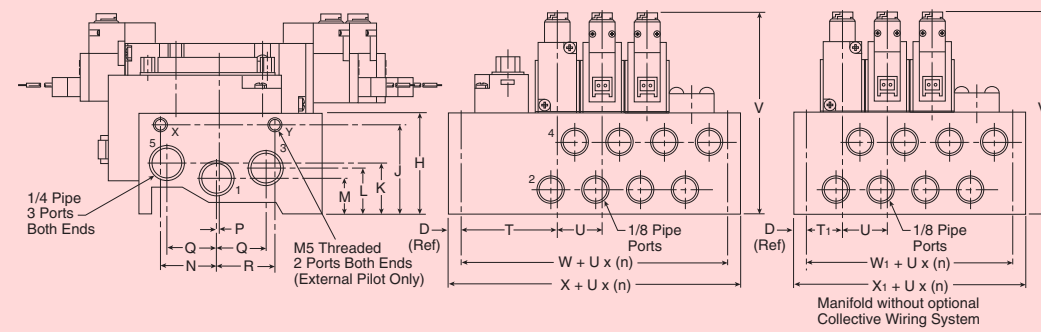
Inches (mm)

**A12P Manifold – Side Ports**



**A12P – Manifold, Side Ports**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
3.01 (77)	2.58 (66)	1.59 (40)	.20 (5)	1.25 (32)	.77 (20)
<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
.34 (9)	2.58 (66)	1.57 (40)	1.38 (35)	.79 (20)	.71 (18)
<b>M</b>	<b>N</b>	<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>
.55 (14)	.37 (9)	.04 (1)	.77 (20)	.91 (23)	∅ .18 ∅ (4.5)
<b>T</b>	<b>U</b>	<b>V</b>	<b>W</b>	<b>W1</b>	
1.43 (38)	.59 (13)	.69 (17.5)	3.09 (79)	1.34 (34)	.33 (9)
<b>X</b>	<b>X1</b>				
1.73 (44)	.73 (19)				



Inches (mm)

Features

N Series

For decades Parker Pneumatics and Heavy Industrial have been synonymous with durability and long life. High flow-speed N Series poppet valves have been operating in foundries, steel mills, and automotive casting & stamping plants without fail.

Features

- Continuous duty rated option
- Non-lube service
- Hi-flow, short stroke poppet
- Indicator lights available

Specifications

- 2-way NC
- 3-way NO & NC
- Selector function

Ports

- 3/8" Body – 3/8", 1/2" NPT; 3.0 to 4.4 Cv
- 3/4" Body – 3/4", 1" NPT; 9.0 to 11.0 Cv
- 1-1/4" Body – 1", 1-1/2" NPT; 20.0 to 30.0 Cv
- BSPP "G" threads available

Certification / approval

- Approved to be CE marked (Standard L-Pilot & P-Pilot)
- NEMA 4 Option
- Hazardous Duty Option IP65 Rating / NEMA 4

Material specifications

Valve body	Cast aluminum
Poppet assembly	Aluminum and stainless steel
Pilot Valve	Zinc, stainless steel, brass, copper, zinc plated steel
Seals	Nitrile

Lubrication

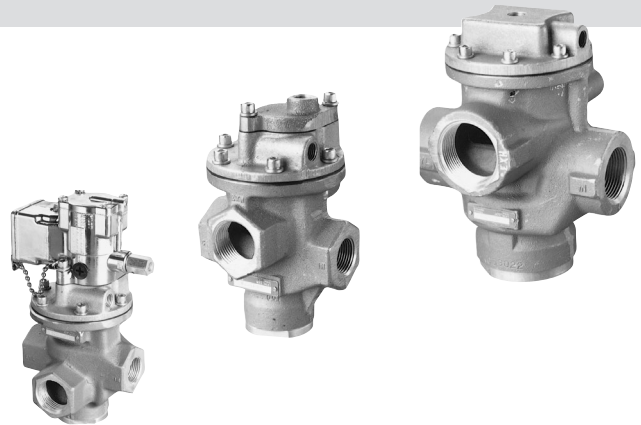
The high speed poppet valves are pre-lubricated to permit use with non-lubricated air. However, air should be lubricated to assure maximum seal life.

F442 lubricating oil is recommended. This oil is specially formulated to provide peak performance and maximum service life from air-operated equipment.

Installation

**CAUTION: DO NOT RESTRICT THE INLET TO POPPET VALVES**

Restriction of the inlet can starve the air supply to the pilot section of internally piloted poppet valves and result in slow shifting or failure of the valve to shift properly. Always connect the supply line directly to the inlet of the valve using the full pipe size of the valve inlet. Never use a quick coupling to connect a poppet valve to the air supply. On valves with a small inlet port, use of an upstream surge tank may be required at lower operating pressures to insure an adequate air supply and proper operation.



Operating information

Operating pressure:

Solenoid valves - internal pilot supply

3/8" Basic	3/4" Basic	1-1/4" Basic
20 to 140 PSIG (standard)	25 to 140 PSIG (200 PSIG option available)	25 to 140 PSIG (200 PSIG option available)

Solenoid valves - external pilot supply

Air pressure thru valve (PSI)	External pilot pressure required (PSI) *	
	3/8" Basic	3/4" Basic
25 PSI	35-200	35-200
50 PSI	45-200	40-200
75 PSI	55-200	50-200
100 PSI	65-200	65-200

Vacuum up to 1" HG, less than a perfect vacuum.

\* With 200 PSI option. Do not exceed 140 PSI with standard pilots.

Internal pilot - remote pilot valve

Air pressure thru valve (PSI)	Remote pilot pressure (PSI)		
	3/8" Basic	3/4" Basic	1-1/4" Basic
25 PSI	30-250	30-250	30-250
50 PSI	50-250	50-250	50-250
75 PSI	70-250	75-250	70-250
100 PSI	95-250	95-250	90-250
150 PSI	140-250	145-250	130-250
200 PSI	175-250	185-250	175-250
250 PSI	215-250	230-250	205-250

Operating temperature:

Operator type	Duty cycle *	Minimum ambient temperature	Maximum ambient temperature
Standard service	Intermittent	0°F (-18°C)	125°F (52°C)
Solenoid	Continuous	0°F (-18°C)	100°F (38°C)
Special service	Intermittent	0°F (-18°C)	125°F (52°C)
Solenoid	Continuous	0°F (-18°C)	125°F (52°C)
Remote pilot	Not applicable	0°F (-18°C)	200°F (93°C)

\* Applications with pilot valves energized for ten (10) minutes or longer with a duty cycle greater than 70% are considered to be continuously energized.

$$\text{Duty cycle} = \frac{\text{Time energized}}{\text{Time energized} + \text{time off}} \times 100\% = \% \text{ Duty Cycle}$$



Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air-Saver Unit

ADEX Series

"N" Series

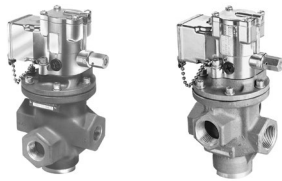


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



Common Part Numbers

Single Solenoid, Non-locking manual override, internal "L" pilot 140 PSI, standard service, junction box w/ light.



Normally Closed    Normally Open

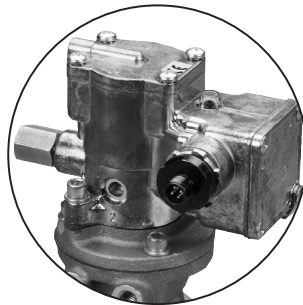
Body Size	Cv	In / cyl Ports	Exhaust Port	Voltage	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
3/8"	3.6 to 3.9	3/8"	1/2"	120VAC	<b>N3153904553</b>	<b>N3553904553</b>	<b>N3753904553</b>
				24VDC	<b>N3153904549</b>	<b>N3553904549</b>	<b>N3753904549</b>
		1/2"	1/2"	120VAC	<b>N3154904553</b>	<b>N3554904553</b>	<b>N3754904553</b>
				24VDC	<b>N3154904549</b>	<b>N3554904549</b>	<b>N3754904549</b>
3/4"	7.7 to 9.6	3/4"	1"	120VAC	<b>N3156904553</b>	<b>N3556904553</b>	<b>N3756904553</b>
				24VDC	<b>N3156904549</b>	<b>N3556904549</b>	<b>N3756904549</b>
		1"	1"	120VAC	<b>N3157904553</b>	<b>N3557904553</b>	<b>N3757904553</b>
				24VDC	<b>N3157904549</b>	<b>N3557904549</b>	<b>N3757904549</b>

Single Solenoid, Non-locking manual override, internal "L" pilot 140 PSI, standard service, junction box w/ light, 4-pin M12.

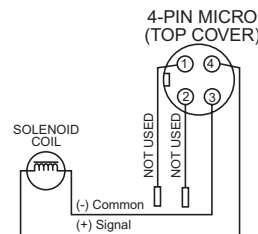


Normally Closed

Body Size	Cv	In / cyl Ports	Exhaust Port	Voltage	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
3/8"	3.6 to 3.9	3/8"	1/2"	24VDC	<b>N3153J04579F</b>	<b>N3553J04579F</b>	<b>N3753J04579F</b>
		1/2"	1/2"	24VDC	<b>N3154J04579F</b>	<b>N3554J04579F</b>	<b>N3754J04579F</b>
3/4"	7.7 to 9.6	3/4"	1"	24VDC	<b>N3156J04579F</b>	<b>N3556J04579F</b>	<b>N3756J04579F</b>
		1"	1"	24VDC	<b>N3157J04579F</b>	<b>N3557J04579F</b>	<b>N3757J04579F</b>



4-Pin Male/Single Solenoid  
(Encl. Option J, Wiring Option F)  
(Per ISO 202/01)



Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C95

Parker Hannifin Corporation  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series

Ordering Information

"N" Series 3/8", 3/4" & 1-1/4" Body Sizes - Solenoid 'L' Pilot

**N 315 3 9 0 45 53**

Valve Function - Solenoid	
<b>3/8" &amp; 3/4" Body</b>	
2-Way, Normally Closed	315
3-Way, Normally Closed	355
3-Way, Normally Open	375
<b>1-1/4" Body</b>	
2-Way, Normally Closed	325
3-Way, Normally Closed	365
3-Way, Normally Open	385

Port Size / Thread Type	
<b>3/8" Body Size</b>	
3/8" Inlet & Cyl - 1/2" Exhaust - NPT	3
<b>1/2" Inlet &amp; Cyl - 1/2" Exhaust - NPT</b>	<b>4</b>
1/2" Inlet & Cyl - 1/2" Exhaust - BSPP	N
<b>3/4" Body Size</b>	
<b>3/4" Inlet &amp; Cyl - 1" Exhaust - NPT</b>	<b>6</b>
3/4" Inlet & Cyl - 1" Exhaust - BSPP	Q *
1" Inlet & Cyl - 1" Exhaust - NPT	7
<b>1-1/4" Body Size</b>	
1" Inlet & Cyl - 1 1/4" Exhaust - NPT	7
<b>1-1/4" Inlet &amp; Cyl - 1-1/2" Exhaust - NPT</b>	<b>8</b>
<b>1-1/2" Inlet &amp; Cyl - 1-1/2" Exhaust - NPT</b>	<b>9</b>
1-1/2" Inlet & Cyl - 1-1/2" Exhaust - BSPP	T *

\* Not available with valve function 325.

\*\* Available Solenoid Enclosure J only.

Note: BSPP is to the ISO 228 standard, and requires an R-BSPT male fitting.

Solenoid Enclosure / Override	
<b>Basic Pilot</b>	<b>1</b>
Basic Pilot NLMO	2
Basic Pilot LMO	3
Junction Box NLMO	5
Junction Box LMO	6
<b>Junction Box NLMO w/ Light</b>	<b>8</b>
<b>Junction Box LMO w/ Light</b>	<b>9</b>
Basic Pilot ext. LMO	W
JIC NLMO w/ Light - 3-Pin Automotive	E
<b>JIC NLMO w/ Light - 4-Pin M12</b>	<b>J</b>
JIC NLMO w/ Light - 5-Pin Automotive	N

Solenoid Type	
<b>0</b>	<b>Standard</b>
5 *	Hazardous Duty
8 *	NEMA 4 Solenoid

\* Available with enclosure 2 & 3, 'L', pilot configuration 04 & 48, and voltage 49 & 53 ONLY.

"L" Pilot Configuration	
Blank	None
C	Chrysler Wiring - Enclosure 'J' & 'N'
<b>F</b>	<b>Ford Wiring - Enclosure 'E', 'J' &amp; 'N'</b>
G	GM Wiring - Enclosure 'J' & 'N'

"L" Pilot Code						
Code	Voltage			Solenoid Enclosure Options		
	AC 60hz	AC 50hz	DC	Standard Duty (01, 45)	Cont. Duty (04, 48)	200 PSI (46)
42	24	24	6	5, 6	6	
45			12	1, 5, 6		
<b>49</b>			<b>24</b>	<b>1, 2, 3, 5, 6, 8, 9, W</b>	<b>6, 8, 9</b>	<b>9</b>
51			48	1		
<b>53</b>	<b>120</b>	<b>110</b>		<b>1, 2, 3, 5, 6, 8, 9, E, N, W</b>	<b>1, 6, 8, 9, N</b>	<b>8, 9, E</b>
57	240	220		1, 3, W		
61			120	5, 6		
<b>79</b>			<b>24</b>	<b>E, J</b>	<b>E, J</b>	<b>E, J</b>

"L" Pilot Configuration	
01 *	External Pilot, Std Service, 140 PSI
04 *	External Pilot, Cont Duty, 140 PSI
<b>45</b>	<b>Internal Pilot, Std Service, 140 PSI</b>
46	Internal Pilot, Std Service, 200 PSI
<b>48</b>	<b>Internal Pilot, Cont Duty, 140 PSI</b>

\* Not available with valve function 325, 365, and 385 (1-1/4" body).

C  
Inline Valves  
Viking Lite  
Viking Extreme  
B3, B5, B6 Series  
B7, B8 Series  
Air Saver Unit  
ADEX Series  
"N" Series

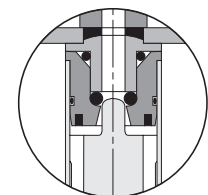
Continuous Duty Pilots

Continuous duty pilots are designed for applications where cycling is infrequent and the pilot is to be energized for indefinite periods of time . . . hours, days or weeks. Typical uses include fail-safe or emergency shutdown circuits where the pilot is to be energized and the valve open as long as the main control is "live" in order to shut off air to equipment in the event of power failure.

The Continuous duty pilot operates satisfactorily in ambient temperatures up to 125°F, even when continuously energized and without the benefit of the cooling air which normally flows through the pilot during frequent cycling. Under certain conditions,

satisfactory operation may be obtained at ambient temperatures above 125°F. CONSULT FACTORY.

Incorporating the performance-proven design features of the standard L-Pilot, the continuous duty pilot utilizes a bullet-shaped stem on the upper end of the plunger. This bullet-shaped stem, seating in a high-temperature rubber o-ring, provides both a bubble-tight seal and positive release.



Continuous Duty Pilot

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Ordering Information

Single Solenoid, Non-locking manual override, internal "P" pilot 125 PSI, standard service, P-pilot junction box w/ light.



Normally Closed    Normally Open

Body size	Cv	In / cyl ports	Exhaust port	Voltage	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
1-1/4"	19.5 to 26.7	1"	1-1/4"	120VAC	<b>N3257904753</b>	<b>N3657904753</b>	<b>N3857904753</b>
		1-1/4"	1-1/2"	120VAC	<b>N3258904753</b>	<b>N3658904753</b>	<b>N3858904753</b>
		1-1/2"	1-1/2"	120VAC	<b>N3259904753</b>	<b>N3659904753</b>	<b>N3859904753</b>

"N" Series 1-1/4" Body Sizes - Solenoid Hi-Flow 'P' Pilot

**N 365 8 9 0 47 53**

Valve Function - Solenoid	
1-1/4" Body	
2-Way, Normally Closed	325
3-Way, Normally Closed	365
3-Way, Normally Open	385

Port Size / Thread Type	
1-1/4" Body Size	
1" Inlet & Cyl - 1 1/4" Exhaust - NPT	7
1-1/4" Inlet & Cyl - 1-1/2" Exhaust - NPT	8
1-1/2" Inlet & Cyl - 1-1/2" Exhaust - NPT	9
1-1/2" Inlet & Cyl - 1-1/2" Exhaust - BSPP	T

Note: BSPP is to the ISO 228 standard, and requires an R-BSPT male fitting.

"P" Pilot Code				
Code	Voltage			Enclosure Options
	AC 60hz	AC 50hz	DC	
49			24	5, 6
53	120	110		5, 6, 8, 9

"P" Pilot Configuration	
02	External Pilot, Std Service, 125 PSI
47	Internal Pilot, Std Service, 125 PSI

Solenoid Type	
0	Standard

Solenoid Enclosure / Override	
5	Junction Box NLMO
6	Junction Box LMO
8	Junction Box NLMO w/ Light
9	Junction Box LMO w/ Light

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Ordering Information

Remote Pilot

Single Remote Pilot, 1/4" NPT remote pilot port with internal pilot return.

Body size	Cv	In / cyl ports	Exhaust port	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
3/8"	3.6 to 3.9	3/8"	1/2"	<b>N31431091</b>	<b>N35431091</b>	<b>N37431091</b>
		1/2"	1/2"	<b>N31441091</b>	<b>N35441091</b>	<b>N37441091</b>
3/4"	7.7 to 9.6	3/4"	1"	<b>N31461091</b>	<b>N35461091</b>	<b>N37461091</b>
		1"	1"	<b>N31471091</b>	<b>N35471091</b>	<b>N37471091</b>



Normally Closed Normally Open

Single Remote Pilot, 1/4" NPT remote pilot port with internal pilot return.

Body size	Cv	In / cyl ports	Exhaust port	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
1-1/4"	19.5 to 26.7	1"	1-1/4"	<b>N32471091</b>	<b>N36471091</b>	<b>N38471091</b>
		1-1/4"	1-1/2"	<b>N32481091</b>	<b>N36481091</b>	<b>N38481091</b>
		1-1/2"	1-1/2"	<b>N32491091</b>	<b>N36491091</b>	<b>N38491091</b>



Normally Closed Normally Open

"N" Series 3/8", 3/4" & 1-1/4" Body Sizes - Remote Pilot



Valve Function - Solenoid	Port Size / Thread Type	Pilot Configuration
<b>3/8" &amp; 3/4" Body</b>	<b>3/8" Body Size</b>	089 *† External Pilot Return
2-Way, Normally Closed <b>314</b>	3/8" Inlet & Cyl - 1/2" Exhaust - NPT <b>3</b>	<b>091 Internal Pilot Return</b>
3-Way, Normally Closed <b>354</b>	1/2" Inlet & Cyl - 1/2" Exhaust - NPT <b>4</b>	
3-Way, Normally Open <b>374</b>	1/2" Inlet & Cyl - 1/2" Exhaust - BSPP <b>N</b>	
<b>1-1/4" Body</b>	<b>3/4" Body Size</b>	
2-Way, Normally Closed <b>324</b>	1/2" Inlet & Cyl - 3/4" Exhaust - BSPP <b>P</b>	
3-Way, Normally Closed <b>364</b>	3/4" Inlet & Cyl - 1" Exhaust - NPT <b>6</b>	
3-Way, Normally Open <b>384</b>	3/4" Inlet & Cyl - 1" Exhaust - BSPP <b>Q</b>	
	1" Inlet & Cyl - 1" Exhaust - NPT <b>7</b>	
	<b>1-1/4" Body Size</b>	
	1" Inlet & Cyl - 1 1/4" Exhaust - NPT <b>7</b>	
	1-1/4" Inlet & Cyl - 1-1/2" Exhaust - NPT <b>8</b>	
	1-1/2" Inlet & Cyl - 1-1/2" Exhaust - NPT <b>9</b>	
	1-1/2" Inlet & Cyl - 1-1/2" Exhaust - BSPP <b>T*</b>	

Note: BSPP is to the ISO 228 Standard, and requires an R-BSPT male fitting.

\* Not available with 1-1/4" body size with Port Size option T  
 † Not available with 3/8" body size with Port Size option 3

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

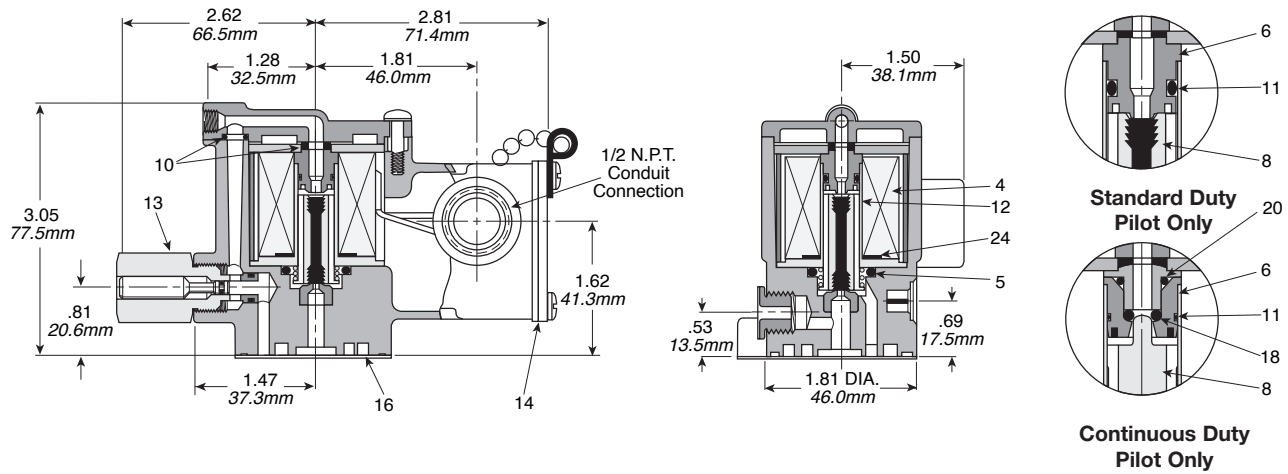
C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series

**Replacement Pilots**



Description	Standard L-Pilot		Continuous Duty L-Pilot	
	Locking	Non-locking	Locking	Non-locking
Override Type	Locking	Non-locking	Locking	Non-locking
Basic with override	<b>K0653035**</b>	<b>K0652035**</b>	<b>K0853025**</b>	<b>K0852025**</b>
JIC with junction box & override	<b>K0656035**</b>	<b>K0655035**</b>	<b>K0856025**</b>	<b>K0855025**</b>
JIC pilot with junction box & override & indicator lights (120VAC only)	<b>K0659035**</b>	<b>K0658035**</b>	<b>K0859025**</b>	<b>K0858025**</b>

\*\* Voltage code - (reference model index for availability)



**Parts List**

Item no.	Part Number	Description	Item no.	Part Number	Description
4	<b>K593025</b>	Coil 120V 60Hz / 110V 50Hz	12	<b>K272004</b>	Plunger Guide
	<b>K593035</b>	Coil 240V 60Hz / 220V 50Hz	13	<b>K152003</b>	Override Assembly
	<b>K593003</b>	Coil 6VDC / 24V 60Hz	14	<b>K183047</b>	Cover Gasket
	<b>K593010</b>	Coil 12VDC	16*	<b>K183001</b>	Gasket
	<b>K593014</b>	Coil 24VDC	18*	<b>H13473</b>	O-Ring
	<b>K593041</b>	Coil 120VDC	20*	<b>H13413</b>	O-Ring
5	<b>H14213</b>	Seal	22	<b>H19102</b>	120 AC Only – Indicator Light
6	<b>K423006</b>	Top Seat	24	<b>K183108</b>	Gasket
6	<b>K423010</b>	Top Seat (Continuous Duty)			
8	<b>K343002</b>	Plunger (STD. Service)			
8	<b>K343001</b>	Plunger (Continuous Duty)			
10*	<b>H14201</b>	Seal			
11*	<b>K41RB72011</b>	O-Ring (STD. Service)			
	<b>H24969</b>	O-Ring (Continuous Duty)			

Coil leads are 19" long.  
 \* Parts included in Service Kit.  
 Continuous Duty Kit ..... K352366  
 Standard Service Kit ..... K352166



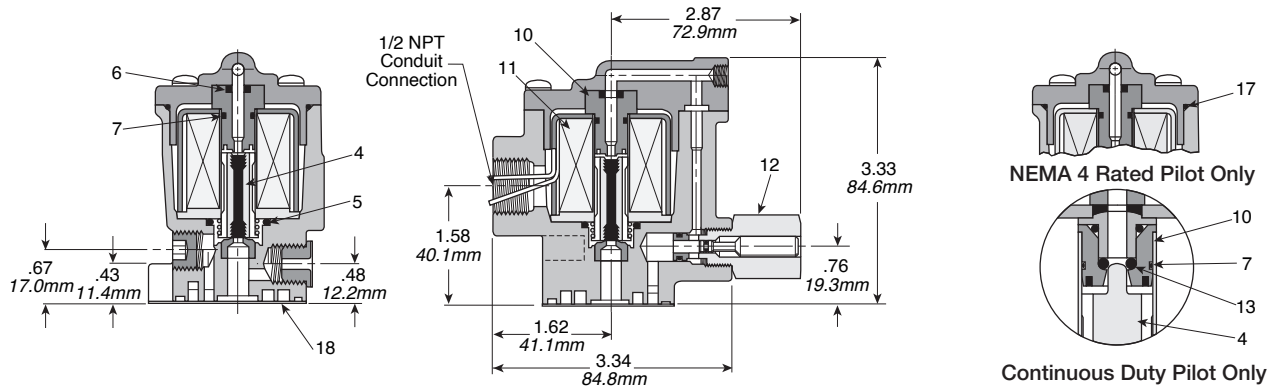
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Replacement Pilots**



Description	Hazardous Duty L-Pilot		NEMA 4 L-Pilot	
	Hazardous duty L-pilot - UL & CSA	<b>K0451025**</b>	N/A	
Override Type	Locking	Non-Locking	Locking	Non-Locking
Hazardous duty with override	<b>K0453025**</b>	<b>K0452025**</b>		
NEMA 4 with override			<b>K2553025**</b>	<b>K255202549</b>

\*\* Voltage code - 49 & 53



**Parts List**

Item no.	Part Number	Description	Item no.	Part Number	Description
4*	<b>K343002</b>	Plunger (STD. Service)	12	<b>K152003</b>	Override Assembly
	<b>K343001</b>	Plunger (Continuous Duty)	13*	<b>H13473</b>	O-Ring
5*	<b>K14213</b>	Seal	17*	<b>H13716</b>	Gasket (NEMA 4 Rated Pilot Only)
6*	<b>K41RB72009</b>	O-Ring	18*	<b>K183001</b>	Gasket
	<b>K41RB72008</b>	O-Ring (STD. Service)			
7*	<b>K41RB72011</b>	O-Ring (STD. Service)			
	<b>H24969</b>	O-Ring (Continuous Duty)			
10	<b>K423001</b>	Top Seat			
	<b>K423002</b>	Top Seat (Continuous Duty)			
	<b>K593025</b>	Coil 120V 60Hz / 110V 50Hz			
	<b>K593035</b>	Coil 240V 60Hz / 220V 50Hz			
	<b>K593003</b>	Coil 6VDC / 24V 60Hz			
11	<b>K593010</b>	Coil 12VDC			
	<b>K593014</b>	Coil 24VDC			
	<b>K593041</b>	Coil 120VDC			

Coil leads are 19" long.  
 \* Parts included in Service Kit.  
 Continuous Duty Kit ..... **K352366**  
 Standard Service Kit ..... **K352166**

**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series

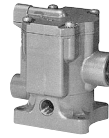


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C100

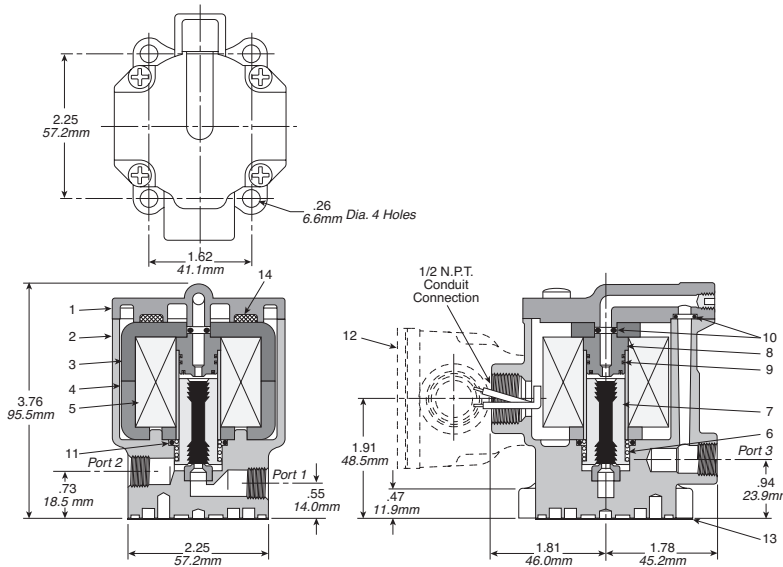
**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Replacement Pilots**



Description	Heavy Duty P-Pilot		
	No Override	Non-Locking	Locking
Basic with override	<b>K1351045**</b>	N/A	N/A
JIC with junction box & override	N/A	<b>K1355045**</b>	<b>K1356045**</b>
JIC Pilot with junction box & override & indicator lights (120VAC only)	N/A	<b>K135804553</b>	<b>K135904553</b>

\*\* Voltage code - 49 & 53



**Parts List**

Item no.	Part Number	Description
1	<b>K062005</b>	Cover Assy
2	<b>K112045</b>	Body, Man. Mtd. (1/8" Bottom Seal)
	<b>K112046</b>	Body, Man. Mtd. (3/16" Bottom Seal)
3	<b>K013001</b>	Magnet Bar
4	<b>K272002</b>	Sleeve Sub Assy
5*	<b>K593108</b>	Coil (115V 60Hz)
	<b>K593112</b>	Coil (230V 60Hz)
	<b>K593097</b>	Coil 24VDC
	<b>K593107</b>	Coil 115VDC

Item no.	Part Number	Description
6	<b>K473010</b>	Spring N.O. Valve
	<b>K473011</b>	Spring N.C. Valve
7 •	<b>K343042</b>	Plunger
8	<b>K423020</b>	Top Seat (1/8" Orifice)
	<b>K423022</b>	Top Seat (3/16" Orifice)
9 •	<b>H13436</b>	Seal
10 •	<b>H14202</b>	Seal
11 •	<b>H14215</b>	Seal
12	<b>K322004</b>	Junction Box Kit
13 •	<b>K183012</b>	Gasket

\* Coil leads are 19" long.

• Parts included in Seal Kit K352064.

**C**

Inline Valves

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Viking Lite

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Viking Extreme

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B3, B5, B6 Series

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B7, B8 Series

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Air Saver Unit

---

ADEX Series

---

"N" Series

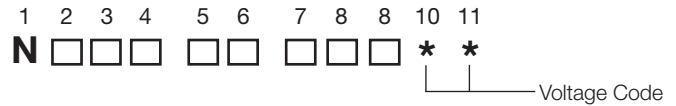


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Coils for Pilot Operated Valves**

The voltage code of the valve can be identified in the 10th and 11th digit of the valve part number.



**L-Pilot Valves**

Voltage Code **	Voltage			Coil	
	60Hz	50Hz	DC	19" Leads	72" Leads
40	12	—	—	<b>K593007</b>	—
41,42	24	—	6	<b>K593003</b>	—
45*	—	—	12	<b>K593010</b>	—
49*	—	—	24 (Standard)	<b>K593014</b>	—
79	—	—	24 (Arc Suppressed)	<b>K593271</b>	—
51*	—	—	48	—	<b>K593185</b>
53*	120	110	—	<b>K593025</b>	—
57*	240	240	—	<b>K593035</b>	—
60	240	220	—	<b>K593035</b>	—
61	—	—	120	<b>K593041</b>	—

\* Indicates voltages approved for solenoid operators designed for use in hazardous locations.

**P-Pilot Valves**

Voltage Code **	Voltage			Coil	
	60Hz	50Hz	DC	19" Leads	72" Leads
43	—	24	—	<b>K593098</b>	—
45	—	—	12	<b>K593094</b>	—
49	—	—	24	<b>K593097</b>	—
51	—	—	48	—	<b>K593254</b>
53	115	—	—	<b>K593108</b>	—
58	—	230	—	<b>K593111</b>	—

**Solenoid Characteristics Chart**

Voltage Range +10/-15% of Nominal

**3/8" & 3/4" Basic – L-Pilot**

Voltage/ Cycles	Amps Inrush	Amps Holding	Resistance		Insulation Class
			Ohms	Watts	
120/60VAC	.29	.18	122	12	B
110/50VAC	.21	.14	122	12	B
240/60VAC	.18	.12	610	12	B
24/50VAC	1.2	.75	6.4	9.5	B
6VDC	—	1.4	4.5	7.6	B
12VDC	—	.66	17.7	9	B
24VDC	—	.32	71	9	B
48VDC	—	.22	216	11	B

**NOTE:** Continuous duty type service is for applications where pilot valve is energized more than ten (10) minutes.

**Solenoid Characteristics Chart**

Voltage Range +10/-15% of Nominal

**1-1/4" Basic – P-Pilot**

Voltage/ Cycles	Amps Inrush	Amps Holding	Resistance		Insulation Class
			Ohms	Watts	
120/60VAC	.46	.25	35	18.5	B
110/50VAC	.36	.19	48	12	B
230/60VAC	.26	.15	125	19.5	B
220/50VAC	.20	.11	191	15	B
24/60VAC	2.3	1.4	1.3	20	B
24/50VAC	1.6	.9	2.1	12	B
12VDC	—	.7	17	8	B
24VDC	—	.33	68	8	B
48VDC	—	.16	275	7.5	B

**NOTE:** Continuous duty type service is for applications where pilot valve is energized more than ten (10) minutes.

**Hazardous Duty Solenoid Listing**

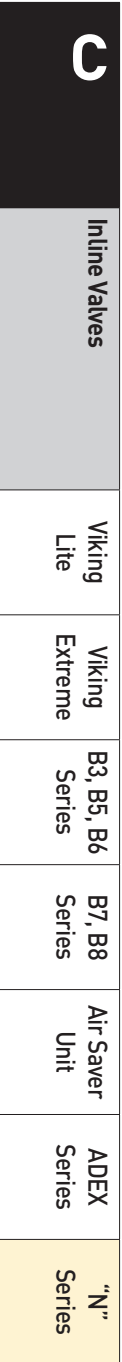
Valves with solenoid operators designed for hazardous locations are UL & CSA Approved as follows:

National Electric Code	Ambient Conditions	NEMA Classification
Class I Div. 1, Group C	Ethyl, Ether, Etc. Gases & Vapors	VII (7)
Class I Div. 1, Group D	Gasoline, Etc. Gases & Vapors	VII (7)
Class I Div. 2, Group B	Butadiene, Etc., Liquid, Fluid or Vapor Normally Contained, or Atmosphere Ventilated	VII (7)
Class II Div. 1, Group E	Metal Dust	IX (9)
Class II Div. 1, Group F	Coal, Coke, Carbon Black Dust	IX (9)
Class II Div. 1, Group G	Flour, Starch, Grain Dust	IX (9)

See Article 500 – Hazardous (Classified) Locations, National Electric Code.



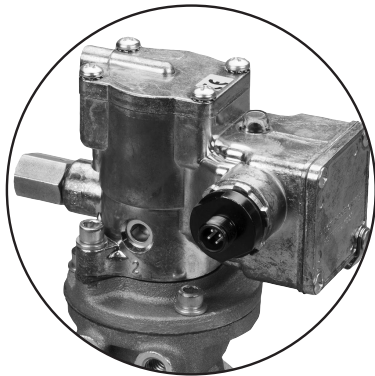
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Flow**

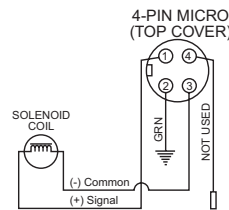
Basic Valve Size	Inlet Port Size	Exhaust Port Size	Cv Inlet to Cylinder	Cv Cylinder to Exhaust
3/8" 3-Way, Normally Closed	3/8" Pipe	1/2" Pipe	3.6	4.2
	1/2" Pipe	1/2" Pipe	3.8	4.3
3/8" 3-Way, Normally Open	3/8" Pipe	1/2" Pipe	3.6	4.1
	1/2" Pipe	1/2" Pipe	3.9	4.5
3/4" 3-Way, Normally Closed	1/2" Pipe	3/4" Pipe	8.2	9.2
	3/4" Pipe	1" Pipe	9.3	10.8
3/4" 3-Way, Normally Open	1/2" Pipe	3/4" Pipe	7.7	6.6
	3/4" Pipe	1" Pipe	9.6	11.4
1-1/4" 3-Way, Normally Closed	1" Pipe	1-1/4" Pipe	19.5	23.5
	1-1/4" Pipe	1-1/2" Pipe	23.3	26.9
	1-1/2" Pipe	1-1/2" Pipe	23.3	26.9
1-1/4" 3-Way, Normally Open	1" Pipe	1-1/4" Pipe	20.4	24.8
	1-1/4" Pipe	1-1/2" Pipe	25.0	29.1
	1-1/2" Pipe	1-1/2" Pipe	26.7	29.9

**Wiring Connections**

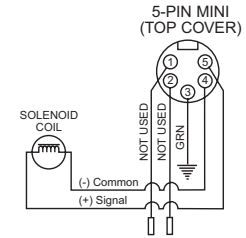


**Chrysler Connection**

**4-Pin Male/Single Solenoid**  
 (Encl. Option J, Wiring Option C)



**5-Pin Male/Single Solenoid**  
 (Encl. Option N, Wiring Option C)



**Automotive Connections**

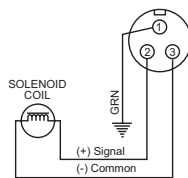
- 3-Pin & 5-Pin "Mini" (7/8 UNF Thread)
- 4-Pin "Micro" (M12 Thread)

**Solenoid Configurations**

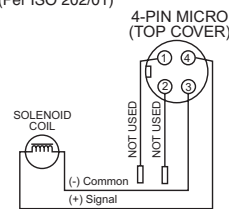
"E", "J", "N"

**Ford Connection**

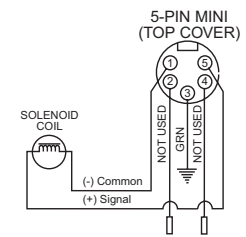
**3-Pin Male/Single Solenoid**  
 (Encl. Option E, Wiring Option F)



**4-Pin Male/Single Solenoid**  
 (Encl. Option J, Wiring Option F)  
 (Per ISO 202/01)

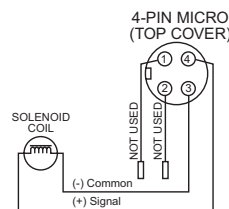


**5-Pin Male/Single Solenoid**  
 (Encl. Option N, Wiring Option F)

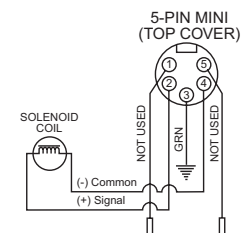


**GM Connection**

**4-Pin Male/Single Solenoid**  
 (Encl. Option J, Wiring Option G)



**5-Pin Male/Single Solenoid**  
 (Encl. Option N, Wiring Option G)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C103

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

"N" Series

**Selection**

Although reasonable safety factors are designed into each speed poppet valve, it is important that application requirements do not exceed the rated limitation of the valve. This precaution insures a sufficient safety factor.

**Life Expectancy**

Normal multimillion cycle life expectancy of high speed poppet series valves is based on the use of properly filtered and lubricated air at room temperature. In actual laboratory tests, the high speed poppet valves provide maintenance-free service life in excess of 20,000,000 cycles.

**Lubrication**

The high speed poppet valves are pre-lubricated to permit use with non-lubricated air. However, air should be lubricated to assure maximum seal life.

F442 lubricating oil is recommended. This oil is specially formulated to provide peak performance and maximum service life from air-operated equipment.

Other good air line lubricating oils may be used provided they atomize readily and are of the medium aniline type. Aniline point range must be between 180°F - 220°F. Viscosity SUS @ 100°F of 140-170. High aniline oils will shrink seals; low aniline oils will swell seals, reducing operating life and expectancy.

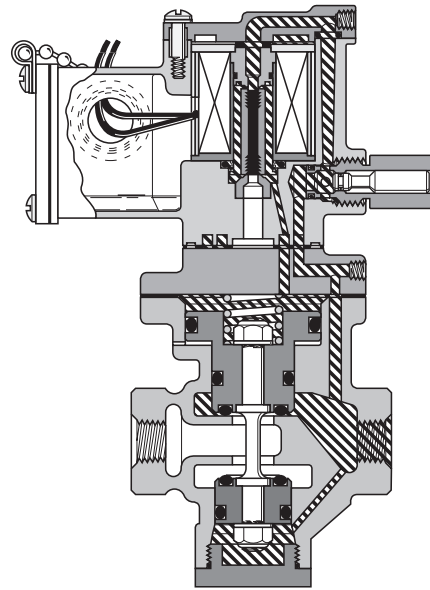
**Installation**

Valves should be installed with reasonable accessibility for service whenever possible. Care should be taken to hold piping length to a minimum and to protect valves from exposure to extreme heat, dirt and moisture. Piping should be clean and clear of dirt and chips. Threads should be the correct size and undamaged. Pipe joint compound should be used sparingly and only on pipe threads, never in the valve body. Care should be taken in installation to avoid undue strain on valve.

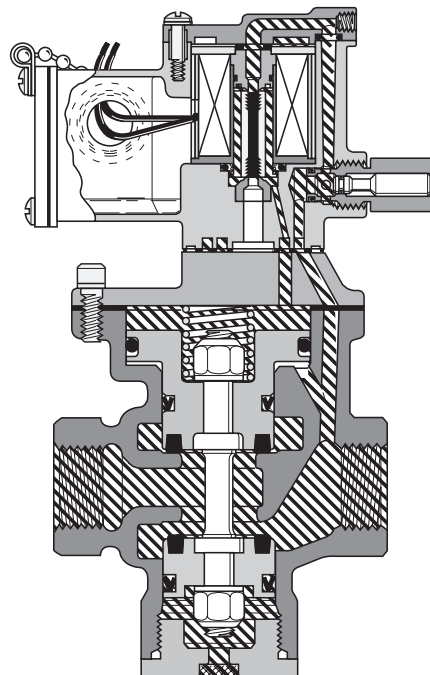
For the small port size options, it is recommended that an air reservoir is located close to the valve inlet as to not starve the valve of air pressure.

**⚠ CAUTION: DO NOT RESTRICT THE INLET TO POPPET VALVES**

Restriction of the inlet can starve the air supply to the pilot section of internally piloted poppet valves and result in slow shifting or failure of the valve to shift properly. Always connect the supply line directly to the inlet of the valve using the full pipe size of the valve inlet. Never use a quick coupling to connect a poppet valve to the air supply. On valves with a small inlet port, use of an upstream surge tank may be required at lower operating pressures to insure an adequate air supply and proper operation.



**3/8" Solenoid Pilot De-Energized  
Normally Closed**



**1-1/4" Solenoid Pilot De-Energized  
Normally Open**

C	Inline Valves
	Viking Lite
	Viking Extreme
	B3, B5, B6 Series
	B7, B8 Series
	Air-Saver Unit
	ADEX Series
	"N" Series

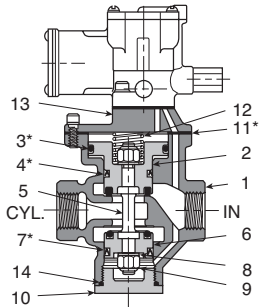


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

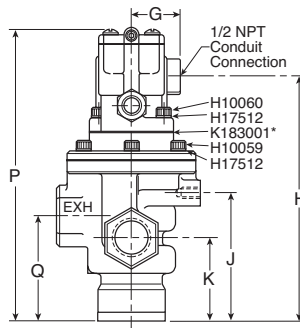
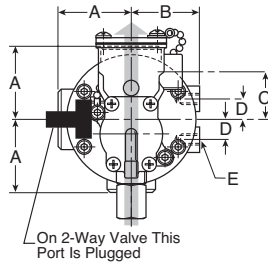
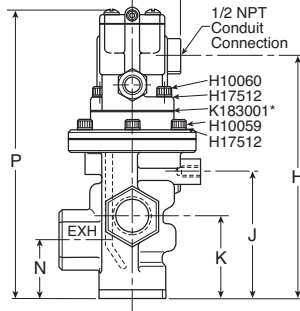
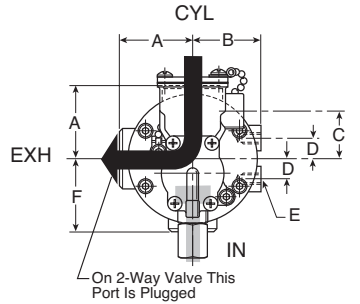
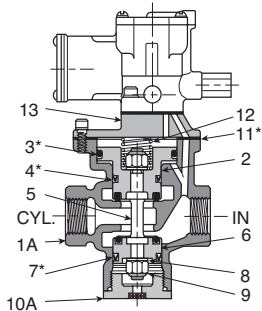
Dimensional Data - Single Solenoid

Internal Pilot - 3/8" & 3/4" Basic Body

Normally Closed



Normally Open



**Exhaust**  
**Pressure**

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

Internal Pilot -  
3/8" & 3/4" Basic Body

Key	3/8" Body		3/4" Body	
	Inch	mm	Inch	mm
A	1.56	40	2.13	54
B	1.50	38	1.94	49
C	1.81	46	1.34	34
D	.56	14	.56	14
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep	
F	1.75	44	2.25	57
G	1.50	38	1.50	38
H	5.92	150	7.14	181
J	3.19	81	3.75	95
K	1.88	47	2.44	62
N	1.44	37	1.78	45
P	7.36	196	8.58	218
Q	2.31	59	3.09	84

Service Kits

Include all parts normally required for in-service maintenance:

- 3/8" Basic valve with standard service L-Pilots.....**K352076**
- 3/8" Basic valve with continuous duty L-Pilots.....**K352276**
- 3/4" Basic valve with standard service L-Pilots.....**K352077**
- 3/4" Basic valve with continuous duty L-Pilots.....**K352277**

Key	3/8" Valve	3/4" Valve	Description
1	—	1/2" Tap <b>K053075</b>	Body (N.C.)
	3/8" Tap <b>K053022</b>	3/4" Tap <b>K053076</b>	
	—	1" Tap <b>K053220</b>	
1A	—	3/4" Tap <b>K053077</b>	Body (N.O.)
	3/8" Tap <b>K053025</b>	3/4" Tap <b>K053078</b>	
	1/2" Tap <b>K053026</b>	1" Tap <b>K053218</b>	
2	<b>K212001</b>	<b>K212002</b>	Upper piston assy
3*	<b>H13648</b>	<b>H13728</b>	Seal

Key	3/8" Valve	3/4" Valve	Description
4*	<b>H14510</b>	<b>H13676</b>	U-cup (3/8), o-ring (3/4)
5	<b>K493002</b>	<b>K493009</b>	Stem
6	<b>K202001</b>	<b>K202002</b>	Lower piston assy.
7*	<b>H14509</b>	<b>H13676</b>	U-cup (3/8), o-ring (3/4)
8	<b>H17811</b>	<b>H17813</b>	Washer (2)
9	<b>H06326</b>	<b>H06332</b>	Stop nut (2)
10	<b>K103035</b>	<b>K103053</b>	Bottom cap (N.C.)
10A	<b>K092020</b>	<b>K092034</b>	Bottom cap assy. (N.O.)
11*	<b>K183049</b>	<b>K183057</b>	Gasket
12	<b>K473014</b>	<b>K473015</b>	Spring
13	<b>K563015</b>	<b>K563017</b>	Adapter
14*	<b>K41RB72121</b>	<b>K41RB72221</b>	O-ring

\* Parts included in seal kit

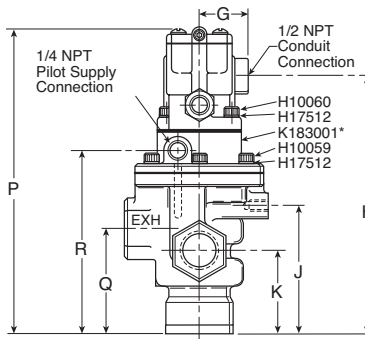
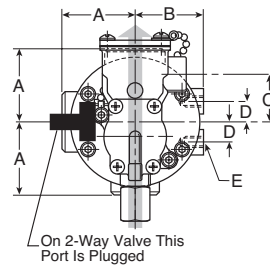
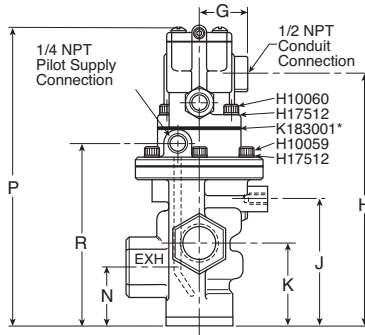
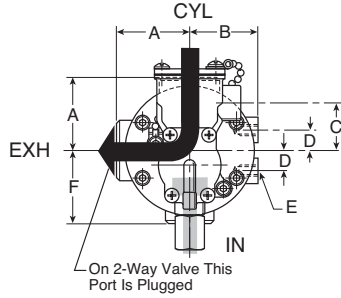
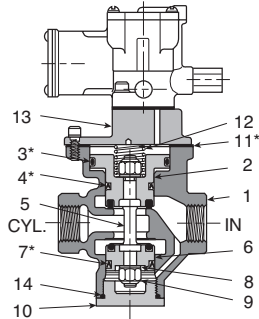


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

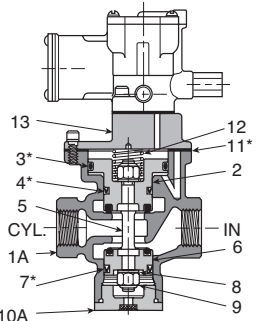
Dimensional Data - Single Solenoid

External Pilot - 3/8" & 3/4" Basic Body

Normally Closed



Normally Open



**Exhaust**  
**Pressure**

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

External Pilot -  
3/8" & 3/4" Basic Body

Key	3/8" Body		3/4" Body	
	Inch	mm	Inch	mm
A	1.56	40	2.13	54
B	1.50	38	1.94	49
C	1.81	46	1.34	34
D	.56	14	.56	14
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep	
F	1.75	44	2.25	57
G	1.50	38	1.50	38
H	6.42	163	7.45	189
J	3.19	81	3.75	95
K	1.88	47	2.44	62
N	1.44	37	1.78	45
P	7.86	200	8.89	226
Q	2.31	59	3.09	84
R	4.34	110	5.38	137

Service Kits

Include all parts normally required for in-service maintenance:

- 3/8" Basic valve with standard service L-Pilots.....**K352076**
- 3/8" Basic valve with continuous duty L-Pilots.....**K352276**
- 3/4" Basic valve with standard service L-Pilots.....**K352077**
- 3/4" Basic valve with continuous duty L-Pilots.....**K352277**

Key	3/8" Valve	3/4" Valve	Description
		1/2" Tap <b>K053067</b>	
1	3/8" Tap <b>K053019</b>	3/4" Tap <b>K053069</b>	Body (N.C.)
		1" Tap <b>K053221</b>	
1A		3/4" Tap <b>K053065</b>	
	3/8" Tap <b>K053018</b>	3/4" Tap <b>K053070</b>	Body (N.O.)
	1/2" Tap <b>K053064</b>	1" Tap <b>K053219</b>	
2	<b>K212001</b>	<b>K212002</b>	Upper piston assy
3*	<b>H13648</b>	<b>H13728</b>	Seal

Key	3/8" Valve	3/4" Valve	Description
4*	<b>K41RB72211</b>	<b>H13676</b>	O-ring
5	<b>K493002</b>	<b>K493009</b>	Stem
6	<b>K202001</b>	<b>K202002</b>	Lower piston assy.
7*	<b>K41RB72210</b>	<b>H13676</b>	O-ring
8	<b>H17811</b>	<b>H17813</b>	Washer (2)
9	<b>H06326</b>	<b>H06332</b>	Stop nut (2)
10	<b>K103035</b>	<b>K103053</b>	Bottom cap (N.C.)
10A	<b>K092020</b>	<b>K092034</b>	Bottom cap assy. (N.O.)
11	<b>K473014</b>	<b>K473015</b>	Spring
12*	<b>K183049</b>	<b>K183057</b>	Gasket
13	<b>K563016</b>	<b>K563021</b>	Adapter
14*	<b>K41RB72121</b>	<b>K41RB72221</b>	O-ring

\* Parts included in seal kit



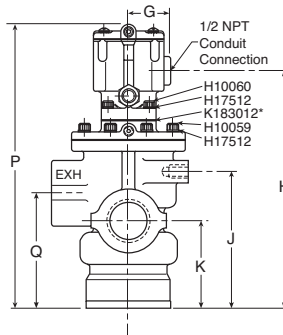
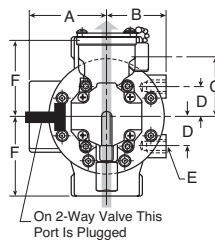
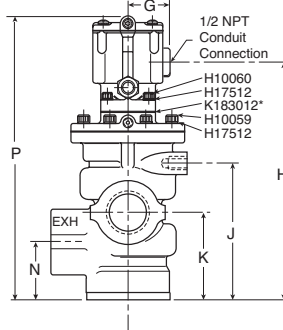
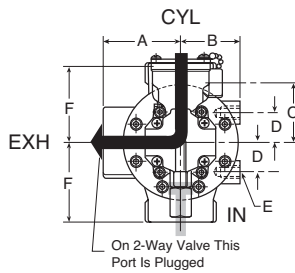
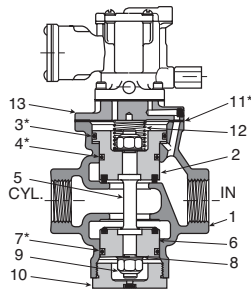
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 ADEX Series  
 "N" Series

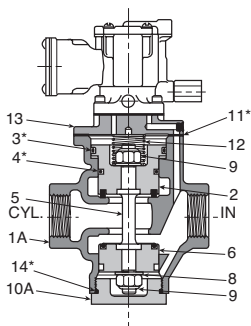
Dimensional Data - Single Solenoid

Internal Pilot - 1-1/4" Basic Body

Normally Closed



Normally Open



**Exhaust**  
**Pressure**

Top view indicates flow through 3-Way valve with coil de-energized.

**NOTE:** For normal valve operation, override must be in "out" position.

Internal Pilot -  
1-1/4" Basic Body

Key	1-14" Body	
	Inch	mm
A	3.00	76
B	2.25	57
C	1.34	34
D	1.19	30
E	1/2-13 UNC	3/4 Deep
F	3.13	80
G	1.50	38
H	9.30	236
J	5.34	136
K	3.44	87
N	2.31	59
P	11.14	283
Q	4.56	116

Service Kits

Include all parts normally required for in-service maintenance:

1-1/4" Basic valve with standard service P-Pilots ..... **K352078**

Key	1-1/4" Valve	Description
1	1" Tap <b>K053111</b>	Body (N.C.)
	1-1/2" Tap <b>K053113</b>	
1A	1" Tap <b>K053114</b>	Body (N.O.)
	1-1/4" Tap <b>K053115</b>	
	1-1/2" Tap <b>K053116</b>	
2	<b>K313029</b>	Upper piston assy
3*	<b>H13752</b>	O-ring

Key	1-1/4" Valve	Description
4*	<b>H13728</b>	Seal
5	<b>K493016</b>	Stem
6	<b>K313028</b>	Lower piston
7*	<b>H13728</b>	Seal
8	<b>H17817</b>	Washer
9	<b>H06338</b>	Stop nut
10	<b>K092046</b>	Bottom cap (N.C.)
10A	<b>K103061</b>	Bottom cap (N.O.)
11*	<b>K183058</b>	Gasket
12	<b>K473016</b>	Spring
13	<b>K012003</b>	Adapter
14*	<b>K41RB72143</b>	O-ring

\* Parts included in seal kit



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C107

**Parker Hannifin Corporation**  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

ADEX Series

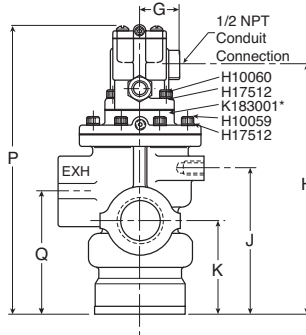
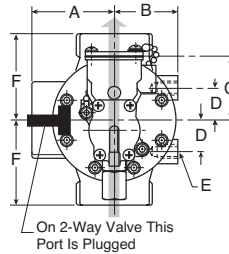
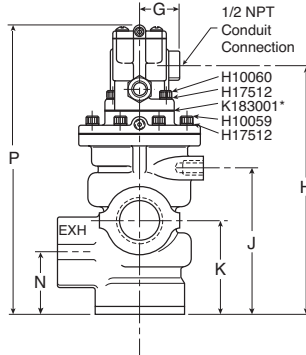
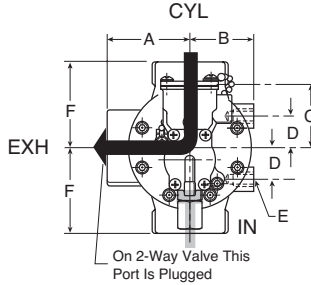
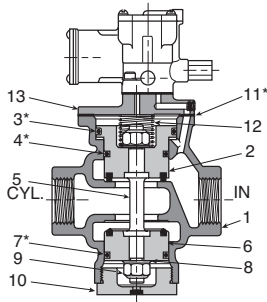
"N" Series



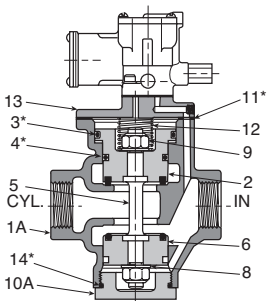
Dimensional Data - Single Solenoid

Continuous Duty Pilot - 1-1/4" Basic Body

Normally Closed



Normally Open



Key	1-1/4" Valve	Description
1	1" Tap <b>K053111</b>	Body (N.C.)
	1-1/2" Tap <b>K053113</b>	
	1" Tap <b>K053114</b>	
1A	1-1/4" Tap <b>K053115</b>	Body (N.O.)
	1-1/2" Tap <b>K053116</b>	
	2	
3*	<b>H13752</b>	O-Ring

Key	1-1/4" Valve	Description
4*	<b>H13728</b>	Seal
5	<b>K493016</b>	Stem
6	<b>K313028</b>	Lower piston
7*	<b>H13728</b>	Seal
8	<b>H17817</b>	Washer
9	<b>H06338</b>	Stop nut
10	<b>K092046</b>	Bottom cap (N.C.)
10A	<b>K103061</b>	Bottom cap (N.O.)
11*	<b>K183058</b>	Gasket
12	<b>K473016</b>	Spring
13	<b>K012003</b>	Adapter
14*	<b>K41RB72143</b>	O-ring

\* Parts included in seal kit

**Exhaust**  
**Pressure**

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

Continuous Duty Pilot - 1-1/4" Basic Body

Key	1-1/4" Body	
	Inch	mm
A	3.00	76
B	2.25	57
C	1.34	34
D	1.19	30
E	1/2-13 UNC	3/4 Deep
F	3.13	80
G	1.50	38
H	9.02	229
J	5.34	136
K	3.44	87
N	2.31	59
P	10.45	265
Q	4.56	116

Service Kits

Include all parts normally required for in-service maintenance:

1-1/4" Basic valve with continuous duty L-Pilot.....**K352080**



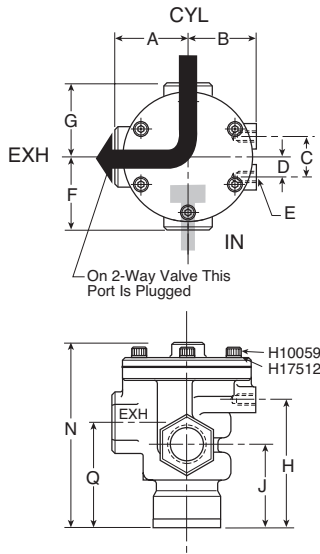
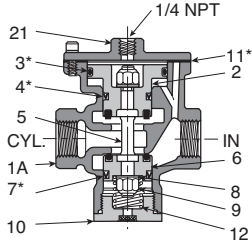
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



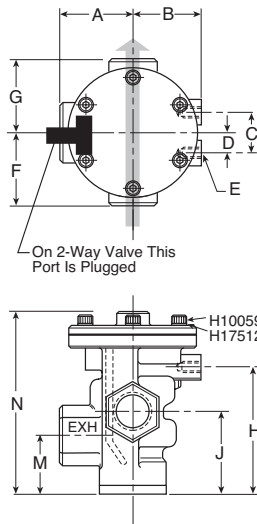
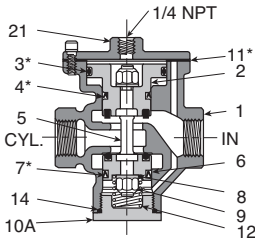
Dimensional Data - Remote Operated

Internal Return - 3/8", 3/4", 1-1/4" Basic Body

Normally Closed



Normally Open



**Exhaust**  
**Pressure**

Top view indicates flow through 3-Way valve.

NOTE: For normal valve operation, override must be in "out" position.

Internal Return - 3/8", 3/4", 1-1/4" Basic Body

Key	3/8" Body		3/4" Body		1-1/4" Body	
	Inch	mm	Inch	mm	Inch	mm
A	1.56	40	2.13	54	3.00	76
B	1.50	38	1.94	49	2.25	57
C	1.13	29	1.13	29	2.38	60
D	.56	14	.56	14	1.19	30
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep		1/2-13UNC 3/4" deep	
F	1.75	44	2.25	57	3.13	79
G	1.56	40	2.13	54	3.13	79
H	3.19	81	3.75	95	5.34	136
J	1.88	48	2.44	62	3.44	87
M	1.44	37	1.78	45	2.66	67
N	4.22	107	5.31	135	7.19	183
Q	2.31	59	3.09	78	4.56	116

Service Kits

Include all parts normally required for in-service maintenance:

- 3/8" Basic valve.....**K352073**
- 3/4" Basic valve.....**K352074**
- 1-1/4" Basic valve .....**K352075**

Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
1	—	1/2" Tap <b>K053075</b>	1" Tap <b>K053111</b>	Body (N.O.)
	3/8" Tap <b>K053022</b>	3/4" Tap <b>K053076</b>	—	
	1/2" Tap <b>K053023</b>	1" Tap <b>K053220</b>	1-1/2" Tap <b>K053113</b>	
1A	—	1/2" Tap <b>K053077</b>	1" Tap <b>K053114</b>	Body (N.C.)
	3/8" Tap <b>K053025</b>	3/4" Tap <b>K053078</b>	—	
	1/2" Tap <b>K053026</b>	1" Tap <b>K053218</b>	1-1/2" Tap <b>K053116</b>	
2	<b>K212001</b>	<b>K212002</b>	<b>K313029</b>	Upper piston assy
3*	<b>H13648</b>	<b>H13728</b>	<b>H13752</b>	Seal
4*	<b>H14510</b>	<b>H13676</b>	<b>H13728</b>	Seal

Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
5	<b>K493002</b>	<b>K493009</b>	<b>K493016</b>	Stem
6	<b>K202001</b>	<b>K202002</b>	<b>K313028</b>	Lower piston assy.
7*	<b>H13499</b>	<b>H13676</b>	<b>H13728</b>	Seal
8	<b>H17811</b>	<b>H17813</b>	<b>H17817</b>	Washer (2)
9	<b>H06326</b>	<b>H06332</b>	<b>H06338</b>	Stop nut (2)
10	<b>K092020</b>	<b>K092034</b>	<b>K092046</b>	Bottom cap (N.C.)
10A	<b>K103035</b>	<b>K103053</b>	<b>K103061</b>	Bottom cap (N.O.)
11*	<b>K183049</b>	<b>K183057</b>	<b>K183058</b>	Gasket
12	<b>K473014</b>	<b>K473015</b>	<b>K473016</b>	Spring
14*	<b>K41RB72121</b>	<b>K41RB72221</b>	<b>K41RB72143</b>	O-ring
21	<b>K123018</b>	<b>K123021</b>	<b>K123024</b>	Cover

\* Parts included in seal kit

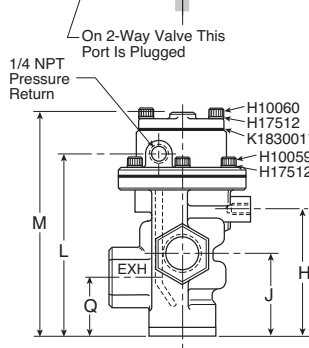
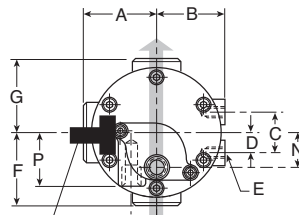
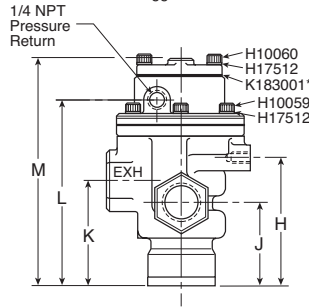
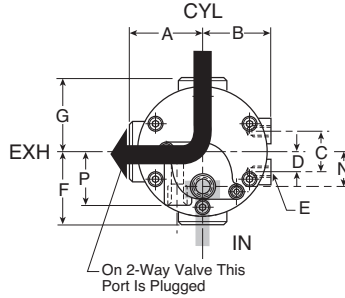
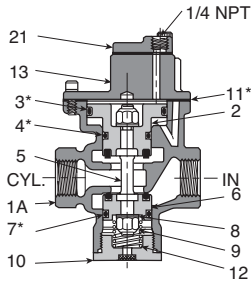


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

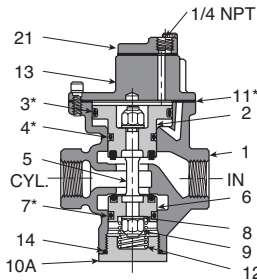
Dimensional Data - Remote Operated

External Return - 3/8", 3/4", 1-1/4" Basic Body

Normally Closed



Normally Open



Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
	1/4" Tap <b>K053011</b>	1/2" Tap <b>K053067</b>	1" Tap <b>K053143</b>	
1	—	3/4" Tap <b>K053069</b>	—	Body (N.O.)
	1/2" Tap <b>K053157</b>	1" Tap <b>K053221</b>	1-1/2" Tap <b>K053146</b>	
	1/4" Tap <b>K053010</b>	1/2" Tap <b>K053065</b>	1" Tap <b>K053159</b>	
1A	—	3/4" Tap <b>K053070</b>	—	Body (N.C.)
	1/2" Tap <b>K053064</b>	1" Tap <b>K053219</b>	1-1/2" Tap <b>K053145</b>	
2	<b>K212001</b>	<b>K212002</b>	<b>K313029</b>	Upper piston assy
3*	<b>H13648</b>	<b>H13728</b>	<b>H13752</b>	Seal
4*	<b>H13529</b>	<b>H13676</b>	<b>H13728</b>	Seal

Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
5	<b>K493002</b>	<b>K493009</b>	<b>K493016</b>	Stem
6	<b>K202001</b>	<b>K202002</b>	<b>K313028</b>	Lower piston assy.
7*	<b>H13499</b>	<b>H13676</b>	<b>H13728</b>	Seal
8	<b>H17811</b>	<b>H17813</b>	<b>H17817</b>	Washer (2)
9	<b>H06326</b>	<b>H06332</b>	<b>H06338</b>	Stop nut (2)
10	<b>K092020</b>	<b>K092034</b>	<b>K092046</b>	Bottom cap assy. (N.C.)
10A	<b>K103035</b>	<b>K103053</b>	<b>K103061</b>	Bottom cap (N.O.)
11*	<b>K183049</b>	<b>K183057</b>	<b>K183058</b>	Gasket
12	<b>K473014</b>	<b>K473015</b>	<b>K473016</b>	Spring
13	<b>K563016</b>	<b>K563021</b>	<b>K563027</b>	Adapter
14*	<b>K41RB72121</b>	<b>K41RB72221</b>	<b>K41RB72143</b>	O-ring
21	<b>K323027</b>	<b>K323027</b>	Not used	Cover

\* Parts included in seal kit

Exhaust  
Pressure

Top view indicates flow through 3-Way valve.

NOTE: For normal valve operation, override must be in "out" position.

Internal Return - 3/8", 3/4", 1-1/4" Basic Body

Key	3/8" Body		3/4" Body		1-1/4" Body	
	Inch	mm	Inch	mm	Inch	mm
A	1.56	40	2.13	54	3.00	76
B	1.50	38	1.94	49	2.25	57
C	1.13	29	1.13	29	2.38	60
D	.56	14	.56	14	1.19	30
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep		1/2-13UNC 3/4" deep	
F	1.75	44	2.25	57	3.13	79
G	1.56	40	2.13	54	3.13	79
H	3.19	81	3.75	95	5.34	136
J	1.88	48	2.44	62	3.44	87
K	2.31	59	3.09	78	4.56	116
L	4.34	110	5.38	137	7.31	186
M	5.31	135	6.34	161	7.88	200
N	Left of center .53			On center 13		
Q	1.44	37	1.78	45	2.31	59

Service Kits

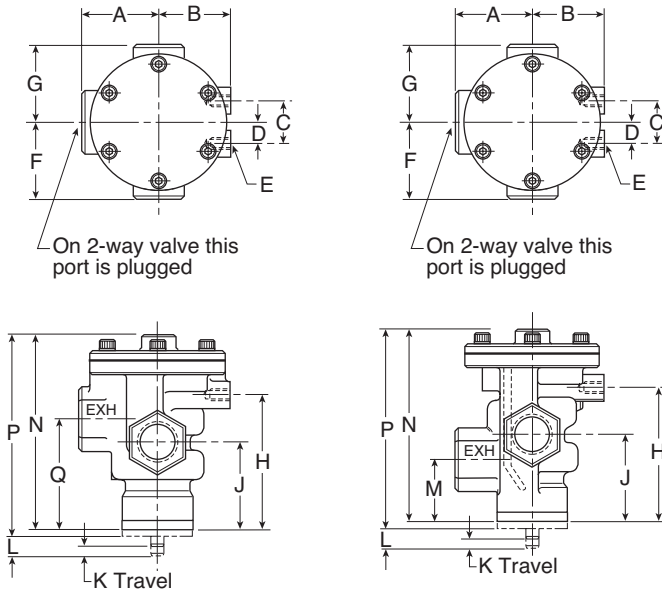
Include all parts normally required for in-service maintenance:

- 3/4" Basic valve.....**K352056**
- 1-1/4" Basic valve.....**K352083**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

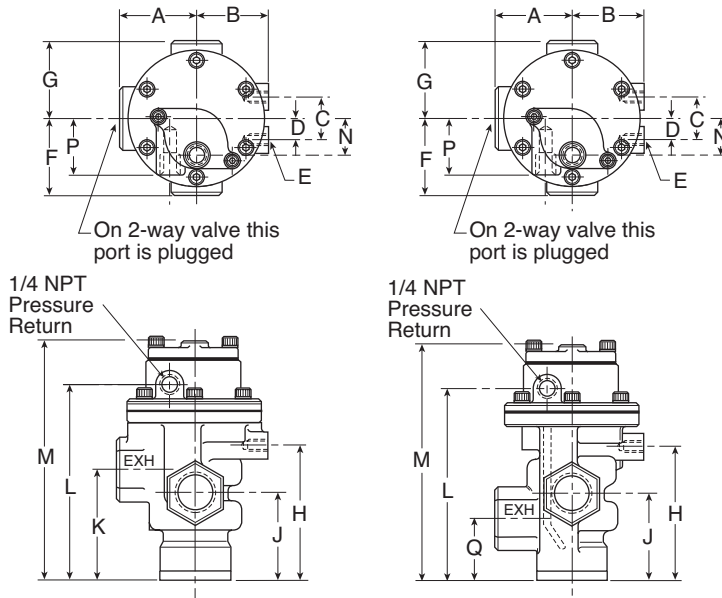
**Internal Return - 3/8", 3/4" & 1-1/4" Basic Body**



**Internal Return - 3/8", 3/4" & 1-1/4" Basic Body**

Key	3/8" Body		3/4" Body		1-1/4" Body	
	Inch	mm	Inch	mm	Inch	mm
A	1.56	40	2.13	54	3.00	76
B	1.50	38	1.94	49	2.25	57
C	1.13	29	1.13	29	2.38	60
D	.56	14	.56	14	1.19	30
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep		1/2-13UNC 3/4" deep	
F	1.75	44	2.25	57	3.13	79
G	1.56	40	2.13	54	3.13	79
H	3.19	81	3.75	95	5.34	136
J	1.88	48	2.44	62	3.44	87
K	.50	13	.50	13	.50	13
L	.11	3	.16	4	.25	6
M	1.44	37	1.78	45	2.66	67
N	4.22	107	5.31	135	7.19	183
P	4.78	121	5.56	141	7.53	191
Q	2.31	59	3.09	78	4.56	116

**External Return - 3/8", 3/4" & 1-1/4" Basic Body**



**External Return - 3/8", 3/4" & 1-1/4" Basic Body**

Key	3/8" Body		3/4" Body		1-1/4" Body	
	Inch	mm	Inch	mm	Inch	mm
A	1.56	40	2.13	54	3.00	76
B	1.50	38	1.94	49	2.25	57
C	1.13	29	1.13	29	2.38	60
D	.56	14	.56	14	1.19	30
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep		1/2-13UNC 3/4" deep	
F	1.75	44	2.25	57	3.13	79
G	1.56	40	2.13	54	3.13	79
H	3.19	81	3.75	95	5.34	136
J	1.88	48	2.44	62	3.44	87
K	2.31	59	3.09	78	4.56	116
L	4.34	110	5.38	137	7.31	186
M	5.31	135	6.34	161	7.88	200
N	Left of center .53 13		On center 1.00 25			
Q	1.44	37	1.78	45	2.31	59



Inline Valves

Viking  
Lite

Viking  
Extreme

B3, B5, B6  
Series

B7, B8  
Series

Air-Saver  
Unit

ADEX  
Series

"N"  
Series

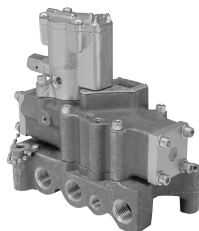
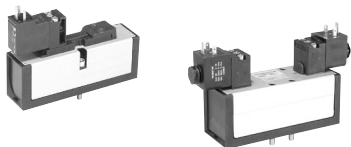
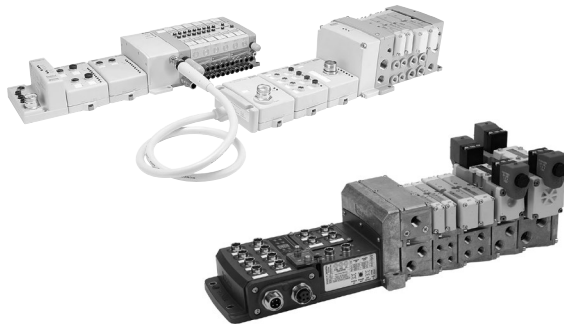
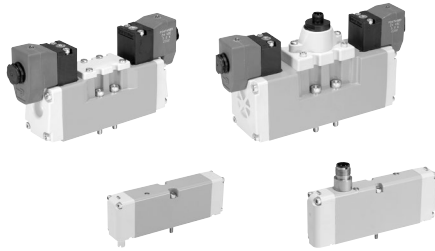
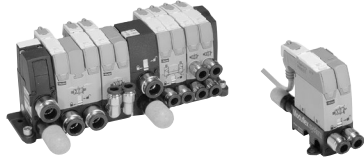
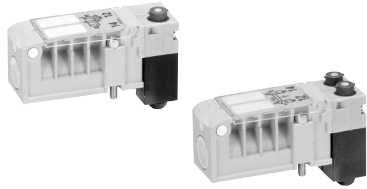


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C112

**Parker Hannifin Corporation**  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Pneumatic Valve Products**  
**Subbase and Manifold Valve Series**



**H Series Micro**

Features	D2-D3
Common Part Numbers	D4-D5
Ordering Information	D6-D11
Accessories	D12
Technical / Dimensional Data	D13-D27

**Moduflex Series**

Features	D28-D32
Common Part Numbers / Ordering Information	D33-D47
P2M Network Nodes	D48-D53
Technical Data / Accessories	D54-D64
Dimensional Data	D65-D69

**H Series ISO**

Features	D71-D74
Plug-In	
15407-2 - Size 02, 01 / 5599-2, Size 1, 2	D75-D88
5599-2 - Size 3	D89-D97
Non Plug-In	
15407-1 - Size 02, 01 / 5599-1 - Size 1, 2	D98-D112
5599-1 Size 3	D113-D119
Technical Data / Accessories	D120-D134
Dimensional Data	D135-D146

**Network Connectivity**

Features	D147-D158
P2M Network Nodes	D159-D166
P2H Network Nodes	D167-D171
PCH Network Portal	D172-D188
H Series Network Portal	D189-D203
Turck Network Portal	D204-D223
Accessories / Cables	D224-D226
Technical / Dimensional Data	D227-D232

**DX Series**

Features	D233
Non Plug-In	
15407-1, Size 02 & 01	D234-D244
5599-1, Size 1, 2, 3	D245-D254
Technical Data / Accessories	D255-D269
Dimensional Data	D270-D276

**Valvair II Series**

Features	D277
Common Part Numbers / Ordering Information	D278-D283
Technical Data / Accessories	D284-D294
Dimensional Data	D295-D302

**D**

**Subbase & Manual Valves**



Features

**H Series Micro**

The H Series Micro Valve System incorporates a space saving back to back valve mounting design, and achieves flow rates of 0.35 Cv per valve with 4 valves having a combined width of 42mm. This plug-in valve solution simplifies wiring with the use of 25 pin connectors or fieldbus systems.

**Ports**

- M7 on manifolds
- 3/8 Inch on end plates

**Mounting**

- Manifold

**Solenoids**

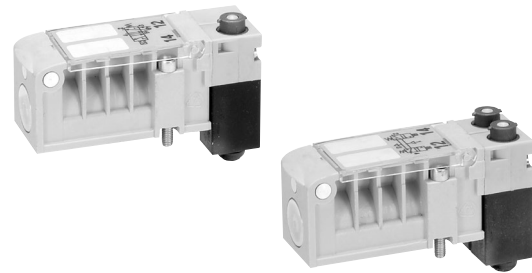
- 24 VDC, 1.0 watt

**Certification / approval**

- IP65 rated
- EMC / CE Mark: According to EN 61 000-6-2

**Material specifications**

Body	Polyamide reinforced fiberglass
End plates	Aluminum
Fasteners	Zinc plated steel
Manifolds	Aluminum
Spool	Brass and nitrile rubber
Spool enclosure	Brass



**Operating information**

Operating pressure: Vacuum to 120 PSIG (Vacuum to 8.2 bar)

Temperature range: 5°F to 120°F (-15°C to 49°C)

**2-Position & Dual 3/2**

0.35 Cv  
C = 1.2 NI/s x bar, b = 0.13  
Qn = 282 NI/min  
Qmax = 510 NI/min

**3-Position**

0.30 Cv  
C = 1 NI/s x bar, b = 0.13  
Qn = 228 NI/min  
Qmax = 402 NI/min

Pilot pressure requirements:

Valve number	Minimum pilot pressure	Maximum pilot pressure
HMEVX2049A	40 PSI	120 PSI
HM2VX2049A	25 PSI	120 PSI
HM5VX2049A	45 PSI	120 PSI
HMNVX2049A	40 PSI	120 PSI
HMPVX2049A	40 PSI	120 PSI
HMQVX2049A	40 PSI	120 PSI

**Wear Compensation System**

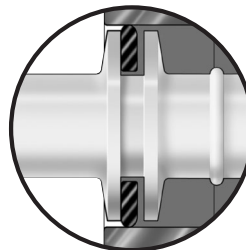
**Maximum Performance**

- Low Friction
- Lower Operating Pressures
- Fast Response
- Less Wear

**Long Cycle Life** - Under pressure, radial expansion of the seal occurs to maintain sealing contact with the valve bore.

**Non-Lube Service** - No lubrication required for continuous valve shifting.

**Bi-Directional Spool Seals** - Common spool used for any pressure, including vacuum.



D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

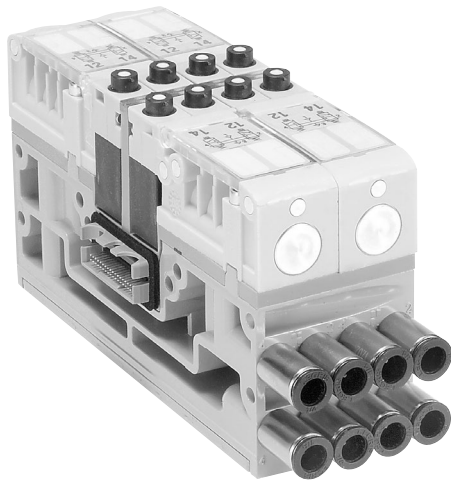
DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## Features

**Innovative Product Design**

- Back to back valve mounting design centralizes wiring in the manifold
- 4 valves on a 42mm wide manifold provides a 10.5mm wide valve solution with a reduced cost
- High flow of 0.35 Cv allows for broad application use
- Plug-in valve electronics reduce and eliminate wiring system costs
- Multiple pressure zones for many applications on the same manifold

**Standard Features**

- Integrated LED's identify when solenoids are active
- Side and bottom porting options on manifolds and end plates for versatile mounting
- All valve functions available for complete product offering
- Valves can be arranged in any combination for maximum flexibility
- Internal and external pilot options available for vacuum to 145 PSI applications
- IP65 protection enables direct machine mounting
- Product identification, valve function, and port description tags are standard on every manifold and are clearly visible thru a protective cover
- User configurable overrides for non-locking, locking, or no override options

**Manifold Platforms**

- 25 pin D-sub manifolds for control systems with discrete Outputs
- IO-Link Type A & Type B communication modules
- Cost effective moduflex fieldbus manifolds for control systems with DeviceNet™, Profibus®, Interbus and CANopen fieldbus and no inputs or outputs near valves
- Cost effective moduflex fieldbus manifolds with AS-i communication offer both Inputs and solenoid control
- Fully functional H Series fieldbus manifolds for control systems with inputs and outputs attached to the valve manifold
- Enhanced H Series bus expansion allows 4 H Series fieldbus valve manifolds to be connected to a single communication module significantly reducing costs on large machines
- Rockwell Automation RS Logix 5000™ users can take Advantage of Preferred Connectivity, by using the preloaded device profiles

**Complete Assemblies**

- All products offered as component level parts for individual assembly
- Simple manifolds offer sub-assembly level products with valves and fittings attached to manifold bases in a single part number
- Add-a-fold systems offer complete assemblies; including valves, manifolds, end plates, fittings, and mufflers in as few as 2 part numbers



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D3




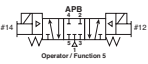

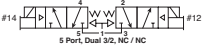

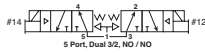
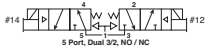


**Parker Hannifin Corporation**  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

D

Subbase & Manual  
ValvesH Series  
MicroModuflex  
SeriesH Series  
ISONetwork  
ConnectivityDX ISOMAX  
SeriesValvair II  
Series



**H Series Micro Valves**

	Symbol	Type	Cv	Operator	Part Number
		4-way, 2-position	0.35	Single solenoid	<b>HMEVX2049A</b>
		4-way, 2-position	0.35	Double solenoid	<b>HM2VX2049A</b>
		4-way, 3-position, all ports blocked	0.3	Double solenoid	<b>HM5VX2049A</b>
		3-way, 2-position, dual valve, NC/NC	0.35	Double solenoid	<b>HMNVX2049A</b>
		3-way, 2-position, dual valve, NO/NO	0.35	Double solenoid	<b>HMPVX2049A</b>
		3-way, 2-position, dual valve, NO/NC	0.35	Double solenoid	<b>HMQVX2049A</b>
		Blanking plate	N/A	N/A	<b>HMBVX00XXA</b>
		Intermediate air supply	N/A	N/A	<b>HMCVX00XXA</b>

- All valves, except double solenoid 2-position, ship with multi functional overrides. Standard valve configuration is non-locking manual override. Each solenoid can be configured for locking override or no override with the included manual override caps.
- All valve options include an LED, which is built into the manifold.
- All valve options pull pilot pressure from the manifold. The manifold assembly can be configured for internal or external pilot on the end plate.

**Manifold Bases**

	Part Numbers				
<b>Plug-In Valve Manifolds</b>					
Single solenoid outputs only	<table border="1"> <tr> <th>Side Port</th> <th>Bottom Port</th> </tr> <tr> <td><b>PSM21JAP</b></td> <td><b>PSM22JAP</b></td> </tr> </table>	Side Port	Bottom Port	<b>PSM21JAP</b>	<b>PSM22JAP</b>
Side Port	Bottom Port				
<b>PSM21JAP</b>	<b>PSM22JAP</b>				
Double or single solenoid outputs	<table border="1"> <tr> <th>Side Port</th> <th>Bottom Port</th> </tr> <tr> <td><b>PSM21MAP</b></td> <td><b>PSM22MAP</b></td> </tr> </table>	Side Port	Bottom Port	<b>PSM21MAP</b>	<b>PSM22MAP</b>
Side Port	Bottom Port				
<b>PSM21MAP</b>	<b>PSM22MAP</b>				

Each manifold holds 4 H Series Micro Valves. Double address circuit boards contain outputs for 8 solenoids, and can be used with any valve. When a single solenoid valve is used, one address is not used but is still present on the manifold. Single address circuit boards contain outputs for 4 solenoids. Only single solenoid valves can be used.

 Most popular.









**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series




For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Common Part Numbers

Internal Pilot End Plate Kits

	Electrical Option	Porting	Side Port	Bottom Port
	25-pin, D-sub	NPT	<b>PSML25AP</b>	<b>PSML26AP</b>
		BSPP	<b>PSML21AP</b>	<b>PSML22AP</b>
	Turck fieldbus with valve driver module - 16 outputs	NPT	<b>PSMT15AP</b>	<b>PSMT16AP</b>
		BSPP	<b>PSMT11AP</b>	<b>PSMT12AP</b>
	Turck fieldbus with valve driver module - 32 outputs	NPT	<b>PSMT25AP</b>	<b>PSMT26AP</b>
		BSPP	<b>PSMT21AP</b>	<b>PSMT22AP</b>
	Moduflex up to 24 outputs	NPT	<b>PSMM45AP</b>	<b>PSMM46AP</b>
		BSPP	<b>PSMM41AP</b>	<b>PSMM42AP</b>
	H Series Fieldbus with valve driver module	NPT	<b>PSML65AP</b>	<b>PSML66AP</b>
		BSPP	<b>PSML61AP</b>	<b>PSML62AP</b>
	H Series Fieldbus with valve driver module and bus extension connector	NPT	<b>PSMM55AP</b>	<b>PSMM56AP</b>
		BSPP	<b>PSMM51AP</b>	<b>PSMM52AP</b>
	H Series Fieldbus with valve driver module and 24VDC connector	NPT	<b>PSMM65AP</b>	<b>PSMM66AP</b>
		BSPP	<b>PSMM61AP</b>	<b>PSMM62AP</b>
	H Series Fieldbus with valve driver module, bus extension connector and 24VDC connector	NPT	<b>PSMM75AP</b>	<b>PSMM76AP</b>
		BSPP	<b>PSMM71AP</b>	<b>PSMM72AP</b>

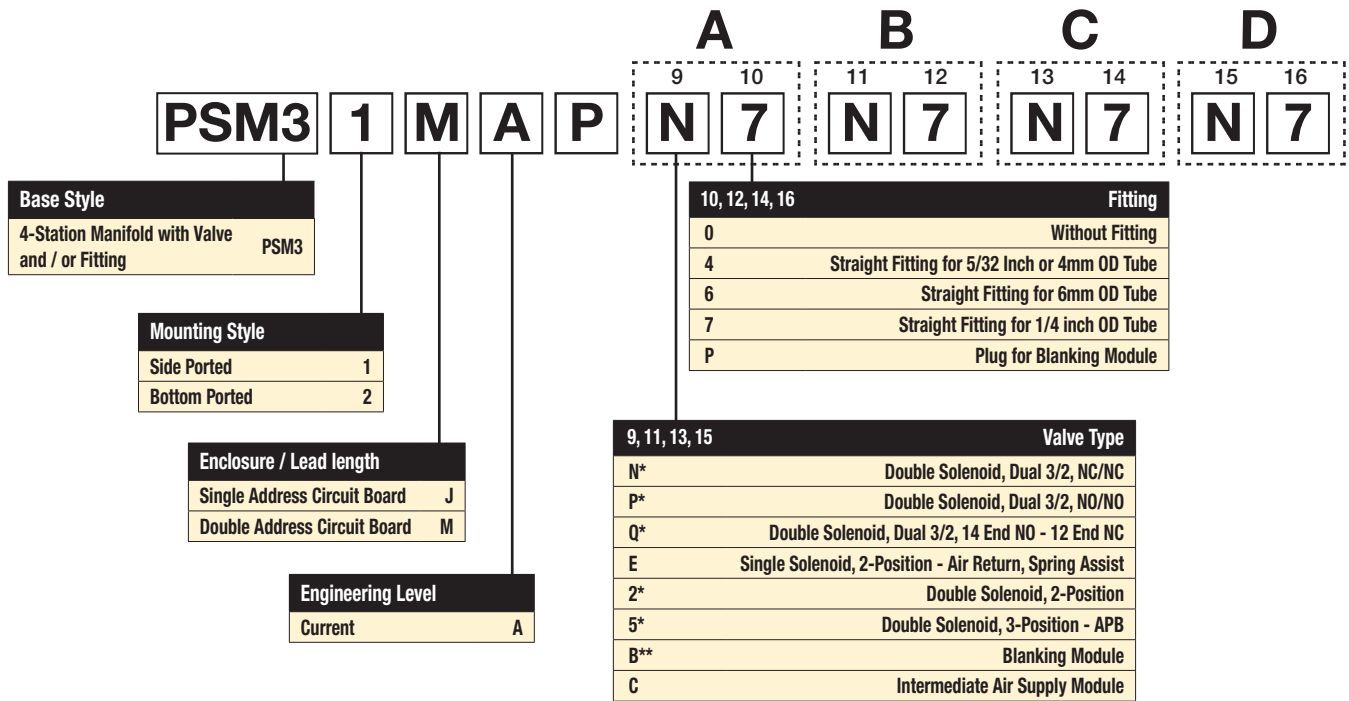
 Most popular.



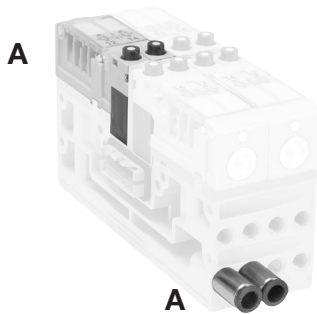
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Simple Manifold Assemblies**

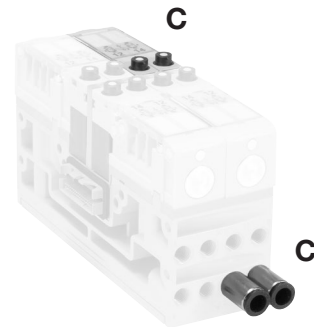
Includes a valve manifold with 4 valves and fittings installed.  
 End Plates must be ordered separately.



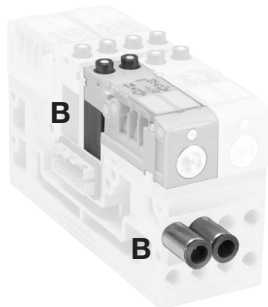
\* Requires double address circuit board, enclosure "M".  
 \*\* Requires fitting "P".



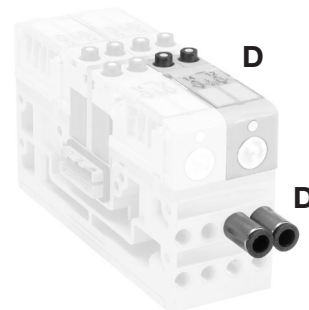
**Valve Position A - Character 9**  
**Fitting Position A - Character 10**



**Valve Position C - Character 13**  
**Fitting Position C - Character 14**



**Valve Position B - Character 11**  
**Fitting Position B - Character 12**



**Valve Position D - Character 15**  
**Fitting Position D - Character 16**

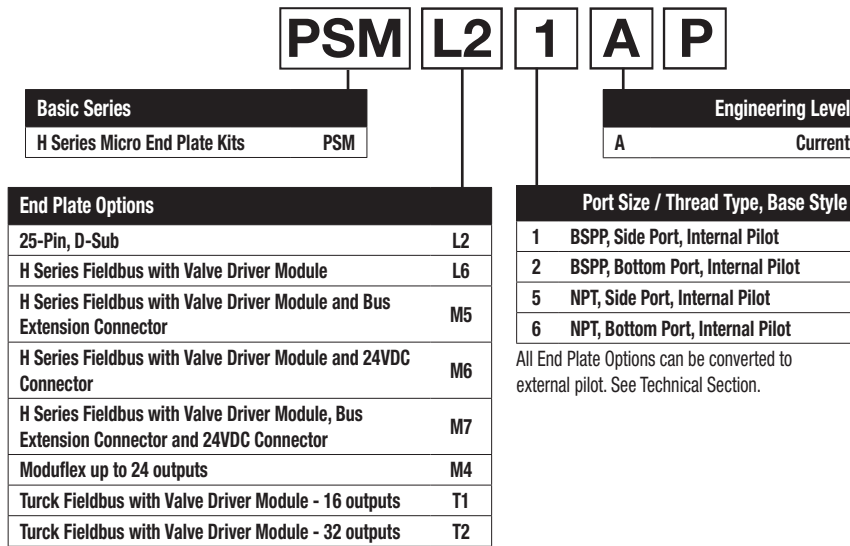
Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

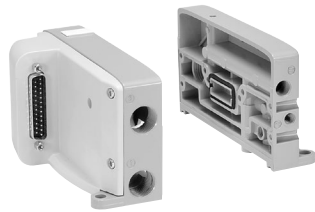
**Plug-in End Plate Kits**

BOLD OPTIONS ARE MOST POPULAR.



All End Plate Options can be converted to external pilot. See Technical Section.

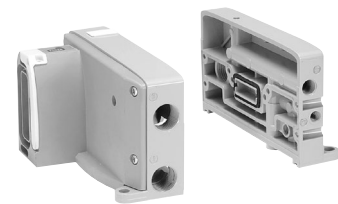
Turck, H Series Fieldbus, and Moduflex communication modules must be ordered separately. See Fieldbus Section for more information.



L2: 25-Pin, D-Sub End Plates



L6: H Series Fieldbus End Plates



M4: Moduflex Fieldbus End Plates



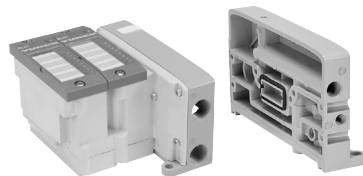
M5: H Series Fieldbus with Bus Extension End Plates



M6: H Series Fieldbus with 24VDC Connector End Plates

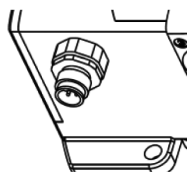


M7: H Series Fieldbus with Bus Extension & 24VDC Connector End Plates

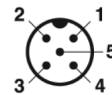


T1, T2: H Series Micro Turck End Plates

**Valve power supply connector**  
 (As seen on module)

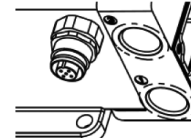


M12 Male (A coding)

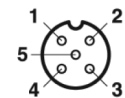


Pin 1 - 24 VDC valve  
 Pin 2 - Not connected  
 Pin 3 - 0 VDC valve  
 Pin 4 - Not connected  
 Pin 5 - Protective Earth (PE)

**Local bus connector**  
 (As seen on module)



M12 Female (A coding)



Pin 1 - CAN SHLD  
 Pin 2 - CAN V+ (24 VDC)  
 Pin 3 - CAN GND  
 Pin 4 - CAN H  
 Pin 5 - CAN L



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## Ordering Information

### How To Order Plug-in Add-A-Fold Assemblies

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List Simple Manifold Assemblies. List left to right, LOOKING AT THE CYLINDER PORTS on the manifold.

### Maximum Number of Solenoids (Maximum Energized Simultaneously)

24VDC	25-pin D-sub	Moduflex	H Series Fieldbus*	Turck	
				16 Outputs	32 Outputs
	24 (24)	24 (24)	32 (32)	16 (16)	32 (32)

\* Maximum of 32 solenoids per manifold. With Bus Extension functionality, 4 manifolds with up to 32 solenoids each can be connected on the same network.

### Add-A-Fold Assembly Model Number

**AAHM D 3 24 0 0 0 0**

Valve Series	
H Series Micro Add-A-Fold	AAHM

End Plate Option	
Turck Fieldbus with Valve Driver Module - 16 Outputs	A
Turck Fieldbus with Valve Driver Module - 32 Outputs	B
25-Pin, D-Sub - 24 Outputs	D
H Series Fieldbus with Valve Drive Module - 32 Outputs	Y
H Series Fieldbus with Valve Drive Module and Bus Extension Connector - 32 Outputs	W
H Series Fieldbus with Valve Drive Module and 24VDC Connector - 32 Outputs	X
H Series Fieldbus with Valve Drive Module and Bus Extension and 24VDC Connector - 32 Outputs	Z
Moduflex - Up to 24 Outputs	T

H Series Fieldbus and Moduflex communication modules must be ordered separately.

End Plate Type		
<b>BSPP Threads</b>	Bspp Side Port, Internal Pilot	1
	Bspp Bottom Port, Internal Pilot	2
	Bspp Side Port, External Pilot	3
	Bspp Bottom Port, External Pilot	4
<b>NPT Threads</b>	Npt Side Port, Internal Pilot	5
	Npt Bottom Port, Internal Pilot	6
	Npt Side Port, External Pilot	7
	Npt Bottom Port, External Pilot	8

Number of Stations*	
4 Valve Manifold	04
8 Valve Manifold	08
12 Valve Manifold	12
16 Valve Manifold	16
20 Valve Manifold	20
24 Valve Manifold	24
28 Valve Manifold	28
32 Valve Manifold	32

\* For an Add-A-Fold part number to be valid, all segments must have a corresponding electrical connection at the end plate. See Maximum Number of Solenoids chart.

**Note:**

BSPP fittings can only be used with BSPP Manifolds.  
NPT fittings can only be used with NPT Manifolds.

   Most popular.

Pilot Exhaust on End Plate		
0	Without Fitting	
M	Muffler	
4	Straight Fitting for 4mm OD Tube	<b>BSPP Threads</b>
6	Straight Fitting for 6mm OD Tube	
4	Straight Fitting for 5/32 inch OD Tube	<b>NPT Threads</b>
7	Straight Fitting for 1/4 inch OD Tube	

M7 Pilot Port on End Plate		
<i>Internal Pilot End Plate</i>		
0	With Standard Plug	
<i>External Pilot End Plate</i>		
0	Without Fitting	
4	Straight Fitting for 4mm OD Tube	<b>BSPP Threads</b>
6	Straight Fitting for 6mm OD Tube	
4	Straight Fitting for 5/32 inch OD Tube	<b>NPT Threads</b>
7	Straight Fitting for 1/4 inch OD Tube	

3/8" Exhaust on End Plate		
0	Without Fitting	
M	Muffler	
8	Straight Fitting for 8mm OD Tube	<b>BSPP Threads</b>
A	Straight Fitting for 10mm OD Tube	
7	Straight Fitting for 1/4 inch OD Tube	<b>NPT Threads</b>
9	Straight Fitting for 3/8 inch OD Tube	

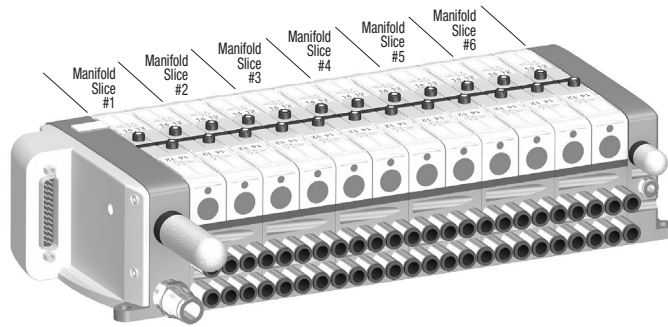
3/8" Inlet Port on End Plate		
0	Without Fitting	
8	Straight Fitting for 8mm OD Tube	<b>BSPP Threads</b>
A	Straight Fitting for 10mm OD Tube	
7	Straight Fitting for 1/4 inch OD Tube	<b>NPT Threads</b>
9	Straight Fitting for 3/8 inch OD Tube	



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**25-pin, D-Sub Manifolds**

**24 Single Solenoid Valves**



**Add-A-Fold**


Manifold is factory assembled and tested for pneumatic leaks and electrical continuity.

Item	Qty	Description	Part Number
01	1	24 valve Add-A-Fold with end plates	<b>AAHMD5249M0M</b>
02	6	4 valve simple manifold slices #1-6	<b>PSM31JAPE7E7E7E7</b>

**Component Level**


Item	Qty	Description	Part Number
01	1	25-pin, D-sub, end plate	<b>PSML25AP</b>
02	24	Single solenoid valve	<b>HMEVX2049A</b>
03	6	Manifold, side ported, single address	<b>PSM21JAP</b>
04	50	1/4" Tube fittings (in box quantity)	<b>PS567925</b>
05	10	3/8" Tube fittings (in box quantity)	<b>PS568338</b>
06	1	3/8" Exhaust muffler	<b>P6M-PAB3</b>
07	1	1/8" Exhaust muffler	<b>P6M-PAB1</b>

**Sandwich Regulator**

Description	Kit Number
 Common port regulator, 5 to 125 PSI with gauge	<b>PSMRAX6AP</b>

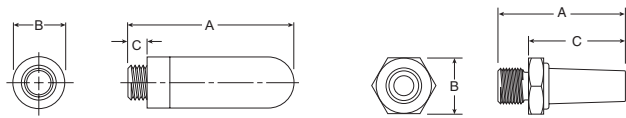
Notes: Cv values are reduced when using a sandwich regulator to 0.20 for 2-position and Dual 3/2 valves, and 0.17 for 3-position APB valves. The sandwich regulator passes full pilot pressure from the manifold, allowing the regulated pressure to adjusted down to 5 PSI without affecting valve functionality.




**Flow Controls**

Description	Kit Number
 4mm to 4mm or 5/32" to 5/32" OD tube	<b>FC832-5/32</b>
1/4" to 1/4" O.D. tube	<b>FC832-4</b>

 Most popular.

**Mufflers**






Port Thread	A	Ø B	C	Weight (grams)	Part Number
 1/8 pilot exhaust – BSPP or NPT	1.14 (29)	0.55 (14)	0.24 (6)	0.02	<b>P6M-PAB1</b>
 3/8 main exhaust – BSPP or NPT	2.36 (60)	0.98 (25)	0.35 (9)	0.06	<b>P6M-PAB3</b>
 M7 x 1 bottom port pilot exhaust *	0.98 (25)	0.43 (11)	0.75 (19)	5	<b>P0568800</b>

Note: Recommended tube durometer of 95 or higher. A tube support may be required if tube durometer is less than 95.

\* Must be order in multiples of 10.

**Fittings – Must be ordered in multiples of 10**

Thread	Tube O.D.	Part Number
<b>Manifold or pilot supply ports – straight</b>		
 M7	4mm or 5/32"	<b>PS567904</b>
M7	6mm	<b>PS567906</b>
M7	1/4"	<b>PS567925</b>
<b>Main inlet or exhaust ports</b>		
 3/8" NPT	1/4"	<b>PS568325</b>
3/8" NPT	3/8"	<b>PS568338</b>
3/8" BSPP	8mm	<b>PS568308</b>
3/8" BSPP	10mm	<b>PS568310</b>
<b>Pilot exhaust ports</b>		
 1/8" NPT	5/32"	<b>PS568215</b>
1/8" NPT	1/4"	<b>PS568225</b>
1/8" BSPP	4mm	<b>PS568204</b>
1/8" BSPP	6mm	<b>PS568206</b>

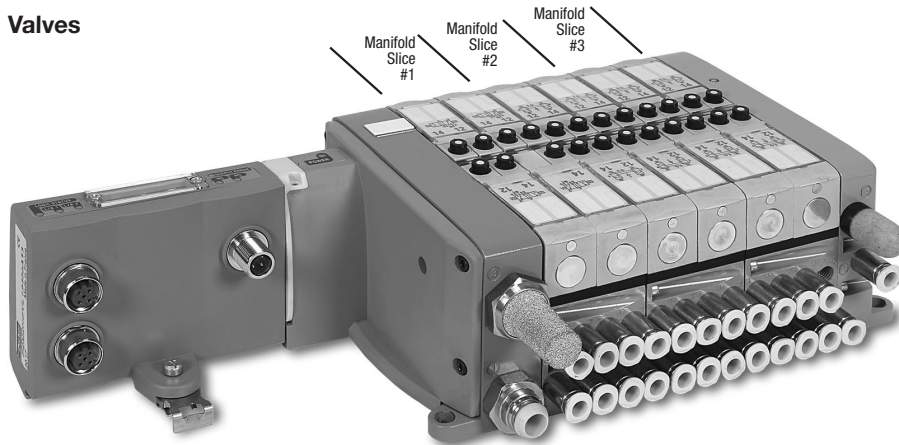


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Moduflex Fieldbus Manifold**

**4 Double Solenoid Valves,  
 8 Single Solenoid Valves**



**Add-A-Fold**

Manifold is factory assembled and tested for pneumatic leaks and electrical continuity. P2M IO-Link Module ordered separately.

Item	Qty	Description	Part Number
01	1	12 valve add-a-fold with end plates	<b>AAHMT5129M0M</b>
02	1	4 valve simple manifold slice #1	<b>PSM31MAPN7N7N7N7</b>
03	2	4 valve simple manifold slice #2-3	<b>PSM31JAPE7E7E7E7</b>

**Component Level**

Item	Qty	Description	Part Number
01	1	Moduflex fieldbus, end plate	<b>PSMM45AP</b>
02	4	Double solenoid, dual 3/2, NC/NC	<b>HMN VX2049A</b>
03	1	Manifold, side ported, double address	<b>PSM21MAP</b>
04	8	Single solenoid valve	<b>HMEVX2049A</b>
05	2	Manifold, side ported, single address	<b>PSM21JAP</b>
06	30	1/4" tube fittings (in box quantity)	<b>PS567925</b>
05	10	3/8" tube fittings (in box quantity)	<b>PS568338</b>
06	1	3/8" exhaust muffler	<b>P6M-PAB3</b>
07	1	1/8" exhaust muffler	<b>P6M-PAB1</b>

**Additional Components**

**Moduflex Communication Modules**

IO-Link - 24 outputs		Part Number
Class A	3-Pin, Aux power 1 & 3	<b>P2M2HBVL12400A13</b>
	3-Pin, Aux power 4 & 3	<b>P2M2HBVL12400A43</b>
	3-Pin, Aux power 4 & 2	<b>P2M2HBVL12400A42</b>
Class B	5-Pin, Aux power 2 & 5	<b>P2M2HBVL12400B25</b>

**IO-Link**

Bus Protocol	Connector Type	Part Number
Power & Communication Cable	5-pin male to female cable, TPE	<b>RKC 4.5T-*-RSC 4.5T/S1587</b>

Where \* = 1, 2, 3, 4, 5, 10, 20 meter standard lengths

Most popular.

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

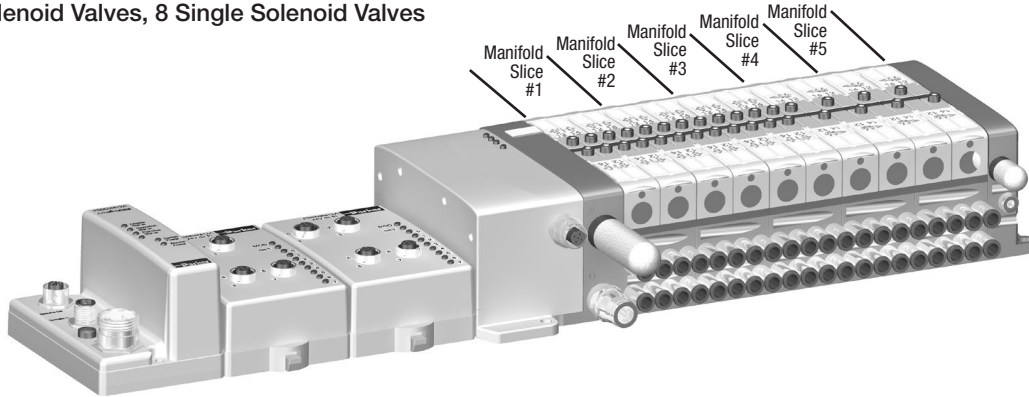


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**H Series Fieldbus Manifold**

12 Double Solenoid Valves, 8 Single Solenoid Valves



**Add-A-Fold**

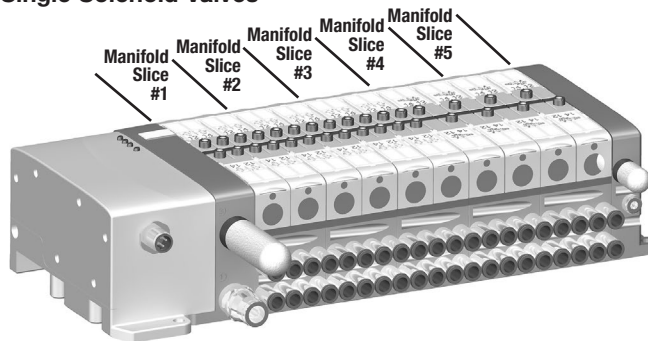
Manifold is factory assembled and tested for pneumatic leaks and electrical continuity.

Item	Qty	Description	Part Number
01	1	20 valve add-a-fold with end plates	<b>AAHMW5209M0M</b>
02	3	4 valve simple manifold slices #1-3	<b>PSM31MAPN7N7N7N7</b>
03	2	4 valve simple manifold slices #4-5	<b>PSM31JAPE7E7E7E7</b>

**Component Level**

Item	Qty	Description	Part Number
01	1	H Series Fieldbus, with valve driver module and bus extension connector	<b>PSMM55AP</b>
02	12	Double solenoid, dual 3/2, NC/NC	<b>HMNVX2049A</b>
03	3	Manifold, side ported, double address	<b>PSM21MAP</b>
04	8	Single solenoid, 2-position, air return, spring assist	<b>HMEVX2049A</b>
05	2	Manifold, side ported, single address	<b>PSM21JAP</b>
06	40	1/4" tube fittings (in box quantity)	<b>PS567925</b>
07	10	3/8" tube fittings (in box quantity)	<b>PS568338</b>
08	1	3/8" exhaust muffler	<b>P6M-PAB3</b>
09	1	1/8" exhaust muffler	<b>P6M-PAB1</b>

12 Double Solenoid Valves, 8 Single Solenoid Valves



**Add-A-Fold**

Manifold is factory assembled and tested for pneumatic leaks and electrical continuity.

Item	Qty	Description	Part Number
01	1	20 valve add-a-fold with end plates	<b>AAHMX5209M0M</b>
02	3	4 valve simple manifold slices #1-3	<b>PSM31MAPN7N7N7N7</b>
03	2	4 valve simple manifold slices #4-5	<b>PSM31JAPE7E7E7E7</b>

**Additional Components**

Description	Part Number
H Series Fieldbus Devicenet Communication	<b>PSSCDM12A</b>
8 Digital Input, 24VDC, M12 Connectors	<b>PSSN8M12A</b>
H Series Micro Bus Extender Cable	<b>PSSVEXT1</b>

See H Series Fieldbus section of catalog for more information.

  Most popular.

**Component Level**





Item	Qty	Description	Part Number
01	1	H series fieldbus, with valve driver Module and 24VDC connector	<b>PSMM65AP</b>
02	12	Double solenoid, dual 3/2, NC/NC	<b>HMNVX2049A</b>
03	3	Manifold, side ported, double address	<b>PSM21MAP</b>
04	8	Single solenoid, 2-position, air return, spring assist	<b>HMEVX2049A</b>
05	2	Manifold, side ported, single address	<b>PSM21JAP</b>
06	40	1/4" tube fittings (in box quantity)	<b>PS567925</b>
07	10	3/8" tube fittings (in box quantity)	<b>PS568338</b>
08	1	3/8" exhaust muffler	<b>P6M-PAB3</b>
09	1	1/8" exhaust muffler	<b>P6M-PAB1</b>



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)


**Accessories**

**Manifold to Manifold Gaskets\***


	Description	Part Number
	All galleys passing	<b>PSM0001</b>
	Main pressure to rear or front valves blocked, exhaust passing	<b>PSM0002</b>
	Main pressure to rear or front valves blocked, exhaust blocked	<b>PSM0003</b>
	All galleys blocked	<b>PSM0004</b>

\* Includes 1 Gasket

**Solenoid Kit**


Description	Part Number
 24VDC solenoid kit with screws	<b>PSM0010</b>

**Blanking Plate Kits**

Description	Part Number
 Blanking plugs, gasket, and mounting screws.	<b>HMBVX00XXA</b>


Blanking plugs must be inserted into the 2 and 4 ports of the manifold corresponding to the blanking plate.

**Intermediate Air Supply Base**


Description	Part Number
 Gasket and mounting screws.	<b>HMCVX00XXA</b>

Fittings (not included) must be inserted into the 2 and 4 ports of the manifold corresponding to the intermediate air supply. Auxiliary pressure should be supplied through these fittings, which will directly feed the #1 pressure galley.


**Override Caps**

Description	Part Number
 Set of 10 manual override caps	<b>PSM0011</b>

**Gaskets and Valve Screws**


Description	Part Number
 Set of 5 valve to manifold gaskets and 10 screws	<b>PSM0012</b>

**Regulator Gauge**


Description	Part Number
 5 to 125 PSI gauge	<b>P0566202</b>

**Subbase & Manifold Valve Products  
H Series Micro**

**Plugs**

Description	Part Number
 Set of 10 M7 plugs (Part No. PS567900) for auxiliary and pilot pressure ports	<b>PSM0013</b>

**Screws**


Description	Part Number
 Set of 10 manifold to manifold M3 screws	<b>PSM0014</b>

**Valve Labels\***

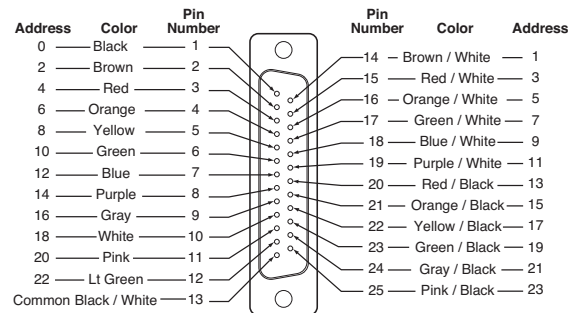
Description	Part Number
Single solenoid diagram	<b>PSM002E</b>
Double solenoid diagram	<b>PSM0022</b>
Double solenoid diagram – APB	<b>PSM0025</b>
Double solenoid diagram – Dual 3/2 NC/NC	<b>PSM002N</b>
Double solenoid diagram – Dual 3/2 NO/NO	<b>PSM002P</b>
Double solenoid diagram – Dual 3/2, 14 end NO, 12 end NC	<b>PSM002Q</b>


\*Includes 10 Labels.

**Protective Cover**

Description	Part Number
 Protective polyester cover Set of 10	<b>PS5706</b>

**25-Pin, D-Sub Cable (Female)**



Description	Length	Part Number
 25-pin, D-sub cable, IP20	3 meters	<b>P8LMH25M3A</b>
25-pin, D-sub cable, IP20	9 meters	<b>SCD259D</b>
25-pin, D-sub cable, IP65	3 meters	<b>SCD253W</b>
25-pin, D-sub cable, IP65	9 meters	<b>SCD259WE</b>

**D** Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

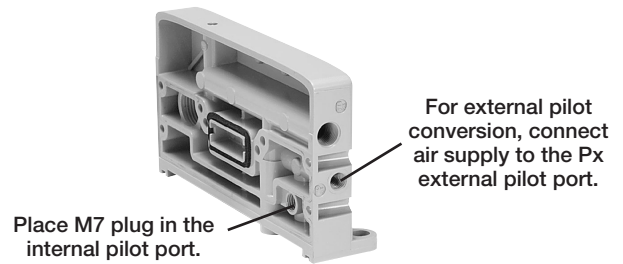


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Pilot Configuration**

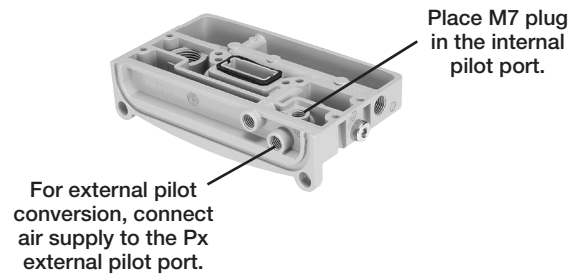
**Side Ported**

Manifolds can be configured for either internal or external pilot in the field. Side ported manifolds are configured for internal pilot when the M7 plug is located in the Px port on the front of the right hand end plate. Moving this plug to the internal pilot port of the right hand end plate and replacing it with a fitting allows an external pilot to be used.



**Bottom Ported**

Bottom ported manifolds are configured for internal pilot when the M7 plug is located in the Px port on the bottom of the right hand end plate. Moving this plug to the internal pilot port of the right hand end plate and replacing it with a fitting allows an external pilot to be used.

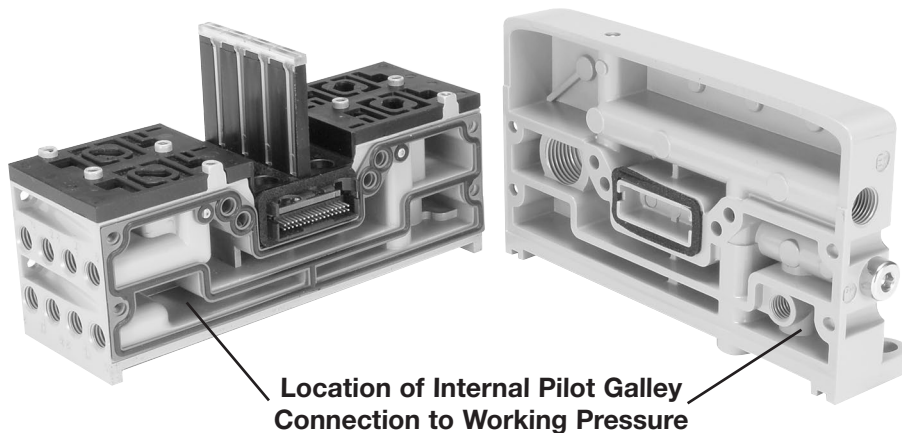


**Pilot Pressure Requirements**

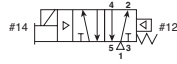
Internal pilot pressure is supplied to the entire manifold from the right hand end plate, where the main pressure for the front row of valves is connected to the pilot pressure galley.

Maximum pilot pressure is 120 PSI. For applications requiring working pressures from 120 to 145 PSI, an external pilot supply less than 120 PSI is required.

Valve Number	Minimum Pilot Pressure	Maximum Pilot Pressure
<b>HMEVX2049A</b>	40 PSI	120 PSI
<b>HM2VX2049A</b>	25 PSI	120 PSI
<b>HM5VX2049A</b>	45 PSI	120 PSI
<b>HMNVX2049A</b>	40 PSI	120 PSI
<b>HMPVX2049A</b>	40 PSI	120 PSI
<b>HMQVX2049A</b>	40 PSI	120 PSI



**Single Solenoid - Single Address Manifolds**



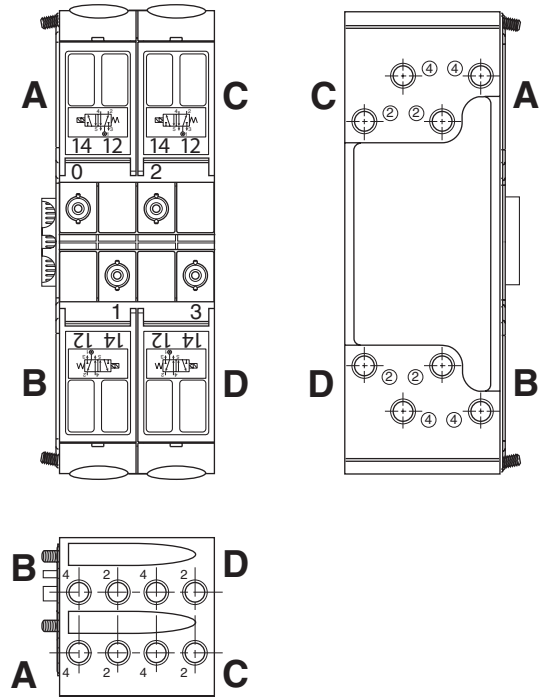
**Single Pressure At Inlet Port 1:**

*De-energized position* – Solenoid operator #14 de-energized. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

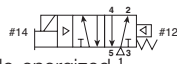
*Energized position* – Solenoid operator #14 energized. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**HMEVX2049A - Single Address Manifolds**

Valve Position A		Valve Position C	
<b>Output 0</b>			
On	Off	On	Off
1→4	1→2	1→4	1→2
3←2	5←4	3←2	5←4
<b>Valve Position B</b>			
<b>Output 1</b>			
On	Off	On	Off
1→4	1→2	1→4	1→2
3←2	5←4	3←2	5←4
<b>Valve Position D</b>			
<b>Output 3</b>			
On	Off	On	Off
1→4	1→2	1→4	1→2
3←2	5←4	3←2	5←4



**Single Solenoid - Double Address Manifolds**



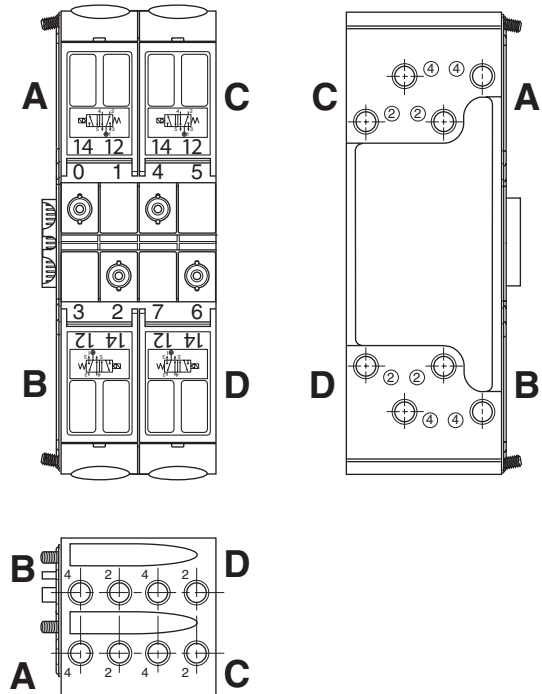
**Single Pressure At Inlet Port 1:**

*De-energized position* – Solenoid operator #14 de-energized. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

*Energized position* – Solenoid operator #14 energized. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**HMEVX2049A - Double Address Manifolds**

Valve Position A				Valve Position C			
<b>Output 0</b>		<b>Output 1</b>		<b>Output 4</b>		<b>Output 5</b>	
On	Off	On	Off	On	Off	On	Off
1→4	1→2	Output Lost	Output Lost	1→4	1→2	Output Lost	Output Lost
3←2	5←4	1→2	1→2	3←2	5←4	1→2	1→2
		5←4	5←4			5←4	5←4
<b>Valve Position B</b>				<b>Valve Position D</b>			
<b>Output 3</b>		<b>Output 2</b>		<b>Output 7</b>		<b>Output 6</b>	
On	Off	On	Off	On	Off	On	Off
Output Lost	Output Lost	Output Lost	Output Lost	Output Lost	Output Lost	Output Lost	Output Lost
1→2	1→2	1→4	1→2	1→2	1→2	1→4	1→2
5←4	5←4	3←2	5←4	5←4	5←4	3←2	5←4



**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Double Solenoid - Double Address Manifolds, Last state #12 Energized or #14 Energized**



**Single Pressure At Inlet Port 1:**

**Solenoid operator #14 energized last.** Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**Solenoid operator #12 energized last.** Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

A 2-Position, Double Solenoid Valve is a detented valve. When the output is removed, the spool remains in its position.

**HM2VX2049A - Double Address Manifolds - Last state #12 Energized**

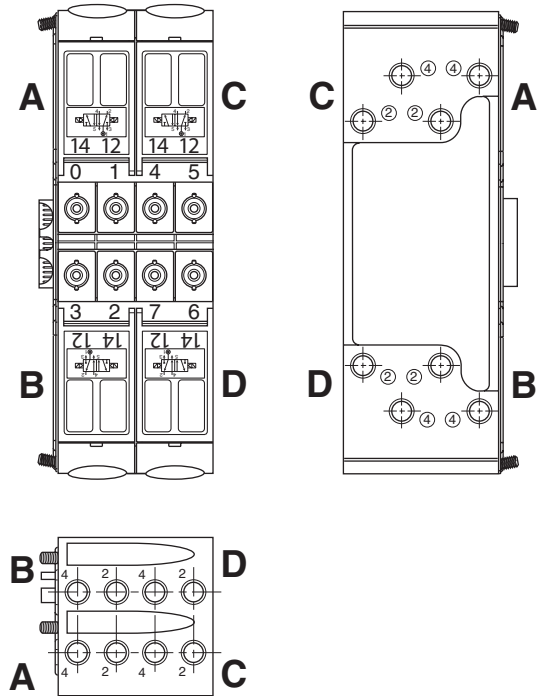
Valve Position A				Valve Position C			
Output 0		Output 1		Output 4		Output 5	
On	Off	On	Off	On	Off	On	Off
1→4	1→2	1→2	1→2	1→4	1→2	1→2	1→2
3←2	5←4	5←4	5←4	3←2	5←4	5←4	5←4

Valve Position B				Valve Position D			
Output 3		Output 2		Output 7		Output 6	
On	Off	On	Off	On	Off	On	Off
1→2	1→2	1→4	1→2	1→2	1→2	1→4	1→2
5←4	5←4	3←2	5←4	5←4	5←4	3←2	5←4

**HM2VX2049A - Double Address Manifolds - Last state #14 Energized**

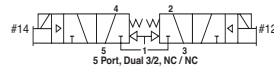
Valve Position A				Valve Position C			
Output 0		Output 1		Output 4		Output 5	
On	Off	On	Off	On	Off	On	Off
1→4	1→4	1→2	1→4	1→4	1→4	1→2	1→4
3←2	3←2	5←4	3←2	3←2	3←2	5←4	3←2

Valve Position B				Valve Position D			
Output 3		Output 2		Output 7		Output 6	
On	Off	On	Off	On	Off	On	Off
1→2	1→4	1→4	1→4	1→2	1→4	1→4	1→4
5←4	3←2	3←2	3←2	5←4	3←2	3←2	3←2



**Double Solenoid - Double Address Manifolds**

**Dual 3-Way, 2-Position NC / NC (NNP)**



**With #14 & #12 operators both de-energized** – pressure at inlet port 1 blocked, outlet port 4 connected to exhaust port 5, outlet port 2 connected to exhaust port 3.

**With #14 operator energized** – pressure at inlet port 1 connected to outlet port 4, exhaust port 5 blocked, outlet port 2 connected to exhaust port 3.

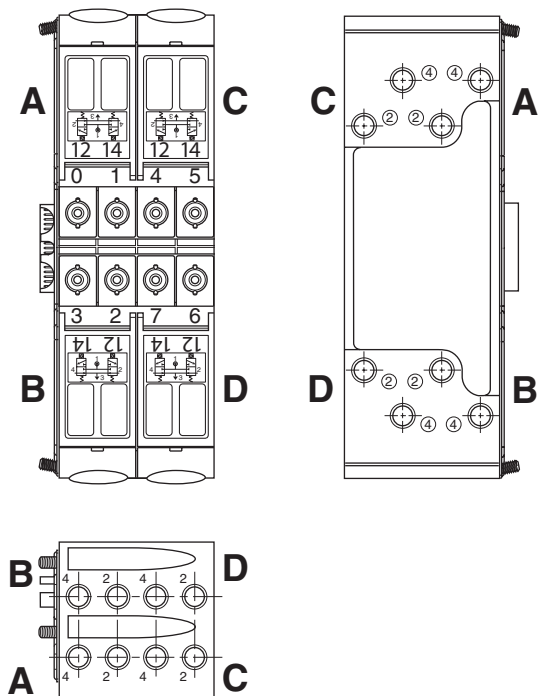
**With #12 operator energized** – pressure at inlet port 1 connected to outlet port 2, exhaust port 3 blocked, outlet port 4 connected to exhaust port 5.

**With #14 & #12 operators both energized** – pressure at inlet port 1 connected to outlet ports 4 & 2, exhaust ports 3 & 5 blocked.

**HMNVX2049A - Double Address Manifolds**

Valve Position A				Valve Position C			
Output 0		Output 1		Output 4		Output 5	
On	Off	On	Off	On	Off	On	Off
1→2	1→	1→4	1→	1→2	1→	1→4	1→
3→	3←2	5→	5←4	3→	3←2	5→	5←4

Valve Position B				Valve Position D			
Output 3		Output 2		Output 7		Output 6	
On	Off	On	Off	On	Off	On	Off
1→4	1→	1→2	1→	1→4	1→	1→2	1→
5→	5←4	3→	3←2	5→	5←4	3→	3←2

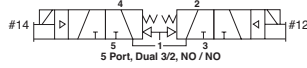


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Double Solenoid - Double Address Manifolds**

**Dual 3-Way, 2-Position  
 NO / NO (NP)**



*With #14 & #12 operators both de-energized* – pressure at inlet port 1 connected to outlet ports 4 & 2, exhaust ports 3 & 5 blocked.

*With #14 operator energized* – pressure at inlet port 1 connected to outlet port 2, exhaust port 3 blocked, outlet port 4 connected to exhaust port 5.

*With #12 operator energized* – pressure at inlet port 1 connected to outlet port 4, exhaust port 5 blocked, outlet port 2 connected to exhaust port 3.

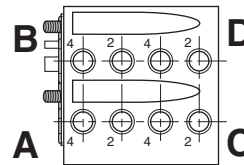
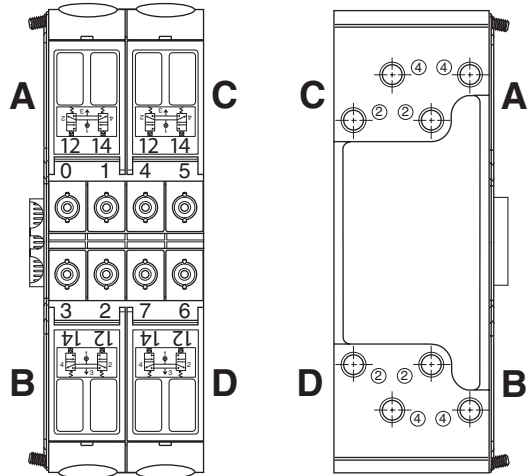
*With #14 & #12 operators both energized* – pressure at inlet port 1 blocked, outlet port 4 connected to exhaust port 5, outlet port 2 connected to exhaust port 3.

**HMPVX2049A - Double Address Manifolds**

Valve Position A				Valve Position C			
Output 0		Output 1		Output 4		Output 5	
On	Off	On	Off	On	Off	On	Off
1→	1→2	1→	1→4	1→	1→2	1→	1→4
3←2	3→	5←4	5→	3←2	3→	5←4	5→

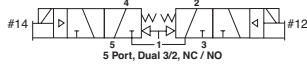
  

Valve Position B				Valve Position D			
Output 3		Output 2		Output 7		Output 6	
On	Off	On	Off	On	Off	On	Off
1→	1→4	1→	1→2	1→	1→4	1→	1→2
5←4	5→	3←2	3→	5←4	5→	3←2	3→



**Double Solenoid - Double Address Manifolds**

**Dual 3-Way, 2-Position  
 14 End NO / 12 End NC  
 (NP / NNP)**



*With #14 & #12 operators both de-energized* – pressure at inlet port 1 connected to outlet port 4, exhaust port 5 blocked, outlet port 2 connected to exhaust port 3.

*With #14 operator energized* – pressure at inlet port 1 blocked, outlet port 4 connected to exhaust port 5, outlet port 2 connected to exhaust port 3.

*With #12 operator energized* – pressure at inlet port 1 connected to outlet ports 4 & 2, exhaust ports 3 & 5 blocked.

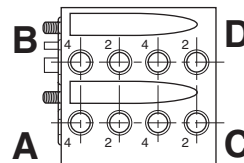
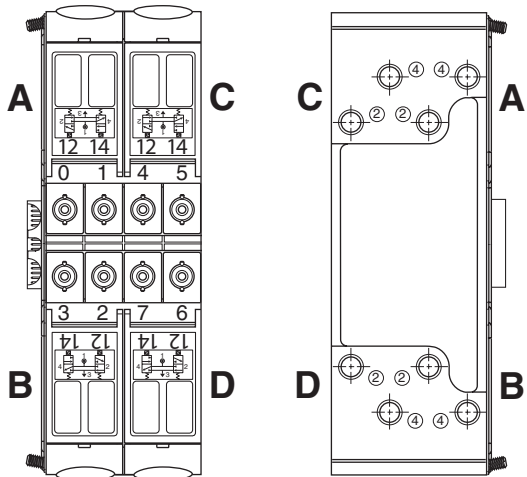
*With #14 & #12 operators both energized* – pressure at inlet port 1 connected to outlet port 2, exhaust port 3 blocked, outlet port 4 connected to exhaust port 5.

**HMQVX2049A - Double Address Manifolds**

Valve Position A				Valve Position C			
Output 0		Output 1		Output 4		Output 5	
On	Off	On	Off	On	Off	On	Off
1→2	1→	1→	1→4	1→2	1→	1→	1→4
3→	3←2	5←4	5→	3→	3←2	5←4	5→

Valve Position B				Valve Position D			
Output 3		Output 2		Output 7		Output 6	
On	Off	On	Off	On	Off	On	Off
1→	1→4	1→2	1→	1→	1→4	1→2	1→
5←4	5→	3→	3←2	5←4	5→	3→	3←2



**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

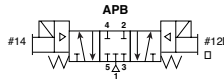


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Double Solenoid - Double Address Manifolds**

**3-Position**

**Function 5: All Ports Blocked**



*With #12 operator energized* – inlet port 1 connected to cylinder port 2, cylinder port 4 connected to exhaust port 5.

*With #14 operator energized* – inlet port 1 connected to cylinder port 4, cylinder port 2 connected to exhaust port 3.

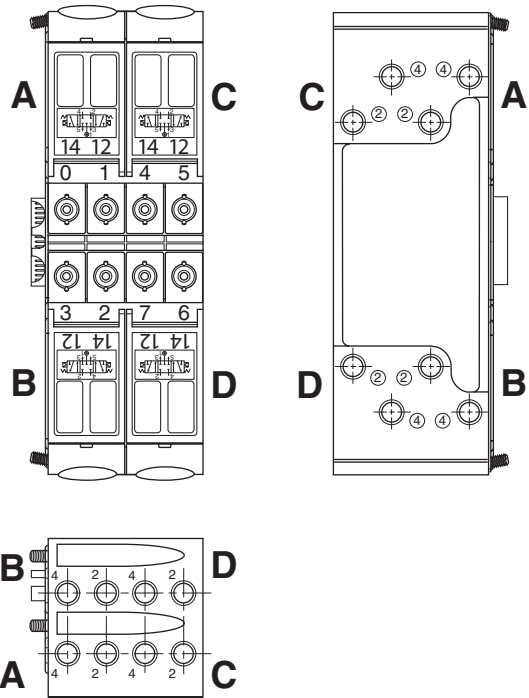
All ports blocked in the center position.

**HM5VX2049A - Double Address Manifolds**

Valve Position A			Valve Position C		
Output 0 On	Output 0 Off	Output 0 Off	Output 4 On	Output 4 Off	Output 4 Off
Output 1 Off	Output 1 On	Output 1 Off	Output 5 Off	Output 5 On	Output 5 Off
5→1	5←4	3→1 1→4	5→1	5←4	3→1 1→4
1→4	1→2	1→1 1→2	1→4	1→2	1→1 1→2
3→2	3→1	5→1	3→2	3→1	5→1

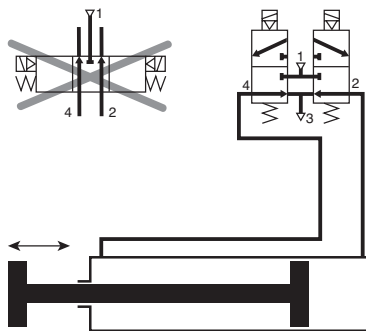
Valve Position B			Valve Position D		
Output 2 On	Output 2 Off	Output 2 Off	Output 6 On	Output 6 Off	Output 6 Off
Output 3 Off	Output 3 On	Output 3 Off	Output 7 Off	Output 7 On	Output 7 Off
5→1	5←4	3→1 1→4	5→1	5←4	3→1 1→4
1→4	1→2	1→1 1→2	1→4	1→2	1→1 1→2
3→2	3→1	5→1	3→2	3→1	5→1



**Dual 3/2 valves replace 3-position valves for better performance**

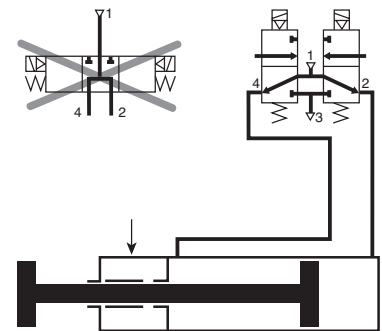
**3-position center exhaust**

A traditional 5/3 center exhaust valve is now replaced by a double 3/2 NC+NC valve module. Both cylinder chambers are exhausted and rod and piston are free to move.



**3-position pressure center**

A traditional 5/3 pressure center valve is now replaced by a double 3/2 NO+NO valve module. The function is identical.

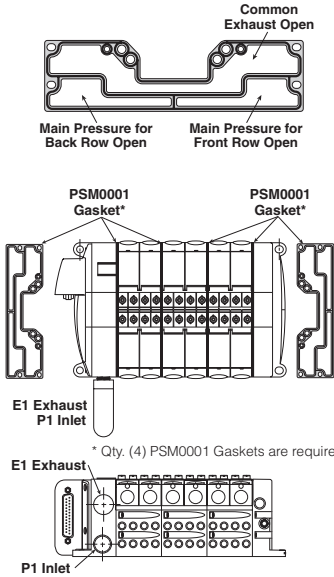




**Multiple Pressure Zones**

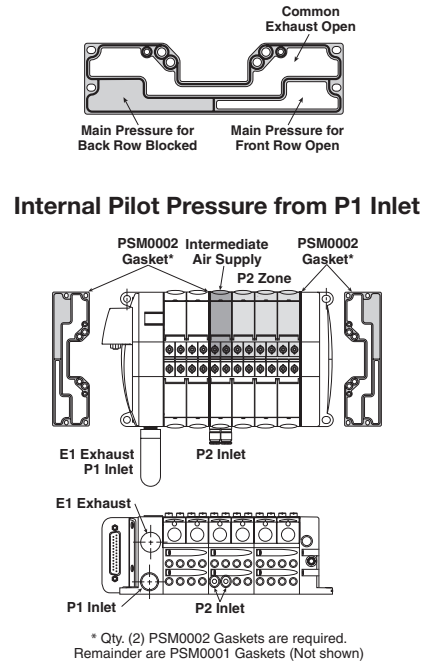
**PSM0001 –**

All ports open. Common pressure for front and rear manifold.  
 Common exhausts.  
 Standard gasket included with each manifold and end plate.



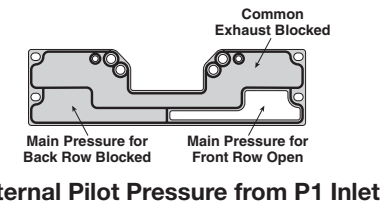
**PSM0002 –**

Rear manifold blocked for separate pressure supply.  
 Common exhausts.  
 Flip gasket to block front of manifold.



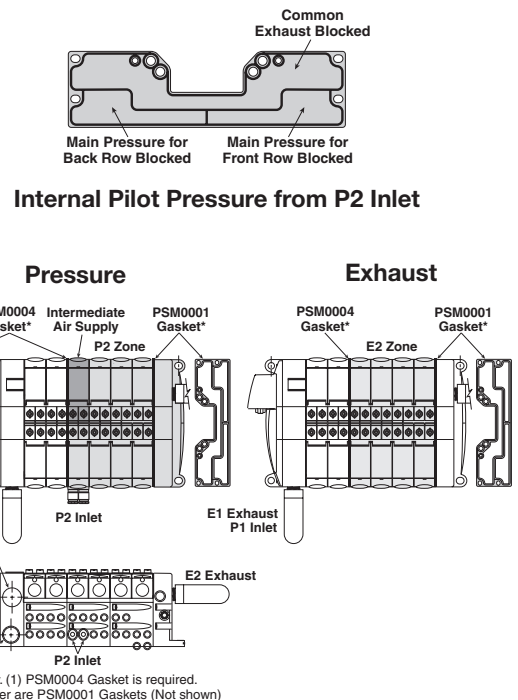
**PSM0003 –**

Rear manifold blocked for separate pressure supply.  
 Exhaust blocked also.  
 Flip gasket to block front of manifold.  
 If used with bottom ported end plates, second exhaust must be piped from the side of the right end plate.



**PSM0004 –**

All galleys blocked.  
 Two pressure zones and two exhaust zones.  
 If used with bottom ported end plates, second exhaust must be piped from the side of the right end plate.



**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



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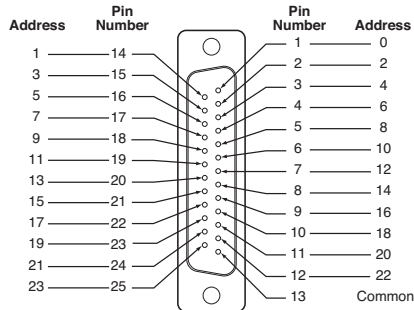
**Maximum Number of Solenoids**

(Maximum Energized Simultaneously)

	25-Pin D-Sub	Moduflex	H Series Fieldbus*
24VDC	24 (24)	24 (24)	32 (32)

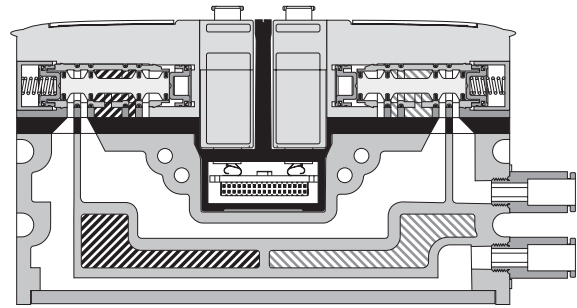
\* Maximum of 32 solenoids per manifold. With Bus Extension functionality, 4 manifolds with up to 32 solenoids each can be connected on the same network.

**25-Pin, D-Sub Connector (Male)**

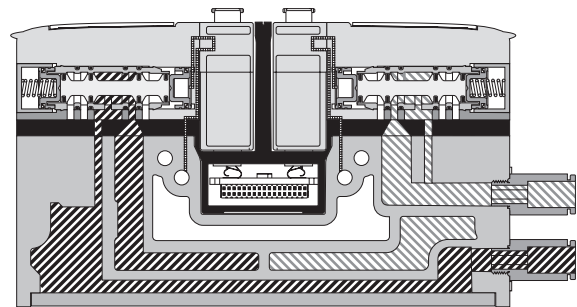


View into End Plate Connector - Male D-Sub, 25-Pin

**Single Solenoid Valves Shown**  
**Solenoid is De-energized**



**Side Exhaust**  
 4 Ports Connected to Exhaust Port  
 (5 & 3 Common)



**Side Pressure**  
 2 Ports Connected to Inlet Port 1



**D**

Subbase & Manual  
Valves

H Series  
Micro

Moduflex  
Series

H Series  
ISO

Network  
Connectivity

DX ISOMAX  
Series

Valvair II  
Series

**Cv Values - H Series Micro**

The charts below represent the minimum required Cv values for pneumatic systems operating at 80 PSI with a 5 PSI pressure drop.

To use the chart, locate the diameter of the cylinder across the horizontal axis, then the average required rod speed of the cycle. The intersection point is Cv value needed.

Grayed out values are not attainable with H Series Micro. Please select a larger Parker valve.

Average Rod Speed (mm/s)	Cylinder Diameter (mm)												
	6	8	10	12	16	20	25	32	40	50	63	80	100
25	0.000	0.001	0.001	0.002	0.003	0.005	0.008	0.013	0.021	0.032	0.051	0.083	0.129
50	0.001	0.002	0.003	0.004	0.007	0.010	0.016	0.026	0.041	0.065	0.103	0.166	0.259
75	0.001	0.002	0.004	0.006	0.010	0.016	0.024	0.040	0.062	0.097	0.154	0.248	0.388
100	0.002	0.003	0.005	0.007	0.013	0.021	0.032	0.053	0.083	0.129	0.205	0.331	0.517
125	0.002	0.004	0.006	0.009	0.017	0.026	0.040	0.066	0.103	0.162	0.257	0.414	0.647
150	0.003	0.005	0.008	0.011	0.020	0.031	0.049	0.079	0.124	0.194	0.308	0.497	0.776
175	0.003	0.006	0.009	0.013	0.023	0.036	0.057	0.093	0.145	0.226	0.359	0.580	0.906
200	0.004	0.007	0.010	0.015	0.026	0.041	0.065	0.106	0.166	0.259	0.411	0.662	1.035
225	0.004	0.007	0.012	0.017	0.030	0.047	0.073	0.119	0.186	0.291	0.462	0.745	1.164
250	0.005	0.008	0.013	0.019	0.033	0.052	0.081	0.132	0.207	0.323	0.513	0.828	1.294
275	0.005	0.009	0.014	0.020	0.036	0.057	0.089	0.146	0.228	0.356	0.565	0.911	1.423
300	0.006	0.010	0.016	0.022	0.040	0.062	0.097	0.159	0.248	0.388	0.616	0.994	1.552
350	0.007	0.012	0.018	0.026	0.046	0.072	0.113	0.185	0.290	0.453	0.719	1.159	1.811
400	0.007	0.013	0.021	0.030	0.053	0.083	0.129	0.212	0.331	0.517	0.822	1.325	2.070
450	0.008	0.015	0.023	0.034	0.060	0.093	0.146	0.238	0.373	0.582	0.924	1.490	2.329
500	0.009	0.017	0.026	0.037	0.066	0.103	0.162	0.265	0.414	0.647	1.027	1.656	2.587

Average Rod Speed (in/s)	Cylinder Diameter (in)																
	5/16"	7/16"	9/16"	3/4"	7/8"	1"	1-1/16"	1-1/8"	1-1/4"	1-1/2"	1-3/4"	2"	2-1/2"	3"	3-1/4"	3-5/8"	4"
1	0.001	0.002	0.003	0.005	0.006	0.008	0.010	0.011	0.013	0.019	0.026	0.034	0.053	0.076	0.090	0.111	0.136
2	0.002	0.003	0.005	0.010	0.013	0.017	0.019	0.021	0.026	0.038	0.052	0.068	0.106	0.153	0.179	0.223	0.271
3	0.002	0.005	0.008	0.014	0.019	0.025	0.029	0.032	0.040	0.057	0.078	0.102	0.159	0.229	0.269	0.334	0.407
4	0.003	0.006	0.011	0.019	0.026	0.034	0.038	0.043	0.053	0.076	0.104	0.136	0.212	0.305	0.358	0.446	0.543
5	0.004	0.008	0.013	0.024	0.032	0.042	0.048	0.054	0.066	0.095	0.130	0.170	0.265	0.382	0.448	0.557	0.678
6	0.005	0.010	0.016	0.029	0.039	0.051	0.057	0.064	0.079	0.114	0.156	0.204	0.318	0.458	0.537	0.669	0.814
7	0.006	0.011	0.019	0.033	0.045	0.059	0.067	0.075	0.093	0.134	0.182	0.237	0.371	0.534	0.627	0.780	0.950
8	0.007	0.013	0.021	0.038	0.052	0.068	0.077	0.086	0.106	0.153	0.208	0.271	0.424	0.611	0.717	0.891	1.085
9	0.007	0.015	0.024	0.043	0.058	0.076	0.086	0.097	0.119	0.172	0.234	0.305	0.477	0.687	0.806	1.003	1.221
10	0.008	0.016	0.027	0.048	0.065	0.085	0.096	0.107	0.132	0.191	0.260	0.339	0.530	0.763	0.896	1.114	1.357
11	0.009	0.018	0.030	0.052	0.071	0.093	0.105	0.118	0.146	0.210	0.286	0.373	0.583	0.839	0.985	1.226	1.492
12	0.010	0.019	0.032	0.057	0.078	0.102	0.115	0.129	0.159	0.229	0.312	0.407	0.636	0.916	1.075	1.337	1.628
14	0.012	0.023	0.038	0.067	0.091	0.119	0.134	0.150	0.185	0.267	0.364	0.475	0.742	1.068	1.254	1.560	1.899
16	0.013	0.026	0.043	0.076	0.104	0.136	0.153	0.172	0.212	0.305	0.415	0.543	0.848	1.221	1.433	1.783	2.171
18	0.015	0.029	0.048	0.086	0.117	0.153	0.172	0.193	0.238	0.343	0.467	0.611	0.954	1.374	1.612	2.006	2.442
20	0.017	0.032	0.054	0.095	0.130	0.170	0.191	0.215	0.265	0.382	0.519	0.678	1.060	1.526	1.791	2.229	2.713

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



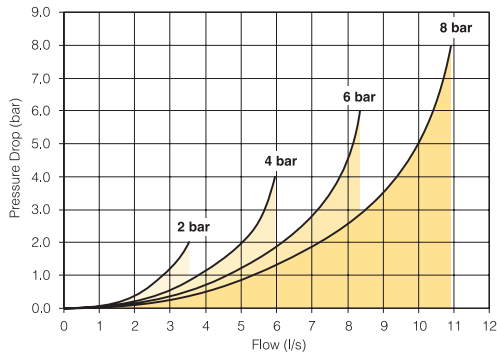
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D20

**Parker Hannifin Corporation**  
 Pneumatic Division  
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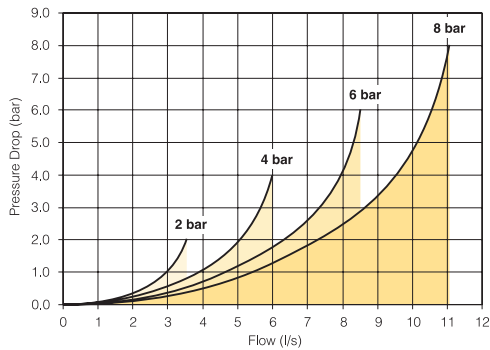
**Flow Characteristics**

**Dual 3/2**



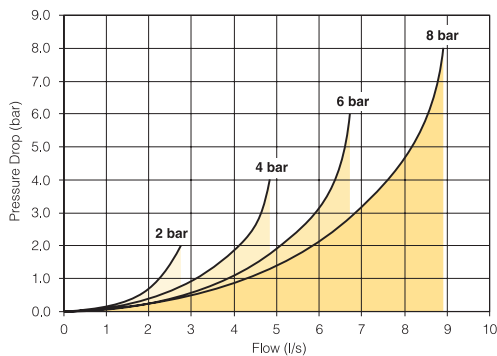
Operating pressure: 39 to 120.3 PSI (2.7 to 8.3 bar)  
 Change-over time (side 14): Actuation 15 ms  
 Return 20 ms P = 6b  
 Change-over time (side 12): 15 ms / 25 ms P = 6b  
 Flow (acc. to ISO 6358): c = 1.2 NI/s x bar  
 b = 0.13  
 Qn = 4.6 NI/s  
 Qmax = 8.4 NI/s

**5/2 single and double solenoid**



Operating pressure: Single solenoid 39 to 120.3 PSI (2.7 to 8.3 bar)  
 Double solenoid 24.6 to 120.3 PSI (1.7 to 8.3 bar)  
 Change-over time: Single solenoid Actuation 15 ms  
 Return 20 ms P = 6b  
 Double solenoid 13 ms / 13 ms P = 6b  
 Flow (acc. to ISO 6358): c = 1.2 NI/s x bar  
 b = 0.13  
 Qn = 4.7 NI/s  
 Qmax = 8.5 NI/s

**5/3 all ports blocked**



Operating pressure: 39 to 120.3 PSI (2.7 to 8.3 bar)  
 Change-over time: Actuation 20 ms  
 Return 20 ms P = 6b  
 Flow (acc. to ISO 6358): c = 1 NI/s x bar  
 b = 0.14  
 Qn = 3.8 NI/s  
 Qmax = 6.7 NI/s

**Characteristics**

Fluid: Air or inert gas  
 Filtered 40 μ  
 Class 5 (according to ISO 8573-1)  
 Dry class 4 (according to ISO 8573-1)  
 Non-lubricated or lubricated  
 Storage temperature: 104°F to 158°F (-40°C to 70°C)  
 Working temperature: 5°F to 122°F (-15°C to 50°C)  
 Vibration: according to IEC 68-2-6  
 2G to 150 Hz  
 Shock: according to IEC 68-2-27  
 15G 11 ms

Operating pressure: -13 to 120.3 PSI (-0.9 to 8.3 bar)  
 with external pressure 87 PSI (6 bar)  
 Piloting pressure: 37 to 120.3 PSI (2.7 to 8.3 bar)  
 Exhaust collection: Independent exhaust collection  
 Rated coil voltage: 24 VDC -15 % / +10 %  
 Electrical connection: Not polarized  
 Coil insulation: Class B  
 Power consumption: 1 W (42 mA) with LED  
 Duty factor: 100 % at 68°F (20°C)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D21

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**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

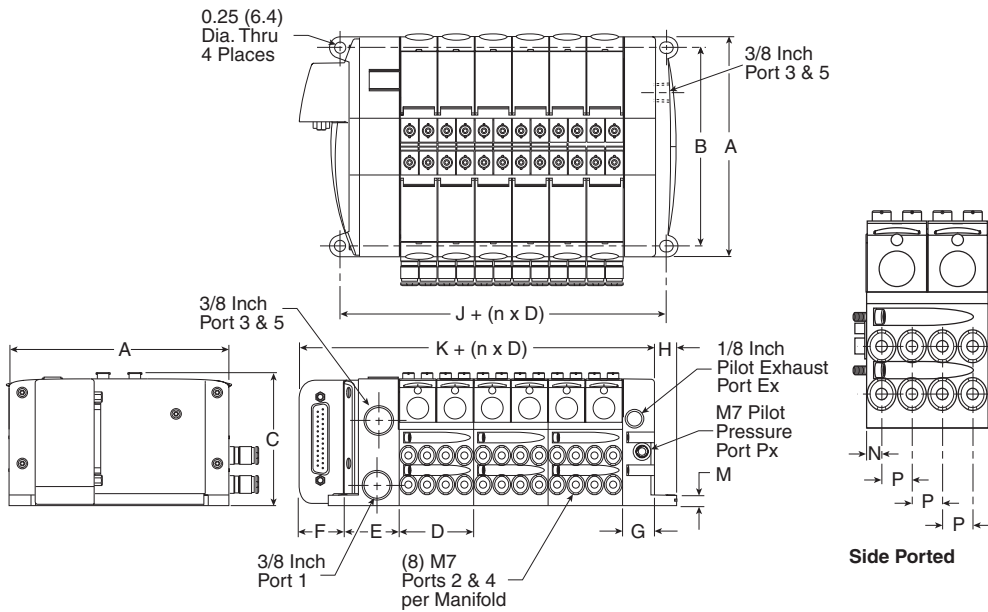
**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**

**25-pin, D-Sub with H Series Micro Valves, Side Ported**



**Dimensions**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
4.88 (124.0)	4.41 (112.0)	2.95 (75.0)	1.65 (42.0)

<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
1.22 (31.0)	1.02 (26.0)	0.71 (18.0)	0.49 (12.5)

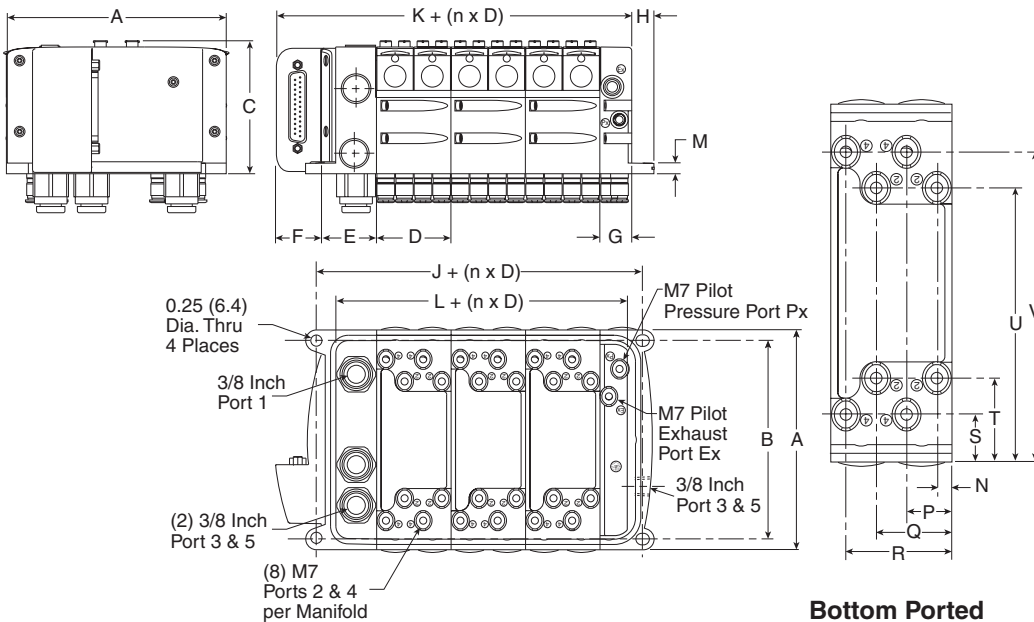
<b>J</b>	<b>K</b>	<b>M</b>	<b>N</b>
2.28 (58.0)	3.44 (87.5)	0.24 (6.1)	0.21 (5.2)

<b>P</b>
0.41 (10.5)

Inches (mm)  
 n = Number of manifolds

**Side Ported**

**25-pin, D-Sub with H Series Micro Valves, Bottom Ported**



**Dimensions**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
4.88 (124.0)	4.41 (112.0)	2.95 (75.0)	1.65 (42.0)

<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
1.22 (31.0)	1.02 (26.0)	0.71 (18.0)	0.49 (12.5)

<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>
2.28 (58.0)	3.44 (87.5)	1.69 (43.0)	0.24 (6.1)

<b>N</b>	<b>P</b>	<b>Q</b>	<b>R</b>
0.21 (5.3)	0.62 (15.8)	1.03 (26.3)	1.45 (36.8)

<b>S</b>	<b>T</b>	<b>U</b>	<b>V</b>
0.64 (16.40)	1.14 (29.0)	3.73 (94.9)	4.23 (107.4)

Inches (mm)  
 n = Number of manifolds

**Bottom Ported Detail**

**Note:**  
 See Fieldbus Section for the dimensions of manifolds utilizing the H Series Fieldbus, Turck, or Modflex end plate type.



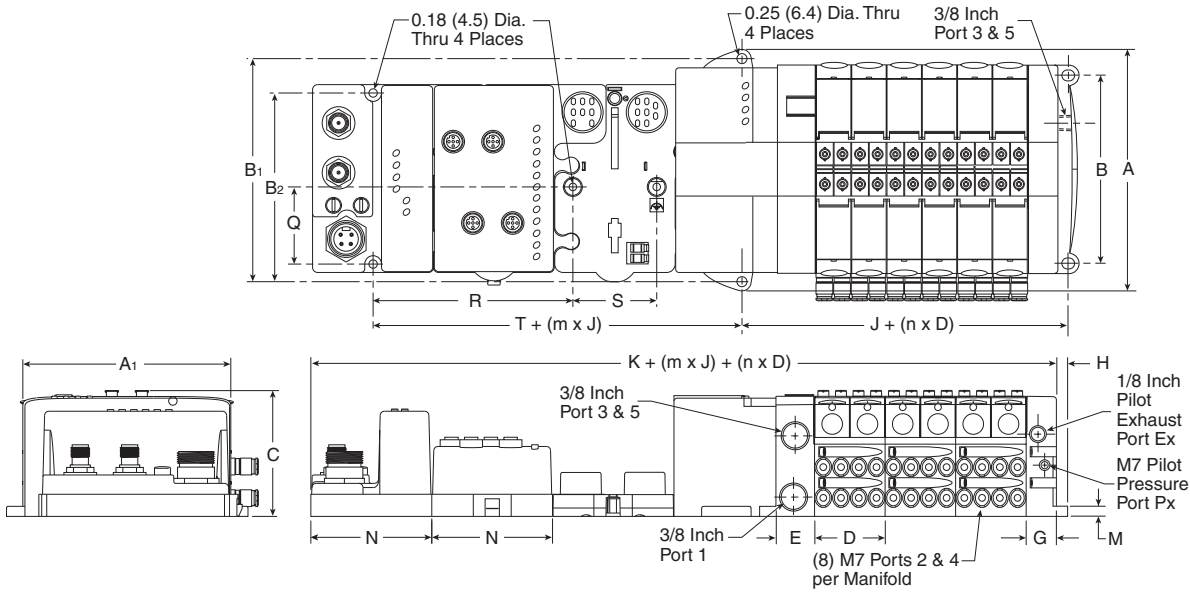
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D22

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**D**  
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 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**H Series Fieldbus with H Series Micro Valves, Side Ported**

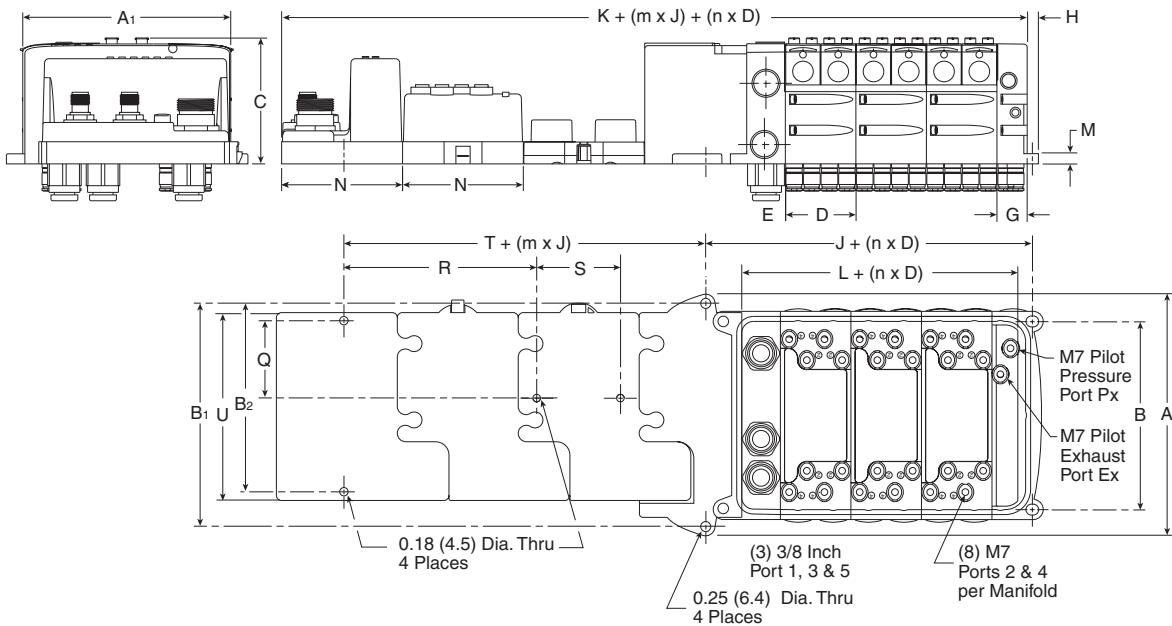


**Dimensions**

<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>	<b>B<sub>1</sub></b>	<b>B<sub>2</sub></b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>G</b>
5.67 (144.0)	4.88 (124.0)	4.41 (112.0)	5.24 (133.0)	4.02 (102.0)	2.95 (75.0)	1.65 (42.0)	0.91 (23.0)	0.71 (18.0)
<b>H</b>	<b>J</b>	<b>K</b>	<b>M</b>	<b>N</b>	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>
0.49 (12.5)	2.72 (69.0)	7.32 (186.0)	0.24 (6.1)	2.83 (72.0)	1.81 (46.0)	4.72 (120.0)	2.01 (51.0)	2.01 (51.0)

Inches (mm)  
 n = Number of Manifolds  
 m = Number of Modules

**H Series Fieldbus with H Series Micro Valves, Bottom Ported**



**Dimensions**

<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>	<b>B<sub>1</sub></b>	<b>B<sub>2</sub></b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>G</b>	<b>H</b>
5.67 (144.0)	4.88 (124.0)	4.41 (112.0)	5.24 (133.0)	4.02 (102.0)	2.95 (75.0)	1.65 (42.0)	0.91 (23.0)	0.71 (18.0)	0.49 (12.5)
<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>	<b>U</b>
2.72 (69.0)	7.32 (186.0)	1.69 (43.0)	0.24 (6.1)	2.83 (72.0)	1.81 (46.0)	4.72 (120.0)	2.01 (51.0)	2.01 (51.0)	4.41 (112)

Inches (mm)  
 n = Number of Manifolds  
 m = Number of Modules



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D23

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 Richland, Michigan  
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**D**

**Subbase & Manual Valves**

**H Series Micro**

**Modulflex Series**

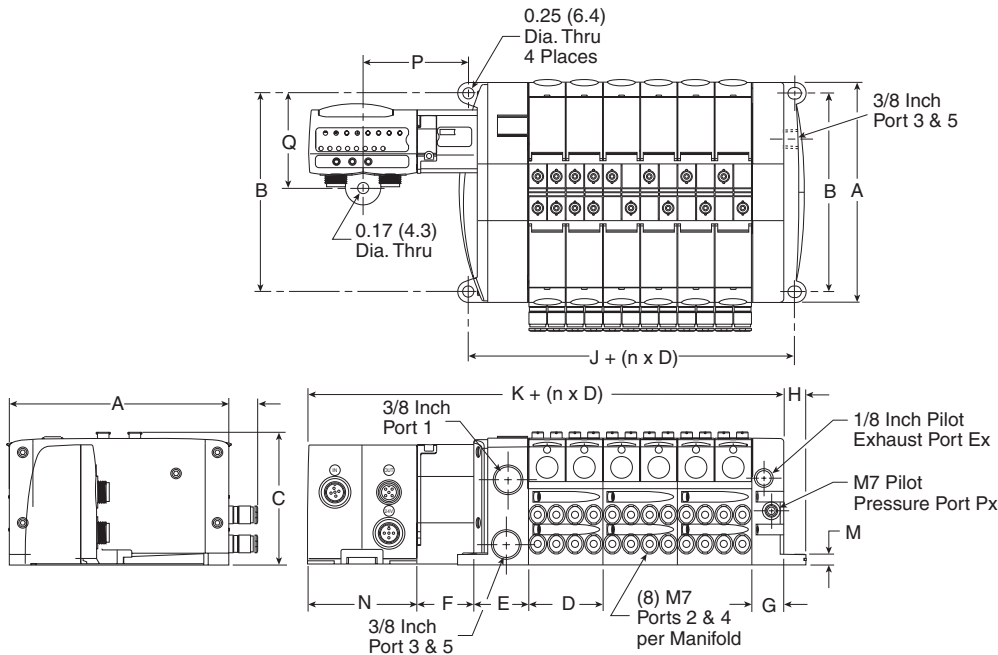
**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**

**Moduflex with H Series Micro Valves, Side Ported**

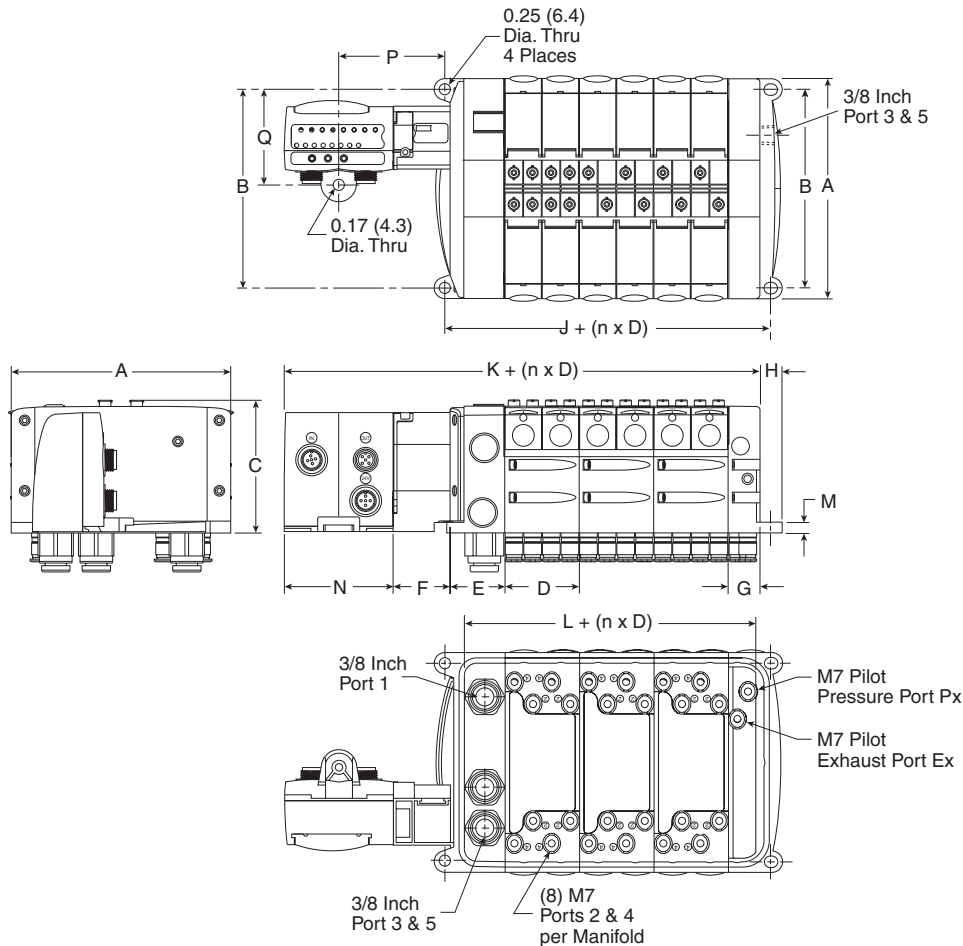


**Dimensions**

A	B	C	D
4.88 (124.0)	4.41 (112.0)	2.95 (75.0)	1.65 (42.0)
E	F	G	H
1.22 (31.0)	1.28 (32.5)	0.71 (18.0)	0.49 (12.5)
J	K	M	N
2.28 (58.0)	6.10 (155.0)	0.24 (6.1)	2.40 (61.0)
P	Q		
2.36 (60.0)	2.07 (52.55)		

Inches (mm)  
 n = Number of manifolds

**Moduflex with H Series Micro Valves, Bottom Ported**



**Dimensions**

A	B	C	D
4.88 (124.0)	4.41 (112.0)	2.95 (75.0)	1.65 (42.0)
E	F	G	H
1.22 (31.0)	1.02 (26.0)	0.71 (18.0)	0.49 (12.5)
J	K	L	M
2.28 (58.0)	6.10 (155.0)	1.69 (43.0)	0.24 (6.1)
N	P	Q	
2.40 (61.0)	2.36 (60.0)	2.07 (52.55)	

Inches (mm)  
 n = Number of manifolds

**D**

Subbase & Manual  
 Valves

H Series  
 Micro

Moduflex  
 Series

H Series  
 ISO

Network  
 Connectivity

DX ISOMAX  
 Series

Valvair II  
 Series



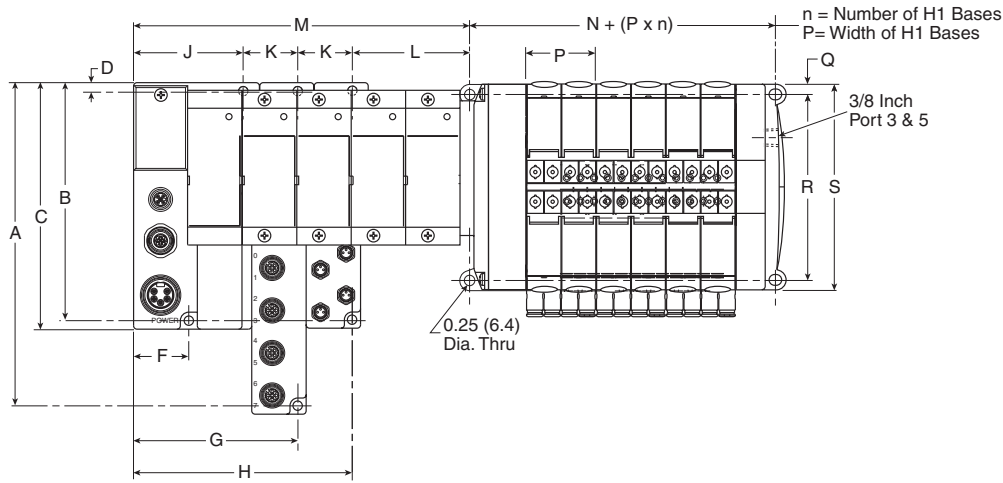
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D24

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**Turck with H Series Micro Valves, Side Ported**

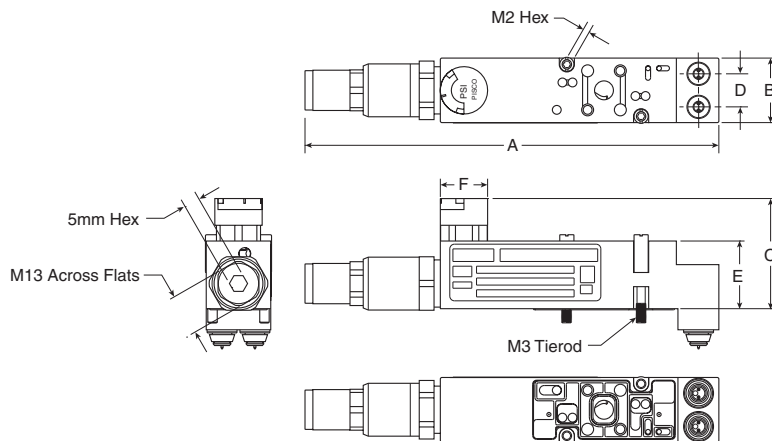


**Dimensions**

A	B	C	D
7.48 (190)	5.51 (140)	5.71 (145)	0.20 (5)
F	G	H	J
1.28 (32.5)	3.79 (96.5)	5.06 (128.5)	2.53 (64.5)
K	L	M	N
1.26 (32)	2.54 (64)	See note 1	2.28 (58)
P	Q	R	S
1.65 (42)	.19 (4.9)	4.41 (112)	4.88 (124)

Note 1:  $M = J + L + n_2 \times K$ , where  $n_2$  = Number of Turck input / output modules  
 Inches (mm)

**Sandwich Regulator**



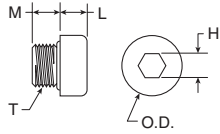
**Dimensions**

A	B	C	D
5.20 (132)	0.81 (20.5)	1.38 (35)	0.41 (10.5)
E	F		
0.85 (21.5)	0.59Ø (15Ø)		

Inches (mm)

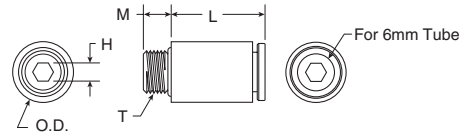
**M7 Fittings**

**PS567900 – Kit PSM0013**



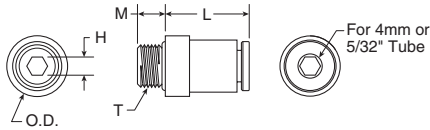
Part no.	L	M	H hex	T thread	O.D.
PS567900	0.18 (4.5)	0.20 (5)	0.16 (4)	M7 x 1	0.39 (10)

**PS567906**



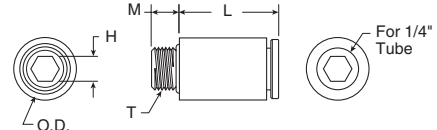
Part no.	Tube size	L	M	H Hex	T thread	O.D.
PS567906	6mm	0.63 (16)	0.20 (5)	0.12 (3)	M7 x 1	0.39 (10)

**PS567904**



Part no.	Tube size	L	M	H Hex	T thread	O.D.
PS567904	4mm or 5/32"	0.55 (14)	0.20 (5)	0.12 (3)	M7 x 1	0.39 (10)

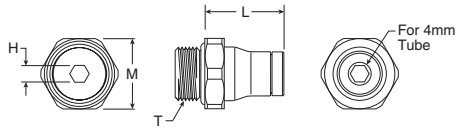
**PS567925**



Part no.	Tube size	L	M	H Hex	T thread	O.D.
PS567925	1/4"	0.65 (16.5)	0.18 (4.6)	0.16 (4)	M7 x 1	0.41 (10.3)

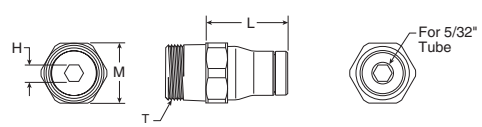
**1/8 Inch Fittings**

**PS568204**



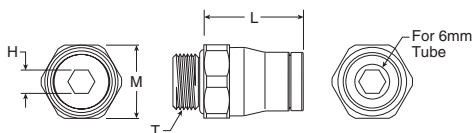
Part No.	Tube Size	L	M Hex	H Hex	T Thread
PS568204	4mm	0.57 (14.5)	0.51 (13)	0.12 (3)	G1 /8

**PS568215**



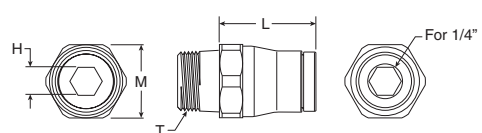
Part No.	Tube Size	L	M Hex	H Hex	T Thread
PS568215	5/32"	0.59 (15)	0.43 (11)	0.12 (3)	1/8 NPT

**PS568206**



Part no.	Tube size	L	M Hex	H Hex	T thread
PS568206	6mm	0.69 (17.5)	0.51 (13)	0.16 (4)	G1/8

**PS568225**



Part no.	Tube size	L	M Hex	H Hex	T thread
PS568225	1/4"	0.67 (17)	0.51 (13)	0.20 (5)	1/8 NPT

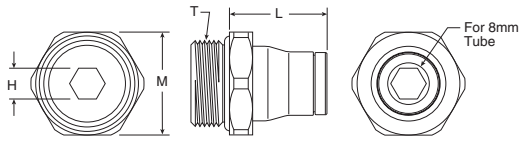
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

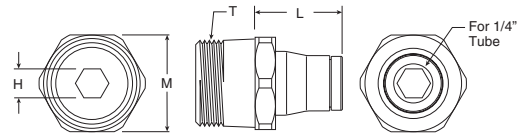
**3/8 Inch Fittings**

**PS568308**



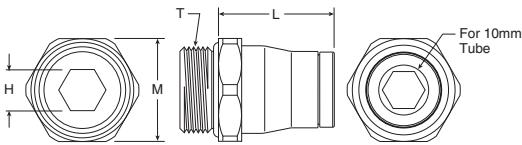
Part no.	Tube size	L	M Hex	H Hex	T thread
<b>PS568308</b>	8mm	0.75 (19)	0.79 (20)	0.24 (6)	G3/8

**PS568325**



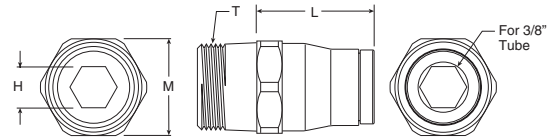
Part no.	Tube size	L	M Hex	H Hex	T thread
<b>PS568325</b>	1/4"	0.67 (17)	0.71 (18)	0.20 (5)	3/8 NPT

**PS568310**



Part no.	Tube size	L	M Hex	H Hex	T thread
<b>PS568310</b>	10mm	0.89 (22.5)	0.79 (20)	0.31 (8)	G3/8

**PS568338**



Part no.	Tube size	L	M Hex	H Hex	T thread
<b>PS568338</b>	3/8"	0.91 (23)	0.71 (18)	0.31 (8)	3/8 NPT

**D**

Subbase & Manual  
Valves

H Series  
Micro

Moduflex  
Series

H Series  
ISO

Network  
Connectivity

DX ISOMAX  
Series

Valvair II  
Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Features**

**Moduflex Series**

The Moduflex Valve System redefines flexibility for pneumatic users. Whether configured from basic components or ordered as a pre-assembled and tested valve manifold, Moduflex flexibility is unmatched in the market place.

**Ports**

- Size 1: Push-in connectors for 5/32, 1/4 inch, 4, 6mm OD tube
- Size 2: Push-in connectors for 1/4, 3/8, 1/2 inch, 6, 8, 10, 12 mm OD tube

**Mounting**

- S Series – Individual subbase
- T Series – Manifold mount with individual connectors
- V Series – Manifold mount with collective wiring or fieldbus

**Network Connectivity Options**

- Industrial Ethernet – EtherNet/IP, PROFINET, Modbus TCP, PowerLink, EtherCAT, CC-Link IE
- IO-Link – Class A & Class B

**Solenoids**

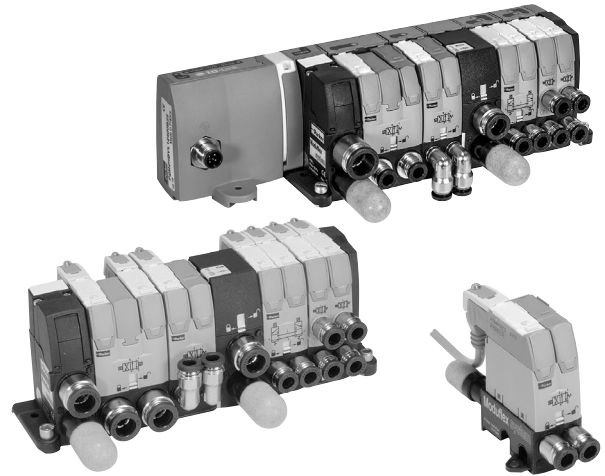
- 1.0 Watt
- 24 VDC
- Compatible with PNP or NPN outputs

**Certification / approval**

- IP65 rated
- CE, as marked

**Material specifications**

End plates (T and V series)	Plastic
Fasteners	Nickel plated steel
Spool	Aluminum and nitrile rubber or ceramic plate
Subbase or manifold	Plastic
Valve body	Plastic



**Operating information**

Operating pressure:	Vacuum to 123 PSIG (Vacuum to 8.3 bar)
Operating temperature:	5°F to 140°F (-15°C to 60°C)
Fieldbus operating temperature:	32°F to 130°F (0°C to 55°C)

Most popular.

D	Subbase & Manual Valves
H Series Micro	
Moduflex Series	
H Series ISO	
Network Connectivity	
DX ISOMAX Series	
Valvair II Series	



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## Features

### Module Series Selection and Assembly Procedures

Moduflex system provides a complete choice of either stand-alone valves, short-build valve islands, or large valve island configurations. Electrical control connections may be individual or island integrated. Peripheral modules add complementary functions — flow control, pressure regulation, P.O. check valves and vacuum generators can be added directly to the valve or used as a stand alone product.

Moduflex gives machine builders maximum flexibility to assemble each automation system step by step using basic modules.

Valve islands can be easily assembled using the following procedure.

1. Assemble the required valve island with the basic modules.
2. Mount the valve island on the machine together with any stand-alone valves and peripheral modules.
3. Select and install the required clip-on pneumatic and electrical connectors.

### “S” Series Stand Alone Valves

For isolated cylinders on a machine, it is preferable to locate the valve close by. Therefore a stand-alone module is ideal. Response time and air consumption are then reduced to a minimum. Peripheral modules can be installed directly into the valve.



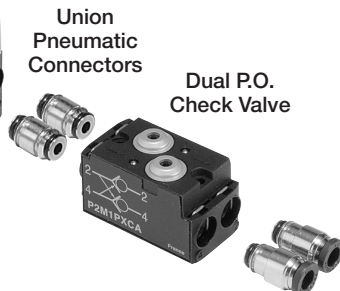
“S” Series Size 1 Single Solenoid



“S” Series Size 1 Single Air Pilot



Straight or Elbow Pneumatic Connectors



Union Pneumatic Connectors

Dual P.O. Check Valve

## Subbase & Manifold Valve Products “S” & “T” Series

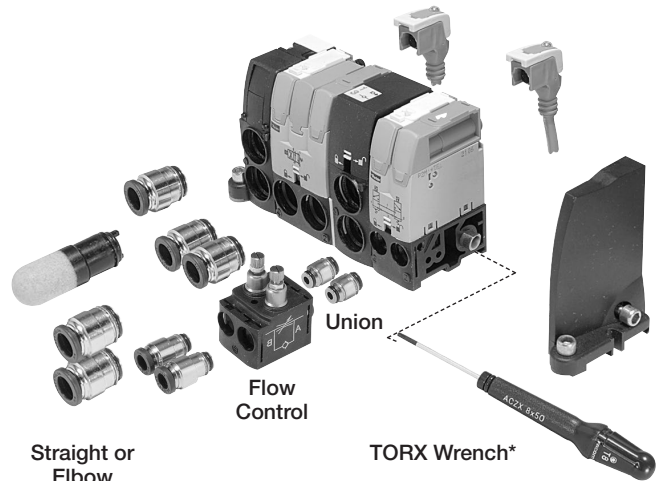
### “T” Series Valve Island Modules with Individual Connectors

For small groups of cylinders requiring short localized valve islands, it is convenient to use individual electrical connector islands.



“T” Series Island Modules

“T” Series modules are easily assembled to form a complete manifold. All electrical connectors are individual and pneumatic connectors are of the push-in tube type. Modules with different functions and flow passages may be combined in the same island manifold, giving total flexibility to adapt to all machine requirements.



Straight or Elbow Pneumatic Connectors

Flow Control

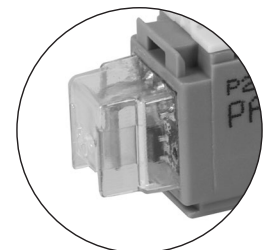
Union

TORX Wrench\*

\* Maximum torque rating 10.6 in. lbs. (1.2 Nm).



M8 2-pin, male connector



Clip Connector with LED & surge protection



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Features**

**“V” Series Valve Island Modules with Integrated Connections**

When the number of valves is larger, modular islands are easily assembled using the integrated electrical connection series. These islands are then connected to the control PLC, with a multi-connector cable or with a fieldbus connection.

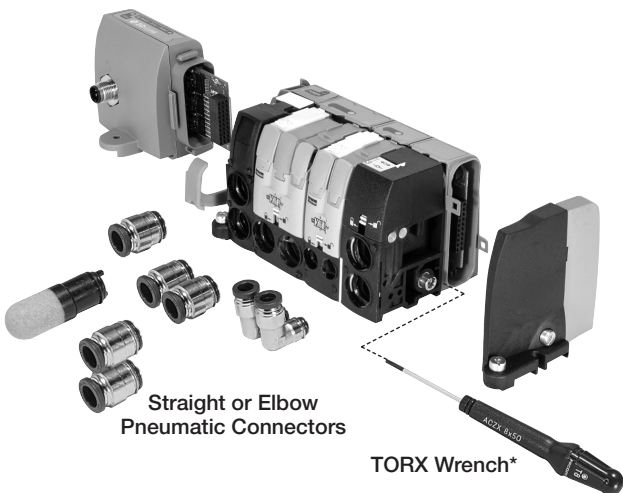


**“V” Series with 20-Pin Connector**



**“V” Series with Field Bus Connection**

“V” Series modules are easily assembled to form a complete manifold. All pneumatic connectors are of the push-in tube type. When the valve island has been installed, it is a simple operation to separate the field bus module from the valve island using the quick release lever. Modules with different functions and flow passages may be combined in the same island manifold, giving total flexibility to adapt to all machine requirements.



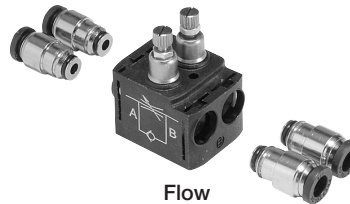
Straight or Elbow Pneumatic Connectors

TORX Wrench\*

\* Maximum torque rating 10.6 in. lbs. (1.2 Nm).

**“P” Series Peripheral Modules**

Peripheral Modules are available and can be mounted directly to valves or used as a stand alone product. These modules answer the complementary needs of the cylinders, flow controls, pressure regulation or positioning.



Flow Control



Pressure Regulator



Dual P.O. Check Valve



Vacuum Generator

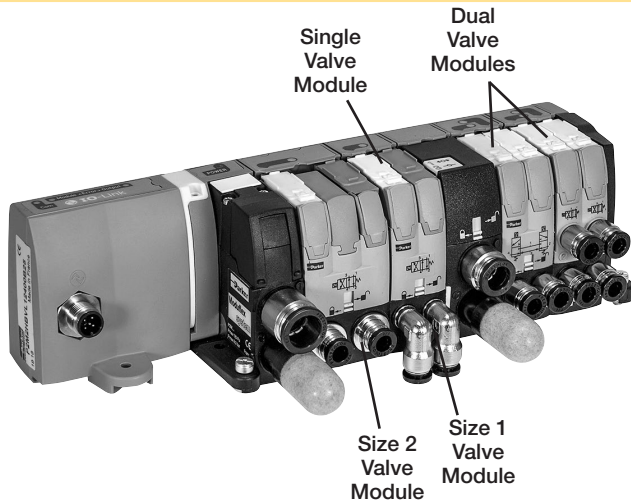
D	Subbase & Manual Valves
H Series Micro	Modulflex Series
H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Valve Function**



Modulflex Valve Islands offer the greatest flexibility for your design requirements.

Valve Modules are available as 4-Way or 3-Way valves and can be ordered as single or dual valves. A Single Valve Module has one valve in one valve body. A Dual Valve Module will have 2 valves in one valve body. Each Valve in the Dual Valve Body is controlled by a solenoid or air pilot and can be operated independently from the other valve in the same body. There are no dimensional difference between a single and a dual valve. Flow Rates are reduced on the dual valves.

Single valve modules offer Ceramic Slide Valve Technology while dual valve modules offer WCS – Wear Compensation System Technology. Both offer low friction shift forces, fast response and less spool wear.

Valve Modules are available in two different valve body sizes. Size 1 and Size 2 Valve Modules can be combined in both “T” and “V” Series Valve Islands without transition kits.

**4/2, 4-Way, 2-Position Valves**

Single Valves	ANSI Symbol	Description	Size 1 Body	Size 2 Body
		Single Solenoid, Spring Return Valve	Cv = .32	Cv = .80
		Single Air Pilot, Spring Return Valve		
		Double Solenoid Valve	Cv = .32	Cv = .80
		Double Air Pilot Valve		
Dual Valves	ANSI Symbol	Description	Size 1 Body	Size 2 Body
		(2) Single Solenoid, Spring Return Valve with Exhaust Check. Double Solenoid Valve Body	Cv = .18	N/A
		(2) Single Air Pilot, Spring Return Valve with Exhaust Check. Double Air Pilot Valve Body		

D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series




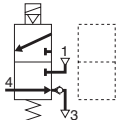

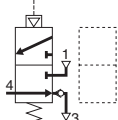

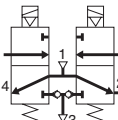

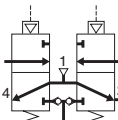

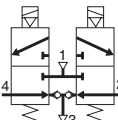

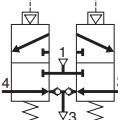
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D31

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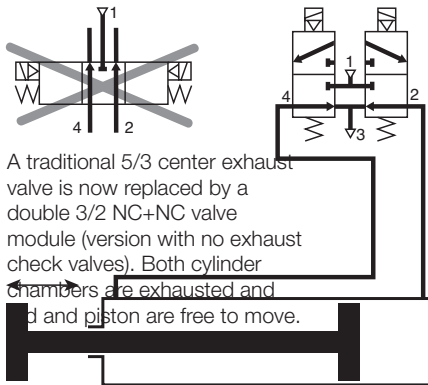
3/2, 3-Way, 2-Position Valves

Single Valves	ANSI Symbol	Description	Size 1 Body	Size 2 Body
		Single Solenoid, NC, Spring Return Valve with Exhaust Check.	Cv = .22	Cv = .44
		Single Air Pilot, NC, Spring Return Valve with Exhaust Check.		
Dual Valves	ANSI Symbol	Description	Size 1 Body	Size 2 Body
		(2) Single Solenoid, NO, Spring Return Valve with Exhaust Check. Double Solenoid Valve Body	Cv = .22	Cv = .44
		(2) Single Air Pilot, NO, Spring Return Valve with Exhaust Check. Double Air Pilot Valve Body		
		(2) Single Solenoid, NC, Spring Return Valve with Exhaust Check. Double Solenoid Valve Body	Cv = .22	Cv = .44
		(2) Single Air Pilot, NC, Spring Return Valve with Exhaust Check. Double Air Pilot Valve Body		

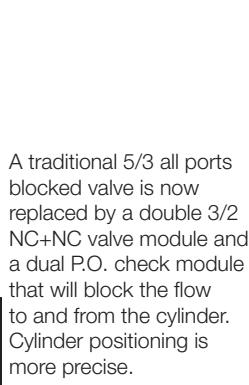
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair-II Series

Dual 3/2 Valves Replace All 3-Position Valves for a Better Performance

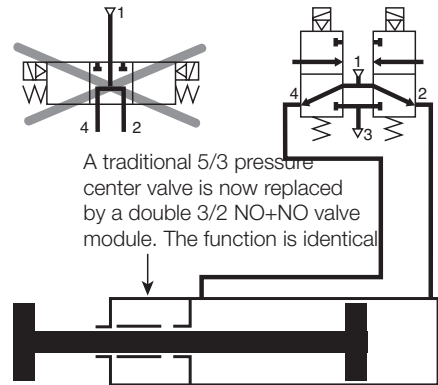
3-Position Center Exhaust



3-Position All Ports Blocked



3-Position Pressure Center













For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D32

**Parker Hannifin Corporation**  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

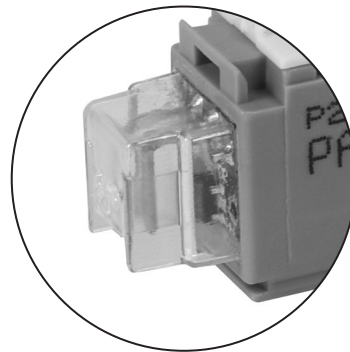
"S" Series Individual Subbase Valves (Valve & Base without Pneumatic Connectors)

	Symbol	Type	Operator	Pilot connector	Cv	Part number	
						Size 1	Size 2
 Single Solenoid		4-way, 2-position	Single solenoid	M8 Lockable	0.32	<b>P2M1S4ES2C</b>	<b>P2M2S4ES2C</b>
				Clip		P2M1S4ES2CW	P2M2S4ES2CW
			Single air pilot			P2M1S4PS	P2M2S4PS
		4-way, 2-position	Double solenoid	M8 Lockable	0.32	<b>P2M1S4EE2C</b>	<b>P2M2S4EE2C</b>
				Clip		P2M1S4EE2CW	P2M2S4EE2CW
			Double air pilot			P2M1S4PP	P2M2S4PP
 Double Solenoid		3-way, 2-position, dual valve, NC/NC w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1SDEE2C</b>	<b>P2M2SDEE2C</b>
				Clip		P2M1SDEE2CW	P2M2SDEE2CW
			Double air pilot			P2M1SDPP	P2M2SDPP
		3-way, 2-position, dual valve, NO/NO w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1SCEE2C</b>	<b>P2M2SCEE2C</b>
				Clip		P2M1SCEE2CW	P2M2SCEE2CW
			Double air pilot			P2M1SCPP	P2M2SCPP
 Single Air Pilot		3-way, 2-position, dual valve, NC/NO w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1SEEE2C</b>	<b>P2M2SEEE2C</b>
				Clip		P2M1SEEE2CW	P2M2SEEE2CW
				3-way, 2-position, NC w/ exhaust check		Single solenoid	M8 Lockable
		Clip			P2M1S3ES2CW	P2M2S3ES2CW	
	Single air pilot				P2M1S3PS	P2M2S3PS	
		3-way, 2-position, dual valve, NC/NC	Double solenoid	M8 Lockable	0.22	<b>P2M1SGEE2C</b>	<b>P2M2SGEE2C</b>
			Clip	P2M1SGEE2CW		P2M2SGEE2CW	


Note: Includes 5/32" (4mm) Air Pilot Connectors.



M8 2-pin, male connector



Clip Connector with LED & surge protection

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D33

Parker Hannifin Corporation  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

D

Subbase & Manual Valves

H Series Micro

Moduflex Series








H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

"S" Series Accessories

Description	Tube Size (OD)	Option	Part Number	Part Number	
			Size 1	Size 2	
	5/32"	Elbow	<b>CMD04-1</b>	—	
		Straight	<b>FMD04-1</b>	—	
	1/4"	Elbow	<b>CMD07-1B</b>	<b>CMD07-2B</b>	
		Straight	<b>FMD07-1B</b>	<b>FMD07-2B</b>	
	3/8"	Elbow	—	<b>CMD09-2B</b>	
		Straight	—	<b>FMD09-2B</b>	
	1/2"	Straight	—	<b>FMD13-2B</b>	
	6mm	Elbow	<b>CMD06-1</b>	<b>CMD06-2</b>	
		Straight	<b>FMD06-1</b>	<b>FMD06-2</b>	
	8mm	Elbow	—	<b>CMD08-2</b>	
		Straight	—	<b>FMD08-2</b>	
	10mm	Elbow	—	<b>CMD10-2</b>	
		Straight	—	<b>FMD10-2</b>	
	12mm	Elbow	—	<b>CMD12-2</b>	
Straight		—	<b>FMD12-2</b>		
 Muffler for exhaust port			<b>MMDVA1</b>	<b>MMDVA2</b>	
 Plug			—	<b>PMDYY2</b>	
 Double male union		Connecting peripheral modules	<b>HMDXX1</b>	<b>HMDXX2</b>	
		2m Cable	<b>P8LS08L226C</b>	<b>P8LS08L226C</b>	
		5m Cable	<b>P8LS08L526C</b>	<b>P8LS08L526C</b>	
		9m Cable	<b>P8LS08L926C</b>	<b>P8LS08L926C</b>	
	1 x Clip connector	1 meter	<b>P8LW021C</b>	<b>P8LW021C</b>	
	Individual: including 2 flying leads	2 x Clip connector	1 meter	<b>P8LW021C02</b>	<b>P8LW021C02</b>
	Multiple: 1 common (0 VDC) and 1 flying lead per connector	4 x Clip connector	1 meter	<b>P8LW021C04</b>	<b>P8LW021C04</b>
		8 x Clip connector	1 meter	<b>P8LW021C08</b>	<b>P8LW021C08</b>
			M8 Connector	<b>P8CS0803J</b>	<b>P8CS0803J</b>
		M12 Connector	<b>P8CS1204J</b>	<b>P8CS1204J</b>	

Note: 85 Durometer minimum for pneumatic connectors.

 Most popular.

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**"S" Series Individual Subbase Valve**  
*(Complete with Pneumatic and Electrical Connectors)*

	<b>P2M</b>	<b>1</b>	<b>S</b>	<b>4ES</b>	<b>2C</b>	<b>00</b>	<b>A</b>	<b>F4</b>
<b>Basic Series</b>								
Moduflex	P2M							
<b>Size</b>								
Size 1	1							
Size 2	2							
<b>Valve Series</b>								
Individual Subbase	S							
<b>Valve Type / Function</b>								
<b>3-Way / 2-Position</b>								
Single Solenoid, Nc Spring Return	3ES							
Single Air Pilot, Nc Spring Return	3PS							
<b>4-Way / 2-Position</b>								
Single Solenoid, Spring Return	4ES							
Single Air Pilot, Spring Return	4PS							
Double Solenoid	4EE							
Double Air Pilot	4PP							
<b>Dual 3-Way, 2-Position, Spring Return</b>								
Solenoid, NC / NC + PO Check (4/3 APB)	BEE*							
Air Pilot, NC / NC + PO Check (4/3 APB)	BPP*							
Solenoid, NO / NO (4/3 Pressure Ctr.)	CEE							
Air pilot NO / NO (4/3 Pressure Ctr.)	CPP							
<b>Solenoid, NC / NC with Exhaust Check</b>								
Air Pilot, NC / NC with Exhaust Check	DPP							
Solenoid, NO / NC with Exhaust Check	EEE							
Solenoid, NC / NC without Check (4/3 Exh. Ctr.)	GEE							
* Valve includes peripheral P. O. Check Valve and union fittings.								
<b>Ports (all ports)</b>								
C0*	10mm Elbow Fitting							
C2*	12mm Elbow Fitting							
<b>C4</b>	<b>5/32" (4mm) Elbow Fitting</b>							
C6	6mm Elbow Fitting							
<b>C7</b>	<b>1/4" Elbow Fitting</b>							
C8*	8mm Elbow Fitting							
<b>C9*</b>	<b>3/8" Elbow Fitting</b>							
F0*	10mm Straight Fitting							
F2*	12mm Straight Fitting							
<b>F3*</b>	<b>1/2" Straight Fitting</b>							
<b>F4</b>	<b>5/32" (4mm) Straight Fitting</b>							
F6	6mm Straight Fitting							
<b>F7</b>	<b>1/4" Straight Fitting</b>							
F8*	8mm Straight Fitting							
<b>F9*</b>	<b>3/8" Straight Fitting</b>							
* Only available with size 2 valves.								
<b>Fitting Configuration</b>								
<b>A*</b>	<b>Straight Fittings</b>							
<b>B*</b>	<b>Elbow Fittings</b>							
<b>C*†</b>	<b>Straight Fitting &amp; Muffler</b>							
<b>D*†</b>	<b>Elbow Fitting &amp; Muffler</b>							
* Ports 1 & 3 fittings sizes are same as ports 2 & 4 (see example at left.)								
† Fitting in port 1, muffler in port 3.								
<b>Operator Voltage</b>								
24VDC	2C							
Remote Pilot - 5/32" (4mm) Tube	00							
<b>LED / Cable</b>								
<b>00</b>	<b>No Cable, No LED, No Surge Suppression</b>							
<b>V2</b>	<b>2 Meter Cable with LED and Surge Suppression</b>							
V5	5 Meter Cable with LED and Surge Suppression							
V9	9 Meter Cable with LED and Surge Suppression							
W0	No Cable / Clip Ready							
W1	1 Meter Cable, Clip Connector							

Example for fitting configuration:  
**Size 1**

**CF7** Ports 1 & 3  
 1/4" straight fitting & muffler  
 Ports 2 & 4  
 1/4" straight fittings

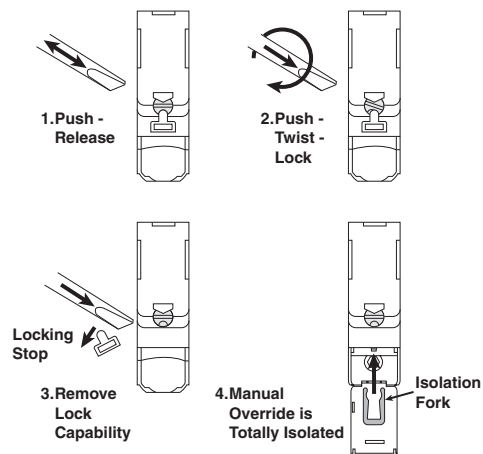
**Size 2**

**AC0** Ports 1 & 3  
 10mm elbow fittings  
 Ports 2 & 4  
 10mm elbow fittings

**With only one universal solenoid pilot for all configurations**

24VDC is now a global standard for all machines.  
 The Moduflex 24VDC unique solenoid pilot is supplied with the multi-function manual override that can be adapted to all requirements, as explained by the drawings.

**Multi-function adaptable manual override**



  Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D35

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 Pneumatic Division  
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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



**Example:**

Size 1, 4-Way Single Solenoid valve with 1/4" Straight Connectors in Ports 1, 2 and 4. Exhaust Muffler in Port 3. Valve to include 2m cable with LED and surge suppression.

**“S” Series Single Solenoid**

**How to Order Complete Valve Assembly**

Line Item	Quantity	Part Number	Description
1	1	<b>P2M1S4ES2CV2CF7</b>	Size 1, Individual Subbase Valve, 4 Way, Single Solenoid, 2m Cable with LED / Surge Suppression, Exhaust Muffler with 1/4" OD Straight Port Fittings

**Notes:**

1. Cables supplied loose with valve.
2. For LED and Surge Suppressor, cable must be supplied with valve.

**How to Order Components**







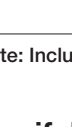

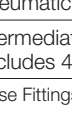





Line Item	Quantity	Part Number	Description
1	1	<b>P2M1S4ES2C</b>	Size 1, Individual Subbase Valve, Single Solenoid, 4 Way
2	1	<b>P8LS08L226C</b>	2m Cable with LED / Surge Suppression
3	3	<b>FMD07-1B</b>	Size 1, 1/4" OD Tube Push In Connector
4	1	<b>MMDVA1</b>	Size 1, Muffler for Exhaust Port

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

"T" Series Manifold Valves with Individual Connectors

	Symbol	Type	Operator	Pilot Connector	Cv	Part number	
						Size 1	Size 2
		4-way, 2-position	Single solenoid	M8 Lockable	0.32	<b>P2M1T4ES2C</b>	<b>P2M2T4ES2C</b>
			Clip			P2M1T4ES2CW	P2M2T4ES2CW
			Single air pilot		P2M1T4PS	P2M2T4PS	
		4-way, 2-position	Double solenoid	M8 Lockable	0.32	<b>P2M1T4EE2C</b>	<b>P2M2T4EE2C</b>
			Clip			P2M1T4EE2CW	P2M2T4EE2CW
			Double air pilot		P2M1T4PP	P2M2T4PP	
		4-way, 2-position, dual valve w/ exhaust check	Double solenoid	M8 Lockable	0.18	<b>P2M1TJEE2C</b>	—
			Clip			P2M1TJEE2CW	—
			Double air pilot		P2M1TJPP	—	
		3-way, 2-position, dual valve, NC/NC w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1TDEE2C</b>	<b>P2M2TDEE2C</b>
			Clip			P2M1TDEE2CW	P2M2TDEE2CW
			Double air pilot		P2M1TDPP	P2M2TDPP	
		3-way, 2-position, dual valve, NO/NO w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1TC EE2C</b>	<b>P2M2TCEE2C</b>
			Clip			P2M1TC EE2CW	P2M2TCEE2CW
			Double air pilot		P2M1TCPP	P2M2TCPP	
		3-way, 2-position, dual valve, NC/NO w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1TEEE2C</b>	<b>P2M2TEEE2C</b>
			Clip			P2M1TEEE2CW	P2M2TEEE2CW
			Single solenoid	M8 Lockable	0.22	<b>P2M1T3ES2C</b>	<b>P2M2T3ES2C</b>
Clip		P2M1T3ES2CW	P2M2T3ES2CW				
		3-way, 2-position, dual valve, NC/NC	Double solenoid	M8 Lockable	0.22	<b>P2M1TGEE2C</b>	<b>P2M2TGEE2C</b>
			Clip			P2M1TGEE2CW	P2M2TGEE2CW
			Single air pilot		P2M1T3PS	P2M2T3PS	

Note: Includes 5/32" (4mm) Air Pilot Connectors.

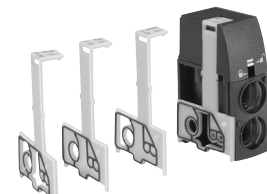
Manifold Options

Module	Part Number
Pneumatic end plate kit	<b>P2M2HXT01*</b>
Pneumatic end plate kit with torx screwdriver	<b>P2M2HXT0T*</b>
Intermediate supply module (Includes 4 configuration plates)	<b>P2M2BXT0A*</b>

\* Use Fittings for Size 2 Modules Only



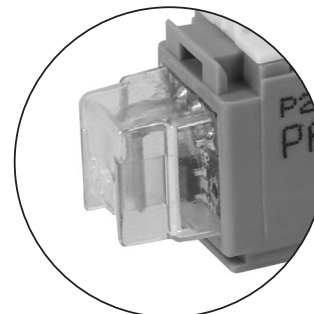
P2M2HXT01



P2M2BXT0A



M8 2-pin, male connector



Clip Connector with LED & surge protection

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D37

Parker Hannifin Corporation  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

D

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO









Network Connectivity

DX ISOMAX Series

Valvair II Series



**"T" Series Size Accessories**

Description	Tube size OD	Option	Part Number	Part Number
			Size 1	Size 2
 Push to connect fitting	5/32" or 4mm	Elbow	<b>CMD04-1</b>	—
		Straight	<b>FMD04-1</b>	—
	1/4"	Elbow	<b>CMD07-1B</b>	<b>CMD07-2B</b>
		Straight	<b>FMD07-1B</b>	<b>FMD07-2B</b>
	3/8"	Elbow	—	<b>CMD09-2B</b>
		Straight	—	<b>FMD09-2B</b>
	1/2"	Straight	—	<b>FMD13-2B</b>
	6mm	Elbow	<b>CMD06-1</b>	<b>CMD06-2</b>
		Straight	<b>FMD06-1</b>	<b>FMD06-2</b>
	8mm	Elbow	—	<b>CMD08-2</b>
Straight		—	<b>FMD08-2</b>	
10mm	Elbow	—	<b>CMD10-2</b>	
	Straight	—	<b>FMD10-2</b>	
12mm	Elbow	—	<b>CMD12-2</b>	
	Straight	—	<b>FMD12-2</b>	
 Muffler for exhaust port			<b>MMDVA1</b>	<b>MMDVA2</b>
 Plug			<b>PMDYY1</b>	<b>PMDYY2</b>
 Double male union		Connecting peripheral modules	<b>HMDXX1</b>	<b>HMDXX2</b>
 M8 female connector to flying lead - IP67 LED and surge protection		2M cable	<b>P8LS08L226C</b>	<b>P8LS08L226C</b>
		5M cable	<b>P8LS08L526C</b>	<b>P8LS08L526C</b>
		9M cable	<b>P8LS08L926C</b>	<b>P8LS08L926C</b>
 Clip connector – IP40 Individual: including 2 flying leads Multiple: 1 common (0 VDC) and 1 flying lead per connector	1 x Clip connector	1 meter	<b>P8LW021C</b>	<b>P8LW021C</b>
	2 x Clip connector	1 meter	<b>P8LW021C02</b>	<b>P8LW021C02</b>
	4 x Clip connector	1 meter	<b>P8LW021C04</b>	<b>P8LW021C04</b>
	8 x Clip connector	1 meter	<b>P8LW021C08</b>	<b>P8LW021C08</b>
 Field wireable connector		M8 connector	<b>P8CS0803J</b>	<b>P8CS0803J</b>
		M12 connector	<b>P8CS1204J</b>	<b>P8CS1204J</b>
 Torx screwdriver			<b>P2M1K0TASD</b>	<b>P2M1K0TASD</b>

Note: 85 Durometer minimum for pneumatic connectors.

 Most popular.

**D**  
Subbase & Manual Valves  
H Series Micro  
Moduflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**"T" Series Valve Manifold with Individual Connectors**  
*(Complete with Pneumatic and Electrical Connectors)*

**P2M 1 T 4ES 2C 00 0 F4**

<b>Basic Series</b>			
Valvetronic Modules	P2M		
<b>Size</b>			
Size 1	1		
Size 2	2		
<b>Valve Series</b>			
Individual Wire	T		
<b>Valve Type / Function</b>			
<b>3-Way / 2-Position</b>			
Single Solenoid, NC Spring Return	3ES		
Single Air Pilot, NC Spring Return	3PS		
<b>4-Way / 2-Position</b>			
Single Solenoid, Spring Return	4es		
Single Air Pilot, Spring Return	4ps		
Double Solenoid	4ee		
Double Air Pilot	4pp		
<b>Dual 3-Way, 2-Position, Spring Return</b>			
Solenoid, NC / NC + PO Check (4/3 APB)	BEE*		
Air Pilot, NC / NC + PO Check (4/3 APB)	BPP*		
Solenoid, NO / NO (4/3 Pressure Ctr.)	CEE		
Air Pilot NO / NO (4/3 Pressure Ctr.)	CPP		
Solenoid, NC / NC with Exhaust Check	DEE		
Air Pilot, NC / NC with Exhaust Check	DPP		
Solenoid, NO / NC with Exhaust Check	EEE		
Solenoid, NC / NC without Check (4/3 Exh. Ctr.)	GEE		
<b>Dual 4-Way, 2-Position, Spring Return</b>			
Solenoid	JEE**		
Air Pilot	JPP**		

<b>Ports 2 &amp; 4</b>	
C0*	10mm Elbow Fitting
C2*	12mm Elbow Fitting
<b>C4</b>	<b>5/32" (4mm) Elbow Fitting</b>
C6	6mm Elbow Fitting
<b>C7</b>	<b>1/4" Elbow Fitting</b>
C8*	8mm Elbow Fitting
<b>C9*</b>	<b>3/8" Elbow Fitting</b>
F0*	10mm Straight Fitting
F2*	12mm Straight Fitting
<b>F3*</b>	<b>1/2" Straight Fitting</b>
<b>F4</b>	<b>5/32" (4mm) Straight Fitting</b>
F6	6mm Straight Fitting
<b>F7</b>	<b>1/4" Straight Fitting</b>
F8*	8mm Straight Fitting
<b>F9*</b>	<b>3/8" Straight Fitting</b>

\* Only available with size 2 valves.

<b>Ports 1 &amp; 3</b>	
0	None

<b>LED / Cable</b>	
<b>00</b>	<b>No Cable, no LED, no Surge Suppression</b>
<b>V2</b>	<b>2 Meter Cable with LED and Surge Suppression</b>
V5	5 Meter Cable with LED and Surge Suppression
V9	9 Meter Cable with LED and Surge Suppression
W0	No Cable / Clip Ready
W1	1 Meter Cable, Clip Connector

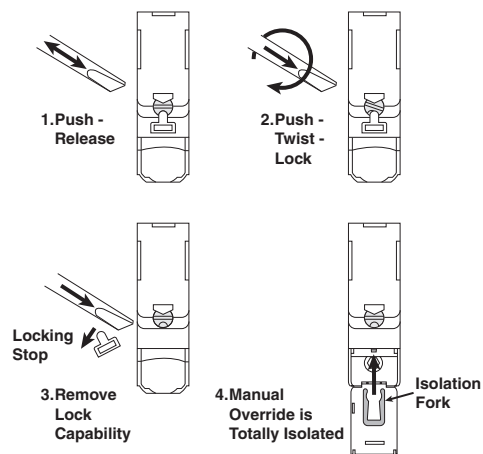
<b>Operator Voltage</b>	
<b>2C</b>	<b>24VDC</b>
00	Remote Pilot - 5/32" (4mm) Tube

\* Valve includes peripheral P. O. check valve and union fittings.  
 \*\* Size 1 only.

**With only one universal solenoid pilot for all configurations**

24VDC is now a global standard for all machines. The Moduflex 24VDC unique solenoid pilot is supplied with the multi-function manual override that can be adapted to all requirements, as explained by the drawings.

**Multi-function adaptable manual override**



  Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D39

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

## Ordering Information

## Subbase & Manifold Valve Products Moduflex "T" Series



### Example:

Size 1, 4-Way Single Solenoid valve with 1/4" Straight Connectors in Ports 2 and 4. Valve to include 2m cable with LED and surge suppression.

### "T" Series Single Solenoid

### How to Order Complete Valve Assembly

Line Item	Quantity	Part Number	Description
1	1	<b>P2M1T4ES2CV20F7</b>	Size 1, T Series Manifold Valves, 4 Way, Single Solenoid, 2m Cable with LED / Surge Suppression, 1/4" OD Straight Port Fittings

#### Notes:

1. Cables supplied loose with valve.
2. For LED and Surge Suppressor, cable must be supplied with valve.
3. To assemble into a manifold, Pneumatic Head and Tail Set must be ordered separately.

### How to Order Components

Line Item	Quantity	Part Number	Description
1	1	<b>P2M1T4ES2C</b>	Size 1, T Series Manifold Valves, Single Solenoid, 4 Way
2	1	<b>P8LS08L226C</b>	2m Cable with LED / Surge Suppression
3	2	<b>FMD07-1B</b>	Size 1, 1/4" OD Tube Push In Connector

D

Subbase & Manual  
Valves

H Series  
Micro

Moduflex  
Series

H Series  
ISO

Network  
Connectivity

DX ISOMAX  
Series

Valvair II  
Series













For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D40

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Pneumatic Division  
Richland, Michigan  
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**"V" Series Manifold Valves with Collective Wiring**

	Symbol	Type	Operator	Cv	Part Number	
					Size 1	Size 2
 <p><b>Single Solenoid</b></p>		4-way, 2-position	Single solenoid	0.32	<b>P2M1V4ES2CV</b>	0.8 <b>P2M2V4ES2CV</b>
		4-way, 2-position	Double solenoid	0.32	<b>P2M1V4EE2CV</b>	0.8 <b>P2M2V4EE2CV</b>
		4-way, 2-position, dual valve, w/ exhaust check	Double solenoid	0.18	<b>P2M1VJEE2CV</b>	
		3-way, 2-position, dual valve, NC/NC w/ exhaust check	Double solenoid	0.22	<b>P2M1VDEE2CV</b>	0.44 <b>P2M2VDEE2CV</b>
		3-way, 2-position, dual valve, NO/NO w/ exhaust check	Double solenoid	0.22	<b>P2M1VCEE2CV</b>	0.44 <b>P2M2VCEE2CV</b>
 <p><b>Double Solenoid</b></p>		3-way, 2-position, dual valve, NC/NO w/ exhaust check	Double solenoid	0.22	<b>P2M1VEEE2CV</b>	0.44 <b>P2M2VEEE2CV</b>
		3-way, 2-position, NC w/ exhaust check	Single solenoid	0.22	<b>P2M1V3ES2CV</b>	0.44 <b>P2M2V3ES2CV</b>
		3-way, 2-position, dual valve, NC/NC	Double solenoid	0.22	<b>P2M1VGEE2CV</b>	0.44 <b>P2M2VGEE2CV</b>

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**“V” Series Accessories**

	Description	Tube size OD	Option	Part Number	
				Size 1	Size 2
	Push to connect fitting	5/32"	Elbow	<b>CMD04-1</b>	—
			Straight	<b>FMD04-1</b>	—
		1/4"	Elbow	<b>CMD07-1B</b>	<b>CMD07-2B</b>
			Straight	<b>FMD07-1B</b>	<b>FMD07-2B</b>
		3/8"	Elbow	—	<b>CMD09-2B</b>
			Straight	—	<b>FMD09-2B</b>
		1/2"	Straight	—	<b>FMD13-2B</b>
			6mm	Elbow	<b>CMD06-1</b>
		8mm	Straight	<b>FMD06-1</b>	<b>FMD06-2</b>
			Elbow	—	<b>CMD08-2</b>
		10mm	Straight	—	<b>FMD08-2</b>
			Elbow	—	<b>CMD10-2</b>
		12mm	Straight	—	<b>FMD10-2</b>
			Elbow	—	<b>CMD12-2</b>
	Muffler for exhaust port		—	<b>MMDVA1</b>	<b>MMDVA2</b>
	Plug		—	<b>PMDYY1</b>	<b>PMDYY2</b>
	Double male union		Connecting peripheral modules	<b>HMDXX1</b>	<b>HMDXX2</b>
	Electrical 20-pin multi-connector cable with flying leads	IP65 rated	2M cable	<b>P8LMH20M2A</b>	<b>P8LMH20M2A</b>
			5M cable	<b>P8LMH20M5A</b>	<b>P8LMH20M5A</b>
			9M cable	<b>P8LMH20M9A</b>	<b>P8LMH20M9A</b>
	Electrical 25-pin D-sub cable	IP20 rated	3M cable	<b>P8LMH25M3A</b>	<b>P8LMH25M3A</b>
			9M cable	<b>SCD259D</b>	<b>SCD259D</b>
			IP65 rated	3M cable	<b>SCD253W</b>
	9M cable	<b>SCD259WE</b>	<b>SCD259WE</b>		
	Field wireable connector for power supply	Female	M12 - A code	<b>P8CS1205AA</b>	
	Power & Communication Cable	IO-Link	5-pin male to female cable, TPE	<b>RKC 4.5T*-RSC 4.5T/S1587</b>	
	Torx screwdriver		—	<b>P2M1K0TASD</b>	<b>P2M1K0TASD</b>

Where \* = 1, 2, 3, 4, 5, 10, 20 meter standard lengths

Note: 85 Durometer minimum for pneumatic connectors.

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



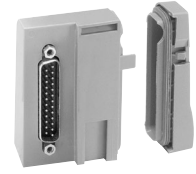
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Electrical Connections**

Description	Part Number
20-pin, Multi-connector electrical head module	<b>P2M2HEV0A</b>
25-pin, D-sub, electrical head module	<b>P2M2HEV0D</b>



P2M2HEV0A



P2M2HEV0D

**Network Connectivity Connections**

Description	Part Number	
EtherNet I/P	<b>P2M2HBVE12400</b>	
PROFINET	<b>P2M2HBVN12400</b>	
EtherCAT	<b>P2M2HBVT12400</b>	
Modbus TCP	<b>P2M2HBVM12400</b>	
PowerLink	<b>P2M2HBVW12400</b>	
IO-Link Class A	3-Pin, Aux power 1 & 3	<b>P2M2HBVL12400A13</b>
IO-Link Class A	3-Pin, Aux power 4 & 3	<b>P2M2HBVL12400A43</b>
IO-Link Class A	3-Pin, Aux power 4 & 2	<b>P2M2HBVL12400A42</b>
IO-Link Class B	5-Pin, Aux power 2 & 5	<b>P2M2HBVL12400B25</b>

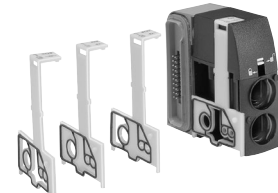
**Manifold Options**

Module	Part Number
Pneumatic end plate kit	<b>P2M2HXT01*</b>
Pneumatic end plate kit with torx screwdriver	<b>P2M2HXT0T*</b>
Intermediate supply module (Includes 4 configuration plates)	<b>P2M2BXV0A*</b>

\* Use Fittings for Size 2 Modules Only



P2M2HXT01



P2M2BXV0A

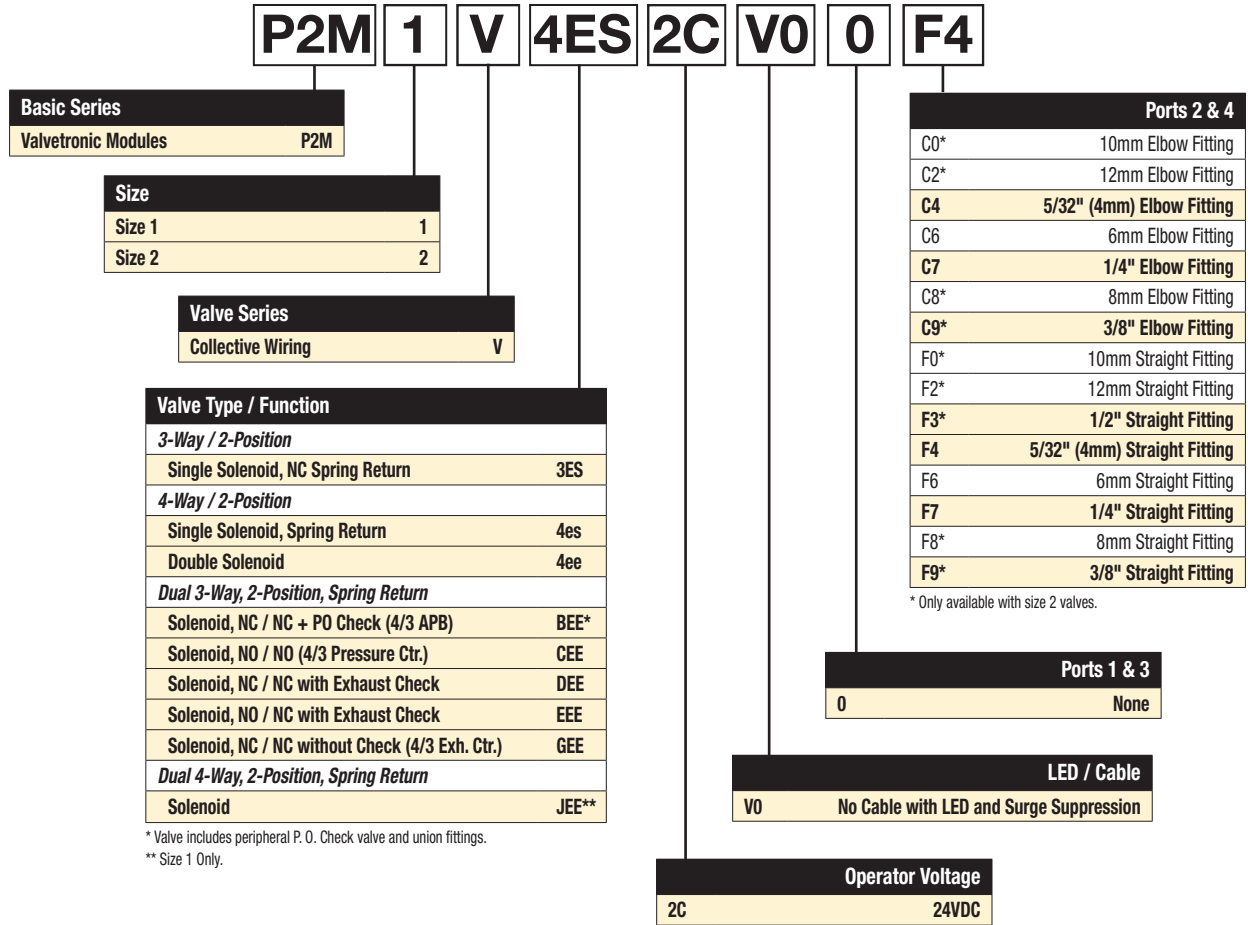
Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**"V" Series Valve Manifold with Collective Wiring**  
*(Complete with Pneumatic Connectors)*



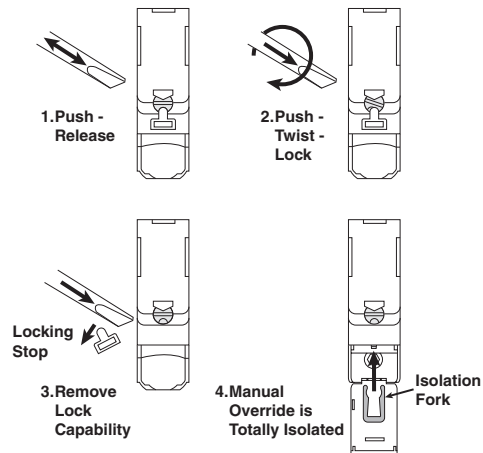
\* Valve includes peripheral P. O. Check valve and union fittings.  
 \*\* Size 1 Only.

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**With only one universal solenoid pilot for all configurations**

24VDC is now a global standard for all machines. The Moduflex 24VDC unique solenoid pilot is supplied with the multi-function manual override that can be adapted to all requirements, as explained by the drawings.

**Multi-function adaptable manual override**



Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**"V" Series Single Solenoid**



**How to Order -**

**Example:** Size 1, 4-Way Single Solenoid valve with 1/4" Straight Connectors in Ports 2 and 4. Valve to include LED and surge suppression.

Line Item	Quantity	Part number	Description
<b>Complete Peripheral Module</b>			
1	1	<b>P2M2V4ES2CV00F7</b>	Size 1, V Series Manifold Valves, 4 Way, Single Solenoid, LED / Surge Suppression, 1/4" OD Straight Port Fittings
<b>Components</b>			
1	1	<b>P2M1V4ES2CV</b>	Size 1, V Series Manifold Valves, Single Solenoid, 4 Way
2	2	<b>FMD07-1B</b>	Size 1, 1/4" OD Tube Push In Connector

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D45

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**“V” Series 25-Pin, D-Sub Addressing**



**Valve Island Head 25-Pin, Multi-Connector**

On the island head module, the multi-connector integrates the HE10 connector standard in its 25-Pin version.

Its plug-in function is secured in position with a guillotine lock with easy access from the front of the island.

The 25-Pin, D-Sub multi-connector is rated for IP40.

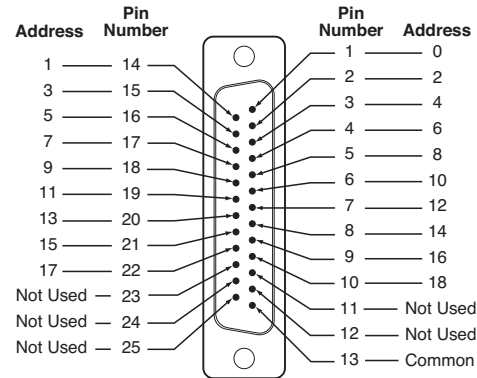
**25-Pin, Multi-Connector Addressing**

When assembling a **V Series** island, modules are automatically connected to the head module through the modular principle of the integrated electrical connections.

Each wire color code corresponds a solenoid pilot position in the island.



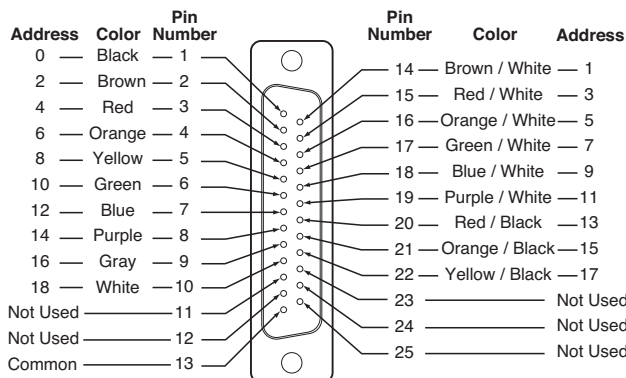
**P8LMH25M3A - Cable**



Face View - Male D-Sub, 25-Pin Head Module Connector

**Electrical 25-Pin D-Sub Cable**

Length (meters)	Weight (oz)	IP	Part Number
3	14.3	20	<b>P8LMH25M3A</b>
3	14.3	65	<b>SCD253W</b>
9	55.8	20	<b>SCD259D</b>
9	55.8	65	<b>SCD259WE</b>



Face View - Female D-Sub, 25-Pin Cable Connector

**Electrical Specifications**

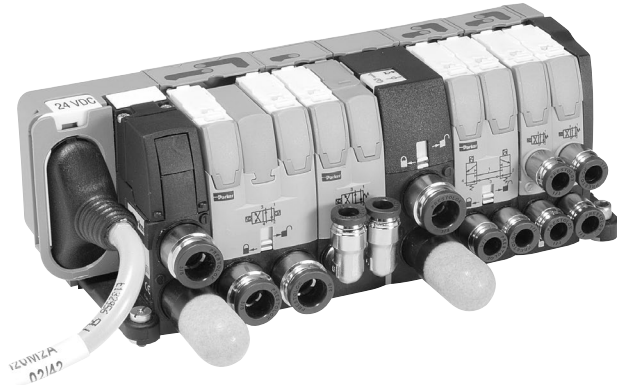
Rated voltage	24VDC
Maximum addresses	19
Maximum energized simultaneously	19
Electrical connection	25-Pin, D-Sub DIN41652, MIL-C-24308, NFC93425 Type HE5
Polarity	Insensitive: PNP and NPN compatible
Dust and water protection	IP40 / IP65

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**"V" Series 20-Pin, Multi-Connector and Addressing**



**Valve Island Head 20-Pin, Multi-Connector**

On the island head module, the multi-connector integrates the HE10 connector standard in its 20-Pin version.

Its plug-in function is secured in position with a guillotine lock with easy access from the front of the island.

Just like the whole island, the multi-connector follows the IP65 protection standard.

**Cable Specification:**

8.6 mm dia., UL, 20 wires, 0.22mm<sup>2</sup>, AWG 24

Minimum Static Radius: 6.5 mm (.255")

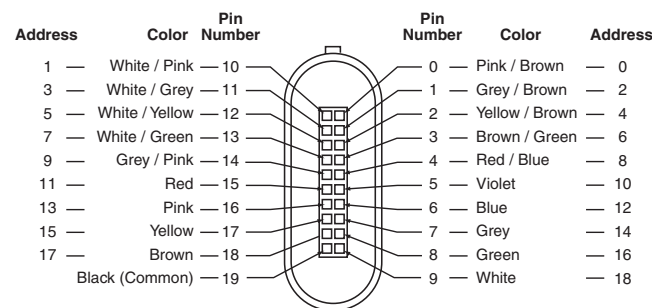
Available with 6.56 ft. (2 m), 16.4 ft. (5 m) and 29.5 ft. (9 m) lengths.



**P8LMH20M2A - Cable**

**Electrical 20-Pin Multi-Connector with Flying Lead Cable**

Cable Length	Weight (oz)	IP	Part Number
2 m	10.97	65	<b>P8LMH20M2A</b>
5 m	27.41	65	<b>P8LMH20M5A</b>
9 m	49.38	65	<b>P8LMH20M9A</b>



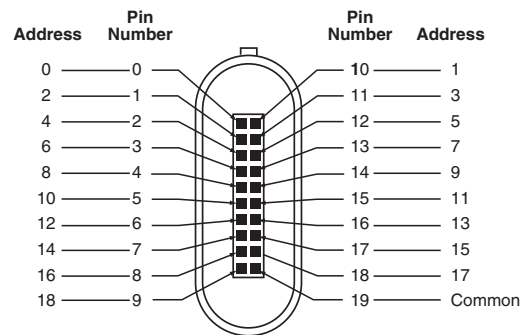
**Face View - Female 20-Pin Cable Connector**

**20-Pin, Multi-Connector Addressing**

When assembling a **V Series** island, modules are automatically connected to the head module through the modular principle of the integrated electrical connections.

The color code addressing given below conforms to the DIN 47100 standard.

Each wire color code corresponds a solenoid pilot position in the island.



**Face View - Male 20-Pin Head Module Connector**

**Electrical Specifications**

Rated Voltage	24VDC
Maximum Addresses	19
Maximum Energized Simultaneously	19
Electrical Connection	Type HE10
Polarity	Insensitive: PNP and NPN compatible
Dust and Water Protection	IP65

**P2M Network Nodes**

P2M communication modules directly attach to the Moduflex valve series as well as the P2M endplates of the H Series Micro and H Series ISO valve products. It offers a compact and low cost network solution.

**Features**

- Small, compact product design
- IO-Link Class A & Class B nodes
- Broad protocol offering
- Channel-level diagnostics (LED and Electronic)
- Horizontal and vertical mounting without derating
- 5g vibration
- Quick-disconnects for I/O and network connectivity
- Built-in panel grounding
- CE certification



D	Subbase & Manual Valves
H Series Micro	Moduflex Series
H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**P2M Industrial Ethernet Node**

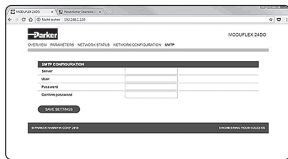
The P2M Industrial Ethernet 24 DO node allows a very simple and cost efficient connection to the most popular Industrial Ethernet networks.

Designed with isolated auxiliary power, it can easily be adapted to all power supply architectures and follow any required machine directives as Safe Power Capable.



Industrial Ethernet Protocol	Part Number
EtherNet/IP (Safe Power Capable)	<b>P2M2HBVE12400</b>
PROFINET (Safe Power Capable)	<b>P2M2HBVN12400</b>
EtherCAT (Safe Power Capable)	<b>P2M2HBVT12400</b>
Modbus/TCP (Safe Power Capable)	<b>P2M2HBVM12400</b>
PowerLink (Safe Power Capable)	<b>P2M2HBVW12400</b>

**Simple Product Set-Up**



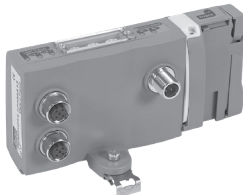
The P2M Industrial Ethernet node offers IP addressing through 3 rotary switches located on the top side.

The 3 rotary switches also allow for Factory Reset, IP address storage, and DHCP addressing.

If supported by the protocol used, the IP address can be modified through the embedded web page.

For an application requiring a regular disconnection / reconnection of communication & power, PROFINET and EtherNet/IP protocols allow respectively a Fast Start-Up (FSU) and Quick Connect mode. This mode can be enabled or disabled.

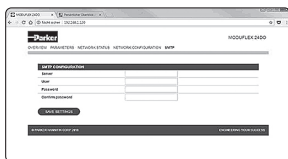
**Topology / Integrated Ethernet Switch**



The P2M Industrial Ethernet 24 DO node offers 2 Ethernet ports allowing a line topology without external switch. The Ring topology can also be supported (enable/disable) for PROFINET, EtherNet/IP and Modbus TCP/IP.

The integrated Ethernet switch supports Class C services allowing use in an isochronous real time (IRT) structure.

**Easy Diagnostics – Local LEDs, Process (cyclic) data, Parameter (acyclic) data**



The P2M Industrial Ethernet 24 DO node offers local diagnostics through 7 LED's located on the visible top side, showing:

- Logic status
- Ethernet activity on both ports
- Standard Status due to protocol
- Output error / Auxiliary power

This local information as well as configuration and predictive maintenance diagnostics (Power monitoring, Solenoid cycle counting, etc) are available via both Process Data (cyclic) and Parameter Data (acyclic) via the PLC through the network and also easily viewable from the embedded web page.

When the PLC is NOT in control, the web page allows the user to force ON/OFF the solenoids state. This function has password protection.



**P2M Industrial Ethernet Connections & Configuration**

**Ethernet ports and Auxiliary power connection**

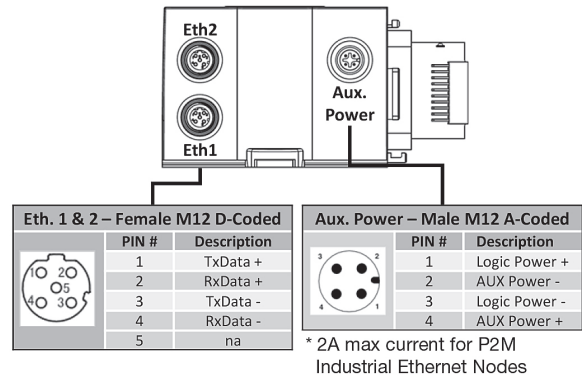
Ethernet ports: 2 x Standard Female M12 D-Coded – 5 pins  
 Auxiliary Power: Standard Male M12 A-Coded – 4 pins

**Configuration file**

The configuration files (.EDS, .GDS, etc) can be download from the product web page.

**Add on Instructions & Function Blocks**

Add on Instructions & Function Blocks to assist in the configuration and programming of the P2M Node are available on the product web page – [www.parker.com/pdn/P2M\\_IE](http://www.parker.com/pdn/P2M_IE)



**Safe Power Capable**

Auxiliary power of P2M Industrial Ethernet 24 DO node can be supplied from a safe output device following machinery directives. This includes:

- Output Signal Switch Device (OSSD) test pulse compatible
- Galvanic isolation between 0 Vdc Logic and Auxiliary power
- PP or PM cabling modes

For more details, refer to the user manuals located at [www.parker.com/pdn/P2M\\_IE](http://www.parker.com/pdn/P2M_IE)

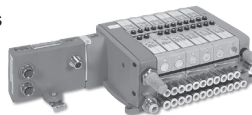
**P2M Industrial Ethernet Valve Control**

All P2M Industrial Ethernet Nodes can easily connect to and control pneumatic valves sizes ranging from 0.18 Cv to 6.0 Cv utilizing the Moduflex, H Micro, or H ISO valve series including the new H ISO Universal manifold which can mix ISO sizes 15407 (sizes 02 & 01) and 5599 (sizes 1 & 2) without transition plates.

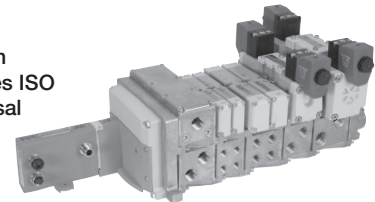
P2M on Moduflex



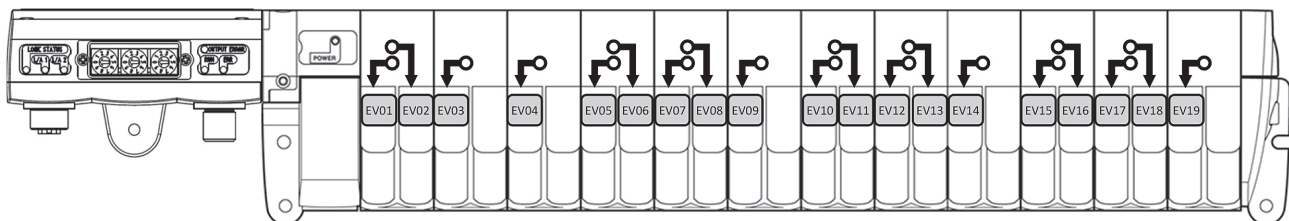
P2M on H Series Micro



P2M on H Series ISO Universal



**P2M Industrial Ethernet Node Output (Solenoid) data mapping - shown on Moduflex valve series**



	7 . . . . . 3	2 . . . . . 0
Byte 0	EV08 . . . . .	EV01
Byte 1	EV16 . . . . .	EV09
Byte 2*	EV24 . . . . . EV20	EV19 . . . . . EV17

\* Byte 2 / Bits 3 to 7 are only available when connected to H Series Micro or H Series ISO valve manifolds. The Moduflex valve series is limited to 19.

**Process (Cyclic) Diagnostic through network via ADI #9 – “Module Error Input”**

Easy to access diagnostic data transmitted to the PLC as Application Device Instance (ADI) #9

- Voltage warning, short circuit condition, module error, etc
- For more details refer to user manual on product web page – [www.parker.com/pdn/P2M\\_IE](http://www.parker.com/pdn/P2M_IE)

ADI	Instance name	Data type	Access
#9	Module error input	Unit 16	Read

Byte 0	Diag 7 . . . . . Diag 0
Byte 1	Reserved

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

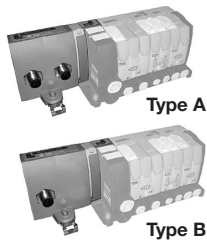
D50

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)



**“V” Series Valve Island**  
**P2M head module for IO-Link**

Electrical Module for 19 outputs (Moduflex Pilot Valves)  
 (The last 5 outputs of this 24 DO module can't be used with Moduflex Valve)

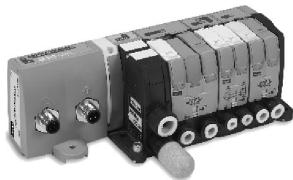


M12 A coded Connector connection						
Description	IO-Link Class	IO-Link	Aux. Power	Aux. Power Pinout	Weight (g)	Part Number
P2MIO-Link Communication Module	Class A	3 Pin's	3 Pin's	1 & 3	160	<b>P2M2HBVL12400A13</b>
		3 Pin's	3 Pin's	4 & 3	160	<b>P2M2HBVL12400A43</b>
		3 Pin's	5 Pin's	4 & 2	160	<b>P2M2HBVL12400A42</b>
	Class B	5 Pin's		2 & 5	140	<b>P2M2HBVL12400B25</b>
Power & Communication Cable						<b>RKC 4.5T*-RSC 4.5T/S1587</b>

IODD file can be downloaded from IODD Finder or the Moduflex web site:  
<https://ioddfinder.io-link.com> or [www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

Where \* = 1, 2, 3, 4, 5, 10, 20 meter standard lengths

**P2M Class A module with independent Auxiliary Power Supply**



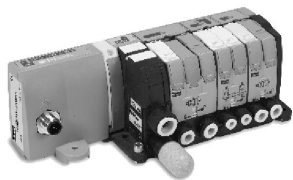
The P2M **IO-Link** Class A module can handle a Moduflex Valve bank having up to 19 pilot solenoid valves.

Thanks to its 2 x M12 A coded male connectors, it can be connected to any IO-Link Class A master and separately receive its auxiliary power supply for valves from an independent source.

The P2M **IO-Link** Class A module exists in 3 versions with the Auxiliary Power M12 connector pin out adapted to any sourcing through a standard M12 cable:

- P2M2HBVL12400A13 version: 24VDC / 0VDC on pins 1 & 3 – Standard version
- P2M2HBVL12400A43 version: 24VDC / 0VDC on pins 4 & 3 – Compatible with Siemens wiring
- P2M2HBVL12400A42 version: 24VDC / 0VDC on pins 4 & 2 – Compatible with Rockwell wiring and Turck

**P2M Class B module**



The P2M **IO-Link** Class B module can handle a Moduflex Valve bank having up to 19 pilot solenoid valves.

Thanks to its single M12 A coded male connectors, it can be connected to any IO-Link Class B master receiving its auxiliary power supply for valves on pins 2 & 5 from the only cable simplifying the connection.

- P2M2HBVL12400B25 version: 24VDC / 0VDC on pins 2 & 5

**Diagnostic**



The P2M **IO-Link** module offers a local diagnostic through 4 LED's located on the visible top side, showing:

- IO-Link com status
- Module error
- Output error
- Auxiliary power

Additional useful diagnostic information can be read by the PLC through the network simplifying diagnostic and allowing predictive maintenance (all details in the user manual).

Most popular.

**Auxiliary power for safe supply**

The P2M **IO-Link** module is compatible with SAFE power source for valve control.

For more details, refer to next page.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**IO-Link module connection and diagnostic functions**



**IO-Link module connection**

Standard male M12 – type A

Usage of standard manufactured cables available from your usual electrical supplier is recommended.

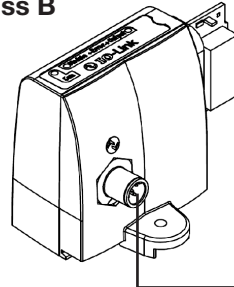
Note: Auxiliary power for solenoids can be wired allowing the user to turn outputs off while the communications remains on.

**Configuration**

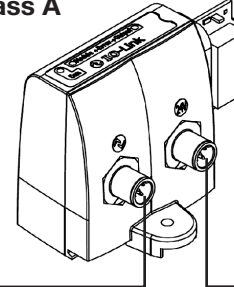
IODD file can be downloaded from IODD Finder or the P2M web site:

<https://ioddfinder.io-link.com>  
[www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

**Class B**



**Class A**



**Legend**

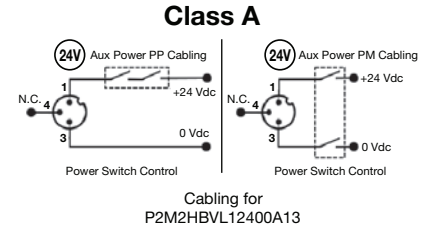
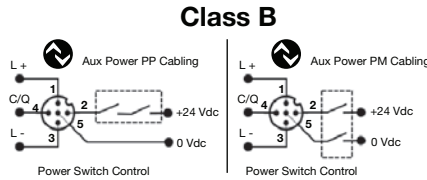
Symbol	Description
L+	IO-Link Power Supply "+"
L-	IO-Link Power Supply "-"
C/Q	IO-Link communication
Aux +	Auxilliary Power Supply 24 VDC
Aux -	Auxilliary Power Supply 0 VDC

M12 Pin's	Class A		
	3 Pin's P2M...A13	3 Pin's P2M...A43	5 Pin's P2M...A42
1	Aux +	Not used	Not used
2	-	-	Aux -
3	Aux -	Aux -	Not used
4	n.c.	Aux +	Aux +
5	-	-	Not used

**Auxiliary Power Supply Compatibility**

The P2M IO-Link Module can be powered from a 24VDC auxilliary source in PP or PM mode as grounds are isolated.

For compatibility with a safe output pulsed module, please refer to user manual document available on [www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)



**IO-Link module diagnostic functions**

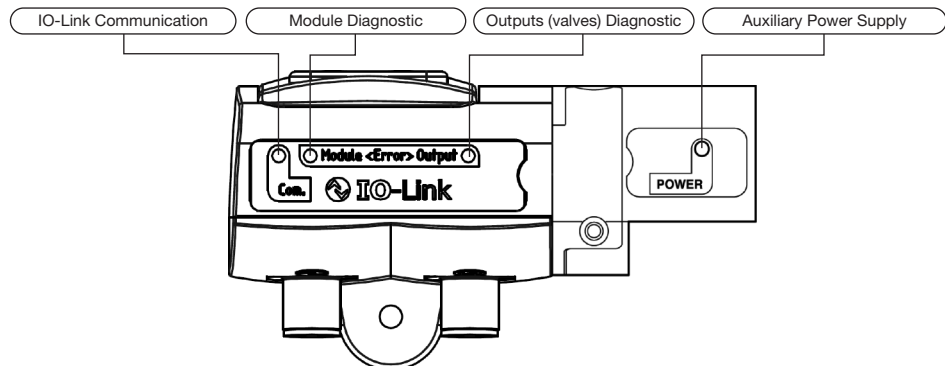
The P2M IO-Link module offers additional useful module status information:

- Solenoid overload or short circuit
- Auxilliary Voltage out of tolerance
- Cycle counter for each solenoid
- Module temperature

For more information on product technical information and module diagnostic functionalities, please refer to the User Manual available from the product web page:

[www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

COM Green LED			Module — Error Red LED			Error — Output Red LED			POWER Green LED		
LED Status	Description	Solving	LED Status	Description	Solving	LED Status	Description	Solving	LED Status	Description	Solving
OFF	IO-Link L+ / L- not powered	Check connection	OFF	Standard mode	NA	OFF	Standard mode	NA	OFF	AUX power failure	Check Auxilliary Power Supply
ON	IOL L+ / L- powered IO mode	Set IO-Link mode in IO-Link master	ON	24 VDC AUX power missing or any active malfunction	Check power supply or change module	ON	Any driver error (overload, over temperature, etc.)	Fix solenoid issue then acknowledge error	ON	Standard	NA
Blinking	IO-Link communication active	NA							Blinking	Aux Power is out of range, alarm level	Check Auxilliary Power Supply



**D**

Subbase & Manifold Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Input Data**

One byte of diagnostic input data is transferred from P2M IO-Link to the IO-Link Master.

**Process Input Data**

7	6	5	4	3	2	1	0
Output Driver SPI Error	Output Driver Channel Error	Polyfuse Tripped	Temperature Warning	SPI Error	AUX Voltage Error	AUX Voltage Warning	Acknowledge Required

**Output Data**

Three bytes of process data are received by P2M IO-Link from the IO-Link Master for control of solenoids.

**Process Output Data (Byte 0)**

7	6	5	4	3	2	1	0
EV8	EV7	EV6	EV5	EV4	EV3	EV2	EV1

**Process Output Data (Byte 1)**

7	6	5	4	3	2	1	0
EV16	EV15	EV14	EV13	EV12	EV11	EV10	EV9

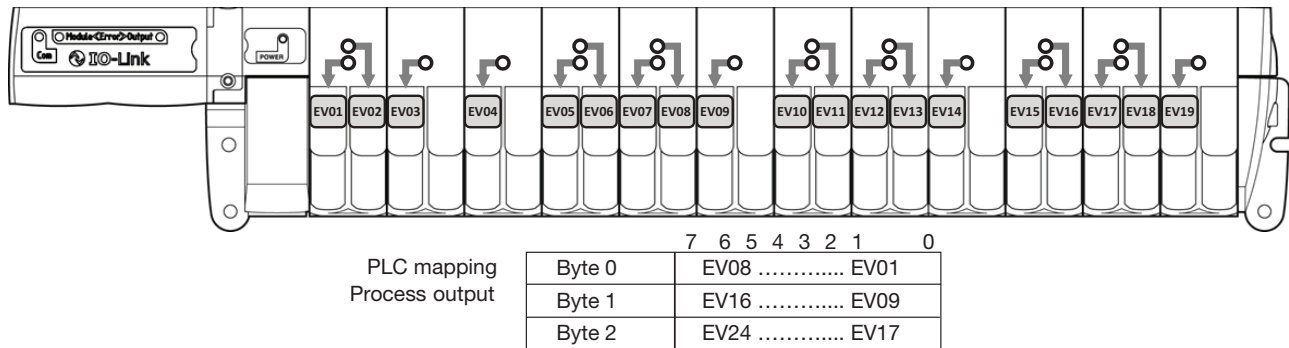
**Process Output Data (Byte 2)**

7	6	5	4	3	2	1	0
EV24	EV23	EV22	EV21	EV20	EV19	EV18	EV17

**Solenoid Pilots Addressing And Process Mapping**

**P2M IO-Link Module addressing used with Moduflex Valve System**

The P2M IO-Link module used with Moduflex Valve System can handle up to 19 pilot solenoid valves. Addressing will be done as shown below.

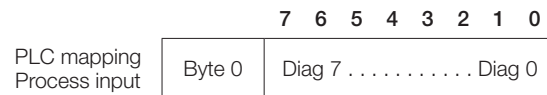


**IO-Link Module Electrical Specifications**

IO-Link Power Supply	According to IO-Link standard V1.1.2
Speed Communication	Com 2 – 38 kBd
Auxiliary Power Supply	20.4 VDC to 26.4 VDC
Current Limit per channel	150 mA
Max Current Limit	4 A
Polarity inversion	YES
Short Circuit Protection	YES
Operating Temperature	0°C to 55°C
Storage Temperature	-25°C to 70°C
Shock According to IEC	60068-2-27:2008
Vibration According to IEC	60068-2-6:2007
EMC According to IEC	61000-4-2 up to -4-6

**Network diagnostic through Process mapping:**

The P2M IO-Link module offers diagnostic data transmitted to the PLC through the master:










Diag bit	Error message	Detail
Diag 0.....	Fail-safe status .....	Acknowledgment required
Diag 1.....	Auxiliary voltage warning.....	Check auxiliary power
Diag 2.....	Auxiliary voltage failure.....	Check auxiliary power
Diag 3.....	Module failure .....	Module HS. must be replaced
Diag 4.....	Module over-temperature	
Diag 5.....	Module over-load	
Diag 6.....	Pilot Solenoid(s) short circuit	Solenoid must be replaced
Diag 7.....	Outputs stage failure	

For further details, refer to the User Manual: Can be downloaded from [www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Peripheral Modules**

Accessories	Description	Option	Part Number		
			Size 1	Size 2	
	Pressure regulator without gauge	0 to 30 PSI	<b>P2M1PXST</b>	<b>P2M2PXST</b>	
		0 to 60 PSI	<b>P2M1PXSL</b>	<b>P2M2PXSL</b>	
		0 to 120 PSI	<b>P2M1PXSN</b>	<b>P2M2PXSN</b>	
	Pressure regulator with gauge	0 to 30 PSI	<b>P2M1PXSR</b>	<b>P2M2PXSR</b>	
		0 to 60 PSI	<b>P2M1PXSM</b>	<b>P2M2PXSM</b>	
		0 to 120 PSI	<b>P2M1PXSG</b>	<b>P2M2PXSG</b>	
	Gauge	0 to 30 PSI	<b>P2M1K0GT</b>	<b>P2M1K0GT</b>	
		0 to 60 PSI	<b>P2M1K0GL</b>	<b>P2M1K0GL</b>	
		0 to 120 PSI	<b>P2M1K0GN</b>	<b>P2M1K0GN</b>	
	Push to connect fitting	5/32" or 4mm OD tube	Elbow	<b>CMD04-1</b>	
			Straight	<b>FMD04-1</b>	
		1/4" OD tube	Elbow	<b>CMD07-1B</b>	<b>CMD07-2B</b>
			Straight	<b>FMD07-1B</b>	<b>FMD07-2B</b>
		3/8" OD tube	Elbow		<b>CMD09-2B</b>
			Straight		<b>FMD09-2B</b>
		1/2" OD tube	Straight		<b>FMD13-2B</b>
			6mm OD tube	Elbow	<b>CMD06-1</b>
		8mm OD tube	Straight	<b>FMD06-1</b>	<b>FMD06-2</b>
			Elbow		<b>CMD08-2</b>
		10mm OD tube	Straight		<b>FMD08-2</b>
			Elbow		<b>CMD10-2</b>
12mm OD tube	Straight		<b>FMD10-2</b>		
	Elbow		<b>CMD12-2</b>		
	Double male union	Connecting peripheral modules		<b>HMDXX1</b>	<b>HMDXX2</b>
				<b>MMDVA1</b>	<b>MMDVA2</b>
	Muffler for vacuum exhaust port			<b>PMDYY1</b>	<b>PMDYY2</b>
	Plug			<b>PMDYY1</b>	<b>PMDYY2</b>

Note: 85 Durometer minimum for pneumatic connectors.

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

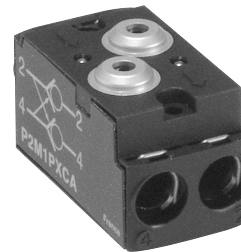
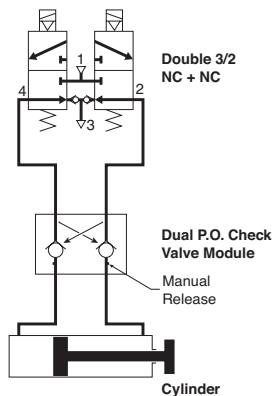
Valvair II Series



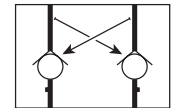
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Dual P.O. Check Valve**

Combined with a double 3/2 NC + NC valve, this module will block both flows and stop cylinder movement as soon as the valve's outputs are both exhausted. Better than a 3-Position valve, it provides more precise positioning when fitted close to the cylinder. Standard with manual release buttons.



P2M1PXCA



**Application**

At the outputs of a double 3/2 NC + NC valve, the dual P.O. check valve module achieves efficient and stable cylinder positioning. As soon as both lines are exhausted by the main control valve, the two internally piloted check valves close tight. The cylinder is then stabilized.

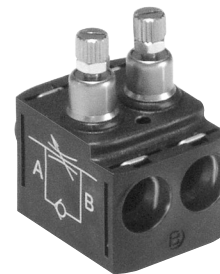
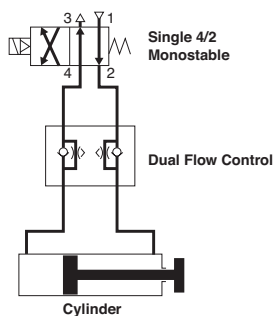
The manual pressure releases may then eventually be used for an adequate machine positioning.

**Dual P.O. Check Valve**

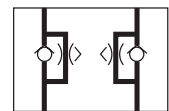
	Part Number
Size 1	<b>P2M1PXCA</b>
Size 2	<b>P2M2PXCA</b>

**Dual Flow Control**

By controlling the exhaust flows of a double-acting cylinder, this module can adjust both speeds — extend and retract. It may be plugged into the valve module output ports or mounted close to the cylinder in its in-line version.



P2M1PXFA



**Application**

On a double-acting cylinder, extend and retract speeds are adjusted separately by control of air flow exhaust. The control becomes more precise when the flow adjustment is close to the cylinder. The examples show different solutions which are dependent upon the valve-to-cylinder distance and accessibility to the cylinder

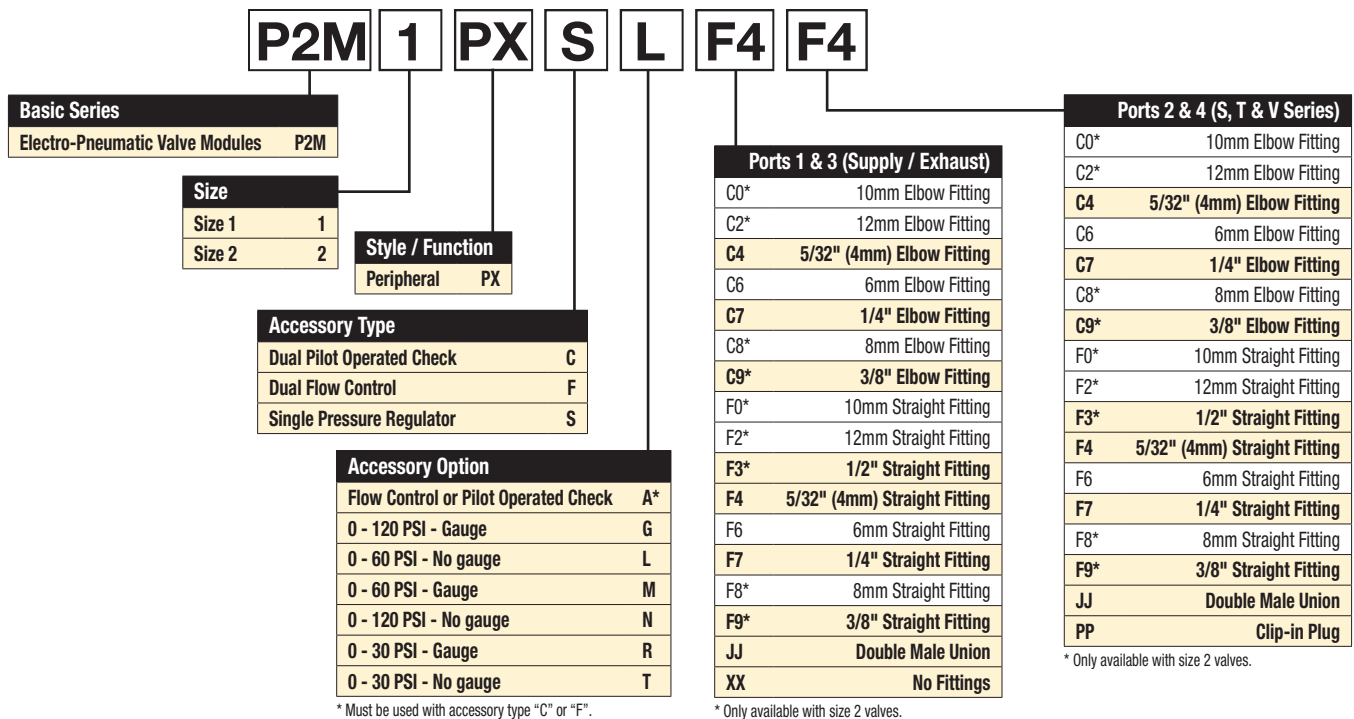
**Dual Flow Control Module**

	Weight	Part Number
Size 1	1.06 oz	<b>P2M1PXFA</b>
Size 2	1.59 oz	<b>P2M2PXFA</b>



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**“P” Series Peripheral Modules Model Number Index**  
*(Complete with Pneumatic Connectors)*



**D** Subbase & Manual Valves H Series Micro Moduflex Series H Series ISO Network Connectivity DX ISOMAX Series Valvair-II Series

**Regulator with Gauge**



**How to Order - Example:** Size 1, Regulator with gauge, 1/4" OD straight fittings.

Line item	Quantity	Part Number	Description
<b>Complete Peripheral Module</b>			
1	1	<b>P2M1PXSGF7F7</b>	Size 1, Regulator with 0-160 PSI Gauge, 1/4" OD Straight Port Fittings in port 1, 2, 3, 4
<b>Components</b>			
1	1	<b>P2M1PXSG</b>	Size 1, Regulator with 0-160 PSI Gauge
2	4	<b>FMD07-1B</b>	Size 1-1/4" OD Tube Push-In Connector

**Flow Control with Fittings**



**How to Order - Example:** Size 1, Dual Flow Control, 1/4" OD straight fittings.

Line item	Quantity	Part Number	Description
<b>Complete Peripheral Module</b>			
1	1	<b>P2M1PXFAF7F7</b>	Size 1, Dual Flow Control, 1/4" OD Straight Port Fittings in Port 1, 2, 3, 4
<b>Components</b>			
1	1	<b>P2M1PXFA</b>	Size 1, Dual Flow Control
2	4	<b>FMD07-1B</b>	Size 1-1/4" OD Tube Push-In Connector



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Vacuum Generator Applications**

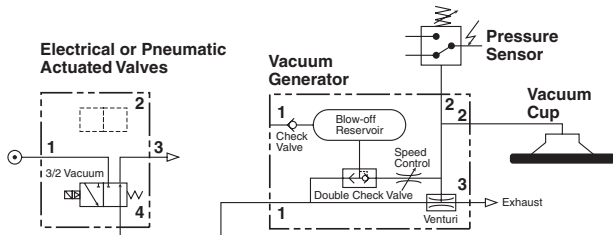
Depending on the application requirements, this vacuum generator may be controlled by single or by a dual 3/2 Moduflex valve. The Vacuum Generator has an integrated blow-off chamber that helps destroy the degree of vacuum. Blow-off can be increased with the addition of a control air input to the blow-off port on the vacuum module. A Ø6 mm port is available for an optional plug-in vacuum sensor for delivering a vacuum feedback signal.



Description	Weight	Size
Vacuum Generator	.88 oz	<b>P2M1PXVA</b>

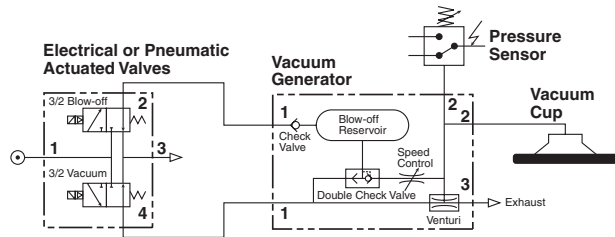
**Single 3/2 NC Air Control Valve**

The 3/2 valve delivers the air supply to generate vacuum through the venturi. It also pressurizes the integrated blow-off chamber. When the 3/2 valve cuts-off the air supply, this chamber is automatically exhausted into the vacuum channel in order to speed-up the part release. In this type of application, it is preferred to have the vacuum generator mounted away from the control valve.



**Dual 3/2 3/2 Valve Control**

One 3/2 valve controls air supply for vacuum. The other 3/2 valve will generate an additional blow-off that may prove necessary to obtain quick part release from large vacuum pads. The effect of the blow-off can be controlled with an adjustable screw. In this type of circuit, the Vacuum Generator can be mounted directly to the valve by using Double Male Unions or as a stand alone item away from the control valve.



**Vacuum Flow (SCFM)**

Nozzle Diameter	0	3	6	9	12	15	18	21	24	27	30
<b>P2M1PXVA</b>	0.84	0.76	0.67	0.55	0.42	0.30	0.18	0.06	—	—	—

**Evacuation Time**

Series / Nozzle Diameter	Air Supply Pressure	Air Consumption	Evacuation Time in Sec / ft <sup>3</sup> * to Reach Different Vacuum Levels (inHg)								
	PSI	SCFM	3	6	9	12	15	18	21	24	27
<b>P2M1PXVA</b>	70	1.60	5.6	14.2	22.0	42.4	62.3	85.0	116	198	—

\* 1 ft<sup>3</sup> = 28.31 liters

**Vacuum Generator Model Number Index**

**P2M1PXVA F7 A F7 C MA**

Basic Configuration	#1 Pressure Port	#2 Sensor Port	#2 Vacuum Port	#3 Exhaust Port
Basic Unit P2M1PXVA	5/32" (4mm) Elbow C4	A 6mm Plug	C4 5/32" (4mm) Elbow	C4 5/32" (4mm) Elbow
	6mm Elbow C6	B Plug	C6 6mm Elbow	C6 6mm Elbow
	1/4" Elbow C7	K 1/4" Straight	C7 1/4" Elbow	C7 1/4" Elbow
	Joint Fitting JJ	L 1/4" Elbow	F4 5/32" (4mm) Straight	F4 5/32" (4mm) Straight
	5/32" (4mm) Straight F4	M 6mm Elbow	F6 6mm Straight	F6 6mm Straight
	6mm Straight F6		F7 1/4" Straight	F7 1/4" Straight
	1/4" Straight F7		MA Muffler	MA Muffler
	No Fittings XX			

Port #1 Configuration	
Fitting in Pressure Port and Blow-Off Port	A
Fitting in Pressure Port and Blow-Off Port Plugged*	B

\* Can not be directly mounting to valve.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Intermediate Supply Module Model Number Index**

**P2M2BX V 0 4 F9 MM**

Intermediate Supply Module	
Basic Unit	P2M2BX

Valve Type	
Individually Wired	T
Collective Wiring	V

Wiring Style	
No Cable	0

Plate Configuration	
#1 & #3 Blocked	1
#1 Open & #3 Blocked	2
#1 Blocked & #3 Open	3
#1 & #3 Open	4

Inlet Port Type (#1 pressure)*	
C0	10mm Elbow Fitting
C2	12mm Elbow Fitting
C6	6mm Elbow Fitting
<b>C7</b>	<b>1/4" Elbow Fitting</b>
C8	8mm Elbow Fitting
<b>C9</b>	<b>3/8" Elbow Fitting</b>
F0	10mm Straight Fitting
F2	12mm Straight Fitting
<b>F3</b>	<b>1/2" Straight Fitting</b>
F6	6mm Straight Fitting
<b>F7</b>	<b>1/4" Straight Fitting</b>
F8	8mm Straight Fitting
<b>F9</b>	<b>3/8" Straight Fitting</b>
<b>MM</b>	<b>Clip-in Muffler</b>
<b>PP</b>	<b>Clip-in Plug</b>

Exhaust Port Type (#3 exhaust)*	
C0	10mm Elbow Fitting
C2	12mm Elbow Fitting
C6	6mm Elbow Fitting
<b>C7</b>	<b>1/4" Elbow Fitting</b>
C8	8mm Elbow Fitting
<b>C9</b>	<b>3/8" Elbow Fitting</b>
F0	10mm Straight Fitting
F2	12mm Straight Fitting
<b>F3</b>	<b>1/2" Straight Fitting</b>
F6	6mm Straight Fitting
<b>F7</b>	<b>1/4" Straight Fitting</b>
F8	8mm Straight Fitting
<b>F9</b>	<b>3/8" Straight Fitting</b>
<b>MM</b>	<b>Clip-in Muffler</b>
<b>PP</b>	<b>Clip-in Plug</b>

\* Elbow fittings face up.

\* Elbow fittings face up.

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Plate Configuration**



**#1 & #3 Blocked**

#1 Port connected to valves on the right only. Left is blocked.  
 #3 Port connected to valves on the right only. Left is blocked.



**#1 Open, #3 Blocked**

#1 Port connected to valves on the right and the left.  
 #3 Port connected to valves on the right only. Left is blocked.



**#1 Blocked, #3 Open**

#1 Port connected to valves on the right only. Left is blocked.  
 #3 Port connected to valves on the right and the left.



**#1 & #3 Open**

#1 Port connected to valves on the right and the left.  
 #3 Port connected to valves on the right and the left.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Solenoid Pilot 24VDC**

Description	Part Number
Solenoid pilot (without plug-in electrical connector)	<b>P2D8V32C5</b>
Air pilot with 5/32" (4mm) tube fitting	<b>P2M2K0PA</b>
Solenoid pilot (without clip connector)	<b>P2D2W3226C5</b>



P2D2W3226C5

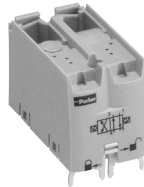


P2D8V32C5



P2M2K0PA

**Size 1 Valve**  
**Without Solenoid Pilot**  
**and Without Subbase**  
**4-way / 2-position / Single Valve**



P2M1X4EE

Solenoid	Part Number
Single solenoid (Monostable)	<b>P2M1X4ES</b>
Double solenoid (Bistable)	<b>P2M1X4EE</b>

**4-way / 2-position / Dual Valve**

Solenoid	Part Number
Solenoid spring with exhaust check	<b>P2M1XJEE</b>

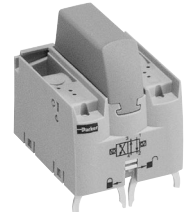
**3-way / 2-position / Dual Valve**

Solenoid	Part Number
Double solenoid NC + NC with exhaust check	<b>P2M1XDDEE</b>
Double solenoid NO + NO with exhaust check	<b>P2M1XCDEE</b>
Double solenoid NC + NO with exhaust check	<b>P2M1XEDEE</b>
Single solenoid NC with exhaust check	<b>P2M1X3DES</b>

**Set of Maintenance Parts**

Description	Part Number
Clips Set of 14 clips: 6 for size 1 valves, 2 for size 2 valves, 4 for dual 4/2 valves, 2 for end plate and intermediate modules	<b>P2M2K0CA</b>
Seals Set of 10 seals: 3 for manifold to manifold seals, 3 under solenoid pilot seals, 4 under valve seals (two size 1 seals, two size 2 seals)	<b>P2M2K0JA</b>
Forks Set of 10 isolation forks for solenoid pilot manual override	<b>P2M2K0FA</b>

**Size 2 Valve**  
**Without Solenoid Pilot**  
**and Without Subbase**  
**4-way / 2-position / Dual Valve**

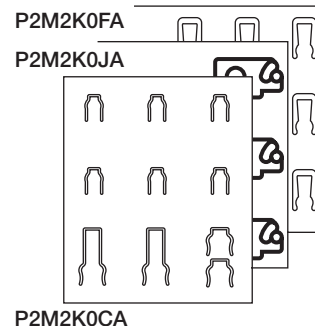


P2M2X4EE

Solenoid	Part Number
Single solenoid (Monostable)	<b>P2M2X4ES</b>
Double solenoid (Bistable)	<b>P2M2X4EE</b>

**3-way / 2-position / Dual Valve**

Solenoid	Part Number
Double solenoid NC + NC with exhaust check	<b>P2M2XDDEE</b>
Double solenoid NO + NO with exhaust check	<b>P2M2XCDEE</b>
Double solenoid NC + NO with exhaust check	<b>P2M2XEDEE</b>
Single solenoid NC with exhaust check	<b>P2M2X3DES</b>



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Ordering Information

Moduflex Add-A-Fold Assembly Model Number Index  
(Complete with Pneumatic and Electrical Connectors)

How To Order Plug-in Add-A-Fold Assemblies

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List valves and manifolds. List left to right, LOOKING AT THE CYLINDER PORTS on the manifold.

**P2MA V 0 1 C9 C9 ##**

Moduflex Island Assembly	
Add-A-Fold	P2MA*

\*Includes pneumatic H & T end plate kit.

Style	
Individually Wired	T
Collective Wiring	V*

\* Includes 20-pin multi-connector or 25-pin, D-sub electrical head module.

Wiring / Bus Protocol	
No Cable (20-pin or multi-connector T series)	0 †
2 Meter Cable (20-pin)	2
5 Meter Cable (20-pin)	5
9 Meter Cable (20-pin)	9
Bus	B*
No Cable (25-pin, D-sub)	D
3 Meter Cable (25-pin, D-sub)	F

\* Order bus module as a separate line item.  
† Default to option "0" for T series.

Pilot Source	
Internal Supply / Internal Exhaust	1
Internal Supply / External Exhaust	2
External Supply / Internal Exhaust	3
External Supply / External Exhaust	4

Number of Stations <sup>f</sup>	
01 - 19*	V-Type
01 - 30	T-Type

\* Max. number of addresses for V type is 19. Single solenoid valves equal one address. Double solenoid valves equal two addresses. Maximum address may depend upon choice of bus protocol.

† Intermediate modules are considered stations, but do not count against maximum number of addresses for manifold.

Exhaust Port Type (#3 Exhaust)*	
C0	10mm Elbow Fitting
C2	12mm Elbow Fitting
C6	6mm Elbow Fitting
C7	1/4" Elbow Fitting
C8	8mm Elbow Fitting
C9	3/8" Elbow Fitting
F0	10mm Straight Fitting
F2	12mm Straight Fitting
F3	1/2" Straight Fitting
F6	6mm Straight Fitting
F7	1/4" Straight Fitting
F8	8mm Straight Fitting
F9	3/8" Straight Fitting
MM	Clip-in Muffler
PP	Clip-in Plug

\* Elbow fittings face up.

Inlet Port Type (#1 pressure)*	
C0	10mm Elbow Fitting
C2	12mm Elbow Fitting
C6	6mm Elbow Fitting
C7	1/4" Elbow Fitting
C8	8mm Elbow Fitting
C9	3/8" Elbow Fitting
F0	10mm Straight Fitting
F2	12mm Straight Fitting
F3	1/2" Straight Fitting
F6	6mm Straight Fitting
F7	1/4" Straight Fitting
F8	8mm Straight Fitting
F9	3/8" Straight Fitting
MM	Clip-in Muffler
PP	Clip-in Plug

\* Elbow fittings face up.



"V" Series with 20-pin Connector



"V" Series with IO-Link

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Ordering Information**

**How to Order -**

**Example:** Application requires V Series valves with 20-Pin, D-Sub and 2 Meter cable. Manifold to include (1) Size 2, 4/2 Double Solenoid Valve - 3/8" OD fitting, (1) Size 1, 4/2 Single Solenoid Valve - 1/4" OD Elbow Fitting, Intermediate Module - 3/8" OD Fitting with Exhaust Muffler, Port 1 and 3 Blocked, (1) Size 1, Dual 3/2 NC Valve and (1) Size 1, 4-Way Double Solenoid Valve both with 1/4" OD Straight Fittings. Includes 3/8 OD Inlet Fitting and Exhaust Muffler.

Line Item	Quantity	Part Number	Description
<b>Complete Manifold Assembly</b>			
1	1	<b>P2MAV21F9MM05</b>	Moduflex Island Assembly, Pneumatic Head and Tail Module Set, Internal Pilot Supply, Internal Pilot Exhaust, 3/8" Straight Fitting Port 1, Port 3 Muffler.
2	1	<b>P2M2V4EE2CV00F9</b>	Size 2, Double Solenoid, 4/2, 3/8" Straight Pneumatic Connectors.
3	1	<b>P2M1V4ES2CV00C7</b>	Size 1, Single Solenoid, 1/4" Elbow Pneumatic Connectors.
4	1	<b>P2M2BXV0A1F9MM</b>	Intermediate Module 3/8" Straight Fitting with Exhaust Muffler
5	1	<b>P2M1VDEE2CV00C7</b>	Size 1, Dual 3/2 NC + NC, 1/4" Elbow Pneumatic Connectors.
6	2	<b>P2M1VJEE2CV00F7</b>	Size 1, Dual 4/2, 1/4" Straight Pneumatic Connectors.

**Components**

1	1	<b>P2M2HXT01</b>	Pneumatic Head and Tail Module Set
2	1	<b>P2M2HEV0A</b>	20-Pin, Multi-Connector Electrical Head Module
3	1	<b>P8LMH20M2A</b>	2 Meter, 20-Pin Cable
4	1	<b>P2M2V4EE2CV</b>	Size 2, V Series Island Valve Module, Double Solenoid, 4-Way
5	1	<b>P2M1V4ES2CV</b>	Size 1, V Series Island Valve Module, Single Solenoid, 4-Way
6	1	<b>P2M2BXV0A</b>	Intermediate Module
7	1	<b>P2M1VGE2CV</b>	Size 1, V Series Island Valve Module, Dual 3/2 NC + NC
8	2	<b>P2M1VJEE2CV</b>	Size 1, V Series Island Valve Module, Dual 4/2
9	2	<b>CMD07-1B</b>	Size 1, 1/4" OD Tube Elbow Push-in Connector
10	6	<b>FMD07-1B</b>	Size 1, 1/4" OD Tube Straight Push-in Connector
11	4	<b>FMD09-2B</b>	Size 2, 3/8" OD Tube Straight Push-in Connector
12	2	<b>MMDVA2</b>	Clip-on Muffler

**How to Order -**

**Example:** Application requires V Series valves with IO-Link Class A Module. Manifold to include (1) Size 2, 4/2 Double Solenoid Valve - 3/8" OD fitting, (1) Size 1, 4/2 Single Solenoid Valve - 1/4" OD Elbow Fitting, Intermediate Module - 3/8" OD fitting with Exhaust Muffler, Port 1 and 3 Blocked, (1) Size 1, Dual 3/2 NC Valve and (1) Size 1, 4-Way Double Solenoid Valve both with 1/4" OD Straight Fittings. Include 3/8 OD Inlet Fitting and Exhaust Muffler.

Line Item	Quantity	Part Number	Description
<b>Complete Manifold Assembly</b>			
1	1	<b>P2MAVB1F9MM05</b>	Moduflex Island Assembly, Pneumatic Head and Tail Module Set, Internal Pilot Supply, Internal Pilot Exhaust, 3/8" Straight Fitting Port 1, Port 3 Muffler.
2	1	<b>P2M2HBVL12400AB</b>	IO-Link Class A Module
3	1	<b>P2M2V4EE2CV00F9</b>	Size 2, Double Solenoid, 4/2, 3/8" Straight Pneumatic Connectors.
4	1	<b>P2M1V4ES2CV00C7</b>	Size 1, Single Solenoid, 1/4" Elbow Pneumatic Connectors.
5	1	<b>P2M2BXV0A1F9MM</b>	Intermediate Module 3/8" Straight Fitting with Exhaust Muffler
6	2	<b>P2M1VDEE2CV00C7</b>	Size 1, Dual 3/2 NC + NC, 1/4" Elbow Pneumatic Connectors.
7	1	<b>P2M1VJEE2CV00F7</b>	Size 1, Dual 4/2, 1/4" Straight Pneumatic Connectors.

**Components**

1	1	<b>P2M2HXT01</b>	Pneumatic Head and Tail Module Set
2	1	<b>P2M2HBVL12400AB</b>	IO-Link Class A Module
3	1	<b>P2M2V4EE2CV</b>	Size 2, V Series Island Valve Module, Double Solenoid, 4-Way
4	1	<b>P2M1V4ES2CV</b>	Size 1, V Series Island Valve Module, Single Solenoid, 4-Way
5	1	<b>P2M2BXV0A</b>	Intermediate Module
6	1	<b>P2M1VGE2CV</b>	Size 1, V Series Island Valve Module, Dual 3/2 NC + NC
7	2	<b>P2M1VJEE2CV</b>	Size 1, V Series Island Valve Module, Dual 4/2
8	2	<b>CMD07-1B</b>	Size 1, 1/4" OD Tube Elbow Push-in Connector
9	6	<b>FMD07-1B</b>	Size 1, 1/4" OD Tube Straight Push-in Connector
10	4	<b>FMD09-2B</b>	Size 2, 3/8" OD Tube Straight Push-in Connector
11	2	<b>MMDVA2</b>	Clip-on Muffler



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



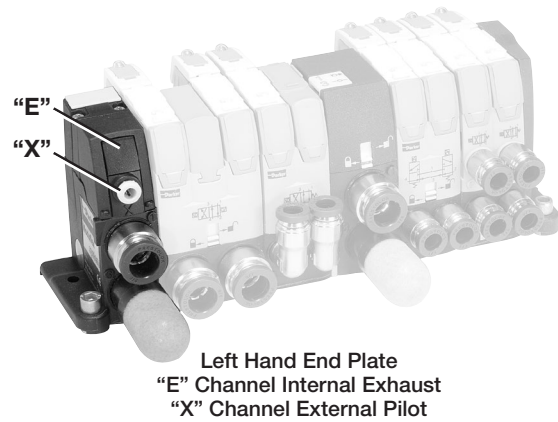
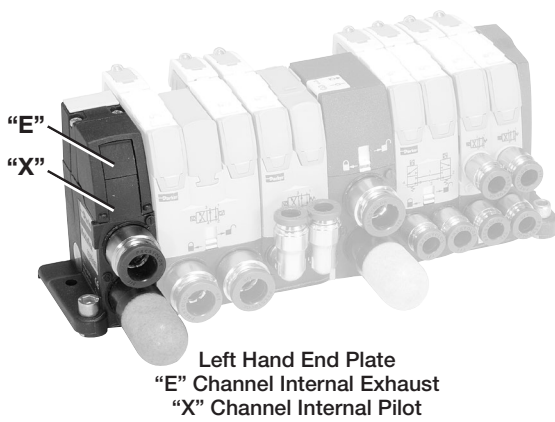
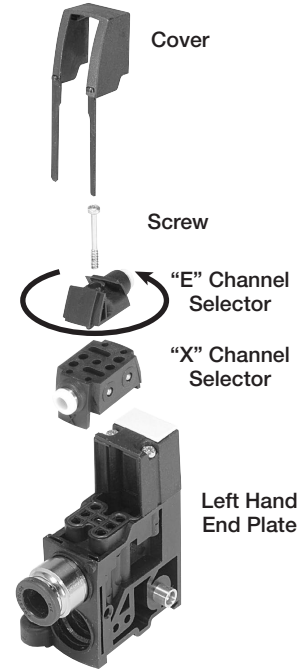
**Internal and external pilot supply options**

All T and V Series Valve bases incorporate an auxiliary channel "X" to supply pressure to the solenoid pilots. The "X" galley is pressurized from the left hand end plate. Depending on the configuration of the left hand end plate, this pressure is either supplied from the #1 port in the left hand end plate or supplied externally through a 4mm OD tube fitting in the left hand end plate. This fitting is supplied in all left hand end plates and can be converted in the field.

**Internal and external solenoid pilot exhaust options**

All T and V Series Valve bases incorporate an auxiliary channel "E" which is used to exhaust the solenoid pilot pressure from each solenoid valve. The "E" galley is connected to the left hand end plate. Depending on the configuration of the left hand end plate, this exhaust is either connected to the #3 exhaust port or is connected to a 4mm OD Tube fitting in the left hand end plate. This fitting is supplied in all left hand end plates and can be converted in the field.

To configure the left hand end plate, with pressure off, remove head cover to expose the selector section. Loosen selector section and rotate "X" or "E" channel selector to desired position. Tighten selector section and assemble cover.



D	Subbase & Manual Valves
	H Series Micro
Moduflex Series	
H Series ISO	
Network Connectivity	
DX ISOMAX Series	
Valvair II Series	



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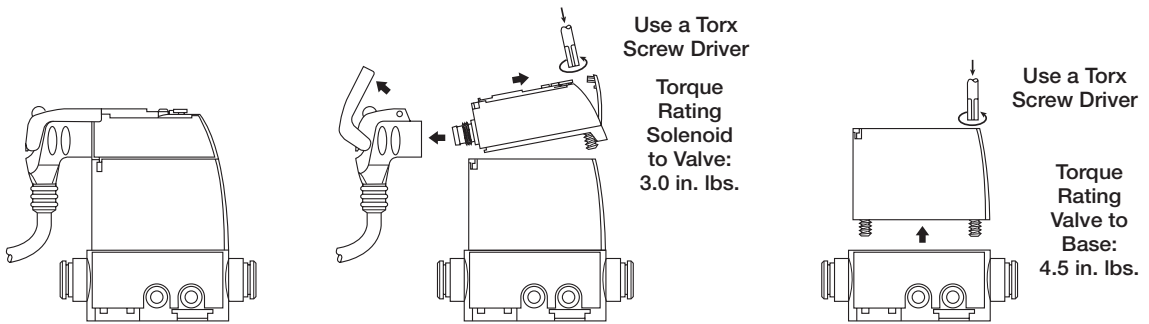


**“V”, “T” and “S” Series Maintenance**

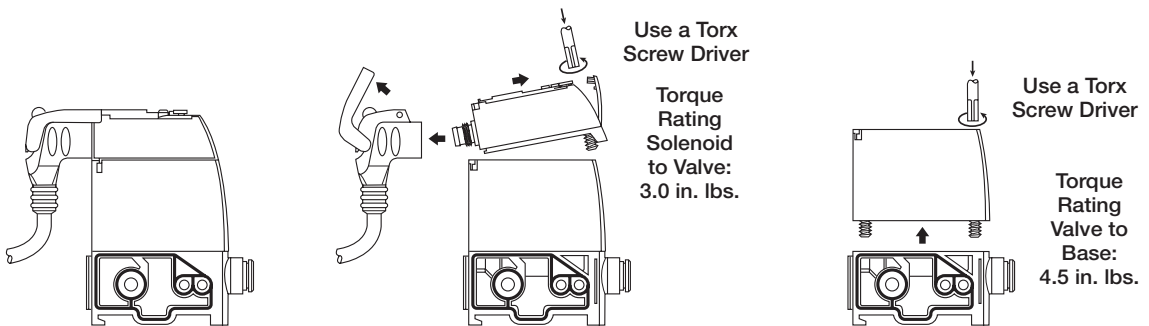
The latest generations of compact pneumatic valves have a life expectancy which generally exceeds the equipment they control. Therefore, maintenance is seldom required. When it

is necessary to change the solenoid pilot, valve or connector, they can be easily replaced without removing the island base, as shown below.

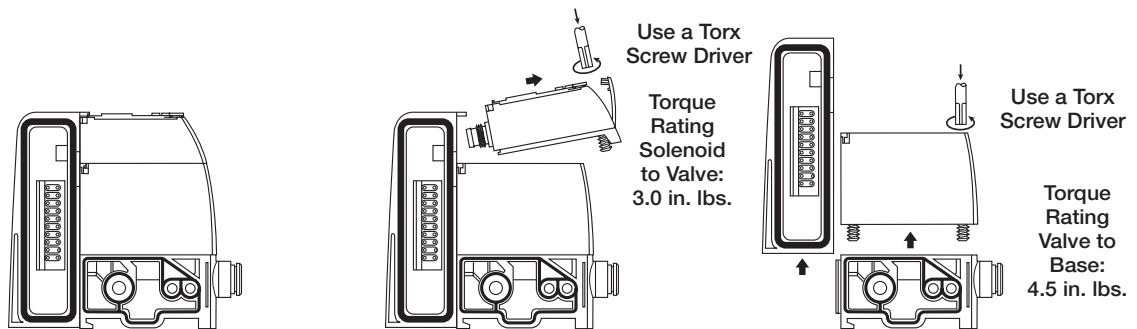
**“S” Series**



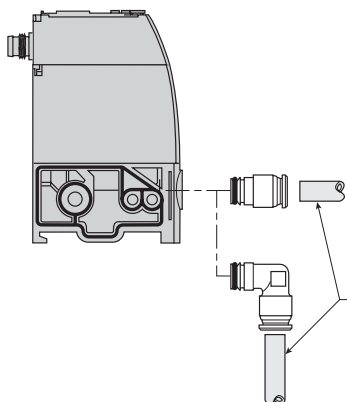
**“T” Series**



**“V” Series**



**Fitting and Tubing Installation**



**Fitting Assembly:** Pneumatic Connectors are retained by a clip in each module. Assembly is achieved by pushing the fitting into the module and sliding the clip down over the groove in the fitting. Pull fitting to check that it is secure.

**Tubing Assembly:** Cut tubing squarely & cleanly. Inspect the tubing to insure there are no sharp edges that may nick or cut the o-ring seal. Insert tubing into fitting until it bottoms out. A slight pull on the tube afterwards can help verify it is properly retained / inserted.

**Tubing Disassembly:** When it is required to remove the tubing from the fitting push the release button in towards the fitting & remove the tubing.

**Tubing Reassembly:** Inspect the tubing before re-inserting it for any scoring or other damage that would affect the o-ring sealing. It is recommended that for every insertion, the tubing end be trimmed, especially if it has any scoring or damage.

**Pneumatic Valve Specifications**

Fluid	Air, inert gas, filtered 40µ <sup>1</sup> , dry <sup>2</sup> or lubricated <sup>3</sup>		
Operating Pressures	Vacuum to 120 PSI		
Piloting Pressure	43 to 120 PSI for operating pressures below, use external pilot supply available on all head modules <sup>5</sup>		
Pilot Supply	Internal with "S" Series, mixed internal / external with "T" and "V" Series		
Exhaust Collection	All exhausts are collectable, including solenoid pilot exhaust		
Life Cycle	100 million operations <sup>4</sup> (with dry air, 3 Hz, 20°C, 6 bar)		
Operating Temperatures	5°F to 140°F (32°F to 130°F for field bus systems)		
Stocking Temperatures	-40°F to 155°F		
Vibration Resistance	According to IEC 68 - 2 - 6	2G	2 to 150 Hz
Impact Resistance	According to IEC 68 - 2 - 27	15G	11 ms

1. Class 5 according to ISO 8573-1
2. Class 4 according to ISO 8573-1
3. 3. With main air supply lubricated, monitor lubrication rate so that valve bank is not flooded with lubricant.
4. 4/2 valve
5. Double 3/2 minimum 50 PSI

**Electrical Specifications**

Rated Coil Voltage	24VDC		
Allowable Voltage Fluctuation	-15% to +10 % of nominal voltage		
Electrical Connection	Polarity insensitive: PNP and NPN compatible		
Coil insulation Type	Class B		
Power Consumption	1W (42 mA)		
Manual Override	Locking or non-locking, isolated if required		
Response Time of the Complete Valve	9.6 ms ± 1.2 on 4/2 Double Solenoid Valve Size 1 12.0 ms ± 1.2 on 4/2 Single Solenoid Valve Size 1 14.8 ms ± 2 on 4/2 Double Solenoid Valve Size 2 17.0 ms ± 2 on 4/2 Single Solenoid Valve Size 2	According to ISO 12238	
Type of Use	Continuous-duty Solenoid		
Dust and Water Protection	According to EN 60 529	"S" and "T" Series:	M8 IP67
			Clip IP40
		"V" Series:	IP65

**Specifications**

**1/4", 3/8" and 1/2" Fittings**

**Construction**

Nickel Plated Brass Body; O-ring: Nitrile (Buna N) lubricated with Silicone lubricant; Grab Ring: 301 Stainless Steel; One Piece Button Collet: Acetal – black

**Recommended Parker Tubing Series:**

E (Linear Low Density Polyethylene), PP (Polypropylene), N (Plasticized Polyamide, Nylon), NR (Unplasticized Polyamide, Rigid Nylon), U (Polyurethane 90 Durometer Shore A), HU (Polyurethane 95 Durometer Shore A)

**Other materials:** Polyurethane 85 Durometer Shore A – Applications and service conditions vary and therefore the use of a tube support may be required for any 85A PU tubing. The following commercially available O.D. – I.D. 85A tubing sizes require the use of a tube support regardless of application. ( 5/32" – 3/32", 3/16" – 1/8", 1/4" - .170", 1/4" – 3/16", 5/16" – 1/4", 3/8" – 5/16", 1/2" – 3/8")

Prestolok fittings should not be used for live swivel applications. Vacuum applications dependent upon temperature and type of tubing used.

**6mm, 8mm, 10mm, 12mm Fittings**

**Construction**

Polyamide HR Body; O-ring: Nitrile (Buna N) lubricated with Silicone lubricant; Sleeve: Nickel Plate Brass; Grab Ring: 301 Stainless Steel; One Piece Button Collet: Polyacetal – yellow

**Recommended Parker Tubing Series for 6mm, 8mm, 10mm, 12mm Fittings:**

E (Linear Low Density Polyethylene), N (Plasticized Polyamide, Nylon), U (Polyurethane 90 Durometer Shore A), HU (Polyurethane 95 Durometer Shore A)

Prestolok fittings should not be used for live swivel applications. Vacuum applications dependent upon temperature and type of tubing used.

**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**"S" Series Individual Subbase Valve Dimensions and Mounting**

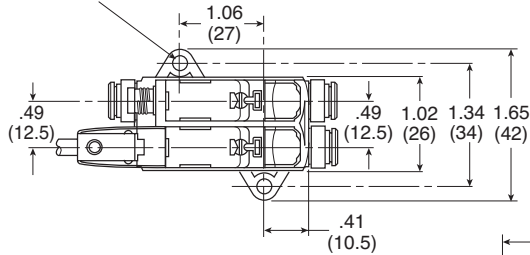
**Subbase Valve Size 1**



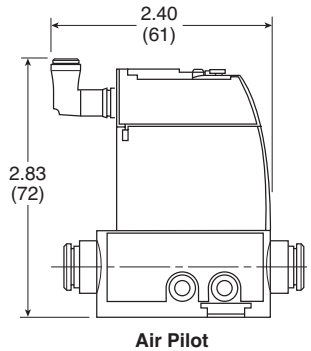
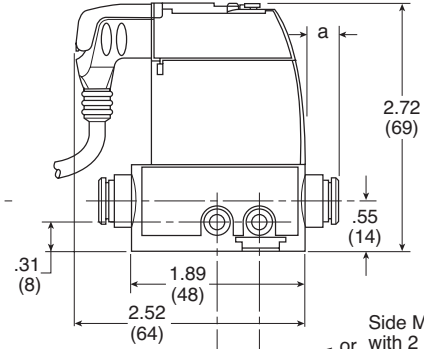
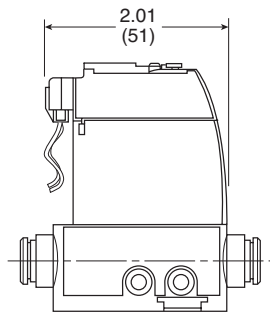
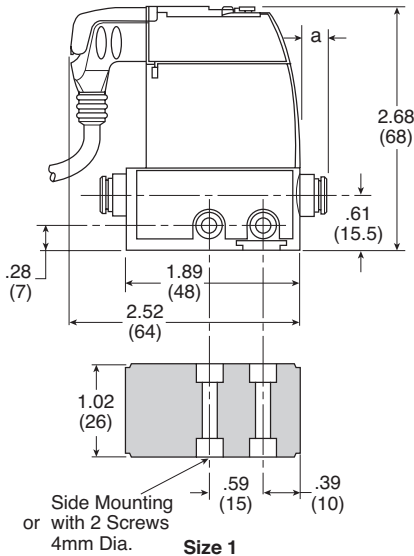
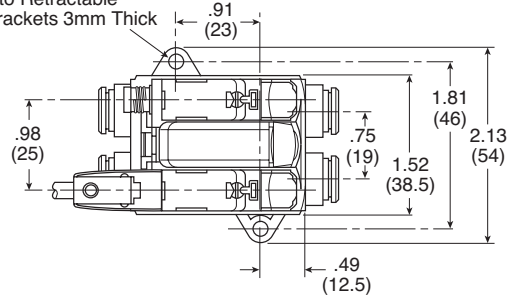
**Subbase Valve Size 2**



Surface Mounting with Screws 4 mm Dia. into Retractable Brackets 3mm Thick



Surface Mounting with Screws 4 mm Dia. into Retractable Brackets 3mm Thick



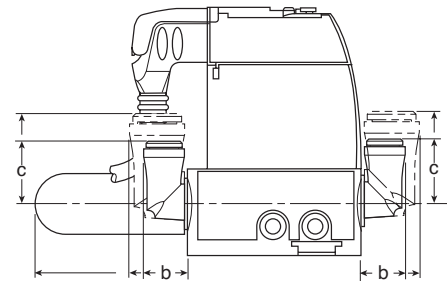
Side Mounting with 2 Screws 4mm Dia.

**Size 2**

**Air Pilot**

OD Tube Ext.	a	b	c
5/32" (4 mm)	8	10	12
<b>Size 1 Valves</b>			
6 mm	8	13	16
1/4"	15	18	22
Muffler		31	
1/4"	12	18	22
<b>Size 2 Valves</b>			
8 mm	9	16	19
3/8"	16	23	26
10 mm	13	18	22
Muffler		40	

**Special Case:** 4/3 all ports blocked. Add the dual P.O. check valve that has been plugged in the basic valve.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D65

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**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

**H Series ISO**

**Network Connectivity**

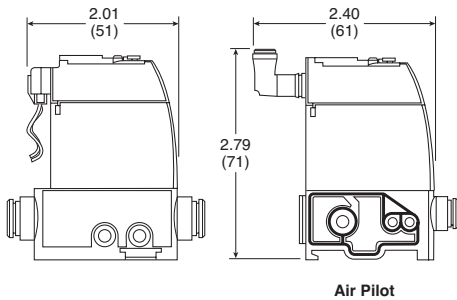
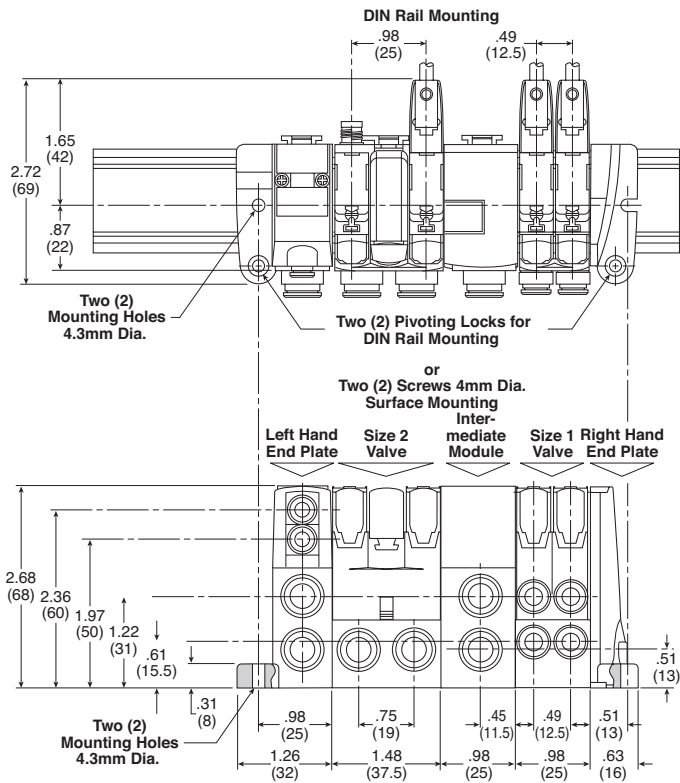
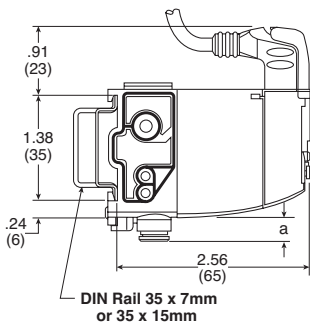
**DX ISOMAX Series**

**Valvair II Series**

**"T" Series Manifold Dimensions and Mounting**



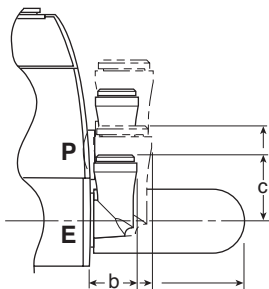
Total Width Depends on Valve Composition



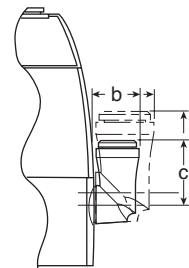
**Special Case:** 4/3 all ports blocked function within island version, add the dimensions of the dual P.O. check valve plugged into the island.

**End Plate and Intermediate Modules**

	a	b	c
6 mm Tube OD	8	13	16
1/4" Tube OD	12	18	22
8 mm Tube OD	9	16	19
3/8" Tube OD	16	23	26
10 mm Tube OD	13	18	25
12 mm Tube OD	13	19	25
1/2" Tube OD	13		
Muffler	40		



OD Tube	Ext.	a	b	c
Size 1 Valves	5/32" (4 mm)	8	10	12
	6 mm	8	13	16
Size 2 Valves	1/4"	15	18	22
	1/4"	12	18	22
	8 mm	9	16	19
	3/8"	16	23	26
10 mm	13	18	22	



**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

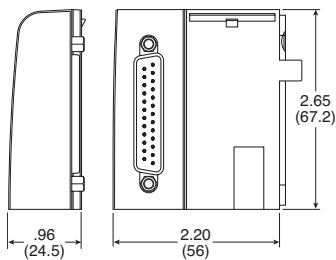
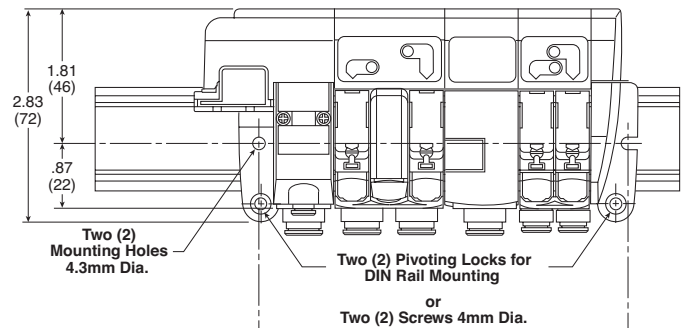
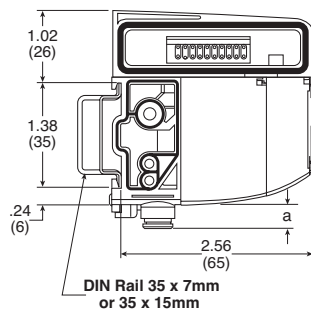
D66

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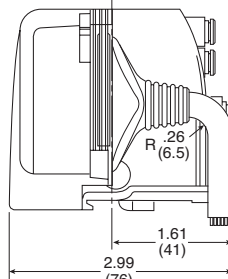
**"V" Series Manifold Dimensions and Mounting**  
 20-pin, Multi-Connector Valve Manifold



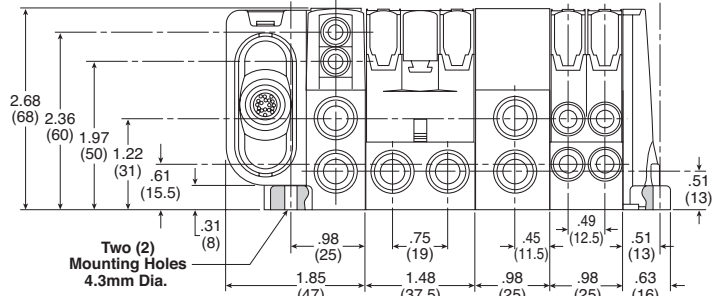
Total Width Depends  
 on Valve Composition



25-pin,  
 D-Sub

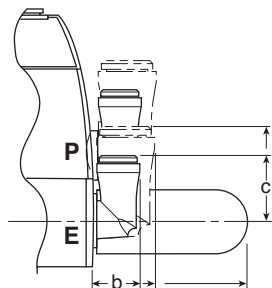


20-pin,  
 Multi-Connector

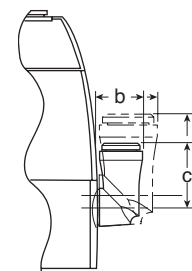


**End Plate and Intermediate Modules**

	a	b	c
6 mm Tube OD	8	13	16
1/4" Tube OD	12	18	22
8 mm Tube OD	9	16	19
3/8" Tube OD	16	23	26
10 mm Tube OD	13	18	25
12 mm Tube OD	13	19	25
1/2" Tube OD	13		
Muffler	40		



OD Tube	Ext.	a	b	c
	5/32" (4 mm)	8	10	12
Size 1 Modules	6 mm	8	13	16
	1/4"	15	18	22
Size 2 Modules	1/4"	12	18	22
	8 mm	9	16	19
	3/8"	16	23	26
	10 mm	13	18	22



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

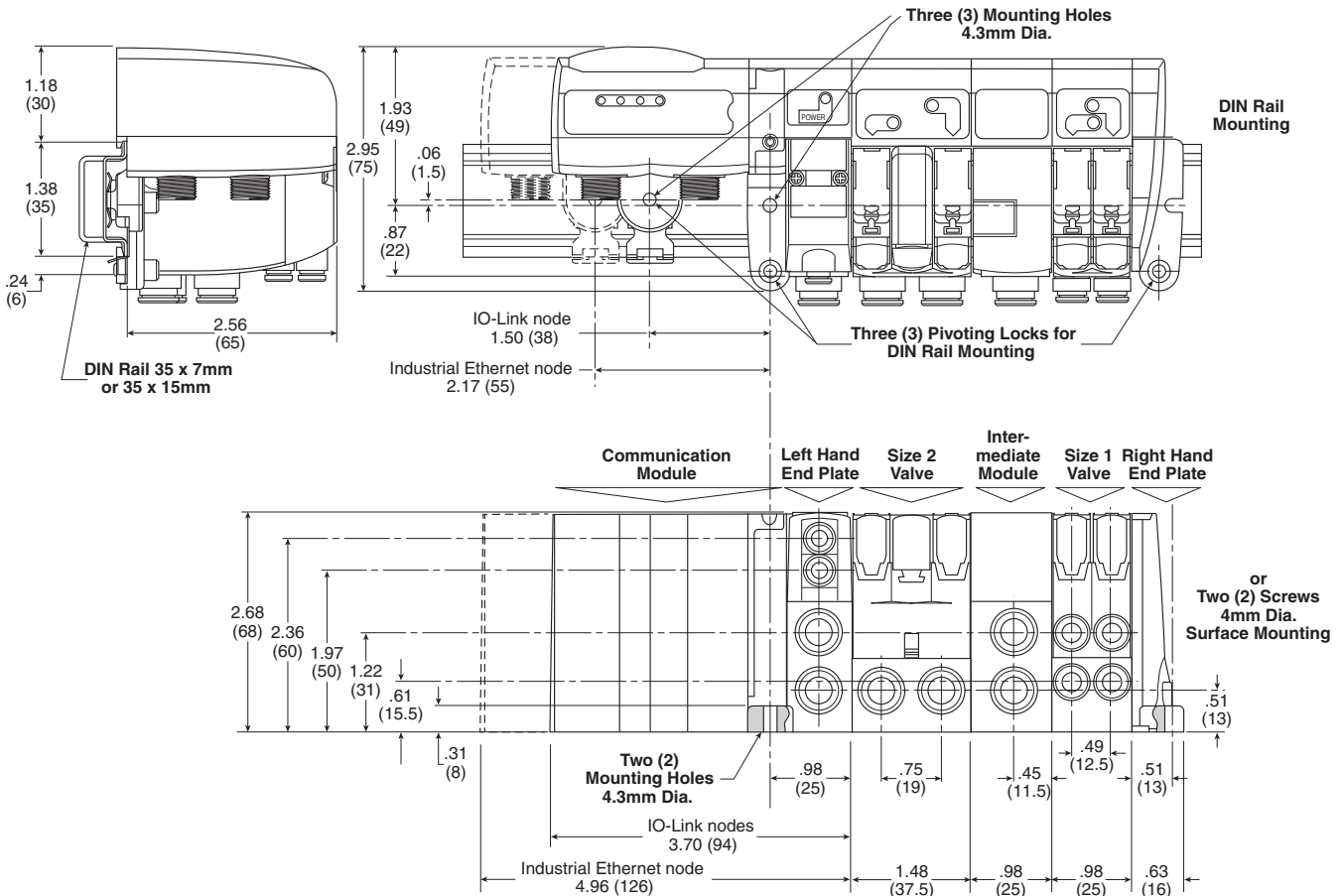
Valvair II Series

**“V” Series Manifold Dimensions and Mounting**  
**P2M Connected Valve Manifolds**

Total Width Depends  
 on Valve Composition



**Industrial Ethernet and IO-Link P2M Network Nodes with Valve Manifold**



<b>D</b>	<b>Subbase &amp; Manual Valves</b>
<b>H Series Micro</b>	
<b>Modulflex Series</b>	
<b>H Series ISO</b>	
<b>Network Connectivity</b>	
<b>DX ISOMAX Series</b>	
<b>Valvair II Series</b>	



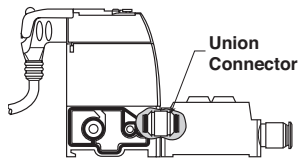
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



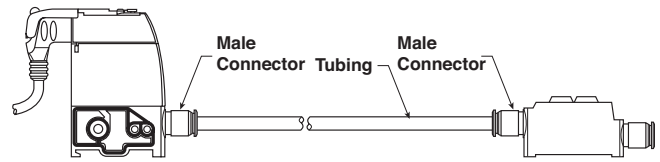
**"P" Series Peripheral Modules Dimensions and Mounting**

**Reminder:** Peripheral modules may either be plugged in the valve output ports or mounted in-line separate from the valve.

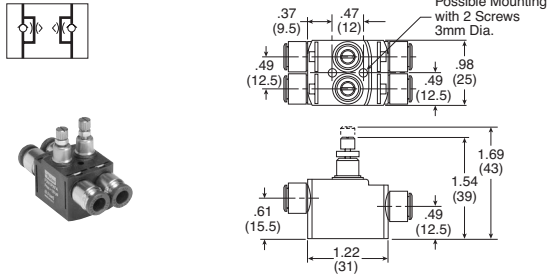
**Peripheral Module Plugged in a Valve**



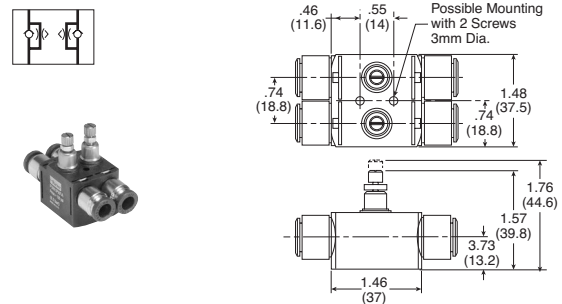
**In-Line Peripheral Modules: Mounting is Required**



**Dual Flow Control Size 1**

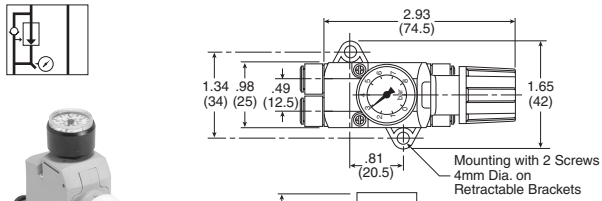


**Dual Flow Control Size 2**



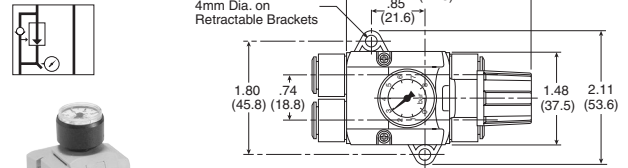
**Pressure Regulator Size 1**

**With Gauge**

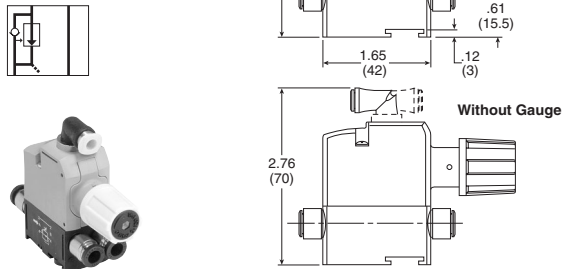


**Pressure Regulator Size 2**

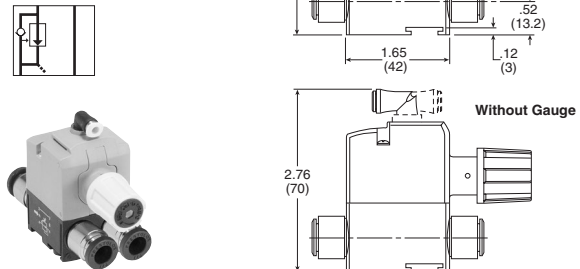
**With Gauge**



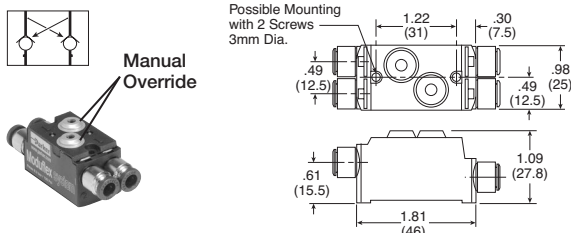
**Without Gauge**



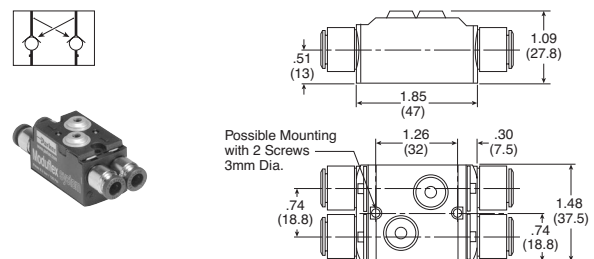
**Without Gauge**



**Dual P.O. Check Valve Size 1**



**Dual P.O. Check Valve Size 2**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

<b>D</b>
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DXISOMAX Series
Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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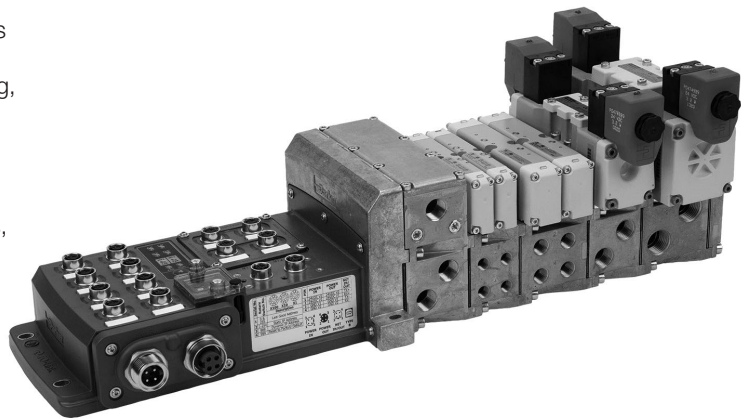
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Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Features**

**H Series ISO**

**H Series ISO**

The H Series ISO valve conforms to international standards 15407 and 5599, providing maximum flexibility for end users. As Parker’s premier manifold mount product offering, H Series ISO offers machine builders a complete offering with a wide variety of accessories and options in a valve family with flow ranges from 0.55 Cv up to 6.0 Cv. HB/HA/H1/H2/H3 can be mounted on the same manifold. Individual wiring is available with DIN or central connectors, and collective solutions offer installation time savings with either multi-pin connectors or network solutions.



**Ports, Flow**

- H Universal Manifold
  - HB: 1/8 inch, 0.55 Cv
  - HA: 1/4 inch, 1.1 Cv
  - H1: 3/8 inch, 1.5 Cv
  - H2: 1/2 inch, 3.0 Cv
- H Classic Manifold (not compatible with H Universal)
  - H3: 3/4 inch, 6.0 Cv
- NPT and BSPP “G” standard

**Solenoids**

- HB & HA: 24 VDC, 1.0 Watt, and 120 VAC, 1.0 VA
- H1, H2, & H3: 24 VDC, 3.2 Watt, 120 VAC, 4.5 VA, 24 VDC, 1.3 Watt

**Certification / approval**

- IP65 rated
- cCSAus approved voltages:
  - 15407-2 & 5599-2 24VDC manifolds only
  - 15407-2 & 5599-2 single subbase, all voltages
  - 15407-1 & 5599-1 manifold and single subbase, all voltages
- BSPP manifold and subbase ports meet ISO 1179 specifications

**Operating information**

Operating pressure:	Vacuum to 145 PSIG (Vacuum to 10 bar)
Pilot pressure:	See chart
Temperature range:	5°F to 120°F (-15°C to 49°C)

**Material specifications**

Body	Aluminum
End caps	PBT
End plates	Aluminum
Fasteners	Zinc plated steel
Manifolds	Aluminum
Seals	Nitrile
Spool	Aluminum

**Operating Pressure**

Maximum: 145 PSIG (1000 kPa)

Minimum: see below chart

Operator / Function	Internal Pilot	PSIG (Min. kPa) HB	PSIG (Min. kPa) HA	PSIG (Min. kPa) H1	PSIG (Min. kPa) H2	PSIG (Min. kPa) H3
1	Single solenoid - 2-position	30	25	25	25	35
2	Double solenoid- 2-position	(207)	(173)	(173)	(173)	(241)
3	Single remote pilot - 2-position**	Vacuum	Vacuum	Vacuum	Vacuum	Vacuum
4	Double remote pilot - 2-position**	Vacuum	Vacuum	Vacuum	Vacuum	Vacuum
5, 6, 7	Double solenoid - 3-position APB, CE, PC	35 (241)	35 (241)	35 (241)	50 (345)	50 (345)
8, 9, 0	Double remote pilot - 3-position** APB, CE, PC	Vacuum	Vacuum	Vacuum	Vacuum	Vacuum
E	Single solenoid pilot - 2-position					
	Air return / spring assist	30 (207)	30 (207)	35 (241)	45 (310)	45 (310)
F	Single remote pilot - 2-position**					
	Air return / spring assist					
N, P, Q	Double solenoid - dual 3/2	30 (207)	N/A	N/A	N/A	N/A
	External pilot*	*	*	*	*	*
All	H Series	Vacuum	Vacuum	Vacuum	Vacuum	Vacuum

\* External Pilot Pressure / Remote Pilot Supply - Must meet or exceed minimum pilot pressure for internal pilot option. Not available on Operator / Function N, P, or Q.

\*\* Must be equal to or greater than operating pressure.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

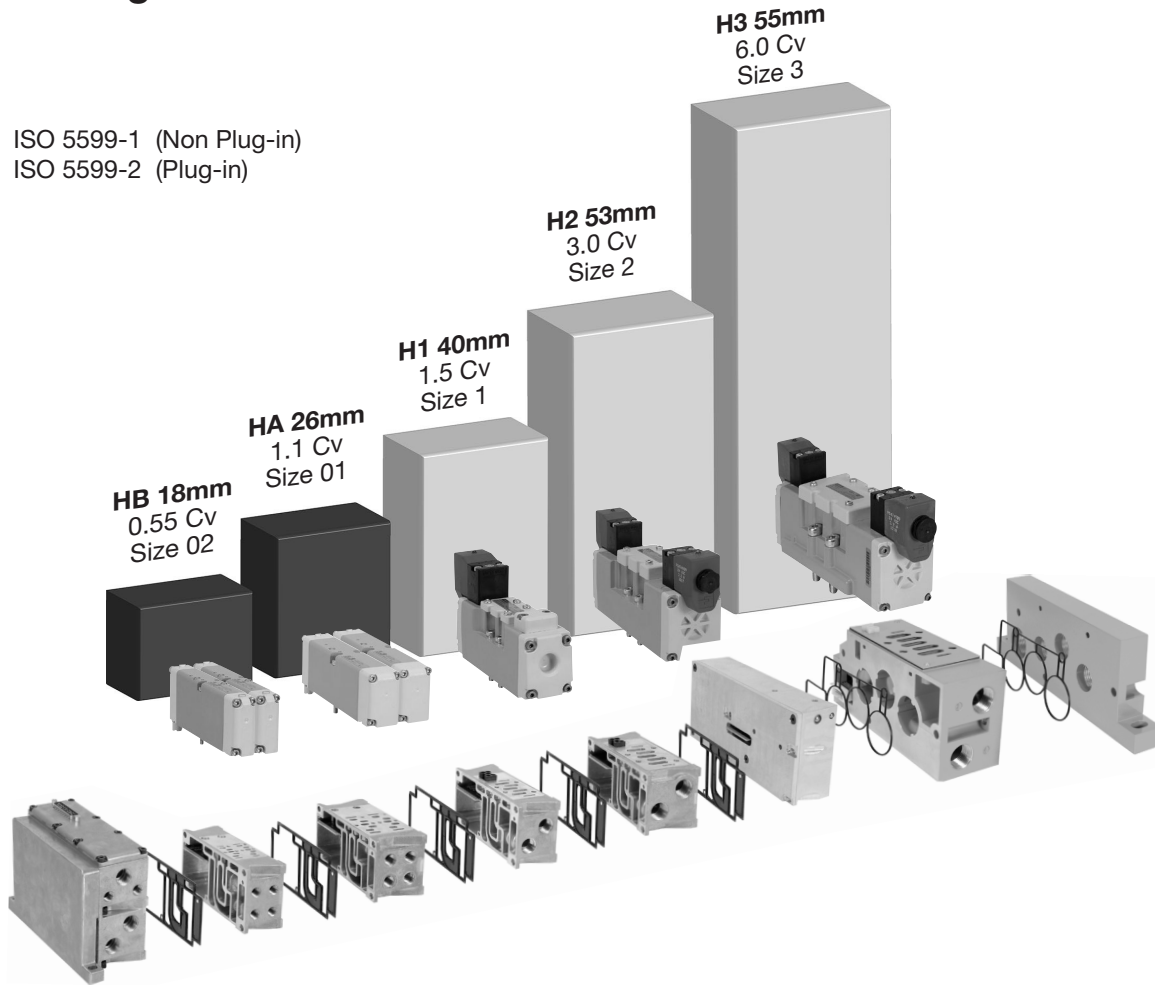
Valvair II Series

Features

Right Sizing



ISO 5599-1 (Non Plug-in)  
ISO 5599-2 (Plug-in)



**D**  
Subbase & Manual  
Valves  
H Series  
Micro  
Modulflex  
Series  
H Series  
ISO  
Network  
Connectivity  
DX ISOMAX  
Series  
Valvair-II  
Series

Cylinder Bore Size - inches (mm)

Cylinder Speed - in/s (mm/s)	Cylinder Bore Size - inches (mm)							
	1-1/4" (32 mm)	1-1/2" (40 mm)	2.00" (50 mm)	2-1/2" (63 mm)	3-1/4" (80 mm)	4.00" (100 mm)	5.00" (125 mm)	6.00" (150 mm)
1.96 (50)	0.03	0.04	0.06	0.10	0.17	0.26	0.41	0.59
3.93 (100)	0.05	0.08	0.13	0.21	0.35	0.53	0.82	1.19
5.90 (150)	0.08	0.12	0.20	0.31	0.52	0.79	1.24	1.78
7.87 (200)	0.10	0.16	0.26	0.41	0.69	1.05	1.64	2.37
9.84 (250)	0.13	0.20	0.33	0.52	0.87	1.32	2.06	2.97
11.81 (300)	0.16	0.25	0.40	0.62	1.05	1.58	2.47	3.56
13.77 (350)	0.18	0.29	0.46	0.72	1.22	1.85	2.88	4.15
15.74 (400)	0.21	0.33	0.53	0.82	1.39	2.11	3.30	4.75
17.71 (450)	0.24	0.37	0.59	0.93	1.57	2.37	3.71	5.34
19.68 (500)	0.26	0.41	0.66	1.03	1.74	2.64	4.12	5.94
	HB		HA		H1	H2	H3	



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Richland, Michigan  
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**Connectivity**

EtherNet/IP™ DeviceNet™



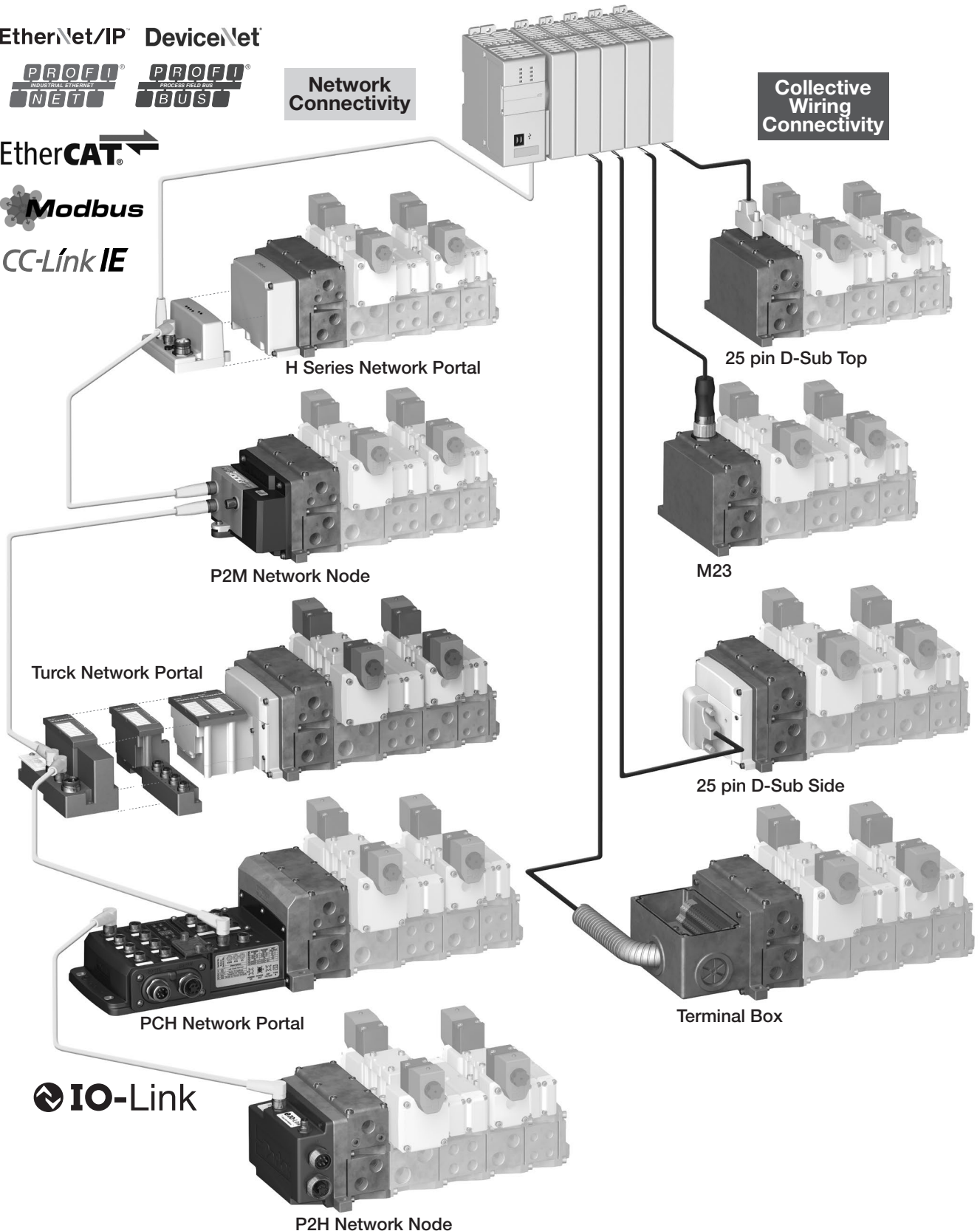
**Network Connectivity**

**Collective Wiring Connectivity**

EtherCAT™



CC-Link IE



Industrial Ethernet protocol offerings differ by product line



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D73

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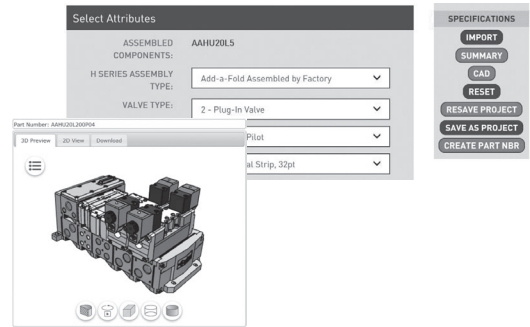
<b>D</b>
Subbase & Manual Valves
H Series Micro
Moduflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series

Features

Two easy ways to order H Universal

1 Online Configuration

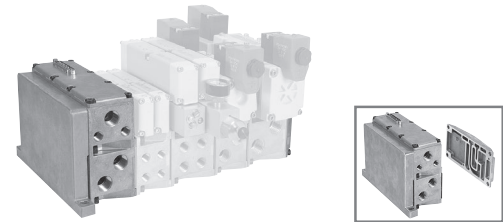
Navigate to the landing page  
www.parker.com/pdn/HSeriesISO  
Customize your manifold assembly  
Create and save a unique assembled part number  
Generate a CAD model



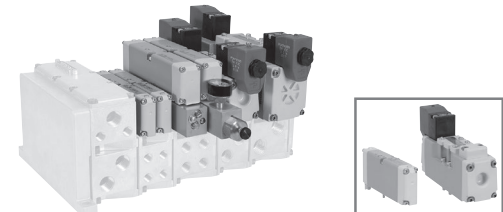
OR

2 Order Components

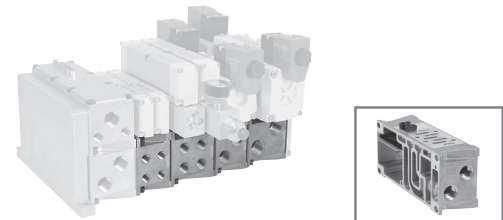
**A Select Endplate Kit**  
Includes Left and Right Hand Endplate



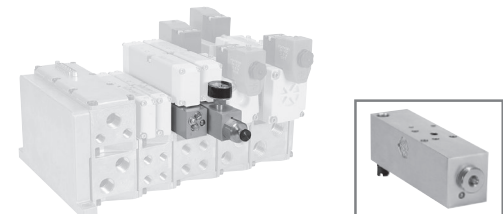
**B Select Valve Stations**  
Valves (size HB, HA, H1 or H2)  
Blanking Plate



**C Select Valve Manifold Segments**  
Manifold (size HB, HA, H1 or H2)  
Air Supply Module



**D Select Sandwich Accessories**  
Sandwich Regulators  
Sandwich Flow Control  
Pilot Exhaust



D	Subbase & Manual Valves
	H Series Micro
	Modulflex Series
	H Series ISO
	Network Connectivity
	DX ISOMAX Series
	Valvair II Series


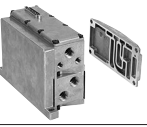
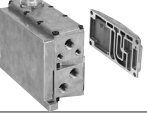
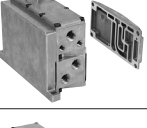
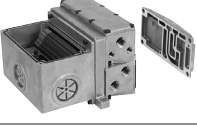

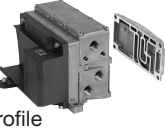
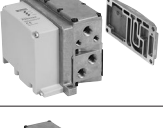
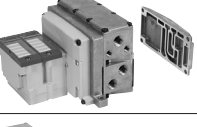
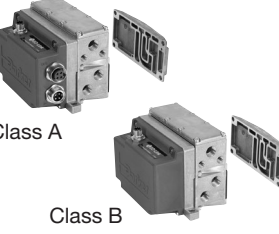



For inventory, lead times, and kit lookup, visit www.pdnplu.com



Common Part Numbers

End Plate Kits - Universal for use with HB, HA, H1 H2

	Electrical option	NPT port	BSPP port
	25-pin, D-Sub Side, 24 address	<b>PSHU20L100P</b>	<b>PSHU20L101P</b>
	25-pin, D-Sub Top, 24 address	<b>PSHU20L200P</b>	<b>PSHU20L201P</b>
	19-pin, round, Brad Harrison, 16 address	<b>PSHU20L300P</b>	<b>PSHU20L301P</b>
	12-pin, M23, 8 address	<b>PSHU20L400P</b>	<b>PSHU20L401P</b>
	19-pin, M23, 16 address	<b>PSHU20M200P</b>	<b>PSHU20M201P</b>
	Terminal box, 32 address	<b>PSHU20L500P</b>	<b>PSHU20L501P</b>
	P2M Network Node, side mount, 24 address	<b>PSHU20M400P</b>	<b>PSHU20M401P</b>
Side Mount 	P2M Network Node, low profile, 24 address (only suitable for P2M Industrial Ethernet Protocols)	<b>PSHU20M500P</b>	<b>PSHU20M501P</b>
	H Series Network, with valve driver module, 32 address	<b>PSHU20L600P</b>	<b>PSHU20L601P</b>
	Turck Network with valve driver module, 16 address	<b>PSHU20T100P</b>	<b>PSHU20T101P</b>
	Turck Network with valve driver module, 32 address	<b>PSHU20T200P</b>	<b>PSHU20T201P</b>
	P2H IO Link Class B, standard version, 24 address	<b>PSHU20N200P</b>	<b>PSHU20N201P</b>
	P2H IO Link Class B, safe version, 24 address	<b>PSHU20S200P</b>	<b>PSHU20S201P</b>
	Class A P2H IO Link Class A, 4-pin safe version, 24 address	<b>PSHU20S400P</b>	<b>PSHU20S401P</b>
	Class B P2H IO Link Class A, 5-pin safe version, 24 address	<b>PSHU20S500P</b>	<b>PSHU20S501P</b>
	PCH Network Portal with 2 Modules Variants	<b>PSHU20P300 PEAAN0-P4</b>	<b>PSHU20P301 PEAAN0-P4</b>
	PCH Network Portal with 3 Modules Variants	<b>PSHU20P300 PEAAB0-P5</b>	<b>PSHU20P301 PEAAB0-P5</b>

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D75

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D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

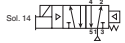


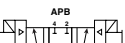
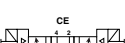

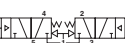

Network Connectivity

DX ISOMAX Series


Valvair II Series

**Common Part Numbers**






**Valve - 15407-2, Plug-in, Size 18mm (HB)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-Locking	Locking						
	4-way, 2-position, spring return	0.55	Single solenoid	24 VDC	Internal	<b>HBEVXBG0G9A</b>	HBEVXBH0G9A						
					External	<b>HBEVXLG0G9A</b>	HBEVXLH0G9A						
						4-way, 2-position, air return	0.55	Single solenoid	24 VDC	Internal	<b>HBEVXBG023A</b>	HBEVXBH023A	
										External	<b>HBEVXLG023A</b>	HBEVXLH023A	
										120 VAC	Internal	<b>HB1VXBG0G9A</b>	HB1VXBH0G9A
											External	<b>HB1VXLG0G9A</b>	HB1VXLH0G9A
	4-way, 2-position	0.55	Double solenoid	24 VDC	Internal	<b>HB2VXBG0G9A</b>	HB2VXBH0G9A						
					External	<b>HB2VXLG0G9A</b>	HB2VXLH0G9A						
					120 VAC	Internal	<b>HB2VXBG023A</b>	HB2VXBH023A					
						External	<b>HB2VXLG023A</b>	HB2VXLH023A					
							4-way, 3-position, all ports blocked	0.5	Double solenoid	24 VDC	Internal	<b>HB5VXBG0G9A</b>	HB5VXBH0G9A
											External	<b>HB5VXLG0G9A</b>	HB5VXLH0G9A
120 VAC	Internal	<b>HB5VXBG023A</b>	HB5VXBH023A										
	External	<b>HB5VXLG023A</b>	HB5VXLH023A										
		4-way, 3-position, center exhaust	0.5	Double solenoid	24 VDC						Internal	<b>HB6VXBG0G9A</b>	HB6VXBH0G9A
											External	<b>HB6VXLG0G9A</b>	HB6VXLH0G9A
120 VAC						Internal	<b>HB6VXBG023A</b>	HB6VXBH023A					
						External	<b>HB6VXLG023A</b>	HB6VXLH023A					
							4-way, 3-position, pressure center	0.5	Double solenoid	24 VDC	Internal	<b>HB7VXBG0G9A</b>	HB7VXBH0G9A
											External	<b>HB7VXLG0G9A</b>	HB7VXLH0G9A
120 VAC	Internal	<b>HB7VXBG023A</b>	HB7VXBH023A										
	External	<b>HB7VXLG023A</b>	HB7VXLH023A										
		3-way, 2-position, dual valve, NC/NC	0.45	Double solenoid	24 VDC						Internal	<b>HBNVXBG0G9A</b>	HBNVXBH0G9A
											120 VAC	Internal	<b>HBNVXBG023A</b>
						3-way, 2-position, dual valve, NO/NO	0.45	Double solenoid	24 VDC	Internal	<b>HBPVXBG0G9A</b>	HBPVXBH0G9A	
										120 VAC	Internal	<b>HBPVXBG023A</b>	HBPVXBH023A

**Manifold Base - 2-Station, 15407-2, Plug-in, Size 18mm (HB)**

End Ported Bases	Enclosure / Lead Length	Solenoid Addresses	1/8" NPT	1/8" BSPP
	Circuit board	Single solenoid - 2 address	<b>PSHU1151J1P</b>	PSHU1152J1P
	Circuit board	Double solenoid - 4 addresses	<b>PSHU1151M1P</b>	PSHU1152M1P

**Accessories - 15407-2, Plug-in, Size 18mm (HB)**

Accessories	Description	Part Number	
	Gauge adapter kit Includes 1/8" coupling, long nipple, and gauge	<b>PS5651160P</b>	
	Blanking plate kit	<b>PS5634P</b>	
	Sandwich flow control for individual valve	<b>PS5635P</b>	
		Sandwich supply module	1/8" NPT <b>PS561600P</b>
			1/8" BSPP <b>PS561601P</b>
	Sandwich regulator	Common pressure <b>PS5638155P</b>	Independent pressure <b>PS5638255P</b>
		<b>PS5638166P</b>	<b>PS5638266P</b>

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

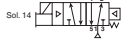
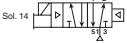
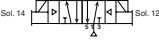
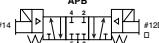
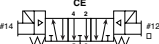
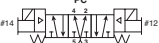
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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Common Part Numbers**


**Valve - 15407-2, Plug-in, Size 26mm (HA)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-Locking	Locking						
	4-way, 2-position, spring return	1.1	Single solenoid	24 VDC	Internal	<b>HAEVXBG0G9A</b>	HAEVXBH0G9A						
					External	HAEVXLG0G9A	HAEVXLH0G9A						
						4-way, 2-position, air return	1.1	Single solenoid	24 VDC	Internal	<b>HA1VXBG0G9A</b>	HA1VXBH0G9A	
										External	HA1VXLG0G9A	HA1VXLH0G9A	
										120 VAC	Internal	<b>HA1VXBG023A</b>	HA1VXBH023A
											External	HA1VXLG023A	HA1VXLH023A
	4-way, 2-position	1.1	Double solenoid	24 VDC	Internal	<b>HA2VXBG0G9A</b>	HA2VXBH0G9A						
					External	HA2VXLG0G9A	HA2VXLH0G9A						
					120 VAC	Internal	<b>HA2VXBG023A</b>	HA2VXBH023A					
						External	HA2VXLG023A	HA2VXLH023A					
							4-way, 3-position, all ports blocked	1.0	Double solenoid	24 VDC	Internal	<b>HA5VXBG0G9A</b>	HA5VXBH0G9A
											External	HA5VXLG0G9A	HA5VXLH0G9A
120 VAC	Internal	<b>HA5VXBG023A</b>	HA5VXBH023A										
	External	HA5VXLG023A	HA5VXLH023A										
		4-way, 3-position, center exhaust	1.0	Double solenoid	24 VDC						Internal	<b>HA6VXBG0G9A</b>	HA6VXBH0G9A
											External	HA6VXLG0G9A	HA6VXLH0G9A
120 VAC						Internal	<b>HA6VXBG023A</b>	HA6VXBH023A					
						External	HA6VXLG023A	HA6VXLH023A					
							4-way, 3-position, pressure center	1.0	Double solenoid	24 VDC	Internal	<b>HA7VXBG0G9A</b>	HA7VXBH0G9A
											External	HA7VXLG0G9A	HA7VXLH0G9A
120 VAC	Internal	<b>HA7VXBG023A</b>	HA7VXBH023A										
	External	HA7VXLG023A	HA7VXLH023A										






**Single Subbase - 15407-2, Plug-in, Size 26mm (HA)**

Enclosure / Lead Length	Solenoid Addresses	1/4" NPT	1/4" BSPP
 Terminal strip in the base	Double solenoid - 2 addresses	<b>PS551113CP</b>	<b>PS551114CP</b>

**Manifold Base - 2-Station, 15407-2, Plug-in, Size 26mm (HA)**

End Ported Bases	Enclosure / Lead Length	Solenoid Addresses	1/4" NPT	1/4" BSPP
	Circuit board	Single solenoid - 2 address	<b>PSHU1153J1P</b>	<b>PSHU1154J1P</b>
	Circuit board	Double solenoid - 4 addresses	<b>PSHU1153M1P</b>	<b>PSHU1154M1P</b>

**Accessories - 15407-2, Plug-in, Size 26mm (HA)**

Accessories	Description	Part Number	
	Blanking plate kit	<b>PS5534P</b>	
	Sandwich flow control for individual valve	<b>PS5535P</b>	
	Pilot pressure control, without sensor, 1/8" BSPP	<b>PS55XXA0P</b>	
			1/4" NPT
	1/4" BSPP		<b>PS552601P</b>
	Sandwich regulator	2-60 PSIG w/ gauge	<b>PS5538155P</b>
		5-125 PSIG w/ gauge	<b>PS5538166P</b>
		Common Pressure	Independent Pressure

 Most popular.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

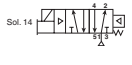

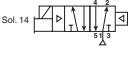

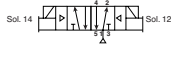
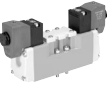
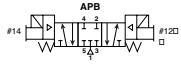
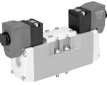
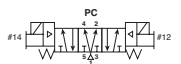

Network Connectivity

DX ISOMAX Series


Valvair II Series

**Common Part Numbers**


**Valve - 5599-2, Plug-in, Size 1 (H1)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-Locking	Locking	
 	4-way, 2-position, spring return	1.5	Single solenoid	24 VDC	Internal	<b>H1EVXBG0B9D</b>	<b>H1EVXBH0B9D</b>	
					External	<b>H1EVXXG0B9D</b>	<b>H1EVXXH0B9D</b>	
					Internal	<b>H1EVXBG023D</b>	<b>H1EVXBH023D</b>	
					External	<b>H1EVXXG023D</b>	<b>H1EVXXH023D</b>	
 	4-way, 2-position, air return	1.5	Single solenoid	24 VDC	Internal	<b>H11VXBG0B9D</b>	<b>H11VXBH0B9D</b>	
					External	<b>H11VXXG0B9D</b>	<b>H11VXXH0B9D</b>	
					Internal	<b>H11VXBG023D</b>	<b>H11VXBH023D</b>	
					External	<b>H11VXXG023D</b>	<b>H11VXXH023D</b>	
 	4-way, 2-position	1.5	Double solenoid	24 VDC	Internal	<b>H12VXBG0B9D</b>	<b>H12VXBH0B9D</b>	
					External	<b>H12VXXG0B9D</b>	<b>H12VXXH0B9D</b>	
				120 VAC	Internal	<b>H12VXBG023D</b>	<b>H12VXBH023D</b>	
					External	<b>H12VXXG023D</b>	<b>H12VXXH023D</b>	
					24 VDC	Internal	<b>H15VXBG0B9D</b>	<b>H15VXBH0B9D</b>
						External	<b>H15VXXG0B9D</b>	<b>H15VXXH0B9D</b>
120 VAC	Internal	<b>H15VXBG023D</b>	<b>H15VXBH023D</b>					
	External	<b>H15VXXG023D</b>	<b>H15VXXH023D</b>					
 	4-way, 3-position, all ports blocked	1.2	Double solenoid	24 VDC	Internal	<b>H16VXBG0B9D</b>	<b>H16VXBH0B9D</b>	
					External	<b>H16VXXG0B9D</b>	<b>H16VXXH0B9D</b>	
				120 VAC	Internal	<b>H16VXBG023D</b>	<b>H16VXBH023D</b>	
					External	<b>H16VXXG023D</b>	<b>H16VXXH023D</b>	
					24 VDC	Internal	<b>H16VXBG0B9D</b>	<b>H16VXBH0B9D</b>
						External	<b>H16VXXG0B9D</b>	<b>H16VXXH0B9D</b>
120 VAC	Internal	<b>H16VXBG023D</b>	<b>H16VXBH023D</b>					
	External	<b>H16VXXG023D</b>	<b>H16VXXH023D</b>					
 	4-way, 3-position, pressure center	1.2	Double solenoid	24 VDC	Internal	<b>H17VXBG0B9D</b>	<b>H17VXBH0B9D</b>	
					External	<b>H17VXXG0B9D</b>	<b>H17VXXH0B9D</b>	
				120 VAC	Internal	<b>H17VXBG023D</b>	<b>H17VXBH023D</b>	
					External	<b>H17VXXG023D</b>	<b>H17VXXH023D</b>	




**Single Subbase - 5599-2, Plug-in, Size 1 (H1)**

Side Ported	Enclosure / Lead Length	Solenoid Addresses	3/8" NPT	3/8" BSPP
	Terminal strip in base	Double solenoid - 2 addresses	<b>PS401115CDP</b>	<b>PS401116CDP</b>
	6" flying leads	Double solenoid - 2 addresses	<b>PS401115ADP</b>	<b>PS401116ADP</b>
	4-pin, M12 micro connector in base, SAE / Ford wiring	Double solenoid - 2 addresses	<b>PS4011158FDP</b>	<b>PS4011168FDP</b>

**Manifold Base - 5599-2, Plug-in, Size 1 (H1)**

End Ported	Enclosure / Lead Length	Solenoid Addresses	3/8" NPT	3/8" BSPP
	Circuit board	Single solenoid - 1 address	<b>PSHU1155J1P</b>	<b>PSHU1156J1P</b>
	Circuit board	Double solenoid - 2 addresses	<b>PSHU1155M1P</b>	<b>PSHU1156M1P</b>

**Accessories - 5599-2, Size 1 (H1)**

Accessory	Description	Part Number
	Common pressure	<b>PS4038166CP</b>
	Independent pressure	<b>PS4038266CP</b>
	Blanking plate kit	<b>PS4034CP</b>
	Sandwich flow control	<b>PS4035CP</b>

A Sandwich Flow Control and Common Port Sandwich Regulator may be used together on a manifold or subbase. The Sandwich Flow Control MUST be located between the manifold/subbase and the Common Port Sandwich Regulator.

 Most popular.



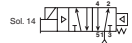


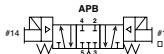
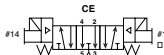

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**D**  
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 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series


**Valve - 5599-2, Plug-in, Size 2 (H2)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-Locking	Locking					
	4-way, 2-position, spring return	3.0	Single solenoid	24 VDC	Internal	<b>H2EVXBG0B9D</b>	<b>H2EVXBH0B9D</b>					
					External	<b>H2EVXXG0B9D</b>	<b>H2EVXXH0B9D</b>					
					120 VAC	Internal	<b>H2EVXBG023D</b>	<b>H2EVXBH023D</b>				
						External	<b>H2EVXXG023D</b>	<b>H2EVXXH023D</b>				
						4-way, 2-position, air return	3.0	Single solenoid	24 VDC	Internal	<b>H21VXBG0B9D</b>	<b>H21VXBH0B9D</b>
										External	<b>H21VXXG0B9D</b>	<b>H21VXXH0B9D</b>
120 VAC	Internal	<b>H21VXBG023D</b>	<b>H21VXBH023D</b>									
	External	<b>H21VXXG023D</b>	<b>H21VXXH023D</b>									
	4-way, 2-position	3.0	Double solenoid	24 VDC						Internal	<b>H22VXBG0B9D</b>	<b>H22VXBH0B9D</b>
										External	<b>H22VXXG0B9D</b>	<b>H22VXXH0B9D</b>
					120 VAC	Internal	<b>H22VXBG023D</b>	<b>H22VXBH023D</b>				
						External	<b>H22VXXG023D</b>	<b>H22VXXH023D</b>				
						4-way, 3-position, all ports blocked	2.8	Double solenoid	24 VDC	Internal	<b>H25VXBG0B9D</b>	<b>H25VXBH0B9D</b>
										External	<b>H25VXXG0B9D</b>	<b>H25VXXH0B9D</b>
120 VAC	Internal	<b>H25VXBG023D</b>	<b>H25VXBH023D</b>									
	External	<b>H25VXXG023D</b>	<b>H25VXXH023D</b>									
	4-way, 3-position, center exhaust	2.8	Double solenoid	24 VDC						Internal	<b>H26VXBG0B9D</b>	<b>H26VXBH0B9D</b>
										External	<b>H26VXXG0B9D</b>	<b>H26VXXH0B9D</b>
					120 VAC	Internal	<b>H26VXBG023D</b>	<b>H26VXBH023D</b>				
						External	<b>H26VXXG023D</b>	<b>H26VXXH023D</b>				
						4-way, 3-position, pressure center	2.8	Double solenoid	24 VDC	Internal	<b>H27VXBG0B9D</b>	<b>H27VXBH0B9D</b>
										External	<b>H27VXXG0B9D</b>	<b>H27VXXH0B9D</b>
120 VAC	Internal	<b>H27VXBG023D</b>	<b>H27VXBH023D</b>									
	External	<b>H27VXXG023D</b>	<b>H27VXXH023D</b>									

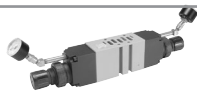


**Single Subbase - 5599-2, Plug-in, Size 2 (H2)**

Side Ported Base	Enclosure / Lead Length	Solenoid Addresses	1/2" NPT	1/2" BSPP
	Terminal strip in base	Double solenoid - 2 address	<b>PS411117CCP</b>	<b>PS411118CCP</b>
	6" flying leads	Double solenoid - 2 addresses	<b>PS411117ACP</b>	<b>PS411118ACP</b>

**Manifold Base - 5599-2, Plug-in, Size 2 (H2)**

End Ported	Enclosure / Lead Length	Solenoid Addresses	1/2" NPT	1/2" BSPP
	Circuit board	Single solenoid - 1 address	<b>PSHU1157J1P</b>	<b>PSHU1158J1P</b>
	Circuit board	Double solenoid - 2 addresses	<b>PSHU1157M1P</b>	<b>PSHU1158M1P</b>

**Accessories - 5599-2, Size 2 (H2)**

Accessory	Description	Part Number
	Common pressure	5-125 PSIG w/ gauge <b>PS4138166CP</b>
	Independent pressure	5-125 PSIG w/ gauge <b>PS4138266CP</b>
	Blanking plate kit	<b>PS4134CP</b>
	Sandwich flow control	<b>PS4135CP</b>

A Sandwich Flow Control and Common Port Sandwich Regulator may be used together on a manifold or subbase. The Sandwich Flow Control MUST be located between the manifold/subbase and the Common Port Sandwich Regulator.

 Most popular.



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End Plate Kit - Universal Plug-in

**PSHU20 L1 0 0 P**

Valve Type	
Plug-in (internal pilot)	PSHU20
Plug-in (external pilot)	PSHU2X

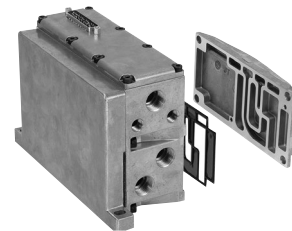
Thread Type	
0	NPT
1*	BSPP "G"

\* BSPP conforms to ISO 1179-1 w 228-1 threads

Left Hand End Plate Type * †	
25-Pin, D-Sub (side)	L1
25-Pin, D-Sub (top)	L2
19-Pin, Round, Brad Harrison	L3
12-Pin, M23	L4
32-Point Terminal Strip	L5
H Series Network, with Valve Driver Module ‡	L6
19-Pin, M23	M2
P2M Network Node Side Mount ‡	M4
P2M Network Node Low Profile Mount ‡ ◊	M5
P2H IO Link Class B, 24 Address, Standard Version	N2
P2H IO Link Class B, 24 Address, Safe Version	S2
P2H IO Link Class A, 24 Address, 4-Pin, Safe Version	S4
P2H IO Link Class A, 24 Address, 5-Pin, Safe Version	S5
Turck Network with valve driver module - 16 outputs ‡	T1
Turck Network with valve driver module - 32 outputs ‡	T2
-----For PCH Network Portal, see next page -----	

Right Hand End Plate Type / Port	
0	Low Profile (no ports)
1	1/2 Exhaust and Inlet Port
2	3/4 Exhaust and Inlet Port
3*	H3 Transition Plate, 1" Exhaust and Inlet, (electrical pass through)
4*	H3 Transition Plate, 1" Exhaust and Inlet, (expansion to 25th address)



\* 1, 3 & 5 manifold galley blocked at transition plate. 12 & 14 pass through.




25-pin D-Sub (top) with low profile end plate shown 3.97 Cv

- \* 120VAC is not CSA certified.
- ‡ Turck Network, H Series Network, and P2M Network Node communication modules must be ordered separately. See Network Connectivity section for more information.
- † PSHU11P gaskets included in each end plate kit.
- ◊ Only suitable for P2M Industrial Ethernet Protocols

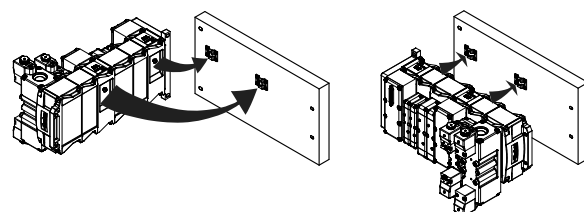
Right Hand End Plate

	Description	NPT Port	BSPP Port
	Right hand end plate only, low profile, 3.97 Cv	<b>PSHU4000P</b>	
	Right hand end plate only, high flow 1/2" ports, 6.07 Cv	<b>PSHU4100P</b>	<b>PSHU4101P</b>
	Right hand end plate only, high flow 3/4" ports, 8.35 Cv	<b>PSHU4200P</b>	<b>PSHU4201P</b>

H3 Transition Kit

	H3 transition, H3 right hand end plate, 1" ports, electrical pass through (includes gaskets & bolts)	<b>PSHU7100P</b>	<b>PSHU7101P</b>
	H3 transition, H3 right hand end plate, 1" ports, expansion to 25th address (includes gaskets & bolts)	<b>PSHU7200P</b>	<b>PSHU7201P</b>

Installation Bracket



Bracket	Part Number
Bracket and Bolt (Quantity 2)	<b>PSHU60P</b>



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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



**End Plate Kit – Universal Plug-in**

The PCH Network Portal is ordered as an endplate kit. This includes the PCH Network Portal, left hand air supply module, and right hand end plate.

For fully assembled manifold Add-A-Fold part number, reference page D88



**PSHU20 P3 0 0 P E AAA 0 - P4**

Valve Type	
Plug-in (Internal pilot)	<b>PSHU20</b>
Plug-in (External pilot)	PSHU2X

Thread Type	
NPT	<b>0</b>
BSPG "G"	1

Network Connections	
EtherNet/IP	<b>E</b>
EtherCAT	T
PROFINET	N
PROFINET AIDA	A
Modbus TCP	M

Power Connector *	
4-pin Power IN/OUT with 1 Safe Power Capable Zone	<b>P4</b>
5-pin Power IN/OUT with 1 Safe Power Capable Zone	P5
4-pin Power IN/IN with 2 Safe Power Zones	S4
5-pin Power IN/IN with 2 Safe Power Zones	S5
AIDA Power IN/OUT with 1 Safe Power Capable Zone	J1*

\* Only available with Profinet AIDA

Right Hand End Plate Type / Thread Size	
Low profile (no ports)	<b>0</b>
1/2 Exhaust and Inlet Port	1
3/4 Exhaust and Inlet Port	2
H3 Transition Plate and End Plate (electrical pass through for plug-in valves only)	3
H3 Transition Plate and End Plate (expansion to 25th address for plug-in valves only)	4

Module Combinations		
Module Position 1	Module Position 2	Module Position 3
A	A	A
A	A	B
A	A	C
A	A	N
A	B	B
A	B	C
A	B	N
A	C	C
A	C	N
B	B	B
B	B	C
B	B	N
B	C	C
B	C	N
C	C	C
C	C	N

For any module configurations not listed, consult factory.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Ordering Information

Valve - 15407-2 Plug-in, Size 18mm (HB) & 26mm (HA)

**HB 1 VX B G 0 G9 A**

Basic Series 15407-2	
ISO 15407-2 18mm	HB
ISO 15407-2 26mm	HA

15407-2 Engineering Level	
A	Current

15407-2 Operator / Function	
Single Solenoid, 2-Position - Air Return	1
Double Solenoid, 2-Position	2
Double Solenoid, 3-Position - APB	5
Double Solenoid, 3-Position - CE	6
Double Solenoid, 3-Position - PC	7
Single Solenoid, 2-Position - Air Return, Spring Assist	E
Double Solenoid, Dual 3/2, NC/NC	N*
Double Solenoid, Dual 3/2, NO/NO	P*
Double Solenoid, Dual 3/2, 14 End NC - 12 end NO	Q*

15407-2 Voltage & Frequency				
	AC		DC	Light & Surge Suppression
	60Hz	50Hz		
G9			24	LED & Suppression
23	120	115		LED & Suppression

15407-2 Enclosure / Lead Length	
0	Valve Less Base

15407-2 Overrides / Lights	
G	Non-Locking, Flush, Push - W/ Light
H	Locking, Flush, Push / Turn - W/ Light

15407-2 Pilot Source / Pilot Exhaust	
B	Internal Pilot, Port #1 / Vented
L*	External Pilot, Port #14 / Vented

Mounting	
15407-2 Valve Less Base	VX

\* Available on HB Only, must use Internal Pilot Source Option "B".



HB 18mm Valve shown

Valve - 5599-2 Plug-in, Size H1 & H2

**H1 E VX B G 0 B9 D**

Basic Series 5599-2	
ISO 5599-2 Size 1	H1
ISO 5599-2 Size 2	H2

5599-2 Engineering Level	
D	Current

5599-2 Operator / Function	
Single Solenoid, 2-Position - Air Return	1
Double Solenoid, 2-Position	2
Double Solenoid, 3-Position - APB	5
Double Solenoid, 3-Position - CE	6
Double Solenoid, 3-Position - PC	7
Single Solenoid, 2-Position - Air Return, Spring Assist	E

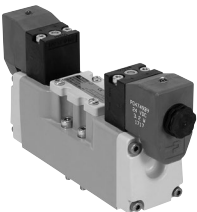
5599-2 Voltage & Frequency				
	AC		DC	Light & Surge Suppression
	60Hz	50Hz		
42	24			
45			12	
B9			24	LED & Suppression, 3.2 Watt
F9			24	LED & Suppression, 1.3 Watt
23	120	115		LED & Suppression
57*	240			

5599-2 Enclosure / Lead length	
0	None, valve less base

5599-2 Mounting	
5599-2 Valve Less Base	VX

5599-2 Pilot Source / Pilot Exhaust	
Internal Pilot, Port #1 / Vented	B
External Pilot, Port #12 Or #14 / Vented	X*

\* Must be specified when using Sandwich Regulators.



H1 Valve shown

5599-2 Overrides / Lights		
	Voltage code	
B	42, 45, 57	Non-Locking, Flush, Push - w/o Light
C	42, 45, 57	Locking, Flush, Push / Turn - w/o Light
G	B9, F9, 23	Non-Locking, Flush, Push - w/ Light
H	B9, 23	Locking, Flush, Push / Turn - w/ Light

\* Single subbase only. Not available for 5599-2 manifold mount.

Most popular.

D Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**Manifold Kit - Universal Plug-in**

**PSHU1153 J 1 P**

Mounting Style / Port Size	
HB Manifold with 1/8 NPT End Ports	PSHU1151
HB Manifold with 1/8 BSPP End Ports	PSHU1152*
<b>HA Manifold with 1/4 NPT End Ports</b>	<b>PSHU1153</b>
HA Manifold with 1/4 BSPP End Ports	PSHU1154*
<b>H1 Manifold with 3/8 NPT End Ports</b>	<b>PSHU1155</b>
H1 Manifold with 3/8 BSPP End Ports	PSHU1156*
<b>H2 Manifold with 1/2 NPT End Ports</b>	<b>PSHU1157</b>
H2 Manifold with 1/2 BSPP End Ports	PSHU1158*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.



HA manifold shown

Gasket Options	
<b>1</b>	<b>1,3,5 Ports Open And Pilots Open</b>
2	1,3,5 Ports Closed And Pilots Open
3	1 Closed, 3,5 Ports Open And Pilots Open
4	1 Port Open, 3,5 Ports Closed And Pilots Open
5	1,3,5 Ports Open And Pilots Closed
6	1,3,5 Ports Closed And Pilots Closed
7	1 Closed, 3,5 Ports Open And Pilots Closed
8	1 Port Open, 3,5 Ports Closed And Pilots Closed

Circuit Board Address Configuration	
<b>J</b>	<b>Interconnect, Single Address</b>
M	Interconnect, Double Address

**Intermediate Air Supply - Universal Plug-in**

**PSHU115A T 1 P**

Mounting Style / Port Size	
<b>Intermediate Air Supply, NPT / Internal Pilot</b>	<b>PSHU115A</b>
Intermediate Air Supply, BSPP / Internal Pilot	PSHU115B*
<b>Intermediate Air Supply, NPT / External Pilot</b>	<b>PSHU115C</b>
Intermediate Air Supply, BSPP / External Pilot	PSHU115D*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.



Intermediate air supply module shown

Gasket Options	
<b>1</b>	<b>1,3,5 Ports Open And Pilots Open</b>
2	1,3,5 Ports Closed And Pilots Open
3	1 Closed, 3,5 Ports Open And Pilots Open
4	1 Port Open, 3,5 Ports Closed And Pilots Open
5	1,3,5 Ports Open And Pilots Closed
6	1,3,5 Ports Closed And Pilots Closed
7	1 Closed, 3,5 Ports Open And Pilots Closed
8	1 Port Open, 3,5 Ports Closed And Pilots Closed

Circuit Board Address Configuration	
<b>T</b>	<b>With Electrical Pass Through</b>
E	With Electrical Expansion To 25th Address

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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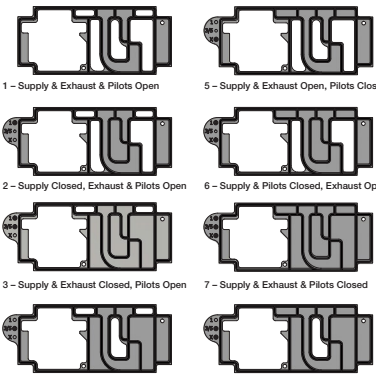
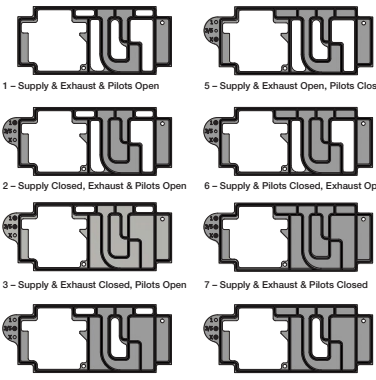
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Ordering Information

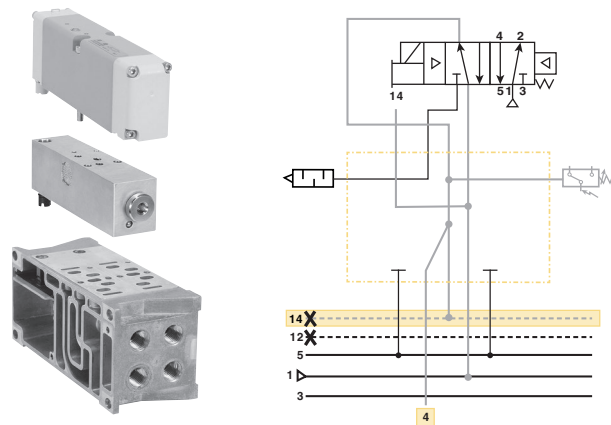
Pneumatic Zoning

Multiple pressure zones can be created by selecting alternative gaskets between individual manifold segments or an intermediate air supply module. These zones can be designed to meet different application and safety requirements on the machine. Inserting the PXM Pilot Exhaust Module into a one of these zones allows control of pilot pressure for the entire zone.

Gasket Kit - Universal Manifold to Manifold

Description		Part number
 <p>1 – Supply &amp; Exhaust &amp; Pilots Open 2 – Supply Closed, Exhaust &amp; Pilots Open 3 – Supply &amp; Exhaust Closed, Pilots Open 4 – Supply &amp; Pilots Open, Exhaust Closed</p>	Pilots opened	PSHU11P
		PSHU12P
		PSHU13P
		PSHU14P
 <p>5 – Supply &amp; Exhaust Open, Pilots Closed 6 – Supply &amp; Pilots Closed, Exhaust Open 7 – Supply &amp; Exhaust &amp; Pilots Closed 8 – Supply Open, Exhaust &amp; Pilots Closed</p>	Pilots blocked	PSHU15P
		PSHU16P
		PSHU17P
		PSHU18P

Pilot Exhaust Module



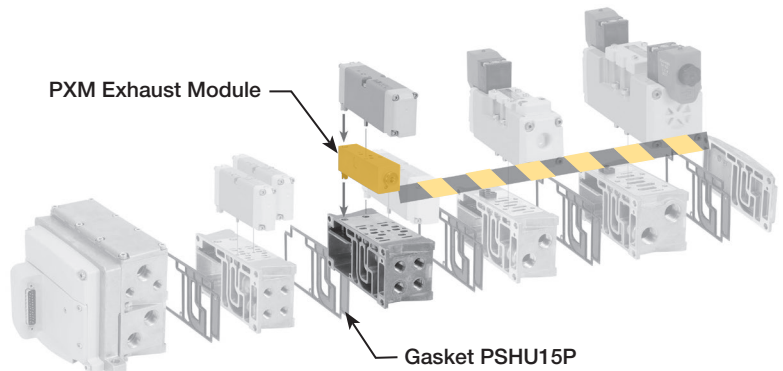
PXM Pilot Exhaust Module enables an H Series HA Single Solenoid valve to control the pilot pressure to other externally piloted H Series ISO valves in the same manifold zone. The HA valve in conjunction with the PXM will remove pilot pressure to all externally piloted valves in the manifold zone when solenoid 14 is de-energized (off). Control of all externally piloted valves in the zone is disabled for both solenoid actuation and manual override until solenoid 14 of the HA valve on the PXM is energized again (on).

Gaskets blocking pilot pressure are required at the start of the zone the PXM is controlling. Special zoning gaskets (shown below) are available to meet any application requirement. In the example below, main pressure and exhaust pass through to the second zone, but pilot pressure is blocked. This results in the PXM providing pilot pressure for the zone after this gasket.

Part Number	Sensor Type
PS55XXA0P	No sensing
PS55XXM0P	Mechanical pressure switch
PS55XXE0P	Solid state pressure switch

Part Number	Cable Type
RKC4.4T-2	M12 cable, PVC, 2m



D  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Sandwich Regulator - 15407-2, Plug-in,**

**PS5638 1 6 6 P**

Basic Series	
HB 15407-2, 18mm, Plug-in	PS5638
HA 15407-2, 26mm, Plug-in	PS5538

Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator / Gauge*	
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

#4 Port Regulator / Gauge*	
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

**Ordering Components**

- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.



**HB - 18mm**  
 (Independent Dual Port Regulator shown)




**HA - 26mm**  
 (Common Port Regulator shown)

**How to Configure Sandwich Regulator / Valve Combinations**

**Internal Pilot Configuration of Sandwich Regulator HA, HB**

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

Accessories	Description	Part number
 Gauge adapter kit	Includes 1/8" coupling, long nipple, and gauge	<b>PS5651160P</b>

**Sandwich Regulator Cv Flow Chart\***

	Common Pressure Code 166				Dual Pressure Code 266			
	1-2	1-4	2-3	4-5	1-2	1-4	2-3	4-5*
<b>HB</b>	0.20	0.20	0.41	0.34	0.23	0.19	0.28	0.27
<b>HA</b>	0.41	0.43	0.87	0.89	0.42	0.45	0.68	0.66

\* Regulator Port exhaust through Base Port 3.

**Note:** All Cv's calculated with regulator adjusted full open.

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D85

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**Sandwich Regulator - 5599-2, Plug-in,**

**PS4038 1 6 6 C P**

Basic Series	
H1 5599-2, Plug-in	PS4038
H2 5599-2, Plug-in	PS4138

Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator / Gauge*	
0**	Line By-Pass Plate
4	1-30 PSIG w/Gauge
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge
D	Remote Pilot ISO 2 & 3 only

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

\*\* Pressure Line By-Pass Option can only be used with Independent Pressure Regulators.

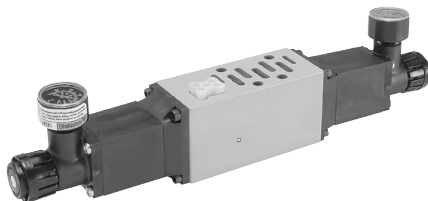
#4 Port Regulator / Gauge*	
0**	Line By-Pass Plate
4	1-30 PSIG w/Gauge
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge
D	Remote Pilot ISO 2 & 3 only

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

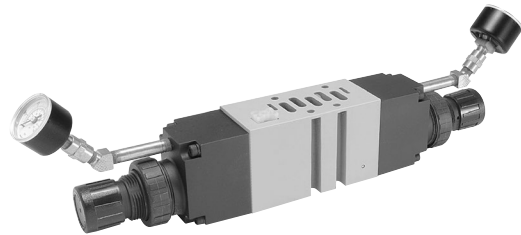
\*\* Pressure Line By-Pass Option can only be used with Independent Pressure Regulators.

**Ordering Components**

- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.



**H1 - Size 1**  
 (Independent Dual Port Regulator shown)



**H2 - Size 2**  
 (Independent Dual Port Regulator shown)

**How to Configure Sandwich Regulator / Valve Combinations**

**Internal Pilot Configuration of Sandwich Regulator H1, H2**

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

**External Pilot Configuration of Sandwich Regulator H1, H2**

An External Pilot pressure in Port 12 or 14 of the base feeds thru the Sandwich Regulator 12 or 14 galley directly to the 12/14 pilot of the valve. This configuration takes an External Pilot from the 12 port of the base and passes it thru the regulator to feed the 12 galley of the valve.

**Sandwich Regulator Cv Flow Chart\***

	Common Pressure Code 166				Single Pressure 2 Code 206				Single Pressure 4 Code 260				Dual Pressure Code 266			
	1-2	1-4	2-3	4-5	1-2	1-4	2-3	4-5*	1-2	1-4	2-3	4-5*	1-2	1-4	2-3	4-5*
<b>H1</b>	0.62	0.61	1.28	1.18	0.73	0.96	0.96	0.93	0.34	0.70	0.94	0.98	0.52	0.48	0.86	0.88
<b>H2</b>	1.47	1.60	2.41	2.33	1.71	1.90	1.52	1.75	1.74	1.67	1.73	1.79	1.61	1.62	1.50	1.67

\* Regulator Port exhaust through Base Port 3.  
 Note: All Cv's calculated with regulator adjusted full open.

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D86

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Ordering Information

Online Configuration

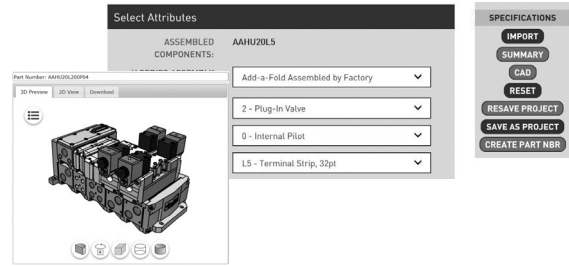
Navigate to the landing page

www.parker.com/pdn/HSeriesISO

Customize your manifold assembly

Create and save a unique assembled part number

Generate a CAD model



Add-A-Fold - Universal Plug-in

**AA HU20 L1 0 0 P 04**

Valve Type	
Plug-in (internal)	AAHU20
Plug-in (external)	AAHU2X

Number of Segments	
01	↓
32	

Left Hand End Plate Type * †	
25-Pin, D-Sub (side)	L1
25-Pin, D-Sub (top)	L2
19-Pin, Round, Brad Harrison	L3
12-Pin, M23	L4
32-Point Terminal Strip	L5
H Series Network, with valve driver module ‡	L6
19-Pin, M23	M2
P2M Network Node Side Mount ‡	M4
P2M Network Node Low Profile Mount ‡ ◊	M5
P2H IO Link Class B, 24 Address, Standard Version	N2
P2H IO Link Class B, 24 Address, Safe Version	S2
P2H IO Link Class A, 24 Address, 4-Pin, Safe Version	S4
P2H IO Link Class A, 24 Address, 5-Pin, Safe Version	S5
Turck Network with valve driver module - 16 outputs ‡	T1
Turck Network with valve driver module - 32 outputs ‡	T2
-----For PCH Network Portal, see next page -----	

Thread Type	
0	NPT
1*	BSPP "G"

\* BSPP Conforms to ISO 1179-1 w 228-1 Threads

Right Hand End Plate Type / Port	
0	Low profile (no ports)
1	1/2 Exhaust and inlet port
2	3/4 Exhaust and inlet port
3*	H3 Transition plate, 1" exhaust and inlet, (electrical pass through)
4*	H3 Transition plate, 1" exhaust and inlet, (expansion to 25th address)

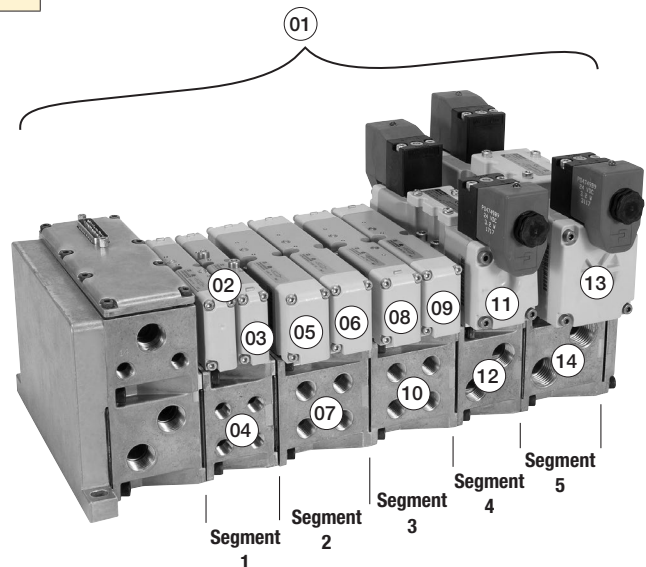
\* 1, 3 & 5 manifold galley blocked at transition plate. 12 & 14 pass through.

- \* 120VAC is not CSA certified. Not available with 240VAC coils.
- ‡ Turck Network, H Series Network, and P2M Network Node communication modules must be ordered separately. See Network Connectivity section for more information.
- † PSHU11P gaskets included in each end plate kit.
- ◊ Only suitable for P2M Industrial Ethernet Protocols

Example

Application requires a 5 segment manifold.

Item	Part No.	Location	
01	AAHUL200P05		
02	HB2VXBG0G9A	Segment 1	
03	HB2VXBG0G9A		Valve station 2
04	PSHU1151M1P		Manifold base
05	HA1VXBG0G9A	Segment 2	
06	HA2VXBG0G9A		Valve station 4
07	PSHU1153M1P	Manifold base	
08	HA1VXBG0G9A	Segment 3	
09	HA2VXBG0G9A		Valve station 6
10	PSHU1153M1P	Manifold base	
11	H12VXBG0B9A	Segment 4	
12	PSHU1155M1P		Manifold base
13	H22VXBG0B9A	Segment 5	
14	PSHU1157M1P		Manifold base



Example:  
5 segment manifold with (2) HB, (4) HA, (1) H1, and (1) H2 valve on manifold bases with 25-pin, D-Sub end plate.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

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Richland, Michigan  
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D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**Ordering Information**

**Add-A-Fold – Universal Plug-in – PCH Network Portal**

The PCH Network Portal redefines and revolutionizes machine I/O (Inputs and Outputs). The PCH Portal was engineered for the open protocol IO-Link A and IO-Link B devices as well as configurable inputs/ outputs with true PNP/NPN circuitry switching on each port for easy machine design changes. The integrated configurability gives the user flexibility in designing I/O architecture. The PCH Network Portal is designed for general pneumatic control of industrial machinery on an Ethernet network for all types of automated industrial equipment.



**AAHU 20 P3 0 0 P 04 E AAA 0 - P4**

Valve Type	
Plug-in Valves	
Internal pilot	20
External pilot	2X

Thread Type	
NPT	0
BSPG "G"	1

Number of Segments	
0	
↓	
32	

Network Connections	
EtherNet/IP	E
EtherCAT	T
ProfiNet	N
Profinet AIDA	A
Modbus TCP	M

Module Combinations		
Module Position 1	Module Position 2	Module Position 3
A	A	A
A	A	B
A	A	C
A	A	N
A	B	B
A	B	C
A	B	N
A	C	C
A	C	N
B	B	B
B	B	C
B	B	N
B	C	C
B	C	N
C	C	C
C	C	N

Power Connector *	
4-pin power IN/OUT with 1 safe power capable zone	P4
5-pin power IN/OUT with 1 safe power capable zone	P5
4-pin power IN/IN with 2 safe power zones	S4
5-pin power IN/IN with 2 safe power zones	S5
Aida power IN/OUT with 1 safe power capable zone	J1*

\* Only available with Profinet AIDA

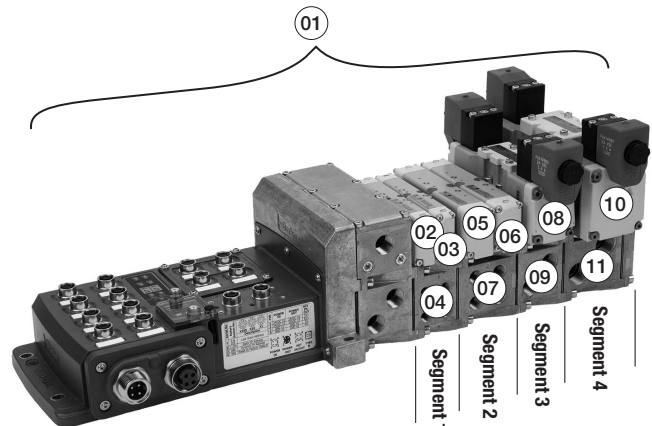
Right Hand End Plate Type / Thread Size	
Low profile (no ports)	0
1/2 Exhaust and inlet port	1
3/4 Exhaust and inlet port	2
H3 Transition plate and end plate (electrical pass through for plug-in valves only)	3
H3 Transition plate and end plate (expansion to 25th address for plug-in valves only)	4

For any module configurations not listed, consult factory.

**Example**

Application required a 4 segment manifold

Item	Part No.	Location
01	AAHU20P300P04EAAA-P4	
02	HB2VXBG0G9A	Valve Station 1
03	HB2VXBG0G9A	Segment 1 Valve Station 2
04	PSHU1151M1P	Manifold Base
05	HA1VXBG0G9A	Valve Station 3
06	HA2VXBG0G9A	Segment 2 Valve Station 4
07	PSHU1153M1P	Manifold Base
08	H12VXBG0B9A	Segment 3 Valve Station 5
09	PSHU1155M1P	Manifold Base
10	H2222VXBG0B9A	Segment 4 Valve Station 6
11	PSHU1157M1P	Manifold Base



**Example:**  
5 segment manifold with (2) HB, (2) HA, (1) H1, and (1) H2 valve on manifold bases with PCH Network Portal end plate.

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**Subbase Kit - Plug-in**

**PS55**   **1113**   **C**         **P**

Series	
HA Subbase	PS55
H1 Subbase	PS40
H2 Subbase	PS41

Engineering Level	
Blank	HA Series
D	H1 Series
C	H2 Series

Mounting Style / Port Size	
<b>HA Series</b>	
1/4 NPT side ports	1113
1/4 BSPP side ports	1114*
1/4 NPT bottom / side ports	1123
1/4 BSPP bottom / side ports	1124*
<b>H1 Series</b>	
3/8 NPT side ports	1115
3/8 BSPP side ports	1116*
<b>H2 Series</b>	
1/2 NPT side ports	1117
1/2 BSPP side ports	1118*

Wiring Options	
Blank	None
C ‡	Chrysler
F ‡	SAE / Ford
G ‡	General Motors

‡ Not available on HA series.

Enclosures / Lead Length	
<b>Individually Wired Base*</b>	
7 †	3-Pin mini connector in base
8 †	4-Pin M12 micro connector in base
9 †	5-Pin mini connector in base
<b>A ‡</b>	<b>6" Leads</b>
<b>C</b>	<b>Terminal block</b>

\* Use plate with no connection.

† Must specify valve auto wiring option "C", "F", or "G".

‡ Not available on HA series.

\* BSPP conforms to ISO 1179-1 w 228-1 threads.
















HA subbase shown

<b>D</b>	<b>Subbase &amp; Manual Valves</b>
	H Series Micro
	Moduflex Series
	H Series ISO
	Network Connectivity
	DX ISOMAX Series
	Valvair II Series



**End Plate Kit - Plug-in, 5599-2, Size 3 (H3) \* Not compatible with H Universal**

Electrical option	NPT port	BSPP port
 No connector - use with individually wired base	<b>PS4231010DP</b>	PS4231011DP
 25-pin, D-sub	<b>PS4220L20DP</b>	PS4220L21DP
 19-pin, round, Brad Harrison	<b>PS4220L30DP</b>	PS4220L31DP
 12-pin, M23	<b>PS4220L40DP</b>	PS4220L41DP
 19-pin, M23	<b>PS4220M20DP</b>	PS4220M21DP
 P2M Network Node	<b>PS4220M40DP</b>	PS4220M41DP
 H Series Network, with valve driver module	<b>PS4220L60DP</b>	PS4220L61DP
 Turck Network with valve driver module - 16 address	<b>PS4220T10DP</b>	PS4220T11DP
 Turck Network with valve driver module - 24 address	<b>PS4220T20DP</b>	PS4220T21DP
 P2H IO Link Class B, standard version, 24 address	<b>PS4220N20DP</b>	PS4220N21DP
 P2H IO Link Class B, safe version, 24 address	<b>PS4220S20DP</b>	PS4220S21DP
 P2H IO Link Class A, 4-pin safe version, 24 address	<b>PS4220S40DP</b>	PS4220S41DP
 P2H IO Link Class A, 5-pin safe version, 24 address	<b>PS4220S50DP</b>	PS4220S51DP

Turck Network, H Series Network, and P2M Network Node communication modules must be ordered separately. See Network Connectivity Section for more information.

**Note:**  
 For cable part numbers and pin out information see Network Connectivity Accessories.

**D**

**Subbase & Manual Valves**

**H Series Micro**

**Modulflex Series**

**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**

 Most popular.

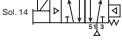
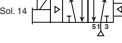

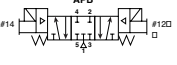




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**Valve - 5599-2, Plug-in, Size 3 (H3)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking						
	4-way, 2-position, spring return	6.0	Single solenoid	24 VDC	Internal	<b>H3EVXBG0B9D</b>	H3EVXBH0B9D						
					External	H3EVXXG0B9D	H3EVXXH0B9D						
						4-way, 2-position, air return	6.0	Single solenoid	24 VDC	Internal	<b>H31VXBG0B9D</b>	H31VXBH0B9D	
										External	H31VXXG0B9D	H31VXXH0B9D	
										120 VAC	Internal	<b>H31VXBG023D</b>	H31VXBH023D
											External	H31VXXG023D	H31VXXH023D
	4-way, 2-position	6.0	Double solenoid	24 VDC	Internal	<b>H32VXBG0B9D</b>	H32VXBH0B9D						
					External	H32VXXG0B9D	H32VXXH0B9D						
					120 VAC	Internal	<b>H32VXBG023D</b>	H32VXBH023D					
						External	H32VXXG023D	H32VXXH023D					
							4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	Internal	<b>H35VXBG0B9D</b>	H35VXBH0B9D
											External	H35VXXG0B9D	H35VXXH0B9D
120 VAC	Internal	<b>H35VXBG023D</b>	H35VXBH023D										
	External	H35VXXG023D	H35VXXH023D										
		4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC						Internal	<b>H36VXBG0B9D</b>	H36VXBH0B9D
											External	H36VXXG0B9D	H36VXXH0B9D
120 VAC						Internal	<b>H36VXBG023D</b>	H36VXBH023D					
						External	H36VXXG023D	H36VXXH023D					
							4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	Internal	<b>H37VXBG0B9D</b>	H37VXBH0B9D
											External	H37VXXG0B9D	H37VXXH0B9D
120 VAC	Internal	<b>H37VXBG023D</b>	H37VXBH023D										
	External	H37VXXG023D	H37VXXH023D										

**Subbase - Single 5599-2, Plug-in, Size 3 (H3)**

Side ported base	Enclosure / Lead length	Solenoid addresses	3/4" NPT	3/4" BSPP
	Terminal strip in base	Double solenoid - 2 address	<b>PS421119CCP</b>	PS421110CCP
	6" flying leads	Double solenoid - 2 addresses	<b>PS421119ACP</b>	PS421110ACP

**Manifold Base - 5599-2, Plug-in, Size 3 (H3)**

Bottom / End ported bases	Enclosure / Lead length	Solenoid addresses	3/4" NPT	3/4" BSPP
	Circuit board	Double solenoid - 2 addresses	<b>PS421169MCP</b>	PS421160MCP
	Terminal strip in base	Double solenoid - 2 address	<b>PS421169CCP</b>	PS421160CCP
	6" flying leads	Double solenoid - 2 addresses	<b>PS421169ACP</b>	PS421160ACP
	Circuit board	Double solenoid - 2 addresses	<b>PS421159MCP</b>	PS421150MCP
	Terminal strip in base	Double solenoid - 2 address	<b>PS421159CCP</b>	PS421150CCP
	6" flying leads	Double solenoid - 2 addresses	<b>PS421159ACP</b>	PS421150ACP

 Most popular.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series





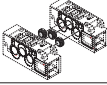
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**Accessories - 5599-2, Size 3 (H3)**

Accessory	Description	Part number
 Sandwich regulator	Common pressure 5-125 PSIG w/ gauge	<b>PS4238166CP</b>
	Independent pressure 5-125 PSIG w/ gauge	<b>PS4238266CP</b>
 Blanking plate kit		<b>PS4234CP</b>
 Sandwich flow control A Sandwich Flow Control and Common Port Sandwich Regulator may be used together on a manifold or subbase. The Sandwich Flow Control MUST be located between the manifold/subbase and the Common Port Sandwich Regulator.		<b>PS4235CP</b>
 Manifold to manifold gasket kits		<b>PS4213P</b>
 Manifold isolation kit	Main galley (1, 3, 5)	<b>PS4232CP</b>
	Pilot galley	<b>PS4033CP</b>

D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**End Plate Kit - Plug-in, 5599-2, Size 3 (H3) \* Not compatible with H Universal**

**PS42** **20L2** **0** **D** **P**

Basic Series	
ISO 5599, Size 3	PS42

Engineering Level	
D	Current

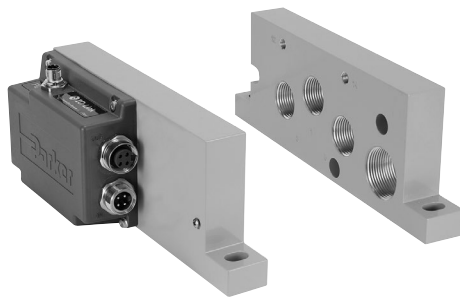
Options †	
<b>25-Pin, D-Sub</b>	<b>20L2*</b>
19-Pin, Round, Brad Harrison	20L3
12-Pin, M23	20L4
19-Pin, M23	20M2
<b>P2M Network Node</b>	<b>20M4</b>
<b>P2H IO Link Class B, 24 Address, Standard Version</b>	<b>20N2</b>
P2H IO Link Class B, 24 Address, Safe Version	20S2
<b>P2H IO Link Class A, 24 Address, 4-Pin, Safe Version</b>	<b>20S4</b>
P2H IO Link Class A, 24 Address, 5-Pin, Safe Version	20S5
H Series Network, with Valve Driver Module	20L6
Turck Network with Valve Driver Module - 16 Outputs	20T1
Turck Network with Valve Driver Module - 24 Outputs	20T2

Thread Type	
<b>0</b>	<b>NPT</b>
1*	BSPP "G"

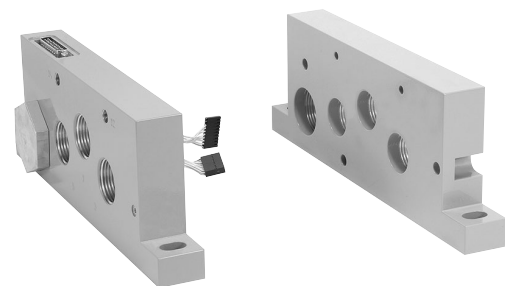
\* BSPP Conforms to ISO 1179-1 w 228-1 Threads

\* 120VAC is Not CSA Rated.

† Manifold bases must have a circuit board.  
 Turck Network, H Series Network, and P2M Network Node communication modules must be ordered separately.  
 See Network Connectivity Section for more information.



**H3 P2H Class A end plate shown**



**H3 25-pin D-Sub end plate shown**

Most popular.



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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**Valve - Plug-in, 5599-2, Size 3**

**H3 E VX B G O B9 D**

**Basic Series 5599-2**  
 ISO 5599-2 Size 3      H3

**5599-2 Engineering Level**  
 D      Current

5599-2 Operator / Function	
Single solenoid, 2-position - air return	1
Double solenoid, 2-position	2
Double solenoid, 3-position - APB	5
Double solenoid, 3-position - CE	6
Double solenoid, 3-position - PC	7
Single solenoid, 2-position - air return, spring assist	E

5599-2 Voltage & Frequency				
	AC		DC	Light & surge suppression
	60Hz	50Hz		
42	24			
45			12	
<b>B9</b>			<b>24</b>	<b>LED &amp; suppression, 3.2 watt</b>
<b>F9</b>			<b>24</b>	<b>LED &amp; suppression, 1.3 watt</b>
<b>23</b>	<b>120</b>	<b>115</b>		<b>LED &amp; suppression</b>
57	240			

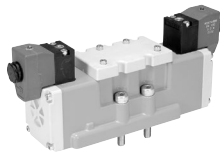
**5599-2 Mounting**  
 5599-2 Valve less base      VX

**5599-2 Pilot source / Pilot exhaust**  
 Internal pilot, port #1 / vented      B  
 External pilot, port #12 or #14 / vented      X\*

\* Must be specified when using Sandwich Regulators.

**5599-2 Enclosure / Lead length**  
 0      None, valve less base

5599-2 Overrides / Lights		
	Voltage code	
B	42, 45, 57	Non-locking, flush, push - w/o light
C	42, 45, 57	Locking, flush, push / turn - w/o light
<b>G</b>	<b>B9, F9, 23</b>	<b>Non-locking, flush, push - w/ light</b>
H	B9, 23	Locking, flush, push / turn - w/ light



H3 Valve shown

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

Most popular.



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**Ordering Information**

**Manifold / Subbase Kit - Plug-in, 5599-2, Size 3**

**PS421159** **M** **C** **P**

Mounting Base Style / Port Size	
Subbase: 3/4 NPT side port	PS421119
Subbase: 3/4 BSPP side port	PS421110*
Manifold: 3/4 NPT end port	PS421159
Manifold: 3/4 BSPP end port	PS421150*
Manifold: 3/4 NPT bottom / end port	PS421169
Manifold: 3/4 BSPP bottom / end port	PS421160*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.

Engineering Level	
C	H3

Wiring Options	
Blank	None
C	Chrysler
F	SAE / Ford
G	General Motors

Enclosures / Lead Length	
Individually Wired Base**	
7†	3-pin mini connector in base
8†	4-pin M12 micro connector in base
9†	5-pin mini connector in base
<b>A</b>	<b>6" Leads</b>
<b>C</b>	<b>Terminal block</b>
Collective Wired Base	
<b>M*</b>	<b>Circuit board, double address</b>

\* Not available with subbase kits.

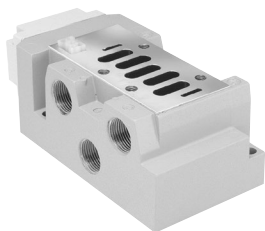
\*\* Use plate with no connection.

† Must specify valve auto wiring option "C", "F", or "G".

**Note:**

When using the enclosure / lead length "M" option:

- 12VDC - Maximum number of coils energized simultaneously is 13
- 24VDC - Maximum number of coils energized simultaneously is 21, B9 coil  
Maximum number of coils energized simultaneously is 24, F9 coil
- 120VAC - Coils limited by the number of pins available in the connector  
(25-pin D-Sub = 24 coils, 19-pin Brad Harrison = 16, 12-pin M23 = 8)
- 240VAC - Must use "A" or "C" option, lead wires or terminal blocks



**Subbase Kit**

**Automotive Connectors**

Mounted in 1/2" Conduit Port

- 3-Pin - Wired for Single Solenoid
- 4-Pin / 5-Pin - Wired for Double Solenoid



**Manifold Kit**

**Automotive Connectors**

Mounted in Individual Manifold Conduit Cover

- 3-Pin - Wired for Single Solenoid
- 4-Pin / 5-Pin - Wired for Double Solenoid

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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<b>D</b>
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series

**Sandwich Regulator - Plug-in, 5599-2**

**PS4038 1 6 6 C P**

Basic Series	
H3 5599-2, Plug-in	PS4238

Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator / Gauge*	
0**	Line By-Pass Plate
4	1-30 PSIG w/Gauge
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge
D	Remote Pilot ISO 2 & 3 only

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

\*\* Pressure Line By-Pass Option can only be used with Independent Pressure Regulators.

#4 Port Regulator / Gauge*	
0**	Line By-Pass Plate
4	1-30 PSIG w/Gauge
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge
D	Remote Pilot ISO 2 & 3 only

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

\*\* Pressure Line By-Pass Option can only be used with Independent Pressure Regulators.

**Ordering Components**

- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.

**How to Configure Sandwich Regulator / Valve Combinations**

**Internal Pilot Configuration of Sandwich Regulator H3**

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

**External Pilot Configuration of Sandwich Regulator H3**

An External Pilot pressure in Port 12 or 14 of the base feeds thru the Sandwich Regulator 12 or 14 galley directly to the 12/14 pilot of the valve. This configuration takes an External Pilot from the 12 port of the base and passes it thru the regulator to feed the 12 galley of the valve.

**Sandwich Regulator Cv Flow Chart\***

	Common Pressure Code 166				Single Pressure 2 Code 206				Single Pressure 4 Code 260				Dual Pressure Code 266			
	1-2	1-4	2-3	4-5	1-2	1-4	2-3	4-5*	1-2	1-4	2-3	4-5*	1-2	1-4	2-3	4-5*
<b>H3</b>	2.37	2.39	4.30	4.47	2.37	2.81	2.75	3.01	2.65	2.59	2.68	2.74	2.43	2.41	3.16	3.04

\* Regulator Port exhaust through Base Port 3.  
 Note: All Cv's calculated with regulator adjusted full open.

Most popular.



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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modutef Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Add-A-Fold Assembly - Plug-in, 5599-2, Size 3 \* Not compatible with H Universal**

<b>AA</b>	<b>H3</b>	<b>D</b>	<b>0</b>	<b>03</b>
<b>Valve Series</b>			<b>Number of Segments</b>	
Right & left end plate		H3	01	
			↓	
			32	
<b>End Plate Type</b>				
Turck Network with valve driver module - 16 address		A*		
Turck Network with valve driver module - 32 address		B*		
25-pin, D-sub		D†		
19-pin, Brad Harrison		E†		
12-pin, M23		G†		
19-pin, M23		H†		
<b>P2H IO Link Class B, 24 Address, Standard Version</b>		<b>J</b>		
P2H IO Link Class B, 24 Address, Safe Version		N		
<b>P2H IO Link Class A, 24 Address, 4-Pin, Safe Version</b>		<b>P</b>		
P2H IO Link Class A, 24 Address, 5-Pin, Safe Version		R		
<b>Standard, non-collective wiring</b>		<b>S</b>		
<b>P2M Network Node</b>		<b>T*</b>		
<b>H Series Network, with valve driver module</b>		<b>Y*</b>		
			<b>Thread Type</b>	
			0	NPT
			1*	BSPP "G"

\* BSPP Conforms to ISO 1179-1 w 228-1 Threads

\* Must order communication modules separately.  
 † Collective wiring module included.

**How To Order Plug-in Add-A-Fold Assemblies**

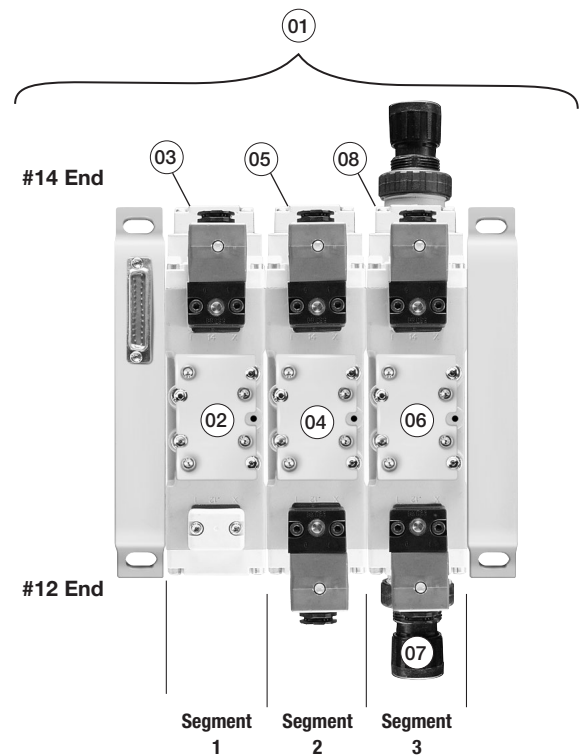
1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete valve, regulator, flow control and manifold base kit. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most segment is segment 1. (If a blank station is needed, list the blanking plate part number and the individual manifold part numbers for the required segment.)

**Example**

Application requires a 3 segment manifold and regulator on segment 3.

Item	Part No.	Location	
01	AAH3D003		
02	H31VXBG0B9D	Segment 1	Valve station 1
03	PS421159MCP		Manifold base
04	H32VXBG0B9D	Segment 2	Valve station 2
05	PS421159MCP		Manifold base
06	H32VXXG0B9D	Segment 3	Valve station 3
07	PS4238166CP		Sandwich regulator
08	PS421159MCP		Manifold base

**NOTE:** Construct manifold assemblies from left to right while looking at the cylinder ports.  
 Valves must be ordered as External Pilot when using Sandwich Regulator.



**Example:**  
 3 segment manifold with (3) H3 valves on manifold bases and regulator at segment 3.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO









Network Connectivity

DX ISOMAX Series



Valvair II Series

Common Part Numbers






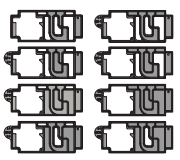
Valve -15407-1, Non Plug-in, Size 18mm (HB)

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	0.55	Single solenoid	24 VDC	Internal	<b>HBEXXBG2G9000FA</b>	HBEXXBH2G9000FA
					External	HBEXXLG2G9000FA	HBEXXLH2G9000FA
	4-way, 2-position, air return	0.55	Single solenoid	24 VDC	Internal	<b>HB1WXBG2G9000FA</b>	HB1WXBH2G9000FA
					External	HB1WXLG2G9000FA	HB1WXLH2G9000FA
	4-way, 2-position	0.55	Double solenoid	24 VDC	Internal	<b>HB2WXBG2G9000FA</b>	HB2WXBH2G9000FA
					External	HB2WXLG2G9000FA	HB2WXLH2G9000FA
	4-way, 3-position, all ports blocked	0.5	Double solenoid	24 VDC	Internal	<b>HB5WXBG2G9000FA</b>	HB5WXBH2G9000FA
					External	HB5WXLG2G9000FA	HB5WXLH2G9000FA
	4-way, 3-position, center exhaust	0.5	Double solenoid	24 VDC	Internal	<b>HB6WXBG2G9000FA</b>	HB6WXBH2G9000FA
					External	HB6WXLG2G9000FA	HB6WXLH2G9000FA
	4-way, 3-position, pressure center	0.5	Double solenoid	24 VDC	Internal	<b>HB7WXBG2G9000FA</b>	HB7WXBH2G9000FA
					External	HB7WXLG2G9000FA	HB7WXLH2G9000FA
	3-way, 2-position, dual valve, NC/NC	0.45	Double solenoid	24 VDC	Internal	<b>HBNWXBG2G9000FA</b>	HBNWXBH2G9000FA
					Internal	<b>HBPWXBG2G9000FA</b>	HBPWXBH2G9000FA
	3-way, 2-position, dual valve, NO/NO	0.45	Double solenoid	24 VDC	Internal	<b>HBQWXBG2G9000FA</b>	NA

Base / End Plate - 15407-1, Non Plug-in, Size 18mm (HB)

	Description	NPT	BSPP
	Universal manifold base 2 station, end ported	<b>PSHU115101P</b>	PSHU115201P
	Universal end plate Non-collective wiring	<b>PSHU31L000P</b>	PSHU31L001P

Accessories - 15407-1, Non plug-in, Size 18mm (HB)

Accessories	Description	Part number		
	Gauge adapter kit Includes 1/8" coupling and long nipple	<b>PS5651160P</b>		
	Blanking plate kit	<b>PS5634P</b>		
	Sandwich flow control	<b>PS5642P</b>		
	Sandwich supply module	1/8" NPT	<b>PS562600P</b>	
		1/8" BSPP	<b>PS562601P</b>	
	Sandwich regulator	Common pressure	Independent pressure	
		2-60 PSIG w/ gauge	<b>PS5637155P</b>	<b>PS5637255P</b>
	5-125 PSIG w/ gauge	<b>PS5637166P</b>	<b>PS5637266P</b>	
	Manifold to manifold gasket kits	Pilot open	Pilot blocked	
		#1, 3, 5 ports open	<b>PSHU11P</b>	<b>PSHU15P</b>
		Blocked #1 port	<b>PSHU12P</b>	<b>PSHU16P</b>
		Blocked #1, 3, 5, ports	<b>PSHU13P</b>	<b>PSHU17P</b>
	Blocked #3, 5 ports	<b>PSHU14P</b>	<b>PSHU18P</b>	

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H Series ISO  
Network Connectivity  
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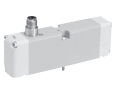
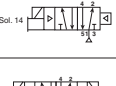
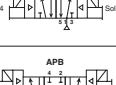
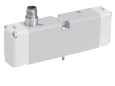


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**Common Part Numbers**






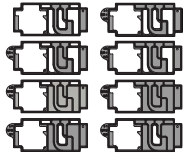
**Valve - 15407-1, Non Plug-in, Size 26mm (HA)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	1.1	Single solenoid	24 VDC	Internal	<b>HAEWXBG2G9000FA</b>	<b>HAEWXBH2G9000FA</b>
					External	<b>HAEWXLG2G9000FA</b>	<b>HAEWXLH2G9000FA</b>
	4-way, 2-position, air return	1.1	Single solenoid	24 VDC	Internal	<b>HA1WXBG2G9000FA</b>	<b>HA1WXBH2G9000FA</b>
					External	<b>HA1WXLG2G9000FA</b>	<b>HA1WXLH2G9000FA</b>
	4-way, 2-position	1.1	Double solenoid	24 VDC	Internal	<b>HA2WXBG2G9000FA</b>	<b>HA2WXBH2G9000FA</b>
					External	<b>HA2WXLG2G9000FA</b>	<b>HA2WXLH2G9000FA</b>
	4-way, 3-position, all ports blocked	1.0	Double solenoid	24 VDC	Internal	<b>HA5WXBG2G9000FA</b>	<b>HA5WXBH2G9000FA</b>
					External	<b>HA5WXLG2G9000FA</b>	<b>HA5WXLH2G9000FA</b>
	4-way, 3-position, center exhaust	1.0	Double solenoid	24 VDC	Internal	<b>HA6WXBG2G9000FA</b>	<b>HA6WXBH2G9000FA</b>
					External	<b>HA6WXLG2G9000FA</b>	<b>HA6WXLH2G9000FA</b>
	4-way, 3-position, pressure center	1.0	Double solenoid	24 VDC	Internal	<b>HA7WXBG2G9000FA</b>	<b>HA7WXBH2G9000FA</b>
					External	<b>HA7WXLG2G9000FA</b>	<b>HA7WXLH2G9000FA</b>

**Base / End Plate - 15407-1, Non Plug-in, Size 26mm (HA)**

	Description	NPT	BSP
	Single subbase	Side ported base, 1/4" port	<b>PS5511130P</b>
	Universal manifold base	2 station, end ported	<b>PSHU115301P</b>
	Universal end plate	Non-collective wiring	<b>PSHU31L000P</b>

**Accessories - 15407-1, Non Plug-in, Size 26mm (HA)**

Accessories	Description	Part number	
	Blanking plate kit	<b>PS5534P</b>	
	Sandwich flow control	<b>PS5542P</b>	
	Sandwich Flow Control and Common Port Sandwich Regulator may be sandwiched together on a manifold or subbase. The Sandwich Flow Control MUST be located between the manifold/subbase and the Common Port Sandwich Regulator.		
	Pilot exhaust module	Pilot pressure control, without sensor, 1/8" BSP	<b>PS55XA0P</b>
	Sandwich supply module	1/4" NPT	<b>PS552600P</b>
		1/4" BSP	<b>PS552601P</b>
	Sandwich regulator	2-60 PSIG w/ gauge	<b>PS5537155P</b>
		5-125 PSIG w/ gauge	<b>PS5537166P</b>
			<b>PS5537266P</b>
	Manifold to manifold gasket kits	Pilot open	Pilot blocked
		#1, 3, 5 ports open	<b>PSHU11P</b>
		Blocked #1 port	<b>PSHU12P</b>
		Blocked #1, 3, 5, ports	<b>PSHU13P</b>
	Blocked #3, 5 ports	<b>PSHU14P</b>	<b>PSHU18P</b>



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**D**

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**Valve with Central Connector - 5599-1, Non Plug-in, Size 1 (H1)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
<b>4-Pin Central M12 Connector, 24 VDC</b>							
		1.5	Single solenoid	24 VDC	Internal	<b>H1EWXBG2B9000FD</b>	H1EWXBH2B9000FD
					External	H1EWXXG2B9000FD	H1EWXXH2B9000FD
		1.5	Single solenoid	24 VDC	Internal	<b>H11WXBG2B9000FD</b>	H11WXBH2B9000FD
					External	H11WXXG2B9000FD	H11WXXH2B9000FD
		1.5	Double solenoid	24 VDC	Internal	<b>H12WXBG2B9000FD</b>	H12WXBH2B9000FD
					External	H12WXXG2B9000FD	H12WXXH2B9000FD
		1.2	Double solenoid	24 VDC	Internal	<b>H15WXBG2B9000FD</b>	H15WXBH2B9000FD
					External	H15WXXG2B9000FD	H15WXXH2B9000FD
		1.2	Double solenoid	24 VDC	Internal	<b>H16WXBG2B9000FD</b>	H16WXBH2B9000FD
					External	H16WXXG2B9000FD	H16WXXH2B9000FD
		1.2	Double solenoid	24 VDC	Internal	<b>H17WXBG2B9000FD</b>	H17WXBH2B9000FD
					External	H17WXXG2B9000FD	H17WXXH2B9000FD

**5-Pin Central 7/8" Mini Connector, 120 VAC**

		1.5	Single solenoid	120 VAC	Internal	<b>H1EWXBG323000FD</b>	H1EWXBH323000FD
					External	H1EWXXG323000FD	H1EWXXH323000FD
		1.5	Single solenoid	120 VAC	Internal	<b>H11WXBG323000FD</b>	H11WXBH323000FD
					External	H11WXXG323000FD	H11WXXH323000FD
		1.5	Double solenoid	120 VAC	Internal	<b>H12WXBG323000FD</b>	H12WXBH323000FD
					External	H12WXXG323000FD	H12WXXH323000FD
		1.2	Double solenoid	120 VAC	Internal	<b>H15WXBG323000FD</b>	H15WXBH323000FD
					External	H15WXXG323000FD	H15WXXH323000FD
		1.2	Double solenoid	120 VAC	Internal	<b>H16WXBG323000FD</b>	H16WXBH323000FD
					External	H16WXXG323000FD	H16WXXH323000FD
		1.2	Double solenoid	120 VAC	Internal	<b>H17WXBG323000FD</b>	H17WXBH323000FD
					External	H17WXXG323000FD	H17WXXH323000FD

**Valve with 3-Pin DIN Connector - 5599-1, Non Plug-in, Size 1 (H1)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
<b>3-Pin DIN Connector, 24 VDC</b>							
		1.5	Single solenoid	24 VDC	Internal	<b>H1EWXBBL49D</b>	H1EWXBCL49D
					External	H1EWXXBL49D	H1EWXXCL49D
		1.5	Single solenoid	24 VDC	Internal	<b>H11WXBBL49D</b>	H11WXBCL49D
					External	H11WXXBL49D	H11WXXCL49D
		1.5	Double solenoid	24 VDC	Internal	<b>H12WXBBL49D</b>	H12WXBCL49D
					External	H12WXXBL49D	H12WXXCL49D
		1.2	Double solenoid	24 VDC	Internal	<b>H15WXBBL49D</b>	H15WXBCL49D
					External	H15WXXBL49D	H15WXXCL49D
		1.2	Double solenoid	24 VDC	Internal	<b>H16WXBBL49D</b>	H16WXBCL49D
					External	H16WXXBL49D	H16WXXCL49D
		1.2	Double solenoid	24 VDC	Internal	<b>H17WXBBL49D</b>	H17WXBCL49D
					External	H17WXXBL49D	H17WXXCL49D

Most popular.

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DX ISOMAX Series  
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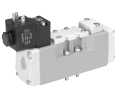
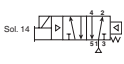

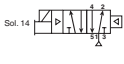
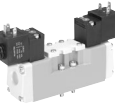
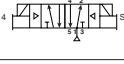
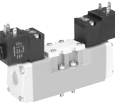
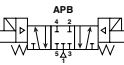
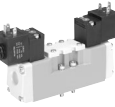
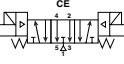
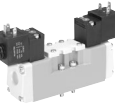
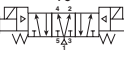


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

**Valve with 3-Pin DIN Connector - 5599-1, Non Plug-in, Size 1 (H1) (continued)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>3-Pin DIN Connector, 120 VAC</b>								
		4-way, 2-position, spring return	1.5	Single solenoid	120 VAC	Internal	<b>H1EWXBBL53D</b>	<b>H1EWXBCL53D</b>
						External	<b>H1EWXXBL53D</b>	<b>H1EWXXCL53D</b>
		4-way, 2-position, air return	1.5	Single solenoid	120 VAC	Internal	<b>H11WXBBL53D</b>	<b>H11WXBCL53D</b>
						External	<b>H11WXXBL53D</b>	<b>H11WXXCL53D</b>
		4-way, 2-position	1.5	Double solenoid	120 VAC	Internal	<b>H12WXBBL53D</b>	<b>H12WXBCL53D</b>
						External	<b>H12WXXBL53D</b>	<b>H12WXXCL53D</b>
		4-way, 3-position, all ports blocked	1.2	Double solenoid	120 VAC	Internal	<b>H15WXBBL53D</b>	<b>H15WXBCL53D</b>
						External	<b>H15WXXBL53D</b>	<b>H15WXXCL53D</b>
		4-way, 3-position, center exhaust	1.2	Double solenoid	120 VAC	Internal	<b>H16WXBBL53D</b>	<b>H16WXBCL53D</b>
						External	<b>H16WXXBL53D</b>	<b>H16WXXCL53D</b>
		4-way, 3-position, pressure center	1.2	Double solenoid	120 VAC	Internal	<b>H17WXBBL53D</b>	<b>H17WXBCL53D</b>
						External	<b>H17WXXBL53D</b>	<b>H17WXXCL53D</b>

**Base / End Plate - 5599-1, Non Plug-in, Size 1 (H1)**

		Description	NPT	BSPP
	Single subbase	Side ported, 3/8" port	<b>PS4011150DP</b>	<b>PS4011160DP</b>
	Universal manifold base	End ported	<b>PSHU115501P</b>	<b>PSHU115601P</b>
	Universal end plate	Non-collective wiring	<b>PSHU31L000P</b>	<b>PSHU31L001P</b>

**Accessories - 5599-1, Non Plug-in, Size 1 (H1)**

Accessory	Description	Part number
	Common pressure	5-125 PSIG w/ gauge <b>PS4037166CP</b>
	Independent pressure	5-125 PSIG w/ gauge <b>PS4037266CP</b>
	Blanking plate kit	<b>PS4034CP</b>
	Sandwich flow control	<b>PS4042CP</b>
Sandwich Flow Control and Common Port Sandwich Regulator may be sandwiched together on a manifold or subbase. The Sandwich Flow Control MUST be located between the manifold/subbase and the Common Port Sandwich Regulator.		

 Most popular.



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Modulflex Series

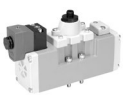
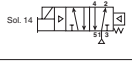

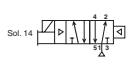

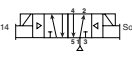
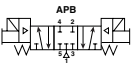
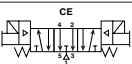
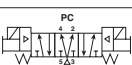
H Series ISO

Network Connectivity


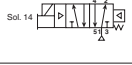

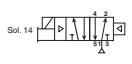

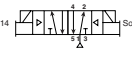
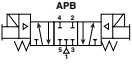
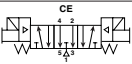
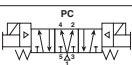
DX ISOMAX Series

Valvair II Series

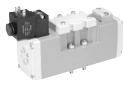
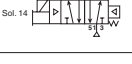

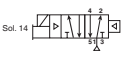
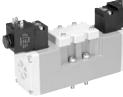
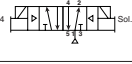
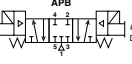
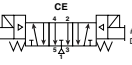
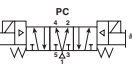
**Valve with Central Connector - 5599-1, Non Plug-in, Size 2 (H2)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>4-Pin Central M12 Connector, 24 VDC</b>								
		4-way, 2-position, spring return	3.0	Single solenoid	24 VDC	Internal	<b>H2EWXBG2B9000FD</b>	H2EWXBH2B9000FD
						External	H2EWXXG2B9000FD	H2EWXXH2B9000FD
		4-way, 2-position, air return	3.0	Single solenoid	24 VDC	Internal	<b>H21WXBG2B9000FD</b>	H21WXBH2B9000FD
						External	H21WXXG2B9000FD	H21WXXH2B9000FD
		4-way, 2-position	3.0	Double solenoid	24 VDC	Internal	<b>H22WXBG2B9000FD</b>	H22WXBH2B9000FD
						External	H22WXXG2B9000FD	H22WXXH2B9000FD
		4-way, 3-position, all ports blocked	2.8	Double solenoid	24 VDC	Internal	<b>H25WXBG2B9000FD</b>	H25WXBH2B9000FD
						External	H25WXXG2B9000FD	H25WXXH2B9000FD
		4-way, 3-position, center exhaust	2.8	Double solenoid	24 VDC	Internal	<b>H26WXBG2B9000FD</b>	H26WXBH2B9000FD
						External	H26WXXG2B9000FD	H26WXXH2B9000FD
	4-way, 3-position, pressure center	2.8	Double solenoid	24 VDC	Internal	<b>H27WXBG2B9000FD</b>	H27WXBH2B9000FD	
					External	H27WXXG2B9000FD	H27WXXH2B9000FD	

**5-Pin Central 7/8" Connector, 120 VAC**

		4-way, 2-position, spring return	3.0	Single solenoid	120 VAC	Internal	<b>H2EWXBG323000FD</b>	H2EWXBH323000FD
						External	H2EWXXG323000FD	H2EWXXH323000FD
		4-way, 2-position, air return	3.0	Single solenoid	120 VAC	Internal	<b>H21WXBG323000FD</b>	H21WXBH323000FD
						External	H21WXXG323000FD	H21WXXH323000FD
		4-way, 2-position	3.0	Double solenoid	120 VAC	Internal	<b>H22WXBG323000FD</b>	H22WXBH323000FD
						External	H22WXXG323000FD	H22WXXH323000FD
		4-way, 3-position, all ports blocked	2.8	Double solenoid	120 VAC	Internal	<b>H25WXBG323000FD</b>	H25WXBH323000FD
						External	H25WXXG323000FD	H25WXXH323000FD
		4-way, 3-position, center exhaust	2.8	Double solenoid	120 VAC	Internal	<b>H26WXBG323000FD</b>	H26WXBH323000FD
						External	H26WXXG323000FD	H26WXXH323000FD
	4-way, 3-position, pressure center	2.8	Double solenoid	120 VAC	Internal	<b>H27WXBG323000FD</b>	H27WXBH323000FD	
					External	H27WXXG323000FD	H27WXXH323000FD	

**Valve with 3-Pin DIN Connector - 5599-1, Non Plug-in, Size 2 (H2)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>3-Pin DIN Connector on Coil, 24 VDC</b>								
		4-way, 2-position, spring return	3.0	Single solenoid	24 VDC	Internal	<b>H2EWXBBL49D</b>	H2EWXBCL49D
						External	H2EWXXBL49D	H2EWXXCL49D
		4-way, 2-position, air return	3.0	Single solenoid	24 VDC	Internal	<b>H21WXBBL49D</b>	H21WXBCL49D
						External	H21WXXBL49D	H21WXXCL49D
		4-way, 2-position	3.0	Double solenoid	24 VDC	Internal	<b>H22WXBBL49D</b>	H22WXBCL49D
						External	H22WXXBL49D	H22WXXCL49D
		4-way, 3-position, all ports blocked	2.8	Double solenoid	24 VDC	Internal	<b>H25WXBBL49D</b>	H25WXBCL49D
						External	H25WXXBL49D	H25WXXCL49D
		4-way, 3-position, center exhaust	2.8	Double solenoid	24 VDC	Internal	<b>H26WXBBL49D</b>	H26WXBCL49D
						External	H26WXXBL49D	H26WXXCL49D
	4-way, 3-position, pressure center	2.8	Double solenoid	24 VDC	Internal	<b>H27WXBBL49D</b>	H27WXBCL49D	
					External	H27WXXBL49D	H27WXXCL49D	

 Most popular.



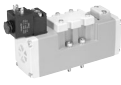

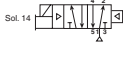
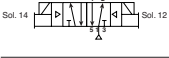
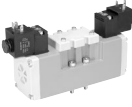
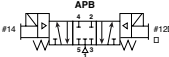
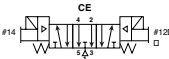
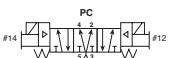
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D102




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 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair-II Series




**Valve with 3-Pin DIN Connector - 5599-1, Non Plug-in, Size 2 (H2) (continued)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>3-Pin DIN connector on coil, 120 VAC</b>								
		4-way, 2-position, spring return	3.0	Single solenoid	120 VAC	Internal	<b>H2EWXBBL53D</b>	H2EWXBCL53D
						External	H2EWXXBL53D	H2EWXXCL53D
		4-way, 2-position, air return	3.0	Single solenoid	120 VAC	Internal	<b>H21WXBBL53D</b>	H21WXBCL53D
						External	H21WXXBL53D	H21WXXCL53D
		4-way, 2-position	3.0	Double solenoid	120 VAC	Internal	<b>H22WXBBL53D</b>	H22WXBCL53D
						External	H22WXXBL53D	H22WXXCL53D
		4-way, 3-position, all ports blocked	2.8	Double solenoid	120 VAC	Internal	<b>H25WXBBL53D</b>	H25WXBCL53D
						External	H25WXXBL53D	H25WXXCL53D
		4-way, 3-position, center exhaust	2.8	Double solenoid	120 VAC	Internal	<b>H26WXBBL53D</b>	H26WXBCL53D
						External	H26WXXBL53D	H26WXXCL53D
		4-way, 3-position, pressure center	2.8	Double solenoid	120 VAC	Internal	<b>H27WXBBL53D</b>	H27WXBCL53D
						External	H27WXXBL53D	H27WXXCL53D

**Base / End Plate - 5599-1, Non Plug-in, Size 2 (H2)**

	Description	1/2" NPT	1/2" BSPP	
	Single subbase	Side ported, 1/2" port	<b>PS4111170CP</b>	PS4111180CP
	Universal manifold base	End ported	<b>PSHU115701P</b>	PSHU115801P
	Universal end plate	Non-collective wiring	<b>PSHU31L000P</b>	PSHU31L001P

**Accessories - 5599-1, Non Plug-in, Size 2 (H2)**

Accessory	Description	Part number	
	Common pressure	5-125 PSIG w/ gauge	<b>PS4137166CP</b>
	Independent pressure	5-125 PSIG w/ gauge	<b>PS4137266CP</b>
	Blanking plate kit	<b>PS4134CP</b>	
	Sandwich flow control	<b>PS4142CP</b>	
	Sandwich Flow Control and Common Port Sandwich Regulator may be sandwiched together on a manifold or subbase. The Sandwich Flow Control MUST be located between the manifold/subbase and the Common Port Sandwich Regulator.		

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D103

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



Ordering Information

End Plate Kit - Universal Non Plug-in



Left hand end plate

**PSHU31 L0 0 0 P**

Valve Type	
Non Plug-in (internal pilot)	PSHU31
Non Plug-in (external pilot)	PSHU3X

Left Hand End Plate Type	
Non Plug-in	L0

Thread Type	
0	NPT
1*	BSPP "G"

\* BSPP Conforms to ISO 1179-1 w 228-1 Threads

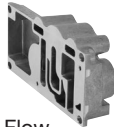
Right Hand End Plate Type / Port	
0	Low profile (no ports)
1	1/2 Exhaust and inlet port
2	3/4 Exhaust and inlet port
5*	H3 Transition plate, 1" exhaust and inlet

\* 1, 3 & 5 manifold galley blocked at transition plate. 12 & 14 pass through.

Right Hand End Plate



Low Profile



High Flow

Description	NPT port	BSPP port
Right hand end plate only, low profile	PSHU4000P	
Right hand end plate only, high flow 1/2" ports	PSHU4100P	PSHU4101P
Right hand end plate only, high flow 3/4" ports	PSHU4200P	PSHU4201P

H3 Transition Kit



H3 transition, H3 right hand end plate, 1" ports (includes gaskets & bolts)

PSU7300P PSU7301P

Valve - Non Plug-in, 15407-1, Size 18mm (HB) & 26mm (HA)

**HB E WX B G 2 G9 000F A**

Basic series 15407-1	
ISO 15407-1 18mm	HB
ISO 15407-1 26mm	HA

15407-1 Engineering level	
A	Current

15407-1 Operator / Function	
Single solenoid, 2-position - air return	1
Double solenoid, 2-position	2
Double solenoid, 3-position - APB	5
Double solenoid, 3-position - CE	6
Double solenoid, 3-position - PC	7
Single solenoid, 2-position - air return, spring assist	E
Double solenoid, dual 3/2, NC/NC	N†
Double solenoid, dual 3/2, NO/NO	P†
Double solenoid, dual 3/2, 14 end NC - 12 end NO	Q†

15407-1 Central connector wiring options	
000F	SAE / Ford, ISO 20401

15407-1 Voltage & frequency	
G9	24VDC LED & suppression

15407-1 Enclosure / Lead length	
2	4-pin, M12 micro, straight connector

15407-1 Overrides / Lights	
G	Non-locking, flush, push - w/ light
H	Locking, flush, push / turn - w/ light

15407-1 Mounting	
Valve less base	WX

15407-1 Pilot source / Pilot exhaust	
B	Internal pilot, port #1 / vented
L*	External pilot, port #14 / vented

† Available on HB Only, must use Internal Pilot Source Option "B".

\* Must be specified when using Sandwich Regulators.

Most popular.

D  
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Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair-II Series



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Valve - Non Plug-in, 5599-1, Central Connector - Size 1 & 2

**H1 E WX B G 2B9 000F D**

Basic Series 5599-1	
ISO 5599-1 Size 1	H1
ISO 5599-1 Size 2	H2

5599 -1 Engineering Level	
D	Current

5599-1 Operator / Function	
Single solenoid, 2-position - air return	1
Double solenoid, 2-position	2
Double solenoid, 3-position - APB	5
Double solenoid, 3-position - CE	6
Double solenoid, 3-position - PC	7
Single solenoid, 2-position - air return, spring assist	E

5599-1 Central Connector Wiring Options	
000C	Chrysler
<b>000F*</b>	<b>SAE / Ford, ISO 20401</b>
000G	General Motors

\* Complies to ISO 20401 with Enclosure Lead Length "2".

5599-1 Mounting	
Valve less base	WX

5599-1 Pilot Source / Pilot Exhaust	
Internal pilot, port #1 / vented	B
External pilot, port #12 or #14 / vented	X*

\* Must be specified when using Sandwich Regulators.

5599-1 Overrides / Lights	
Non-locking, flush, with light	G
Locking, flush, with light	H

Enclosure / Lead Length / Voltage*				
	AC		DC	
	60Hz	50Hz		
1B9†			24	3-pin, central mini connector, 3.2 watt
1F9†*			24	3-pin, central mini connector, 1.3 watt
123†	120	115		3-pin, central mini connector
<b>2B9</b>			<b>24</b>	<b>4-pin, central M12 micro connector, 3.2 watt</b>
<b>2F9*</b>			<b>24</b>	<b>4-pin, central M12 micro connector, 1.3 watt</b>
3B9			24	5-pin, central mini connector, 3.2 watt
3F9*			24	5-pin, central mini connector, 1.3 watt
323	120	115		5-pin, central mini connector
619‡			24	2-pin, M12 micro connector on coil

\* All coils include LED & suppression

† Operator function "1" or "E"

‡ Only available with wiring option "000F"

\* Override "G" only.

Valve - Non Plug-in, 5599-1, CNOMO - Size 1 & 2

**H1 E WX B B L53 D**

Basic Series 5599-1	
ISO 5599-1 Size 1	H1
ISO 5599-1 Size 2	H2

5599-1 Engineering Level	
D	Current

5599-1 Operator / Function	
Single solenoid, 2-position - air return	1
Double solenoid, 2-position	2
Double solenoid, 3-position - APB	5
Double solenoid, 3-position - CE	6
Double solenoid, 3-position - PC	7
Single solenoid, 2-position - air return, spring assist	E

Enclosure / Lead length / Voltage				
	AC		DC	
	60Hz	50Hz		
L42	24			3-pin, 30mm DIN 43650A with CNOMO connector
L45			12	3-pin, 30mm DIN 43650A with CNOMO connector
<b>L49</b>			<b>24</b>	<b>3-pin, 30mm DIN 43650A with CNOMO connector</b>
<b>L53</b>	<b>120</b>	<b>115</b>		<b>3-pin, 30mm DIN 43650A with CNOMO connector</b>
L57	240			3-pin, 30mm DIN 43650A with CNOMO connector
NXX				Valve less coil

5599-1 Mounting	
Valve less base	WX

5599-1 Pilot Source / Pilot Exhaust	
Internal pilot, port #1 / vented	B
External pilot, port #12 or #14 / vented	X*

\* Must be specified when using Sandwich Regulators.

5599-1 Overrides / Lights	
<b>B</b>	<b>Non-locking, flush, push - no light</b>
C	Locking, flush, push / turn - no light

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D105

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 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Remote Pilot - Size 18mm (HB), Size 26mm (HA), Size 1 (H1) & Size 2 (H2)**



Basic Series	
ISO 15407-1 18mm	HB
ISO 15407-1 26mm	HA*
ISO 5599-1 Size 1	H1*
ISO 5599-1 Size 2	H2*

\* Must order remote pilot access plates for manifolds.

Engineering Level	
A	15407 Current
D	5599 Current

Remote Pilot Valve	
WX000XX	Remote pilot valve

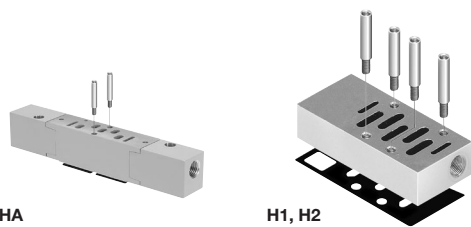
15407-1 Operator / Function	
Single remote pilot, 2-position - air return	3
Double remote pilot, 2-position	4
Double remote pilot, 3-position - APB	8
Double remote pilot, 3-position - CE	9
Double remote pilot, 3-position - PC	0
Single remote pilot, 2-position - air return, spring assist	F

Note: For manifolds, end plates, and accessories, see 15407-1 & 5599-1 Non Plug-in valve section.

Note: HB 18mm Valve Remote Pilot Option only available with PL02 Individual Subbase Kits.

**D**  
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 H Series Micro  
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 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Remote Pilot Access Plate Kit**



Size	Port size	NPT	BSPP "G"
HA	1/4"	PS551500P	PS551501P
H1	1/8"	PS401500CP	PS401501CP
H2	1/8"	PS411500CP	PS411501CP

Kit includes: Pilot port access plate, gasket and mounting studs.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D106

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**Manifold Kit - Universal Non Plug-in**

**PSHU1153**

**0**

**1**

**P**

Mounting Style / Port Size	
HB manifold with 1/8 NPT end ports	PSHU1151
HB manifold with 1/8 BSPP end ports	PSHU1152*
<b>HA manifold with 1/4 NPT end ports</b>	<b>PSHU1153</b>
HA manifold with 1/4 BSPP end ports	PSHU1154*
<b>H1 manifold with 3/8 NPT end ports</b>	<b>PSHU1155</b>
H1 manifold with 3/8 BSPP end ports	PSHU1156*
<b>H2 manifold with 1/2 NPT end ports</b>	<b>PSHU1157</b>
H2 manifold with 1/2 BSPP end ports	PSHU1158*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.

Gasket Options	
<b>1</b>	<b>1,3,5 ports open and pilots open</b>
2	1,3,5 ports closed and pilots open
3	1 closed, 3,5 ports open and pilots closed
4	1 port open, 3,5 ports closed and pilots open
5	1,3,5 ports open and pilots closed
6	1,3,5 ports closed and pilots closed
7	1 closed, 3,5 ports open and pilots closed
8	1 port open, 3,5 ports closed and pilots open

Circuit Board Address Configuration	
<b>0</b>	<b>No interconnect</b>



HA manifold

**Intermediate Air Supply - Universal Non Plug-in**

**PSHU115A**

**0**

**1**

**P**

Mounting Style / Port Size	
<b>Intermediate air supply, NPT / internal pilot</b>	<b>PSHU115A</b>
Intermediate air supply, BSPP / internal pilot	PSHU115B*
<b>Intermediate air supply, NPT / external pilot</b>	<b>PSHU115C</b>
Intermediate air supply, BSPP / external pilot	PSHU115D*

\* BSPP Conforms to ISO 1179-1 w 228-1 Threads.

Gasket Options	
<b>1</b>	<b>1,3,5 ports open and pilots open</b>
2	1,3,5 ports closed and pilots open
3	1 closed, 3,5 ports open and pilots closed
4	1 port open, 3,5 ports closed and pilots open
5	1,3,5 ports open and pilots closed
6	1,3,5 ports closed and pilots closed
7	1 closed, 3,5 ports open and pilots closed
8	1 port open, 3,5 ports closed and pilots open

Circuit Board Address Configuration	
<b>0</b>	<b>No electrical</b>



Intermediate air supply

  Most popular.



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D107

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**D**

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H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

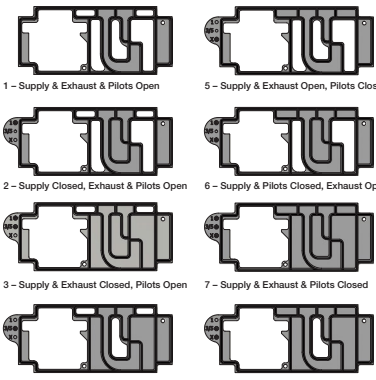
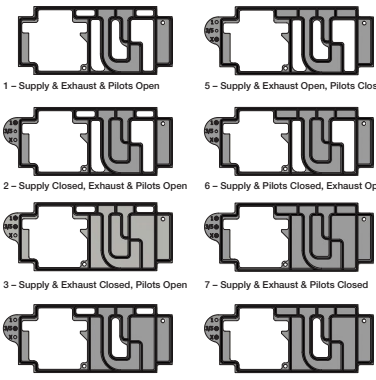
Valvair II Series

Ordering Information

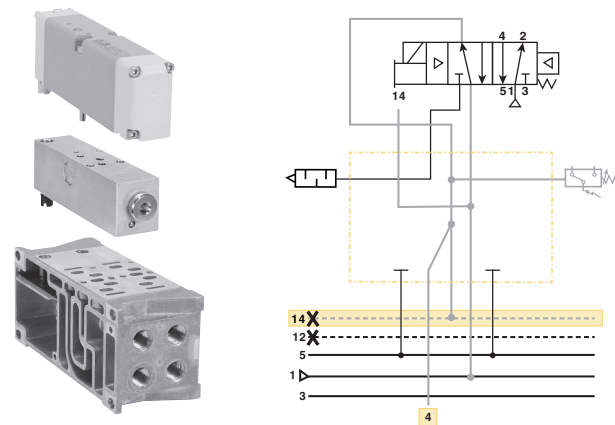
Pneumatic Zoning

Multiple pressure zones can be created by selecting alternative gaskets between individual manifold segments or an intermediate air supply module. These zones can be designed to meet different application and safety requirements on the machine. Inserting the PXM Pilot Exhaust Module into a one of these zones allows control of pilot pressure for the entire zone.

Gasket Kit - Universal Manifold to Manifold

Description		Part number	
 <p>1 – Supply &amp; Exhaust &amp; Pilots Open 2 – Supply Closed, Exhaust &amp; Pilots Open 3 – Supply &amp; Exhaust Closed, Pilots Open 4 – Supply &amp; Pilots Open, Exhaust Closed</p>	Pilots opened	<p>1 – Supply &amp; Exhaust &amp; Pilots Open <b>PSHU11P</b></p> <p>2 – Supply Closed, Exhaust &amp; Pilots Open <b>PSHU12P</b></p> <p>3 – Supply &amp; Exhaust Closed, Pilots Open <b>PSHU13P</b></p> <p>4 – Supply &amp; Pilots Open, Exhaust Closed <b>PSHU14P</b></p>	
	 <p>5 – Supply &amp; Exhaust Open, Pilots Closed 6 – Supply &amp; Pilots Closed, Exhaust Open 7 – Supply &amp; Exhaust &amp; Pilots Closed 8 – Supply Open, Exhaust &amp; Pilots Closed</p>	Pilots blocked	<p>5 – Supply &amp; Exhaust Open, Pilots Closed <b>PSHU15P</b></p> <p>6 – Supply &amp; Pilots Closed, Exhaust Open <b>PSHU16P</b></p> <p>7 – Supply &amp; Exhaust &amp; Pilots Closed <b>PSHU17P</b></p> <p>8 – Supply Open, Exhaust &amp; Pilots Closed <b>PSHU18P</b></p>

Pilot Exhaust Module



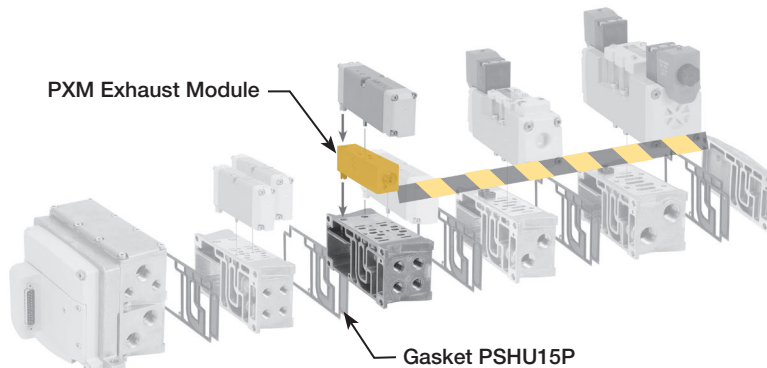
PXM Pilot Exhaust Module enables an H Series HA Single Solenoid valve to control the pilot pressure to other externally piloted H Series ISO valves in the same manifold zone. The HA valve in conjunction with the PXM will remove pilot pressure to all externally piloted valves in the manifold zone when solenoid 14 is de-energized (off). Control of all externally piloted valves in the zone is disabled for both solenoid actuation and manual override until solenoid 14 of the HA valve on the PXM is energized again (on).

Gaskets blocking pilot pressure are required at the start of the zone the PXM is controlling. Special zoning gaskets (shown below) are available to meet any application requirement. In the example below, main pressure and exhaust pass through to the second zone, but pilot pressure is blocked. This results in the PXM providing pilot pressure for the zone after this gasket.

Part Number	Sensor Type
PS55XXA0P	No sensing
PS55XXM0P	Mechanical pressure switch
PS55XXE0P	Solid state pressure switch

Part Number	Cable Type
RKC4.4T-2	M12 cable, PVC, 2m



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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D  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

Ordering Information

Sandwich Regulator - Non Plug-in, 15407-1

**PS5637 1 6 6 P**

Basic Series	
HB 15407-1, 18mm, Non Plug-In	PS5637
HA 15407-1, 26mm, Non Plug-In	PS5537

Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator / Gauge*	
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

#4 Port Regulator / Gauge*	
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)



**HB - 18mm**  
(Independent Dual Port Regulator shown)



**HA - 26mm**  
(Common Port Regulator shown)


**Ordering Components**

- Manifold or Subbase Kit required.
- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.

**How to Configure Sandwich Regulator / Valve Combinations**

**Internal Pilot Configuration of Sandwich Regulator HA, HB**

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

Accessories	Description	Part number
 Gauge adapter kit	Includes 1/8" coupling, long nipple, and gauge	<b>PS5651160P</b>

**Sandwich Regulator Cv Flow Chart\***

	Common Pressure Code 166				Dual Pressure Code 266			
	1-2	1-4	2-3	4-5	1-2	1-4	2-3	4-5*
<b>HB</b>	0.20	0.20	0.41	0.34	0.23	0.19	0.28	0.27
<b>HA</b>	0.41	0.43	0.87	0.89	0.42	0.45	0.68	0.66

\* Regulator Port exhaust through Base Port 3.

**Note:** All Cv's calculated with regulator adjusted full open.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

Ordering Information

Sandwich Regulator - Non Plug-in, 5599-1

**PS4037** **1** **6** **6** **C** **P**

Basic Series	
H1 5599-1, Non Plug-in	PS4037
H2 5599-1, Non Plug-in	PS4137

Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator / Gauge*	
0**	Line By-Pass Plate
4	1-30 PSIG w/Gauge
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge
D	Remote Pilot ISO 2 & 3 only

\* For common pressure regulator option, regulator gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

\*\* Pressure Line by-pass option can only be used with independent pressure regulators.

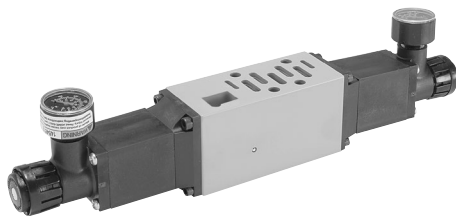
#4 Port Regulator / Gauge*	
0**	Line By-Pass Plate
4	1-30 PSIG w/Gauge
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge
D	Remote Pilot ISO 2 & 3 only

\* For common pressure regulator option, regulator gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

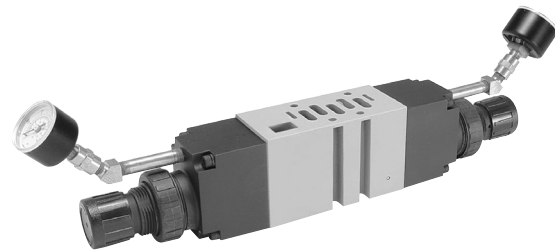
\*\* Pressure Line by-pass option can only be used with independent pressure regulators.

Ordering Components

- Sandwich regulator kit configured for internal pilot as standard.
- Order valve as external pilot.



**H1 - Size 1**  
(Independent Dual Port Regulator shown)



**H2 - Size 2**  
(Independent Dual Port Regulator shown)

How to Configure Sandwich Regulator / Valve Combinations

**Internal Pilot Configuration of Sandwich Regulator H1 & H2**

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

**External Pilot Configuration of Sandwich Regulator H1 & H2**

An External Pilot pressure in Port 12 or 14 of the base feeds thru the Sandwich Regulator 12 or 14 galley directly to the 12/14 pilot of the valve. This configuration takes an External Pilot from the 12 port of the base and passes it thru the regulator to feed the 12 galley of the valve.

Sandwich Regulator Cv Flow Chart\*

	Common Pressure Code 166				Single Pressure 2 Code 206				Single Pressure 4 Code 260				Dual Pressure Code 266			
	1-2	1-4	2-3	4-5	1-2	1-4	2-3	4-5*	1-2	1-4	2-3	4-5*	1-2	1-4	2-3	4-5*
<b>H1</b>	0.62	0.61	1.28	1.18	0.73	0.96	0.96	0.93	0.34	0.70	0.94	0.98	0.52	0.48	0.86	0.88
<b>H2</b>	1.47	1.60	2.41	2.33	1.71	1.90	1.52	1.75	1.74	1.67	1.73	1.79	1.61	1.62	1.50	1.67

\* Regulator Port exhaust through Base Port 3.

Note: All Cv's calculated with regulator adjusted full open.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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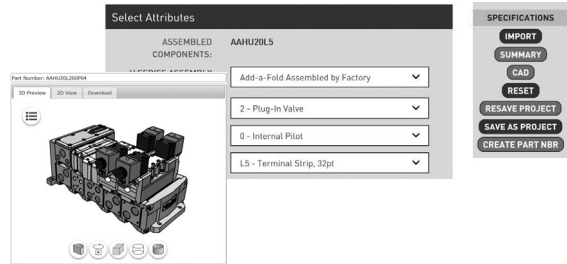
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Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series

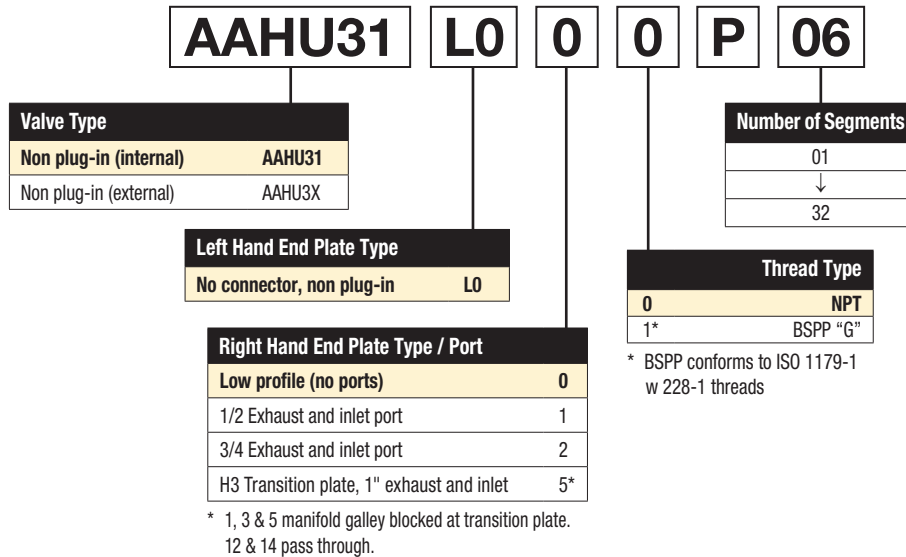


**Online Configuration**

Navigate to the landing page  
[www.parker.com/pdn/HSeriesISO](http://www.parker.com/pdn/HSeriesISO)  
 Customize your manifold assembly  
 Create and save a unique assembled part number  
 Generate a CAD model



**Add-A-Fold - Universal Non Plug-in**



**How To Order Plug-in Add-A-Fold Assemblies**

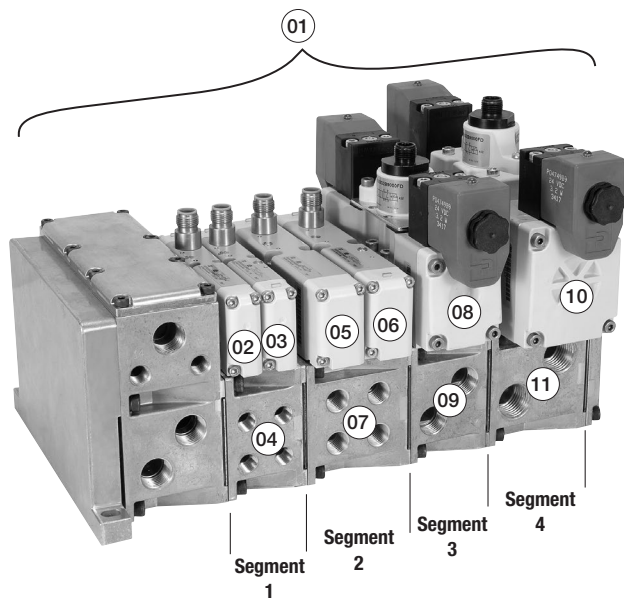
- List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
- List complete valve, regulator, flow control and manifold base kit. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most segment is segment 1. (If a blank station is needed, list the blanking plate part number and the individual manifold part numbers for the required segment.)

**Example**

Application requires a 4 segment manifold.

Item	Part No.	Location	
01	AAHU31L000P04		
02	HB2WXBG2G9000FA	Segment 1	Valve station 1
03	HB2WXBG2G9000FA		Valve station 2
04	PSHU115101P		Manifold base
05	HA1WXBG2G9000FA	Segment 2	Valve station 3
06	HA2WXBG2G9000FA		Valve station 4
07	PSHU115301P		Manifold base
08	H12WXBG2B9000FD	Segment 3	Valve station 5
09	PSHU115501P		Manifold base
10	H22WXBG2B9000FD	Segment 4	Valve station 6
11	PSHU115701P		Manifold base

Most popular.



**Example:**  
 4 segment manifold with (2) HB, (2) HA, (1) H1, and (1) H2 valve on manifold bases with low profile, NPT end plate.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

Ordering Information

Subbase Kit - Non Plug-in



HA non plug-in subbase shown

**PS55**   **1113**   **0**   **P**

Series	
HA Subbase	PS55
H1 Subbase	PS40
H2 Subbase	PS41

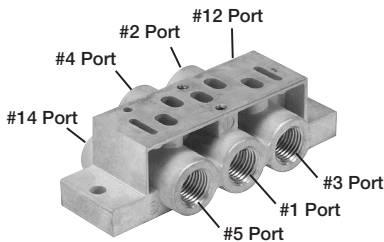
Engineering Level	
Blank	HA Series
D	H1 Series
C	H2 Series

Mounting Style / Port Size	
HA Series	
1/4 NPT side ports	1113
1/4 BSPP side ports	1114*
1/4 NPT bottom / side ports	1123
1/4 BSPP bottom / side ports	1124*
H1 Series	
3/8 NPT side ports	1115
3/8 BSPP side ports	1116*
H2 Series	
1/2 NPT side ports	1117
1/2 BSPP side ports	1118*

Enclosures / Lead Length	
0	None, No Electrical Plug

\* BSPP conforms to ISO 1179-1 w 228-1 threads.

HB Series ISO 15407-1 Size 18mm (HB) Single Subbase



Side ported base  
18mm DX02 / HB

1/8" NPT	1/8" BSPP
PL02-01-80	PL02-01-70

Note: Can be used for external, single, or double remote pilot.

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Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series



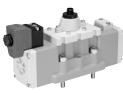




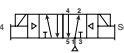

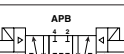
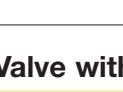
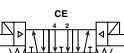

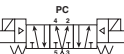
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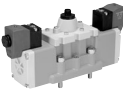
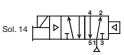


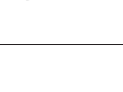
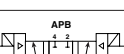

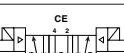


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Common Part Numbers


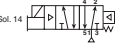


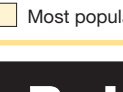
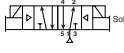
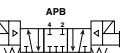
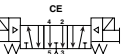
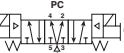
Valve with Central Connectors - 5599-1, Non Plug-in, Size 3 (H3)

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
		4-way, 2-position, spring return	6.0	Single solenoid	24 VDC	Internal	<b>H3EWXBG2B9000FD</b>	H3EWXBH2B9000FD
						External	H3EWXXG2B9000FD	H3EWXXH2B9000FD
		4-way, 2-position, air return	6.0	Single solenoid	24 VDC	Internal	<b>H31WXBG2B9000FD</b>	H31WXBH2B9000FD
						External	H31WXXG2B9000FD	H31WXXH2B9000FD
		4-way, 2-position	6.0	Double solenoid	24 VDC	Internal	<b>H32WXBG2B9000FD</b>	H32WXBH2B9000FD
						External	H32WXXG2B9000FD	H32WXXH2B9000FD
		4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	Internal	<b>H35WXBG2B9000FD</b>	H35WXBH2B9000FD
						External	H35WXXG2B9000FD	H35WXXH2B9000FD
		4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC	Internal	<b>H36WXBG2B9000FD</b>	H36WXBH2B9000FD
						External	H36WXXG2B9000FD	H36WXXH2B9000FD
		4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	Internal	<b>H37WXBG2B9000FD</b>	H37WXBH2B9000FD
						External	H37WXXG2B9000FD	H37WXXH2B9000FD

5-Pin, Central 7/8" Mini Connector, 120 VAC

		4-way, 2-position, spring return	6.0	Single solenoid	120 VAC	Internal	<b>H3EWXBG323000FD</b>	H3EWXBH323000FD
						External	H3EWXXG323000FD	H3EWXXH323000FD
		4-way, 2-position, air return	6.0	Single solenoid	120 VAC	Internal	<b>H31WXBG323000FD</b>	H31WXBH323000FD
						External	H31WXXG323000FD	H31WXXH323000FD
		4-way, 2-position	6.0	Double solenoid	120 VAC	Internal	<b>H32WXBG323000FD</b>	H32WXBH323000FD
						External	H32WXXG323000FD	H32WXXH323000FD
		4-way, 3-position, all ports blocked	5.0	Double solenoid	120 VAC	Internal	<b>H35WXBG323000FD</b>	H35WXBH323000FD
						External	H35WXXG323000FD	H35WXXH323000FD
		4-way, 3-position, center exhaust	5.0	Double solenoid	120 VAC	Internal	<b>H36WXBG323000FD</b>	H36WXBH323000FD
						External	H36WXXG323000FD	H36WXXH323000FD
		4-way, 3-position, pressure center	5.0	Double solenoid	120 VAC	Internal	<b>H37WXBG323000FD</b>	H37WXBH323000FD
						External	H37WXXG323000FD	H37WXXH323000FD

Valve with 3-Pin DIN Connectors - 5599-1, Non Plug-in, Size 3 (H3)

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
		4-way, 2-position, spring return	6.0	Single solenoid	24 VDC	Internal	<b>H3EWXBBL49D</b>	H3EWXBCL49D
						External	H3EWXXBL49D	H3EWXXCL49D
		4-way, 2-position, air return	6.0	Single solenoid	24 VDC	Internal	<b>H31WXBBL49D</b>	H31WXBCL49D
						External	H31WXXBL49D	H31WXXCL49D
		4-way, 2-position	6.0	Double solenoid	24 VDC	Internal	<b>H32WXBBL49D</b>	H32WXBCL49D
						External	H32WXXBL49D	H32WXXCL49D
		4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	Internal	<b>H35WXBBL49D</b>	H35WXBCL49D
						External	H35WXXBL49D	H35WXXCL49D
		4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC	Internal	<b>H36WXBBL49D</b>	H36WXBCL49D
						External	H36WXXBL49D	H36WXXCL49D
		4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	Internal	<b>H37WXBBL49D</b>	H37WXBCL49D
						External	H37WXXBL49D	H37WXXCL49D

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

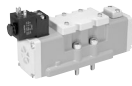
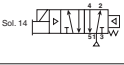

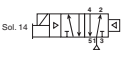

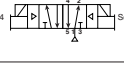

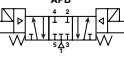

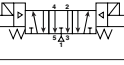


Network Connectivity

DX ISOMAX Series




Valvair II Series

**Common Part Numbers**

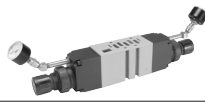

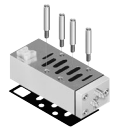
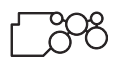
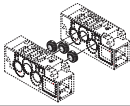
**Valve with 3-Pin DIN Connectors - 5599-1, Non Plug-in, Size 3 (H3)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>3-Pin DIN Connector on Coil, 120 VDC</b>								
		4-way, 2-position, spring return	6.0	Single solenoid	120 VAC	Internal	<b>H3EWXBBL53D</b>	<b>H3EWXBCL53D</b>
						External	<b>H3EWXXBL53D</b>	<b>H3EWXXCL53D</b>
		4-way, 2-position, air return	6.0	Single solenoid	120 VAC	Internal	<b>H31WXBBL53D</b>	<b>H31WXBCL53D</b>
						External	<b>H31WXXBL53D</b>	<b>H31WXXCL53D</b>
		4-way, 2-position	6.0	Double solenoid	120 VAC	Internal	<b>H32WXBBL53D</b>	<b>H32WXBCL53D</b>
						External	<b>H32WXXBL53D</b>	<b>H32WXXCL53D</b>
		4-way, 3-position, all ports blocked	5.0	Double solenoid	120 VAC	Internal	<b>H35WXBBL53D</b>	<b>H35WXBCL53D</b>
						External	<b>H35WXXBL53D</b>	<b>H35WXXCL53D</b>
		4-way, 3-position, center exhaust	5.0	Double solenoid	120 VAC	Internal	<b>H36WXBBL53D</b>	<b>H36WXBCL53D</b>
						External	<b>H36WXXBL53D</b>	<b>H36WXXCL53D</b>
		4-way, 3-position, pressure center	5.0	Double solenoid	120 VAC	Internal	<b>H37WXBBL53D</b>	<b>H37WXBCL53D</b>
						External	<b>H37WXXBL53D</b>	<b>H37WXXCL53D</b>

**Base / End Plate - 5599-1, Non Plug-in, Size 3 (H3) \* Not compatible with H Universal**

Description	NPT	BSP
 Single subbase Side ported base, 3/4" port	<b>PS4211190CP</b>	<b>PS4211180CP</b>
 Manifold base End ported bases Bottom / end ported bases	<b>PS4211590CP</b>	<b>PS4211500CP</b>
	<b>PS4211690CP</b>	<b>PS4211600CP</b>
<b>Note:</b> Manifolds include 2 pipe plugs		
 End plate End plate - non-collective wiring	<b>PS4231010DP</b>	<b>PS4231011DP</b>

**Accessories - 5599-1, Non Plug-in, Size 3 (H3)**

Accessory	Description	Part number	
	Common pressure 5-125 PSIG w/ gauge	<b>PS4237166CP</b>	
	Independent pressure 5-125 PSIG w/ gauge	<b>PS4237266CP</b>	
	Blanking plate kit	<b>PS4234CP</b>	
	Sandwich flow control	<b>PS4242CP</b>	
	Sandwich Flow Control and Common Port Sandwich Regulator may be sandwiched together on a manifold or subbase. The Sandwich Flow Control MUST be located between the manifold/subbase and the Common Port Sandwich Regulator.		
	Manifold to manifold gasket kits	<b>PS4213P</b>	
	Manifold port isolation kit	Main galley (1, 3, 5)	<b>PS4232CP</b>
	Manifold port isolation kit	Pilot galley (12, 14)	<b>PS4033CP</b>

 Most popular.

**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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Valve Central Connector - Non Plug-in, 5599-1, Size 3 (H3)

H3 E WX B G 2B9 000F D

**Basic Series 5599-1**  
ISO 5599-1 Size 3 H3

**5599-1 Operator / Function**

Single solenoid, 2-position - air return	1
Double solenoid, 2-position	2
Double solenoid, 3-position - APB	5
Double solenoid, 3-position - CE	6
Double solenoid, 3-position - PC	7
Single solenoid, 2-position - air return, spring assist	E

**5599-1 Mounting**  
Valve less base WX

**5599-1 Pilot Source / Pilot Exhaust**

Internal pilot, port #1 / vented	B
External pilot, port #12 or #14 / vented	X*

\* Must be specified when using Sandwich Regulators.

**5599-1 Overrides / Lights**

Non-locking, flush, with light	G
Locking, flush, with light	H

**5599-1 Engineering Level**  
D Current

**5599-1 Central Connector Wiring Options**

000C	Chrysler
<b>000F*</b>	<b>SAE / Ford, ISO 20401</b>
000G	General Motors

\* Complies to ISO 20401 with Enclosure Lead Length "2".

**Enclosure / Lead length / Voltage\***

	AC		DC	
	60Hz	50Hz		
1B9†			24	3-pin, central mini connector, 3.2 watt
1F9†			24	3-pin, central mini connector, 1.3 watt
123†	120	115		3-pin, central mini connector
<b>2B9</b>			<b>24</b>	<b>4-pin, central M12 connector, 3.2 watt</b>
<b>2F9†</b>			<b>24</b>	<b>4-pin, central M12 connector, 1.3 watt</b>
3B9			24	5-pin, central mini connector, 3.2 watt
3F9†			24	5-pin, central mini connector, 1.3 watt
323	120	115		5-pin, central mini connector
619†			24	2-pin, M12 connector on coil

\* All coils include LED & suppression  
† Operator function "1" or "E"  
‡ Only available with wiring option "000F"  
\* Override "G" only.

Valve CNOMO - Non Plug-in, 5599-1 Size 3 (H3)

H3 E WX B B L53 D

**Basic Series 5599-1**  
ISO 5599-1 Size 3 H3

**5599-1 Operator / Function**

Single solenoid, 2-position - air return	1
Double solenoid, 2-position	2
Double solenoid, 3-position - APB	5
Double solenoid, 3-position - CE	6
Double solenoid, 3-position - PC	7
Single solenoid, 2-position - air return, spring assist	E

**5599-1 Mounting**  
Valve less base WX

**5599-1 Pilot Source / Pilot Exhaust**

Internal pilot, port #1 / vented	B
External pilot, port #12 or #14 / vented	X*

\* Must be specified when using Sandwich Regulators.

**5599-1 Overrides / Lights**

<b>B</b>	<b>Non-locking, flush, push - no light</b>
C	Locking, flush, push / turn - no light

**5599-1 Engineering Level**  
D Current

**Enclosure / Lead Length / Voltage**

	AC		DC	
	60Hz	50Hz		
L42	24			3-pin, 30mm DIN 43650A with CNOMO connector
L45			12	3-pin, 30mm DIN 43650A with CNOMO connector
<b>L49</b>			<b>24</b>	<b>3-pin, 30mm DIN 43650A with CNOMO connector</b>
<b>L53</b>	120	115		<b>3-pin, 30mm DIN 43650A with CNOMO connector</b>
L57	240			3-pin, 30mm DIN 43650A with CNOMO connector
NXX				Valve less coil

  Most popular.



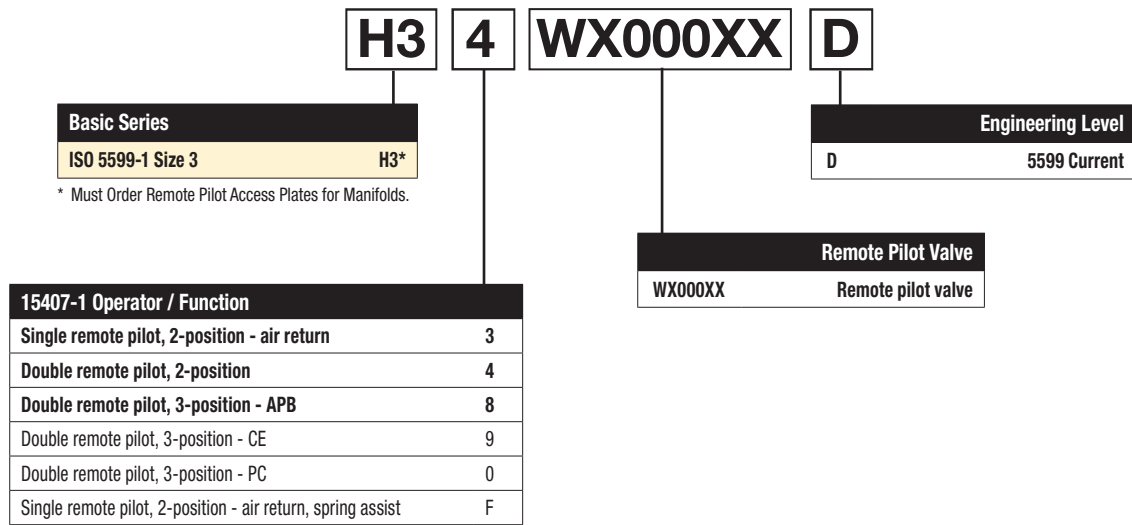
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D115

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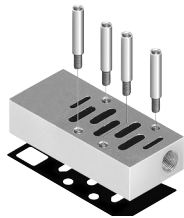
D  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Remote Pilot - Size 3 (H3)**



*Note: For manifolds, end plates, and accessories, see 5599-1 Non Plug-in valve section.*

**Remote Pilot Access Plate Kits**



Size	Port size	NPT	BSPP "G"
H3	1/8"	PS421500CP	PS421501CP

Kit includes: Pilot Port Access Plate, Gasket and Mounting Studs.

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair-II Series

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Manifold / Subbase Kit - Non Plug-in, 5599-1, Size 3 (H3)**

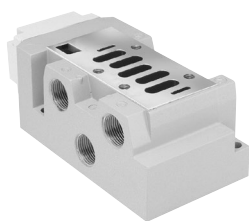
**PS421159** **0** **C** **P**

Mounting Base Style / Port Size	
Subbase: 3/4 NPT side ports	PS421119
Subbase: 3/4 BSPP side port	PS421110*
<b>Manifold: 3/4 NPT End port</b>	<b>PS421159</b>
Manifold: 3/4 BSPP end port	PS421150*
Manifold: 3/4 NPT bottom / end port	PS421169
Manifold: 3/4 BSPP bottom / end port	PS421160*

Engineering Level	
C	H3

Enclosures / Lead Length	
0	None, No Electrical Plug - 5599-1

\* BSPP conforms to ISO 1179-1 w 228-1 threads.



H3 Subbase shown



H3 Manifold shown

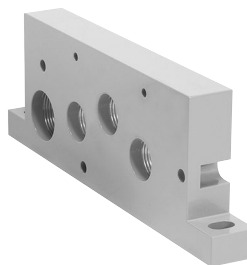
**End Plate Kit - Non plug-in, 5599-1 \* Not compatible with H Universal**

**PS423101** **0** **D** **P**

Basic Series	
ISO 5599, Size 3	PS423101

Thread Type	
0	NPT
1*	BSPP "G"

\* BSPP conforms to ISO 1179-1 w 228-1 threads.



H3 Non-Collective Wiring End Plates shown

  Most popular.



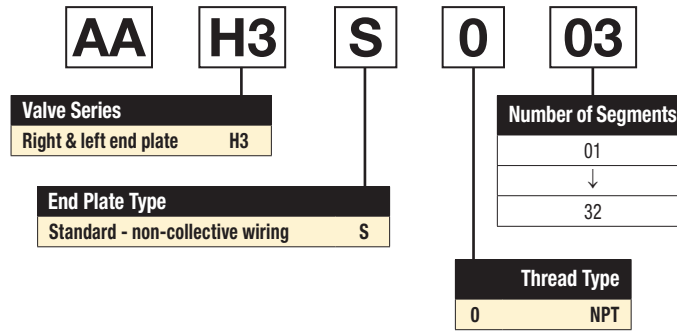
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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D	Subbase & Manual Valves
H Series Micro	Moduflex Series
H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair II Series

**Add-A-Fold Assembly - Non Plug-in, 5599-1, Size 3 (H3) \* Not compatible with H Universal**



**How To Order Non Plug-in Add-A-Fold Assemblies**

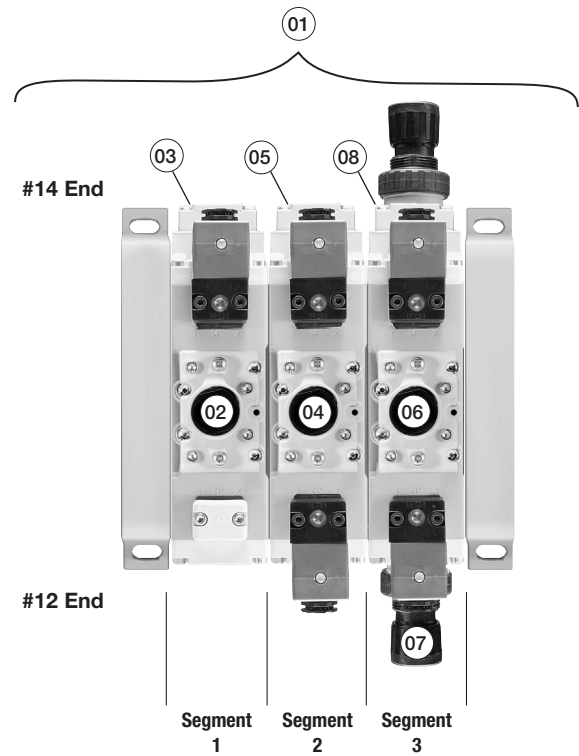
1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete valve, regulator, flow control and manifold base kit. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most segment is segment 1. (If a blank station is needed, list the blanking plate part number and the individual manifold part numbers for the required segment.)

**Example**

Application requires a 3 segment manifold and regulator on segment 3.

Item	Part No.	Location	
01	AAH3S003		
02	H31WXBG2B9000FD	Segment 1	Valve station 1
03	PS4211590CP		Manifold base
04	H32WXBG2B9000FD	Segment 2	Valve station 2
05	PS4211590CP		Manifold base
06	H32WXXG2B9000FD	Segment 3	Valve station 3
07	PS4237166CP		Sandwich regulator
08	PS4211590CP		Manifold base

**NOTE:** Construct manifold assemblies from left to right while looking at the cylinder ports.  
 Valves must be ordered as External Pilot when using Sandwich Regulator.



**Example:**  
 3 segment manifold with (3) H3 valves on manifold bases and regulator at segment 3.

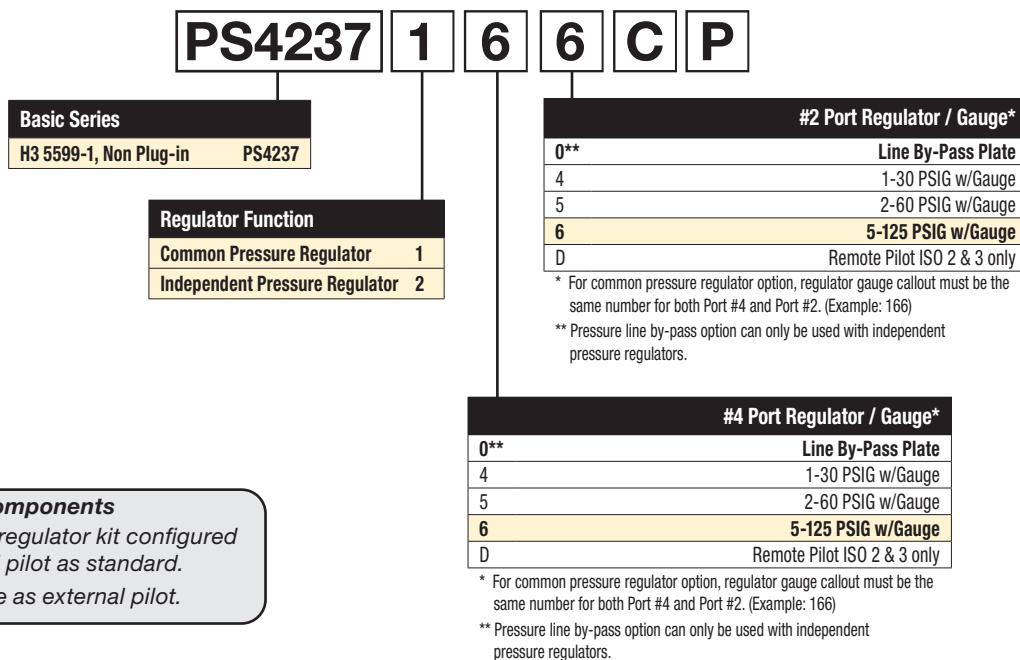
D	Subbase & Manual Valves
	H Series Micro
Modulflex Series	H Series ISO
	Network Connectivity
DX ISOMAX Series	Valvair-II Series

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Sandwich Regulator - Non Plug-in, 5599-1, Size 3 (H3)**



**Ordering Components**

- Sandwich regulator kit configured for internal pilot as standard.
- Order valve as external pilot.

**How to Configure Sandwich Regulator / Valve Combinations**

**Internal Pilot Configuration of Sandwich Regulator H3**  
 Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

**External Pilot Configuration of Sandwich Regulator H3**  
 An External Pilot pressure in Port 12 or 14 of the base feeds thru the Sandwich Regulator 12 or 14 galley directly to the 12/14 pilot of the valve.  
 This configuration takes an External Pilot from the 12 port of the base and passes it thru the regulator to feed the 12 galley of the valve.

**Sandwich Regulator Cv Flow Chart\***

	Common Pressure Code 166				Single Pressure 2 Code 206				Single Pressure 4 Code 260				Dual Pressure Code 266			
	1-2	1-4	2-3	4-5	1-2	1-4	2-3	4-5*	1-2	1-4	2-3	4-5*	1-2	1-4	2-3	4-5*
<b>H3</b>	2.37	2.39	4.30	4.47	2.37	2.81	2.75	3.01	2.65	2.59	2.68	2.74	2.43	2.41	3.16	3.04

\* Regulator Port exhaust through Base Port 3.  
 Note: All Cv's calculated with regulator adjusted full open.

Most popular.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

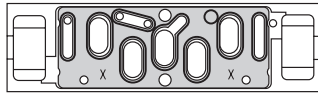
Network Connectivity

DX ISOMAX Series

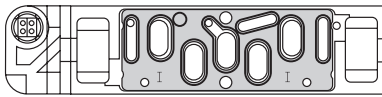
Valvair II Series

**ISO Pneumatic Valve Standard Definitions**

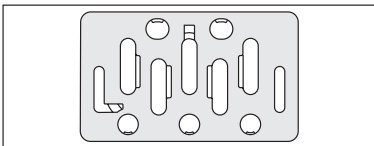
**15407-1:** Non-Plug-in Standards for Size 01 (26mm) & Size 02 (18mm) Wide Valves



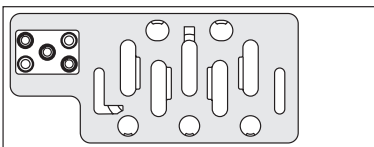
**15407-2:** Plug-in Standards for Size 01 (26mm) & Size 02 (18mm) Wide Valves



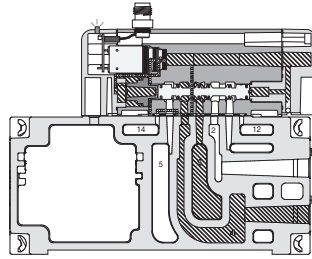
**5599-1:** Non-Plug-in Standards for Sizes 1, 2, 3



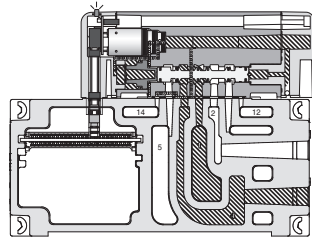
**5599-2:** Plug-in Standards for Size 1, 2, 3



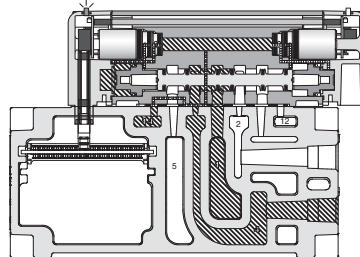
**HB / HA Series**



**15407-1** 18mm Single Solenoid Internal Pilot Manifold Mounted



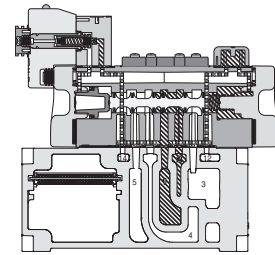
**15407-2** 18mm Single Solenoid Internal Pilot Manifold Mounted



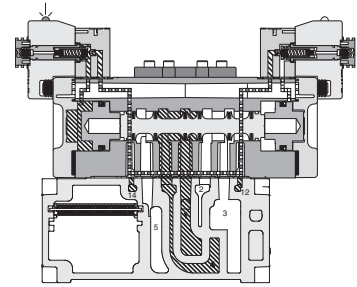
**15407-2** 26mm Double Solenoid External Pilot Manifold Mounted

Pressure Exhaust

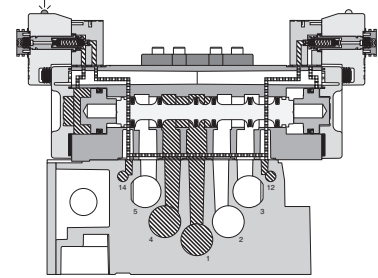
**H1, H2, H3 Series**



**H1 5599-2** Single Solenoid Internal Pilot Manifold Mounted



**H2 5599-2** Double Solenoid External Pilot Manifold Mounted



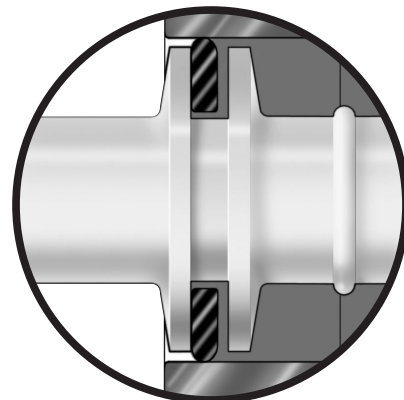
**H3 5599-2** Double Solenoid External Pilot Subbase Mounted

Pressure Exhaust

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modurflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair-II Series

**Wear Compensation System**

- Maximum Performance
  - Low Friction
  - Lower Operating Pressures
  - Fast Response
  - Less Wear
- Long Cycle Life - Under pressure, radial expansion of the seal occurs to maintain sealing contact with the valve bore.
- Non-Lube Service - No lubrication required for continuous valve shifting.
- Bi-Directional Spool Seals - Common spool used for any pressure, including vacuum.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Flow Rating (Cv)**

Valve size	Port size	2-Position	3-Position
HB	1/8"	0.55 Cv, C = 1.5 NI/s x bar, b = 0.25, Qn = 390 l/min, Qmax = 648 l/min	0.50 Cv, C = 1.4 NI/s x bar, b = 0.25, Qn = 360 l/min, Qmax = 595 l/min
HA	1/4"	1.1 Cv, C = 3.6 NI/s x bar, b = 0.30, Qn = 918 l/min, Qmax = 1518 l/min	1.0 Cv, C = 3.3 NI/s x bar, b = 0.30, Qn = 845 l/min, Qmax = 1395 l/min
H1	3/8"	1.5 Cv, C = 5.0 NI/s x bar, b = 0.30, Qn = 1248 l/min, Qmax = 2070 l/min	1.2 Cv, C = 4.1 NI/s x bar, b = 0.30, Qn = 1000 l/min, Qmax = 1660 l/min
H2	1/2"	3.0 Cv, C = 9.7 NI/s x bar, b = 0.35, Qn = 2520 l/min, Qmax = 4140 l/min	2.8 Cv, C = 9.0 NI/s x bar, b = 0.35, Qn = 2340 l/min, Qmax = 3860 l/min
H3	3/4"	6.0 Cv, C = 18.7 NI/s x bar, b = 0.35, Qn = 5022 l/min, Qmax = 7848 l/min	5.0 Cv, C = 15.4 NI/s x bar, b = 0.35, Qn = 4185 l/min, Qmax = 6545 l/min

Cv tested per ANSI / (NFPA) T3.21.3  
 Flow tested According to ISO 6358.

**Response Time\*\* (ms)**

Valve size	Port size	0 Cu. In. Chamber		## Cu. In. Chamber	
		Fill	Exhaust	Fill	Exhaust
<b>Single Solenoid 2-Position - Air Return / Spring Assist</b>					
HB	1/8"	28	30	141	154
HA	1/4"	24	26	77	124
H1	3/8"	28	39	124	198
H2	1/2"	38	76	149	295
H3	3/4"	56	70	163	235

**F9, 1.3 W Coil Only  
 Single Solenoid 2-Position - Air Return / Spring Assist**

H1	3/8"	55	84	188	270
H2	1/2"	91	146	245	349
H3	3/4"	126	127	256	328

# HB (12), HA (25), H1 (50), H2 (100), H3 (200)

\*\* With 100 PSIG supply, time (ms) required to fill from 0 to 90 PSIG and Exhaust from 100 PSIG to 10 PSIG measured from the instant of energizing or de-energizing 24VDC solenoid.

Tested per ANSI / (NFPA) T3.21.8

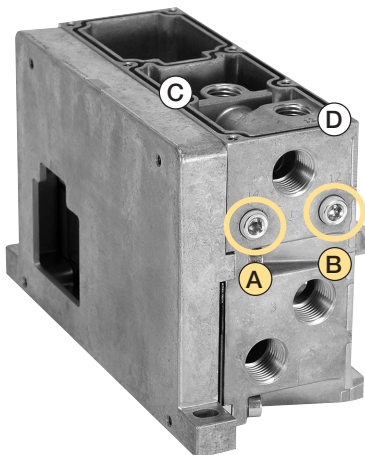
**Left End Plate Field Conversion**

End plate kits and manifold assemblies are ordered as internal or single external pilot however field conversion is possible.

**End Plate Configuration - Internal Pilot \***

Insert 2 pipe plugs in locations A & B (1/8" NPT or G 1/8) as shown

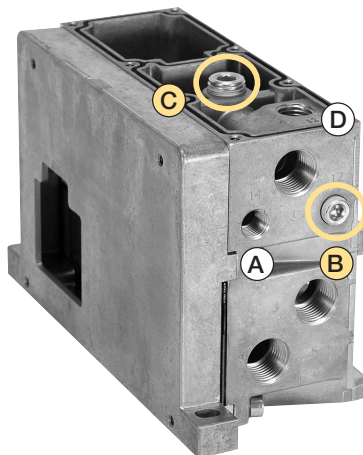
Blocking off the pilot supply ports will configure the left end plate as internally piloted. Pilot pressure required to operate the H Series valves will be drawn from the supply or #1 port and no additional connections are required. Port locations C & D must be left unplugged for this option to function properly.



**End Plate Configuration - Single External Pilot \***

Insert 1 pipe plug into location C (1/4" NPT) as shown to configure the left end plate as single externally piloted.

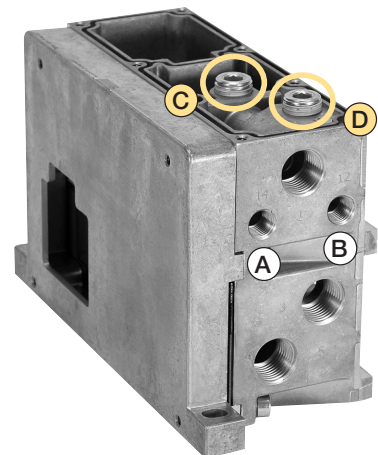
Pilot pressure required to operate the H Series valves must be supplied to the 14 port only at location A which is internally connected to the 12 pilot.



**End Plate Configuration - Double External Pilot**

Insert 2 pipe plugs in locations C & D (1/4" NPT) as shown to configure the left end plate as double externally piloted.

Pilot pressure required to operate the H Series valves must be supplied separately to both ports 14 and 12 (locations A and B).



\* Standard in catalog  
 Note: Left end plate shown with cover removed.



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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

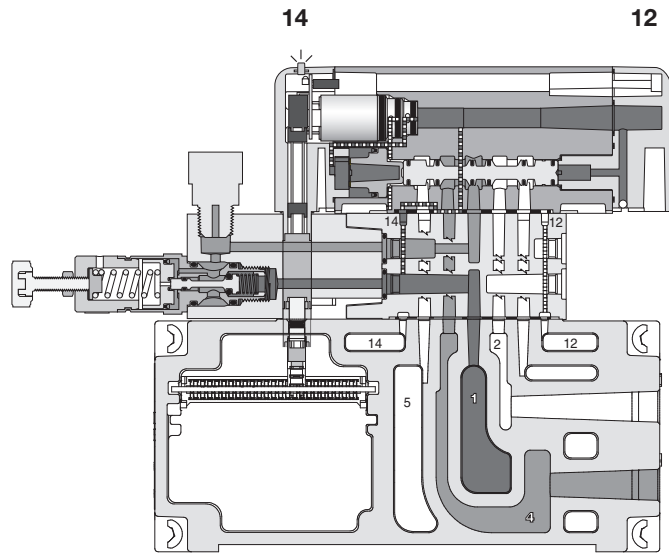
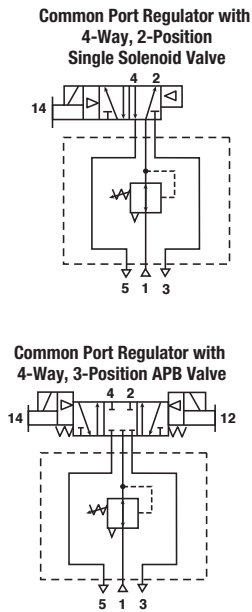
DX ISOMAX Series

Valvair II Series

**Common Port Regulation - Plug-in, HB & HA**

Provides adjustable regulated air pressure to the valve's #1 port which gives the same pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.

**HB Common Port Regulator Shown - Single Solenoid, 14 Energized**

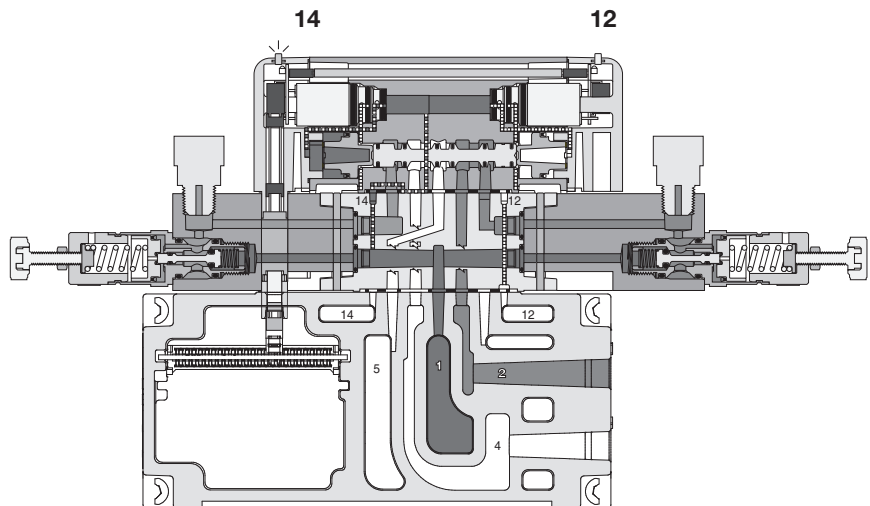
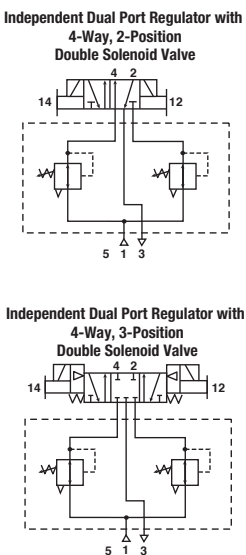


**Independent Dual Port Regulation - Plug-in, HB & HA**

**Dual Port Regulator**

Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve.

**HB Independent Dual Port Regulator Shown - Double Solenoid, 14 Energized**



*When using an Independent Pressure Sandwich Regulator, the cylinder outlet ports are reversed. The 12 end energizes the #4 port and the 14 end energizes the #2 port. The 3-Position CE and PC functions are also reversed. (See schematics above.)*

D	Subbase & Manual Valves
	H Series Micro
	Modulflex Series
	H Series ISO
	Network Connectivity
	DX ISOMAX Series
	Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D122

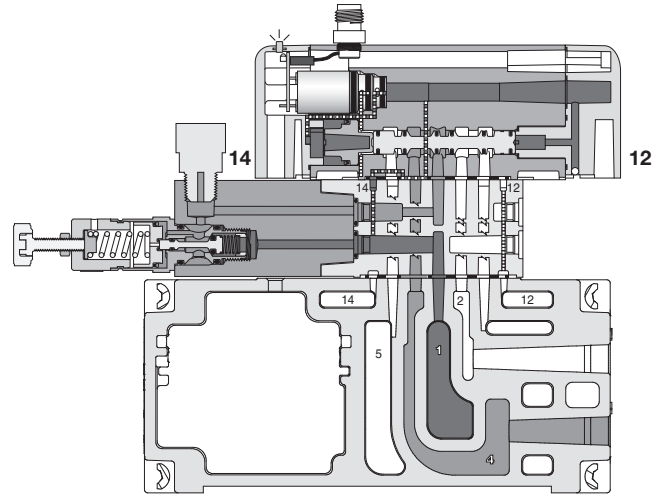
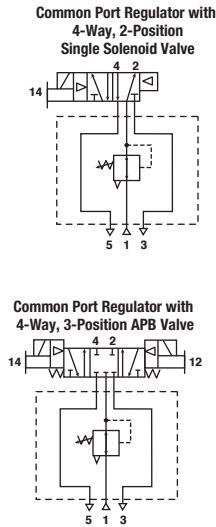
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**Common Port Regulation - Non Plug-in, HB & HA**

Provides adjustable regulated air pressure to the valve's #1 port which gives the same pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.

**HB Common Port Regulator Shown - Single Solenoid, 14 Energized**

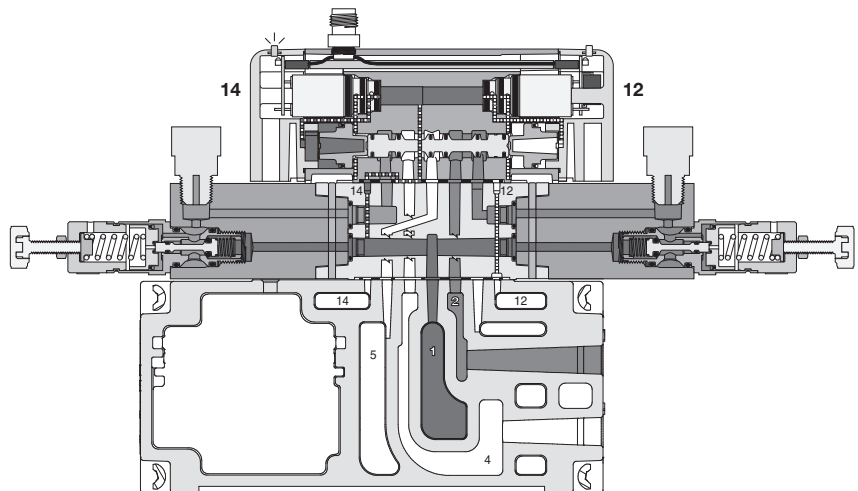
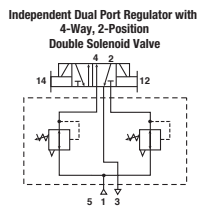


**Independent Dual Port Regulation - Non Plug-in, HB & HA**

**Dual Port Regulator**

Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve.

**HB Independent Dual Port Regulator Shown - Double Solenoid, 14 Energized**



*When using an Independent Pressure Sandwich Regulator, the cylinder outlet ports are reversed. The 12 end energizes the #4 port and the 14 end energizes the #2 port. The 3-Position CE and PC functions are also reversed. (See schematics on above.)*

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D123

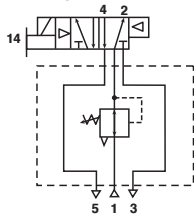
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<b>D</b>	Subbase & Manual Valves
	H Series Micro
	Moduflex Series
	H Series ISO
Network Connectivity	
DX ISOMAX Series	
Valvair II Series	

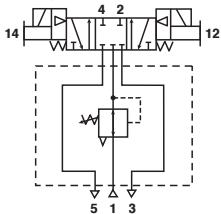
**Common Port Regulation - Plug-in, H1, H2, H3**

Provides adjustable regulated air pressure to the valve's #1 port which gives the same regulated pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.

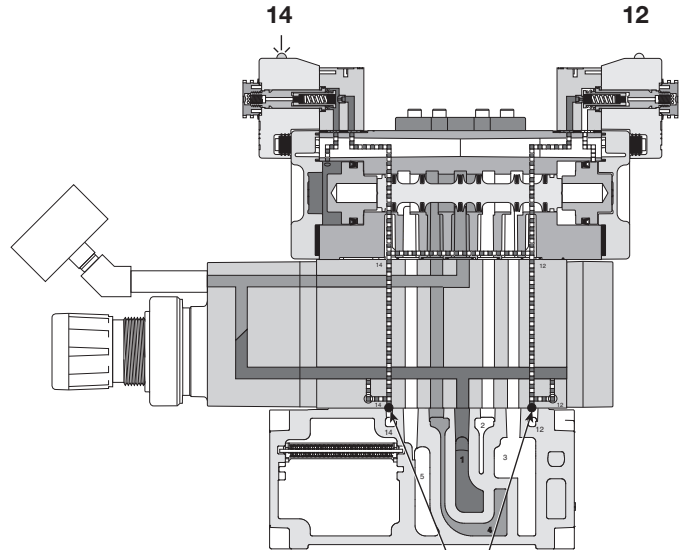
**Common Port Regulator with 4-Way, 2-Position Single Solenoid Valve**



**Common Port Regulator with 4-Way, 3-Position APB Valve**



**H2 Common Port Regulator Shown - Double Solenoid, 14 Energized, Internal Pilot**



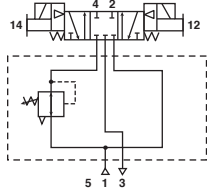
Sandwich Regulator has standard configuration of Internal Pilot with the Pilot Plug in the bottom of the I & E Pilot Holes which prevents line pressure from escaping through the manifold.

**Independent Port Regulation - Plug-in, H1, H2, H3**

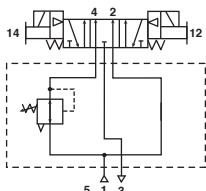
**Single Port Regulator**

Provides regulated pressure to one of the ports and full line pressure to the other by use of the Line Pressure By-Pass Plate. Pressure regulation can occur out of the #4 port of the valve.

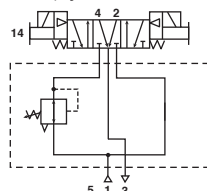
**Independent Port Regulator with 4-Way, 3-Position All Ports Blocked Valve**



**Independent Port Regulator with 4-Way, 3-Position, Inlet to Cylinder Function**



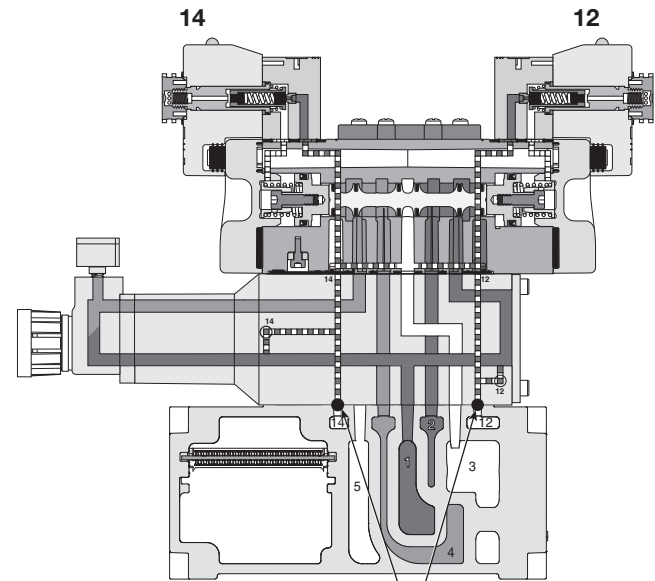
**Independent Port Regulator with 4-Way, 3-Position, Cylinder to Exhaust Function**



⚠ CAUTION: Requires 4-Way, 3-Position, Cylinder to Exhaust Valve

⚠ CAUTION: Requires 4-Way, 3-Position, Inlet to Cylinder Valve

**H1 Independent Port Regulator Shown - Double Solenoid, De-energized, Internal Pilot**



Sandwich Regulator has standard configuration of Internal Pilot with the Pilot Plug in the bottom #12 and #14 Pilot Hole which prevents line pressure from escaping through the manifold.

When using an Independent Pressure Sandwich Regulator, the cylinder outlet ports are reversed. The 12 end energizes the #4 port and the 14 end energizes the #2 port. The 3-Position CE and PC functions are also reversed. (See schematics above.)

D	Subbase & Manual Valves
H Series	Micro
Modulflex Series	
H Series	ISO
Network Connectivity	
DX ISOMAX Series	
Valvair-II Series	



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

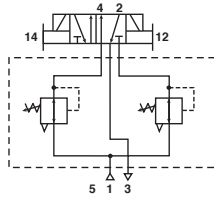
**Independent Dual Port Regulation - Plug-in, H1, H2, H3**

**Dual Port Regulator**

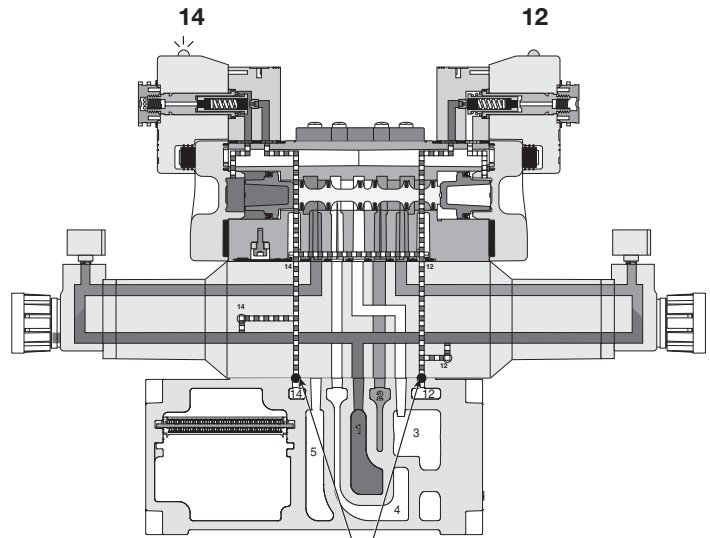
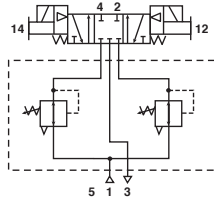
Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve.

**H1 Independent Dual Port Regulator Shown - Double Solenoid, 14 Energized, Internal Pilot**

Independent Dual Port Regulator with 4-Way, 2-Position Double Solenoid Valve



Independent Dual Port Regulator with 4-Way, 3-Position Double Solenoid Valve



Sandwich Regulator has standard configuration of Internal Pilot with the Pilot Plug in the bottom #12 and #14 Pilot Hole which prevents line pressure from escaping through the manifold.

*When using an Independent Pressure Sandwich Regulator, the cylinder outlet ports are reversed. The 12 end energizes the #4 port and the 14 end energizes the #2 port. The 3-Position CE and PC functions are also reversed. (See schematics on above.)*

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

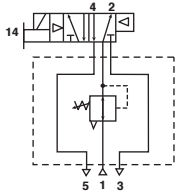
D125

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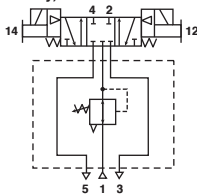
**Common Port Regulation - Non Plug-in, H1, H2, H3**

Provides adjustable regulated air pressure to the valve's #1 port which gives the same regulated pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.

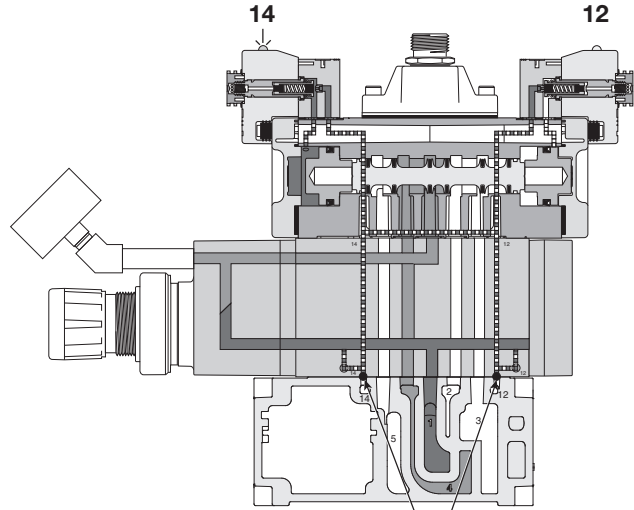
**Common Port Regulator with 4-Way, 2-Position Single Solenoid Valve**



**Common Port Regulator with 4-Way, 3-Position APB Valve**



**H2 Common Port Regulator Shown - Double Solenoid, 14 Energized, Internal Pilot**



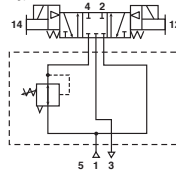
Sandwich Regulator has standard configuration of Internal Pilot with the Pilot Plug in the bottom of the I & E Pilot Holes which prevents line pressure from escaping through the manifold.

**Independent Port Regulation - Non Plug-in, H1, H2, H3**

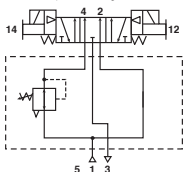
**Single Port Regulator**

Provides regulated pressure to one of the ports and full line pressure to the other by use of the Line Pressure By-Pass Plate. Pressure regulation can occur out of the #4 port of the valve.

**Independent Port Regulator with 4-Way, 3-Position All Ports Blocked Valve**

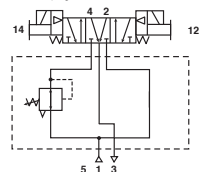


**Independent Port Regulator with 4-Way, 3-Position, Inlet to Cylinder Function**



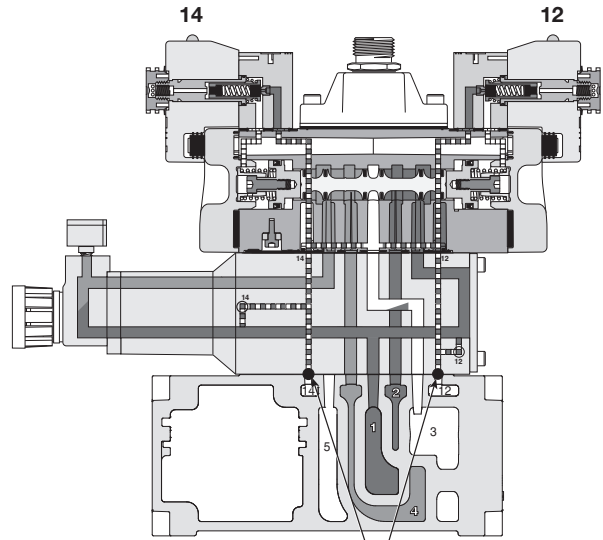
⚠ CAUTION: Requires 4-Way, 3-Position, Cylinder to Exhaust Valve

**Independent Port Regulator with 4-Way, 3-Position, Cylinder to Exhaust Function**



⚠ CAUTION: Requires 4-Way, 3-Position, Inlet to Cylinder Valve

**H1 Independent Port Regulator Shown - Double Solenoid, De-energized, Internal Pilot**



Sandwich Regulator has standard configuration of Internal Pilot with the Pilot Plug in the bottom #12 and #14 Pilot Hole which prevents line pressure from escaping through the manifold.

D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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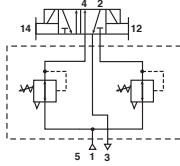
**Independent Dual Port Regulation - Non Plug-in, H1, H2, H3**

**Dual Port Regulator**

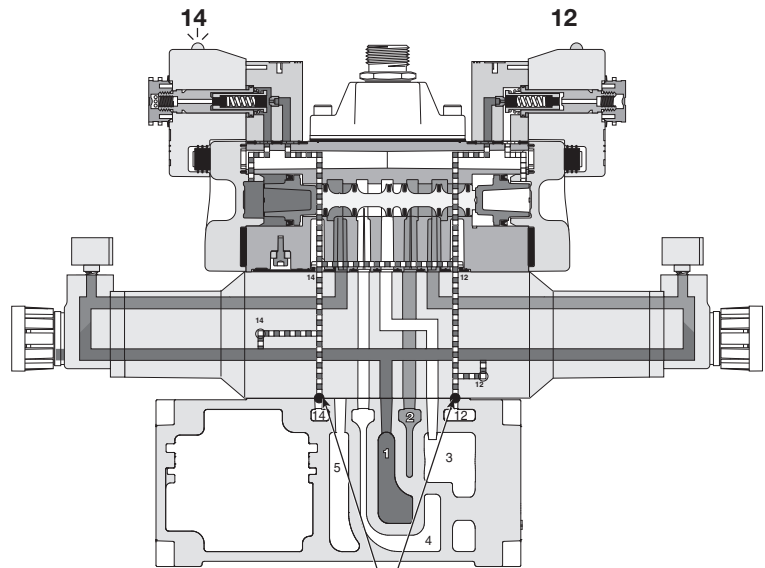
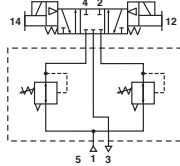
Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve.

**H1 Independent Dual Port Regulator Shown - Double Solenoid, 14 Energized, Internal Pilot**

Independent Dual Port Regulator with 4-Way, 2-Position Double Solenoid Valve



Independent Dual Port Regulator with 4-Way, 3-Position Double Solenoid Valve



Sandwich Regulator has standard configuration of Internal Pilot with the Pilot Plug in the bottom #12 and #14 Pilot Hole which prevents line pressure from escaping through the manifold.

*When using an Independent Pressure Sandwich Regulator, the cylinder outlet ports are reversed. The 12 end energizes the #4 port and the 14 end energizes the #2 port. The 3-Position CE and PC functions are also reversed. (See schematics on above.)*

D	Subbase & Manual Valves
H Series Micro	Moduflex Series
H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D127

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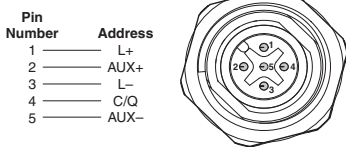
**Minimum Operating Voltage**

	HB	HA	H1	H2	H3
<b>MOV (24VDC)</b>	20.4	20.4	20.4	20.4	20.4
<b>MOV (120VAC)</b>	102*	102*	102	102	102

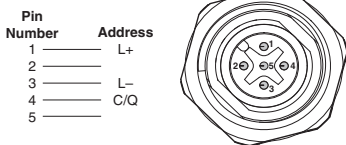
\* 120VAC coils have a dropout voltage of 10VAC when used with solid state relays. A pull-down resistor may be necessary.

**P2H IO-Link**

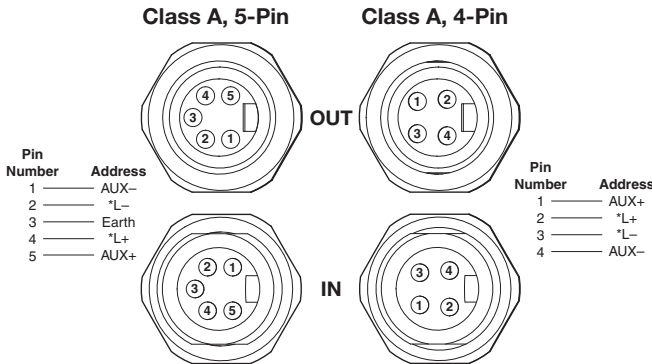
**Class B, M12 pin**



**Class A, M12 pin**



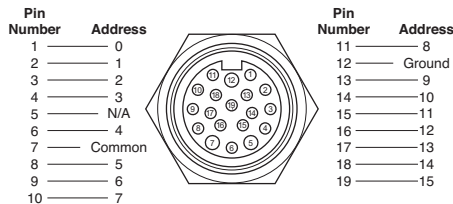
**Class A, Power IN / OUT 7/8 pin**



\* 7/8" logic power has no connection to internal P2H unit but does carryover to OUT 7/8" connector (for jumper logic power only). Logic power for P2H unit will be supplied from M12 (pin 1 & 3).

**19-Pin Connector, Round Brad Harrison**

**Male, face view**



**19-Pin Round Cable Specifications**

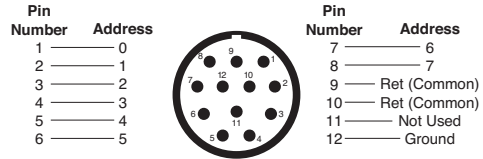
Common Pin "7" is rated for 8 amps. Cable common wire must be greater than total amperage of solenoids on Add-A-Fold assembly.

**Example:** 8 segment manifold, 16 solenoids, 120VAC - 16 x .039 amps = .63 total amp rating.

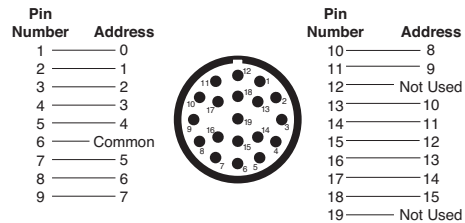
NEMA 4 rated with properly assembled NEMA 4 rated cable.

**M23, Round Connector**

**Male 12-pin connector, face view**

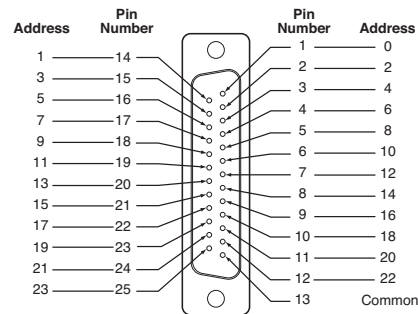


**Male 19-pin connector, view into end plate**

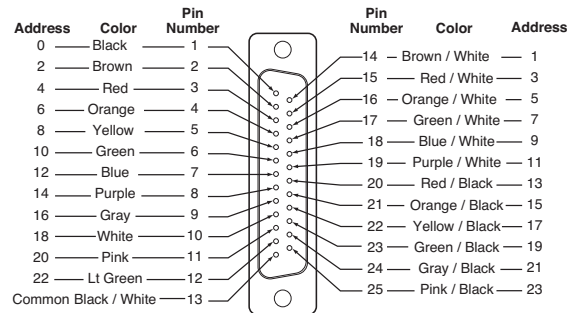


**25-Pin, D-Sub Connector**

**Male, view into end plate connector**



**Female, view into cable connector**



Description	Length	Part number
25-pin, D-sub cable, IP20	3 Meters	<b>P8LMH25M3A</b>
25-pin, D-sub cable, IP20	9 Meters	<b>SCD259D</b>
25-pin, D-sub cable, IP65	3 Meters	<b>SCD253W</b>
25-pin, D-sub cable, IP65	9 Meters	<b>SCD259WE</b>



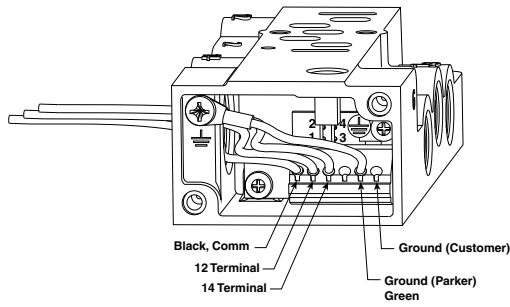
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



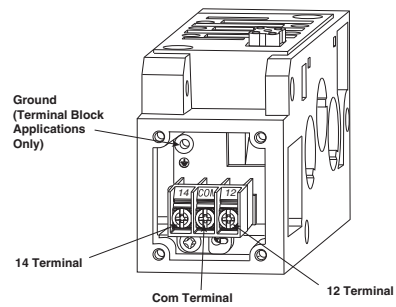
**Subbase Wiring**



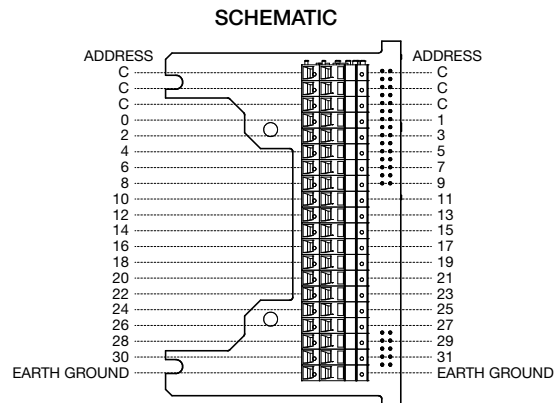
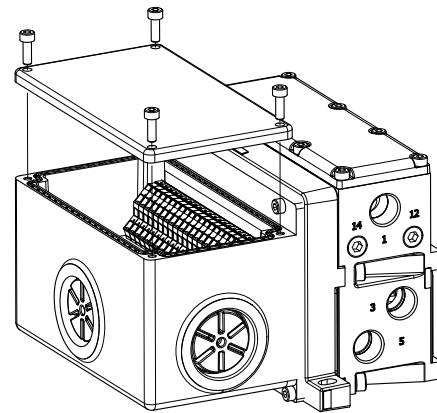
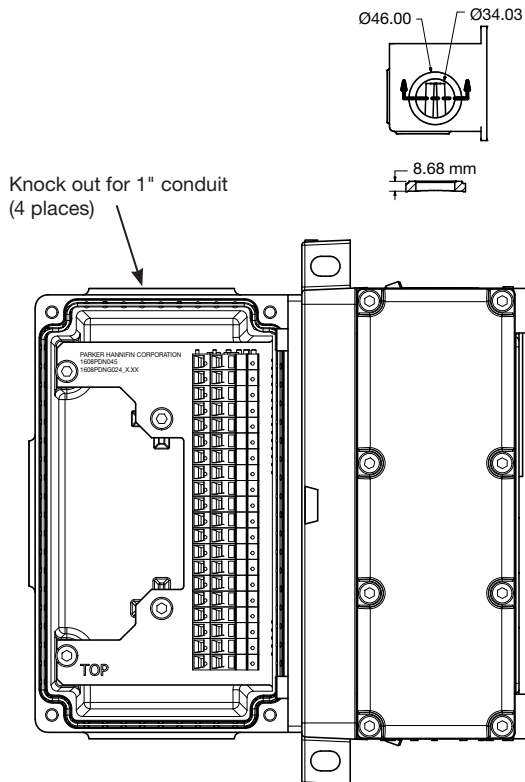
All commons internally connected on terminal strip

Connections	14 Solenoid	12 Solenoid
Valves with Wires	Black Wires	Red Wires
Valves with Terminal Block (Will accept 18 to 24 Gauge Wires)	14 and Com Terminals	12 and Com Terminals

**Manifold Wiring - Size 3**



**Terminal Box Wiring (H Universal)**



All commons internally connected on terminal strip



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

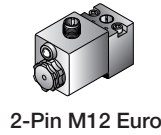
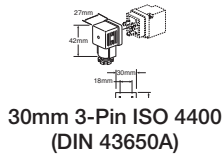
Network Connectivity

DX ISOMAX Series

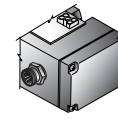
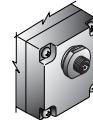
Valvair II Series

**Electrical Connectors - Size 1, 2 & 3**

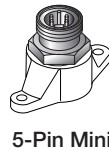
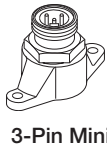
**5599-1 CNOMO**



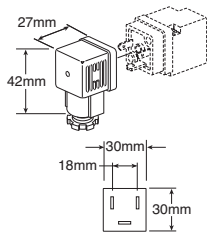
**5599-2**



**5599-1 AUTO**



**30mm Square 3-Pin – ISO 4400, DIN 43650A (Use with Enclosure “A”)**



Description	Connector with 6' (2m) cord	Connector
Unlighted	<b>PS2028JCP</b>	<b>PS2028BP</b>
Light – 6-48V, 50/60Hz, 6-48VDC	<b>PS2032J79CP*</b>	<b>PS203279BP</b>
Light – 120V/60Hz	<b>PS2032J83CP*</b>	<b>PS203283BP</b>

\* LED with surge suppression.

**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

**Engineering data:**

Conductors: 2 poles plus ground; cable range (connector only): 8 to 10mm (0.31 To 0.39 Inch); contact spacing: 18mm

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**7/8" Mini Power Cables - use with 5-pin mini connector**

	Description	Part number
RKM Female Socket	4-pin female to flying lead cable, 5 meters, TPE	<b>RKM 46-5M/S1587</b>
	5-pin female to flying lead cable, 5 meters, TPE	<b>RKM 56-5M/S1587</b>
RSM Male Pins	4-pin male to female cable, TPE	<b>RSM RKM 46-x/S1587</b>
	5-pin male to female cable, TPE	<b>RSM RKM 56-x/S1587</b>
WKM Female Socket	4-pin right angle female to flying lead cable, 5 meters, TPE	<b>WKM 46-5M/S1587</b>
	5-pin right angle female to flying lead cable, TPE	<b>WKM 56-5M/S1587</b>

Where x = 2, 4, 5, 6, 8, 10 meter standard lengths

**M12 A-code Cables - use with 4-pin micro, 2-pin micro**

Description	Part number
4-pin female to flying lead cable, PVC	<b>RKC 4.4T-1</b>
4-pin male to flying lead cable, PVC	<b>RSC 4.4T-*</b>
4-pin male to female cable, PVC	<b>RKC 4.4T-*/RSC 4.4T</b>
5-pin female to flying lead cable, TPE	<b>RKC 4.5T-*/S1587</b>
5-pin male to flying lead cable, TPE	<b>RSC 4.5T-4/S1587</b>
5-pin male to female cable, TPE	<b>RKC 4.5T-*/RSC 4.5T/S1587</b>

Where \* = 1, 2, 3, 4 meter standard lengths



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

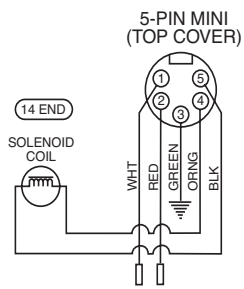
D130

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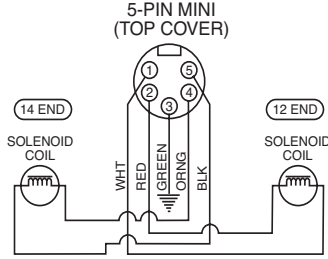
## Automotive Connection – Wiring Options

### ‘C’ Chrysler Connection

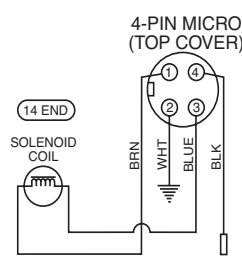
**5-Pin Male / Single Solenoid**  
 (Encl. Option 3, Auto Option C)



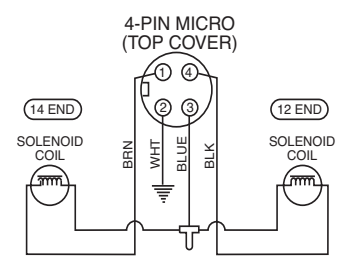
**5-Pin Male / Double Solenoid**  
 (Encl. Option 3, Auto Option C)



**4-Pin Male / Single Solenoid**  
 (Encl. Option 2, Auto Option C)

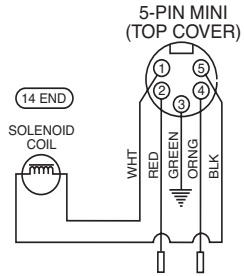


**4-Pin Male / Double Solenoid**  
 (Encl. Option 2, Auto Option C)

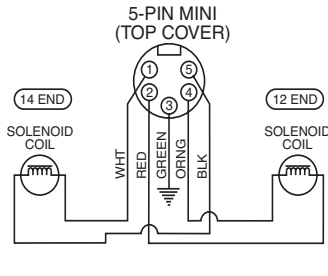


### ‘F’ SAE / Ford Wiring

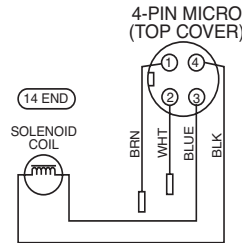
**5-Pin Male / Single Solenoid**  
 (Encl. Option 3, Auto Option F)



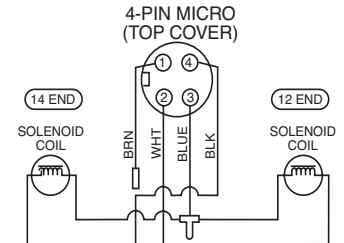
**5-Pin Male / Double Solenoid**  
 (Encl. Option 3, Auto Option F)



**ISO 20401**  
**4-Pin Male / Single Solenoid**  
 (Encl. Option 2, Auto Option F)

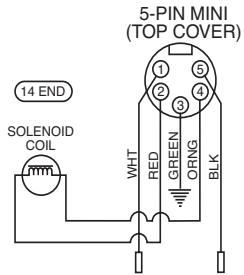


**ISO 20401**  
**4-Pin Male / Double Solenoid**  
 (Encl. Option 2, Auto Option F)

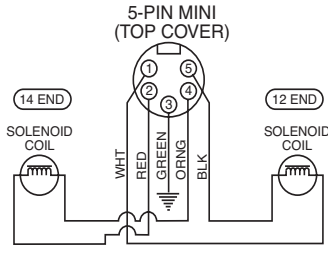


### ‘G’ GM Wiring

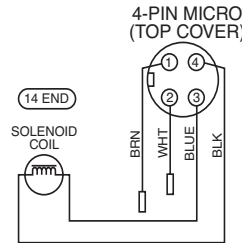
**5-Pin Male / Single Solenoid**  
 (Encl. Option 3, Auto Option G)



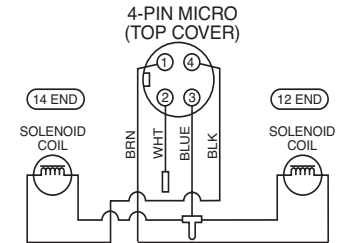
**5-Pin Male / Double Solenoid**  
 (Encl. Option 3, Auto Option G)



**4-Pin Male / Single Solenoid**  
 (Encl. Option 2, Auto Option G)

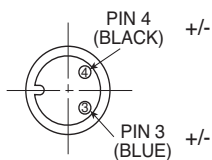


**4-Pin Male / Double Solenoid**  
 (Encl. Option 2, Auto Option G)

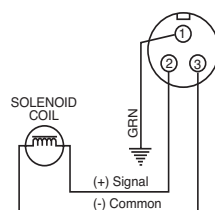


### CNOMO Connection - Wiring Options

**2-Pin Male / Single Solenoid**  
 (Encl. Option 6, Auto Option F)



**3-Pin Male / Single Solenoid**  
 (Encl. Option 1, Auto Options C, F & G)



**Maximum Number of Solenoids**  
(Maximum energized simultaneously)

	Voltage code	25-pin D-sub	19-pin Brad Harrison	12-Pin M23	19-pin M23	P2M Network Node	P2H Network Node	H Series Network Portal	Turck Network Portal	
									16 Outputs	32 Outputs
<b>HA &amp; HB</b>										
24VDC	G9 (1.0 watt)	24 (24)	16 (16)	8 (8)	16 (16)	24 (24)	24 (24)	32 (32)	16 (16)	32 (32)
120VAC*	23 (1.0 VA)	24 (24)	16 (16)	8 (8)	16 (16)	N/A	N/A	N/A	N/A	N/A
<b>H1, H2</b>										
12VDC	45 (2.4 watt)	24 (13)	16 (13)	8 (8)	16 (13)	N/A	N/A	N/A	N/A	N/A
24VAC*	42 (4.0 VA)	24 (24)	16 (16)	8 (8)	16 (16)	N/A	N/A	N/A	N/A	N/A
24VDC	B9 (3.2 watt)	24 (24)	16 (16)	8 (8)	16 (16)	24 (24) <sup>†§</sup>	24 (24) <sup>†</sup>	32 (32)	16 (16)	32 (32)
24VDC	F9 (1.3 watt)	24 (24)	16 (16)	8 (8)	16 (16)	24 (24)	24 (24) <sup>†</sup>	32 (32)	16 (16)	32 (32)
120VAC*	23 (4.5 VA)	24 (24)	16 (16)	8 (8)	16 (16)	N/A	N/A	N/A	N/A	N/A
<b>H3 Only</b>										
12VDC	45 (2.4 watt)	24 (13)	16 (13)	8 (8)	16 (13)	N/A	N/A	N/A	N/A	N/A
24VAC*	42 (4.0 VA)	24 (24)	16 (16)	8 (8)	16 (16)	N/A	N/A	N/A	N/A	N/A
24VDC	B9 (3.2 watt)	24 (20)	16 (16)	8 (8)	16 (16)	24 (24) <sup>†§</sup>	24 (24) <sup>†</sup>	24 (21)	16 (16)	24 (21)
24VDC	F9 (1.3 watt)	24 (24)	16 (16)	8 (8)	16 (16)	24 (24)	24 (24) <sup>†</sup>	24 (24)	16 (16)	24 (24)
120VAC*	23 (4.5 VA)	24 (24)	16 (16)	8 (8)	16 (16)	N/A	N/A	N/A	N/A	N/A

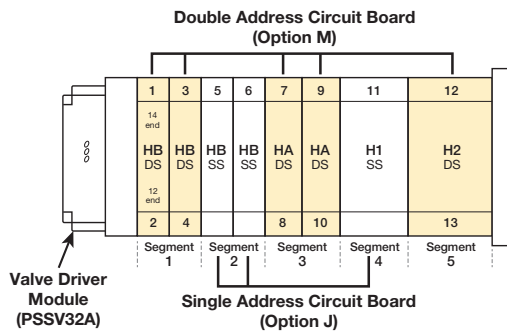
\* Not CSA certified for 25-pin, D-sub option.

† Use Type A IO-Link module for 24 outputs simultaneously.

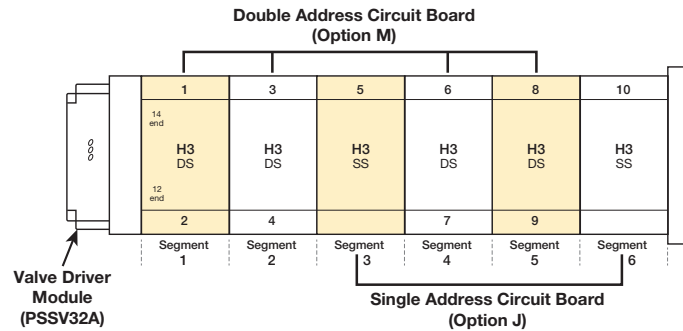
§ P2M Industrial Ethernet limited to 2A, use F9 coil for more than simultaneous solenoids.

**I/O Addressing Examples**

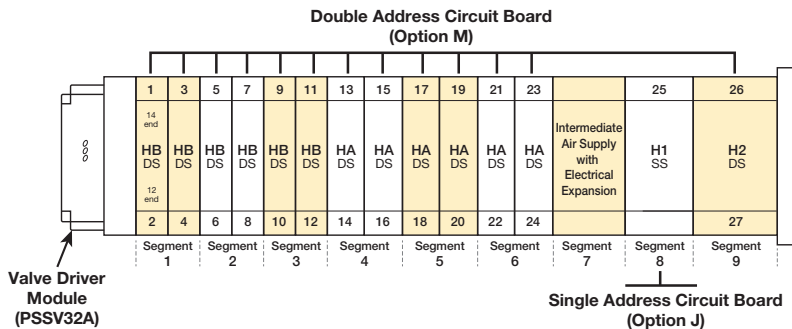
**HB, HA, H1, H2 - Five Segment Manifold Example**



**H3 Example - Six Segment Manifold Example**



**HB, HA, H1, H2 - Nine Segment Manifold with Intermediate Supply Example**



**Notes:** SS = Single Solenoid Valve  
DS = Double Solenoid Valve  
First output address is the #14 end of the valve closest to the valve driver module.

Intermediate Module with Electrical Expansion to 25th address required for manifolds with greater than 24 solenoid addresses.

D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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**Accessories**

**H Series ISO & Network Connectivity  
H Series ISO 15407 & 5599**

**5599-2 & 5599-1 AUTO Solenoid Kits**

Valve size	Voltage code	Coil kit number
H1, H2 & H3	42 (24VAC)	<b>PS404142P</b>
	45 (12VDC)	<b>PS404145P</b>
	B9 (24VDC), 3.2 watt	<b>PS4041B9P</b>
	F9 (24VDC), 1.3 watt	<b>PS4041F9P</b>
	23 (120VAC)	<b>PS404123P</b>
	57 (240VAC)	<b>PS404157P</b>

Quantity 1

**Pilot Operator - CNOMO**

Valve size		Kit number
H1, H2 & H3	Locking	<b>PS4052CP</b>
	Non-locking	<b>PS4053CP</b>
	Non-locking †	<b>PS4054CP</b>

† F9 (1.3 watt) coil option only.

**Manifold Hardware Kits – PS Series**

Valve size	Kit number
HB, HA, H1, H2 *	<b>PSHU10P</b>
H3 **	<b>PS4212P</b>

\* Quantity 20

\*\* Quantity 12

**Valve Bolt Kits**

Valve size	Kit number
HB	<b>PS5687P</b>
HA	<b>PS5587P</b>
H1	<b>PS4087DP</b>
H2	<b>PS4187DP</b>
H3	<b>PS4287DP</b>

Quantity 12

**Valve to Base Gasket Kits**

Valve size	Standard	Remote pilot	Dual pressure #3	Dual pressure #5
HB	<b>PS5605P*</b>	—	—	—
HA	<b>PS5505P*</b>	—	—	—
H1	<b>PS4005DP</b>	<b>PS4006DP</b>	<b>PS40D3DP</b>	—
H2	<b>PS4105DP</b>	<b>PS4106DP</b>	<b>PS41D3DP</b>	<b>PS41D5DP</b>
H3	<b>PS4205DP</b>	<b>PS4206DP</b>	<b>PS42D3DP</b>	<b>PS42D5DP</b>

Quantity 1

\* Quantity 10

**5599-1 CNOMO Solenoid Kits**

Voltage code	3-pin, 30mm 'L' coil kit	2-pin, M12 Euro '6' coil kit
19	—	<b>PS2828619P</b>
42	<b>P2FCA442</b>	—
45	<b>P2FCA445</b>	—
49	<b>P2FCA449</b>	—
53	<b>P2FCA453</b>	—
57	<b>P2FCA457</b>	—

Quantity 1

**Body Service Kits**



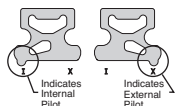
Valve size	2-position	3-position		
		APB	CE	PC
HB	<b>PS5601P</b>	<b>PS5602P</b>	<b>PS5603P</b>	<b>PS5604P</b>
HA	<b>PS5501P</b>	<b>PS5502P</b>	<b>PS5503P</b>	<b>PS5504P</b>
H1	<b>PS4001CP</b>	<b>PS4002CP</b>	<b>PS4003CP</b>	<b>PS4004CP</b>
H2	<b>PS4101CP</b>	<b>PS4102CP</b>	<b>PS4103CP</b>	<b>PS4104CP</b>
H3	<b>PS4201CP</b>	<b>PS4202CP</b>	<b>PS4203CP</b>	<b>PS4204CP</b>

HB / HA Kit Includes: Spool assembly with seals.

H1, H2, H3 Kit Includes: Spool assembly with seals, all piston seals, return spring, pilot selector gasket, coil to end cap gasket.

Quantity 1

**Pilot Select Gasket Kits**

	Valve size	Part number
	HB	<b>PS5605P</b>
	HA	<b>PS5505P</b>
	H1, H2 & H3	<b>PS4007P</b>

Quantity 10

**Regulator Kits**

Valve size	Part number
H1	<b>PS4039P</b>
H2, H3	<b>PS4139P</b>



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Regulator & Flow Control Mounting Studs**

Valve type	Type	Part number
HB	Flow Control & Regulator	<b>PS5636P</b>
HA	Flow Control & Regulator	<b>PS5536P</b>
H1	Flow Control	<b>PS4036P</b>
	Regulator	<b>PS4040P</b>
H2	Flow Control	<b>PS4136P</b>
	Regulator	<b>PS4140P</b>
H3	Flow Control	<b>PS4236P</b>
	Regulator	<b>PS4240P</b>

Quantity 12

**Regulator Gauge Kits – Size H1, H2 & H3**

Gauge type	Part number
<b>1" Face Air - Standard</b>	
0 to 60 PSIG	<b>PS4051060BP</b>
0 to 160 PSIG	<b>PS4051160BP</b>
<b>1-1/2" Face Air - Large*</b>	
0 to 60 PSIG	<b>PS4053060BP</b>
0 to 160 PSIG	<b>PS4053160BP</b>
<b>1-1/2" Face Liquid*</b>	
0 to 160 PSIG	<b>PS4052160BP</b>

\* Includes brass pipe fitting extensions  
Quantity 1

**Regulator Spring Range Kits – Size H1, H2 & H3**

Spring range	Valve size	Part number
0 to 30 PSIG	H1	<b>PS4050030P</b>
	H2, H3	<b>PS4150030BP</b>
2 to 60 PSIG	H1	<b>PS4050060P</b>
	H2, H3	<b>PS4150060BP</b>
5 to 125 PSIG	H1	<b>PS4050125P</b>
	H2, H3	<b>PS4150125BP</b>

Quantity 1

**Regulator Conversion Kits – Size H1, H2 & H3**

Valve size	Description	Part number
H1	Manual Bonnet Assembly (w/o Spring)	<b>PS4045BP</b>
	Air Pilot Bonnet Assembly	<b>PS4047BP</b>
	Independent By-Pass Plate	<b>PS4048BP</b>
H2, H3	Manual Bonnet Assembly (w/o Spring)	<b>PS4145BP</b>
	Air Pilot Bonnet Assembly	<b>PS4147BP</b>
	Independent By-Pass Plate	<b>PS4148BP</b>

Quantity 1

**Pilot By-Pass Plate**

Valve size	Part number
H1, H2, H3	<b>PS4051CP</b>

Quantity 10

**Valve Driver Module**

Driver Module	Part number
32 Point Module – HB, HA, H1, H2, H3	<b>PSSV32A*†</b>

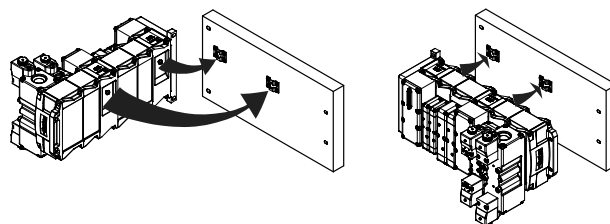


**PSSV32A**

\* Reference Document E100P for Installation Instructions.  
See [www.pdnplu.com](http://www.pdnplu.com)

**Installation Bracket**

Bracket	Part number
Bracket and Bolt (Quantity 2)	<b>PSHU60P</b>



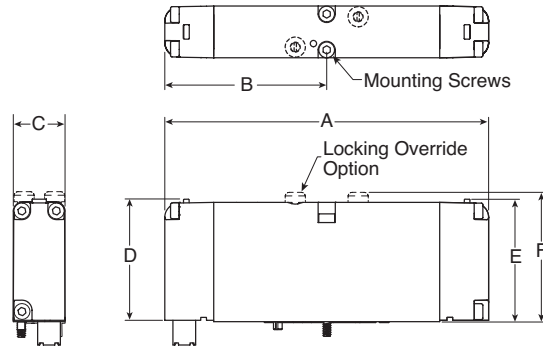
**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**H Series ISO 15407-2, Plug-in, Size 18mm (HB)**

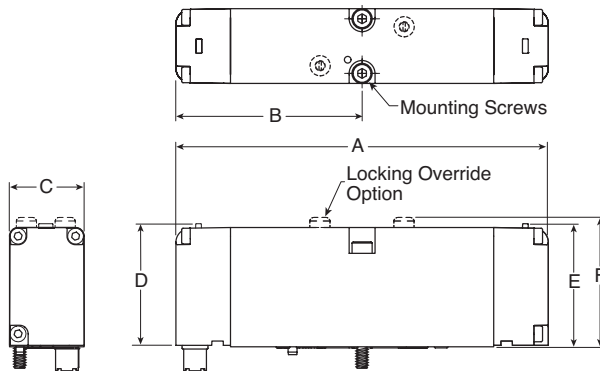


**18mm Dimensions**

A	B	C	D
4.43 (113)	2.22 (56)	.72 (18)	1.98 (50)
E	F		
1.68 (43)	1.77 (45)		

Inches (mm)

**H Series ISO 15407-2, Plug-in, Size 26mm (HA)**

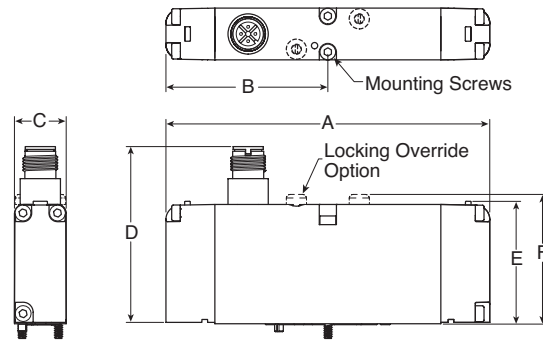


**26mm Dimensions**

A	B	C	D
5.10 (130)	2.55 (65)	1.02 (26)	1.98 (50)
E	F		
1.68 (43)	1.77 (45)		

Inches (mm)

**H Series ISO 15407-1, Non Plug-in, Size 18mm (HB)**

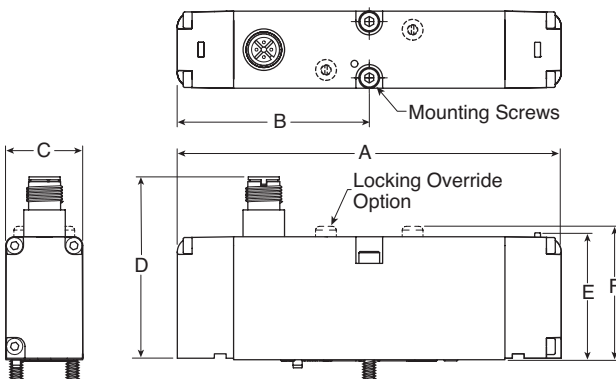


**18mm Dimensions**

A	B	C	D
4.43 (113)	2.22 (56)	.72 (18)	2.40 (61)
E	F		
1.68 (43)	1.77 (45)		

Inches (mm)

**H Series ISO 15407-1, Non Plug-in, Size 26mm (HA)**



**26mm Dimensions**

A	B	C	D
5.10 (130)	2.55 (65)	1.02 (26)	2.40 (61)
E	F		
1.68 (43)	1.77 (45)		

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

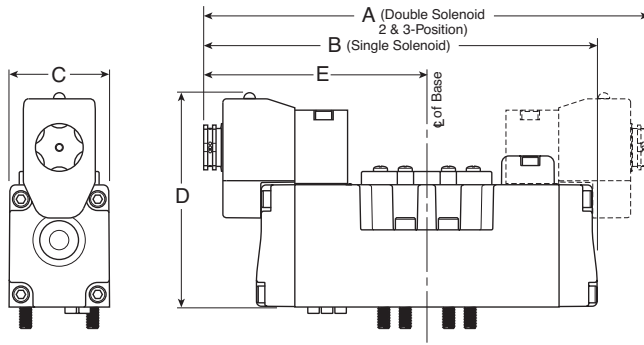
Network Connectivity

DX ISOMAX Series

Valvair II Series

**Dimensional Data**

**H Series ISO 5599-2**



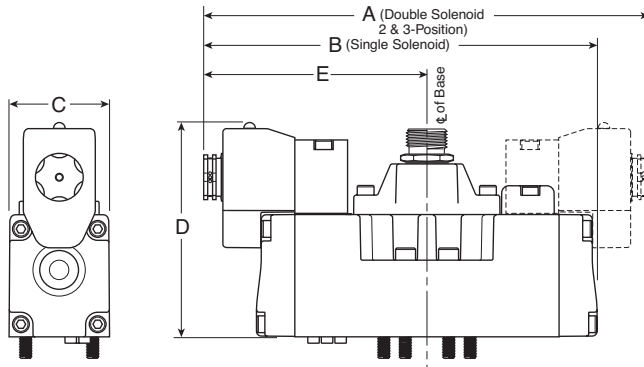
**H1 Valves Shown**

**H1 Dimensions**

A	A <sub>1</sub>	B	C
7.32 (186)	5.59 (142)	6.46 (164)	1.65 (42)
D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>
3.54 (90)	4.29 (109)	4.29 (109)	2.50 (63.5)
D <sub>4</sub>	E	E <sub>1</sub>	
2.48 (63)	3.66 (93)	2.80 (71)	

Inches (mm)

**H Series ISO 5599-1 Auto**

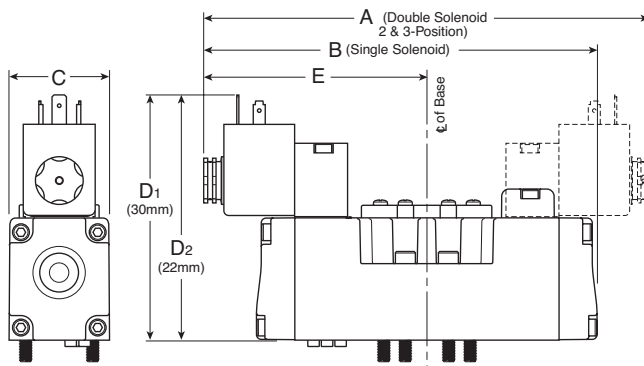


**H2 Dimensions**

A	A <sub>1</sub>	B	C
8.35 (212)	6.62 (168)	7.48 (190)	2.17 (55)
D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>
4.05 (103)	4.80 (122)	4.57 (116)	2.99 (76)
E	E <sub>1</sub>		
4.17 (106)	3.31 (84)		

Inches (mm)

**H Series ISO 5599-1 CNOMO**

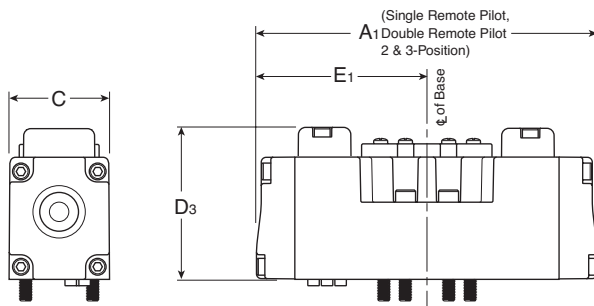


**H3 Dimensions**

A	A <sub>1</sub>	B	C
9.68 (246)	6.98 (196.7)	8.68 (220)	2.17 (65.5)
D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>
4.05 (103)	4.80 (122)	4.57 (116)	2.99 (76)
E	E <sub>1</sub>		
4.74 (121)	3.49 (89)		

Inches (mm)

**H Series ISO 5599-2 / 5599-1 Remote Pilot**



**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

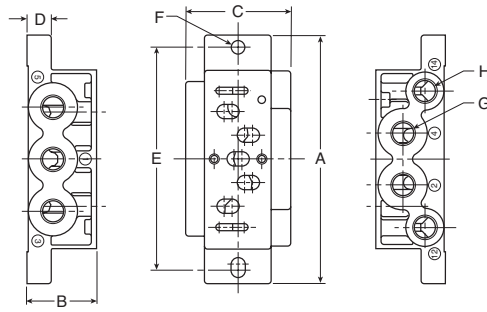


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**HB Series ISO 15407-1, Size 18mm (HB) Single Subbase**

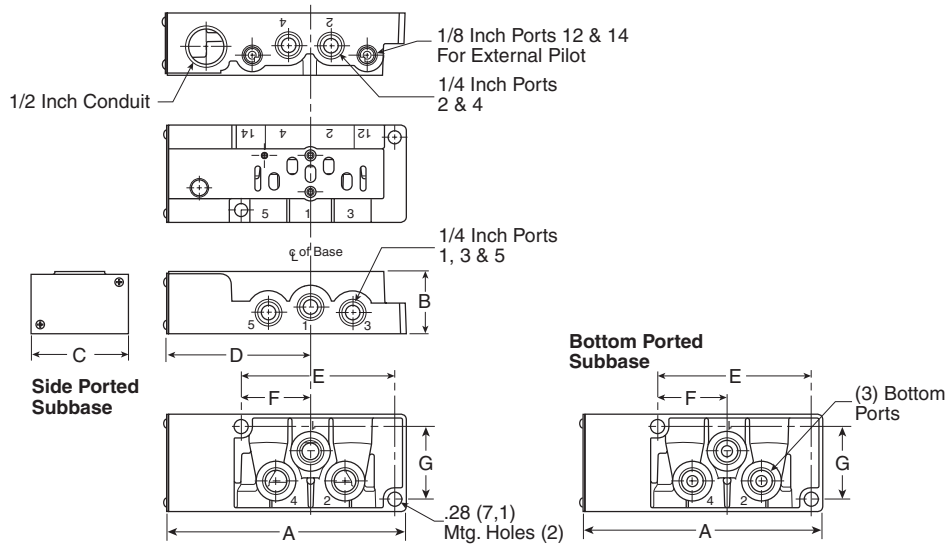


**HB Dimensions (PL02)**

A	B	C	D
3.15 (80)	.87 (22)	1.06 (27)	.31 (8)
E	F	G	H
2.76 (70)	.216 Dia. (Ø 5.5)	1/8	M5

Inches (mm)

**H Series ISO 15407-2 & 15407-1 Size 26mm (HA), Plug-in Subbases**



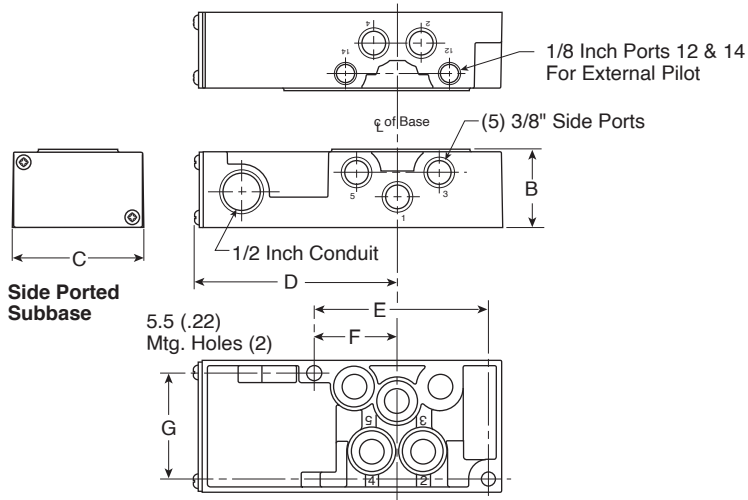
**HA Dimensions**

A	B	C	D
4.88 (124)	1.28 (32.5)	2.00 (50.8)	2.91 (74)
E	F	G	
1.43 (36.2)	3.16 (80.2)	1.49 (37.9)	

Inches (mm)

**Dimensional Data**

**H Series ISO 5599-1 Size H1, PS4011 Subbase**

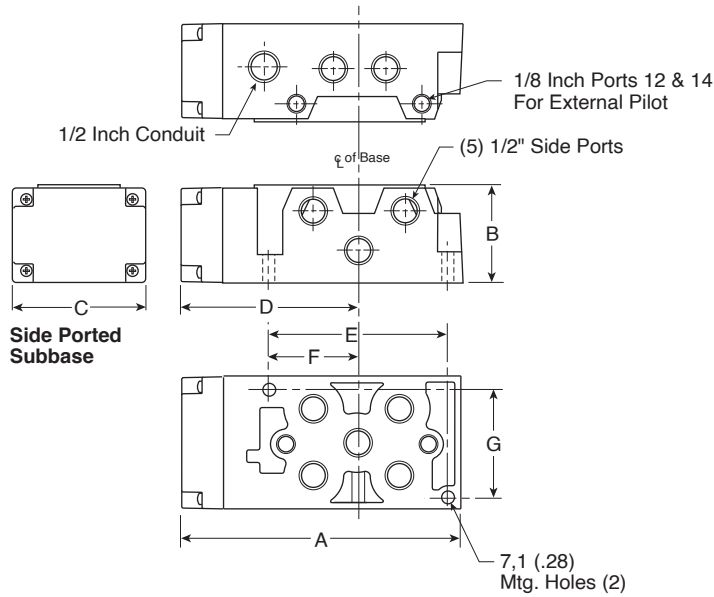


**PS4011 Subbase Dimensions**

A	B	C	D
5.83 (148)	1.48 (38)	2.50 (64)	3.86 (98)
E	F	G	
3.29 (84)	1.57 (40)	2.00 (51)	

Inches (mm)

**H Series ISO 5599-1 Size H2, PS4111 Subbase**



**PS4111 Subbase Dimensions**

A	B	C	D
6.69 (170)	2.33 (59)	3.15 (80)	4.25 (108)
E	F	G	
4.21 (107)	2.07 (52)	2.56 (65)	

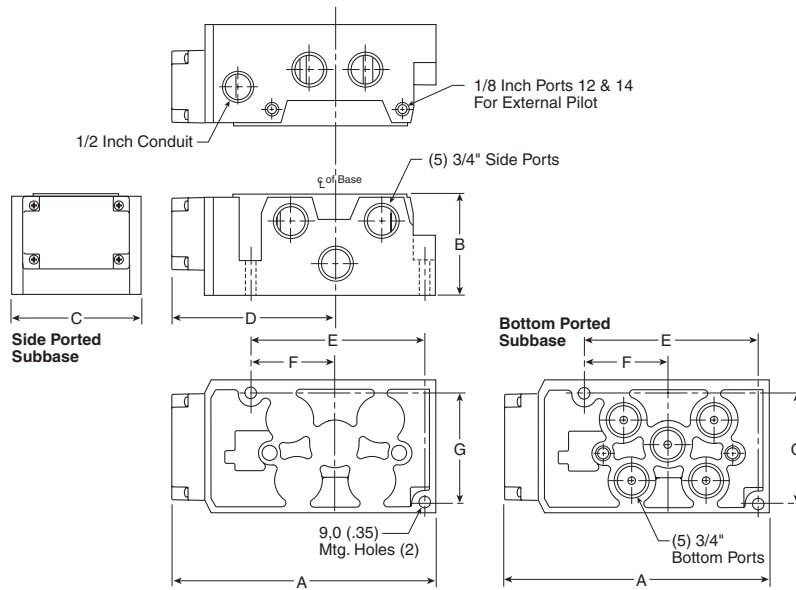
Inches (mm)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**H Series ISO 5599-1 Size H3, PS4211 Subbase**

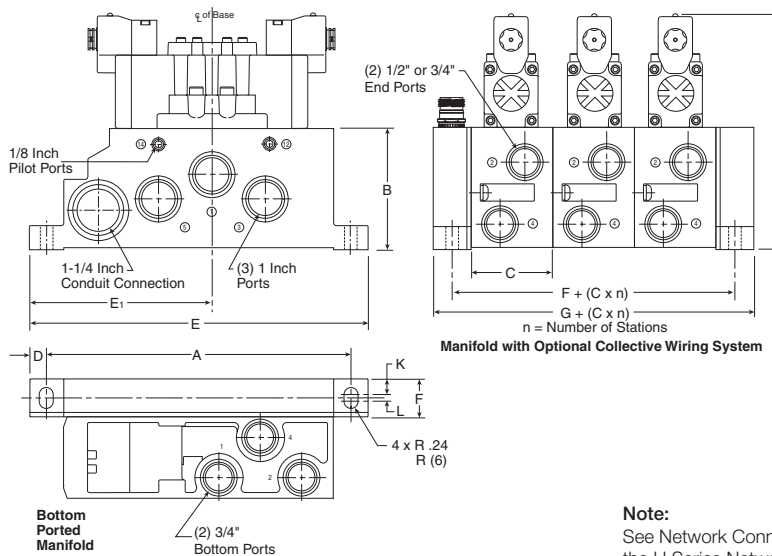


**PS4211 Subbase Dimensions**

A	B	C	D
7.90 (201)	2.96 (75)	3.90 (99)	4.92 (125)
E	F	G	
5.14 (131)	2.50 (64)	3.24 (82)	

Inches (mm)

**H Series ISO 5599 Size H3, PS4211 Manifold**



**PS4211 Manifold Dimensions**

A	B	C	D	E
10.41 (265)	4.13 (105)	2.80 (71)	.59 (15)	11.61 (295)
E <sub>1</sub>	F	G	H	
6.26 (159)	1.30 (33)	2.60 (63)	8.19 (208)	
K	L			
.53 (13.5)	.24 (6)			

Inches (mm)

**Note:**  
 See Network Connectivity Section for the dimensions of manifolds utilizing the H Series Network, Turck Network, or P2M Network Node end plate type.

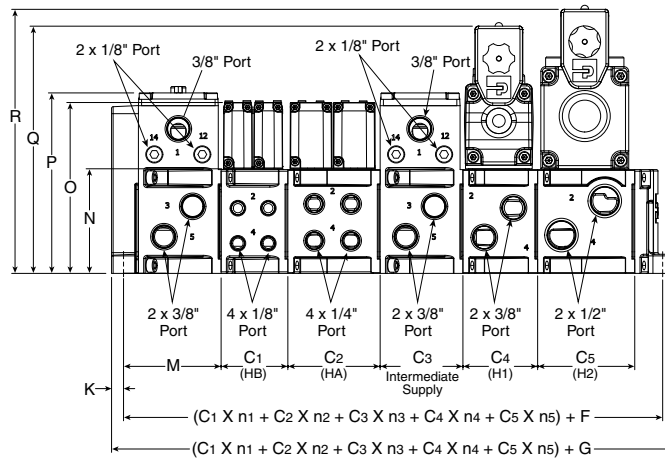
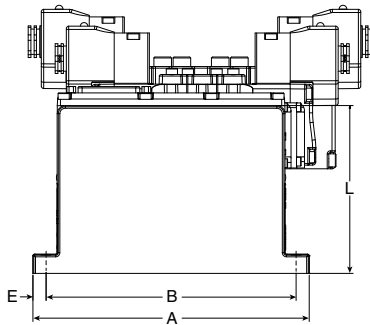
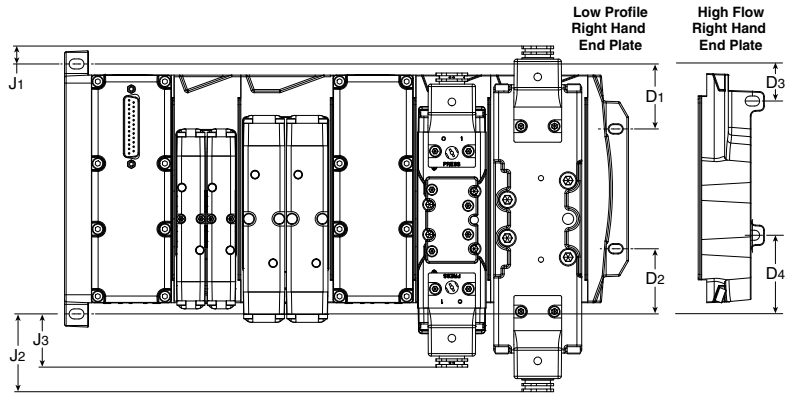


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Dimensional Data**

**H Series ISO Universal Manifold**

Network Connectivity dimensions (P2H, Turck, H Net, and P2M) are located at the end of the Network Connectivity Section.



<b>A</b>	<b>B</b>	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>
6.81 (172.95)	6.16 (156.5)	1.65 (41.79)	2.28 (57.79)	2.04 (51.79)	1.84 (46.79)	2.39 (60.79)
<b>D1</b>	<b>D2</b>	<b>D3</b>	<b>D4</b>	<b>E</b>	<b>F</b>	<b>G</b>
1.60 (40.71)	1.60 (40.71)	0.96 (24.3)	1.92 (48.8)	0.32 (8.0)	3.09 (78.58)	4.39 (111.58)
<b>J1</b>	<b>J2</b>	<b>J3</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>
0.44 (11.2)	1.92 (48.7)	1.31 (33.3)	0.30 (7.5)	4.14 (105.08)	2.40 (61.08)	1.92 (48.7)
<b>O</b>	<b>P</b>	<b>Q</b>	<b>R</b>			
4.21 (107)	4.45 (113)	6.09 (154.77)	6.51 (165.32)			

Inches (mm)

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

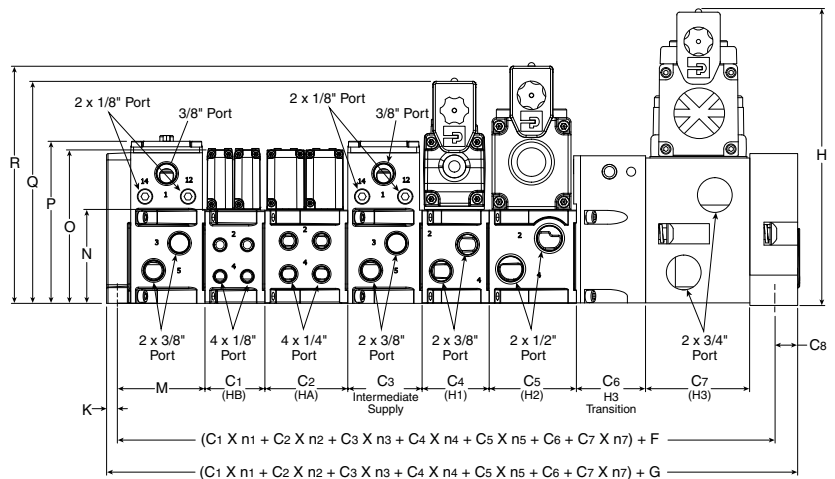
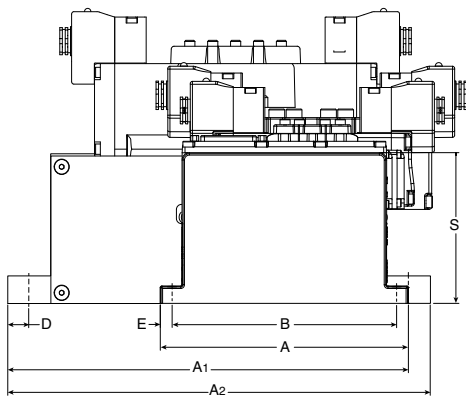
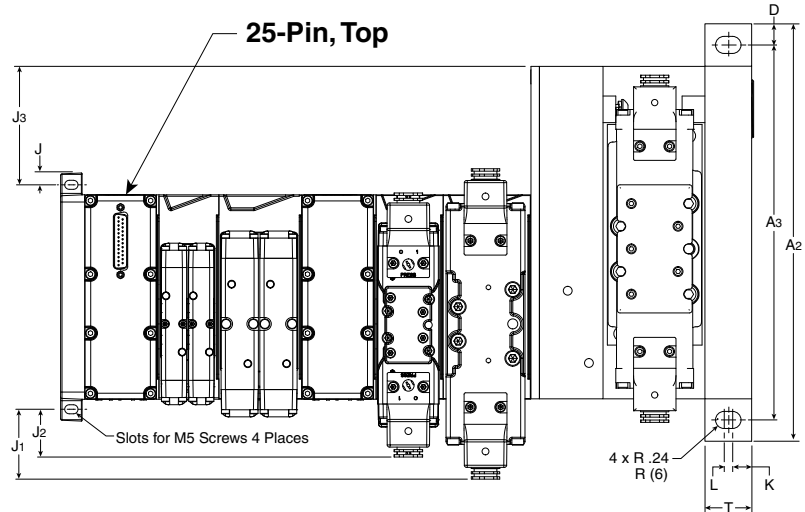
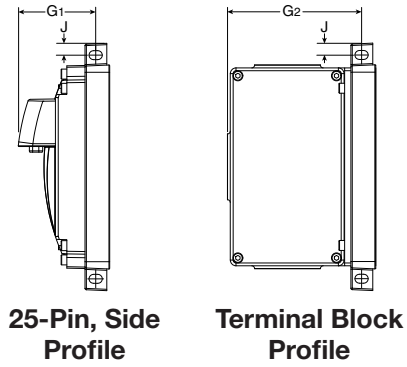
D140

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**H Series ISO Universal Manifold with H3 Transition**

Network Connectivity dimensions (P2H, Turck, H Net, and P2M) are located at the end of the Network Connectivity Section.



<b>A</b> 6.81 (172.95)	<b>A1</b> 12.34 (313.43)	<b>A2</b> 14.0 (365.3)	<b>A3</b> 10.41 (265)	<b>B</b> 6.16 (156.5)	<b>C1</b> 1.65 (41.79)	<b>C2</b> 2.28 (57.79)	<b>C3</b> 2.04 (51.79)	<b>C4</b> 1.84 (46.79)	<b>C5</b> 2.39 (60.79)	<b>C6</b> 2.00 (51.0)	<b>C7</b> 2.80 (71.0)
<b>C8</b> 0.95 (16.5)	<b>D</b> 0.59 (15.0)	<b>E</b> 0.32 (8.0)	<b>F</b> 3.05 (77.58)	<b>G</b> 4.00 (101.6)	<b>G1</b> 2.13 (54.0)	<b>G2</b> 3.69 (93.8)	<b>H</b> 8.19 (208)	<b>J</b> 0.33 (8.3)	<b>J1</b> 1.92 (48.7)	<b>J2</b> 1.31 (33.3)	<b>J3</b> 3.47 (88.25)
<b>K</b> 0.30 (7.5)	<b>L</b> 0.24 (6.0)	<b>M</b> 2.40 (61.08)	<b>N</b> 1.92 (48.7)	<b>O</b> 4.21 (107)	<b>P</b> 4.45 (113)	<b>Q</b> 6.09 (154.77)	<b>R</b> 6.51 (165.32)	<b>S</b> 4.14 (105.08)	<b>T</b> 1.30 (33.0)		

Inches (mm)

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

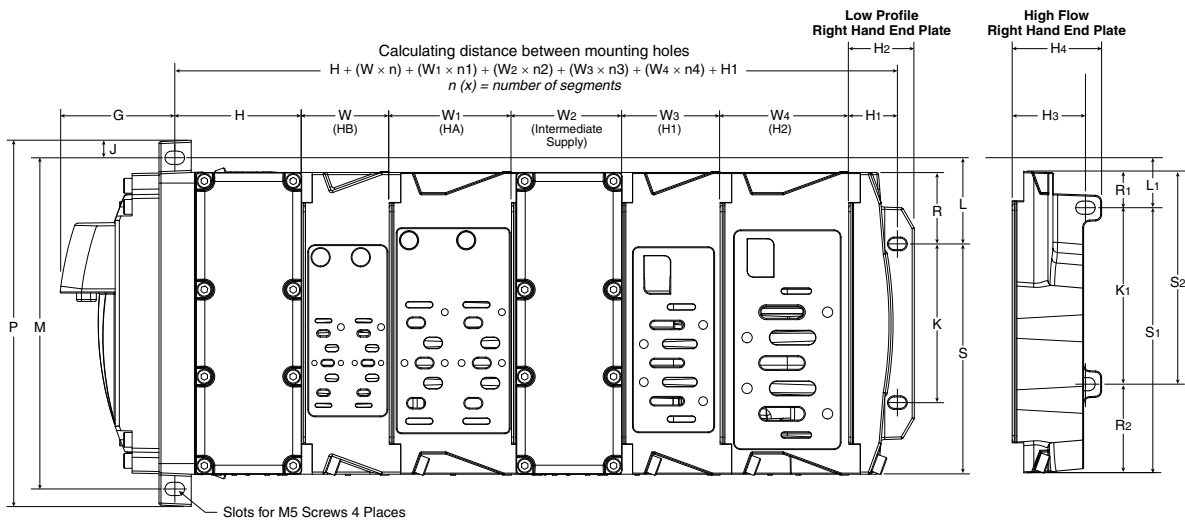


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**25-Pin Side with H Series ISO Valves**

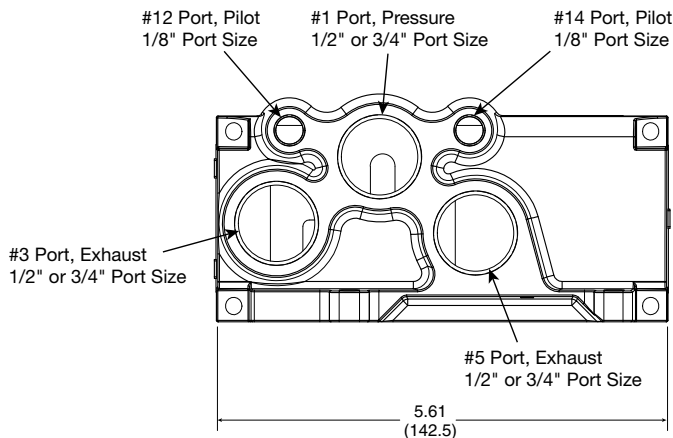


n (x) = number of segments

G	H	H1	H2	H3	H4	J	K	K1	L	L1	M
2.13 (54.0)	2.36 (60.0)	0.90 (23.0)	1.22 (31.0)	1.36 (34.6)	1.66 (42.3)	0.33 (8.3)	2.95 (75.0)	3.28 (83.4)	1.60 (40.7)	0.96 (24.3)	6.16 (156.5)
P	S	S1	S2	R	R1	R2	W	W1	W2	W3	W4
6.81 (173.1)	4.28 (108.8)	4.93 (125.2)	3.96 (100.7)	1.33 (33.7)	0.68 (17.3)	1.6 (41.8)	1.63 (41.3)	2.28 (57.8)	2.06 (52.3)	1.82 (46.3)	2.39 (60.8)

Inches (mm)

**Hi-Flow Right Hand End Plate**



**Hi-Flow Right Hand End Plate**

**PSHU41** 1/2" port size

**PSHU42** 3/4" port size

Inches (mm)

**D**

**Subbase & Manual Valves**

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

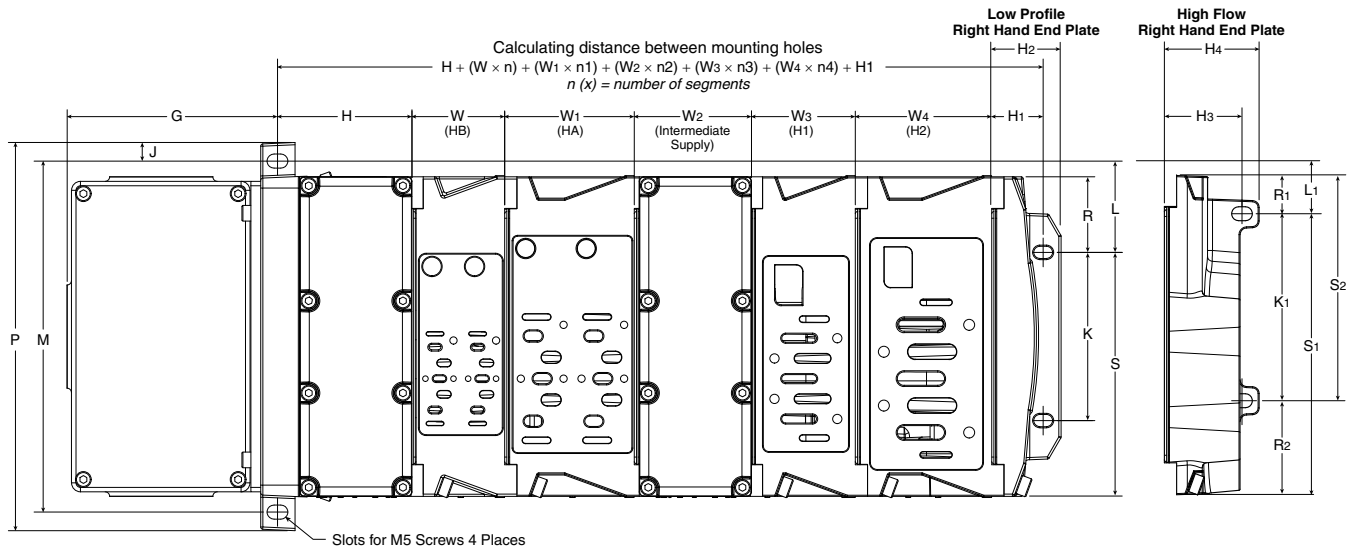


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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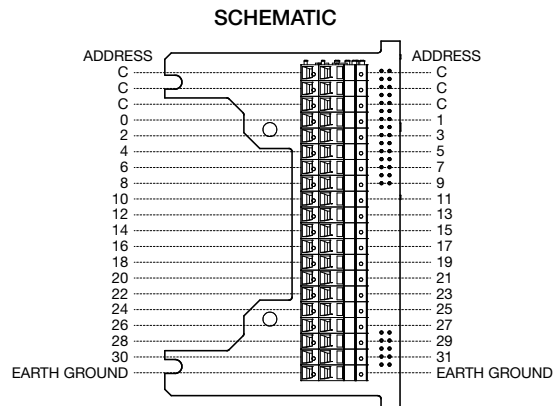
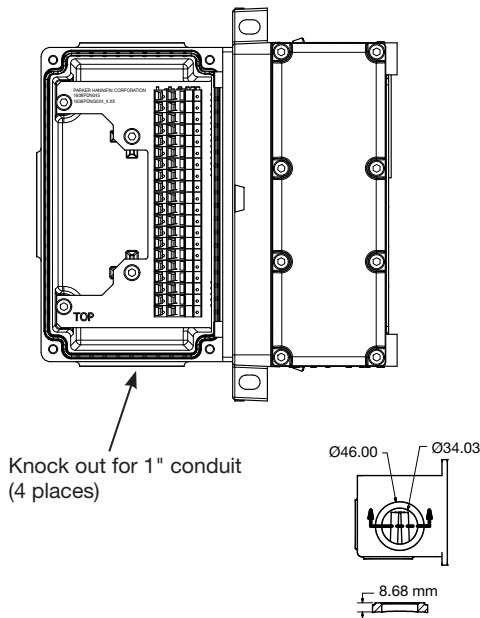
**Terminal Block with H Series ISO Valves**



n (x) = number of segments

G	H	H1	H2	H3	H4	J	K	K1	L	L1	M
3.69 (93.8)	2.36 (60.0)	0.90 (23.0)	1.22 (31.0)	1.36 (34.6)	1.66 (42.3)	0.33 (8.3)	2.95 (75.0)	3.28 (83.4)	1.60 (40.7)	0.96 (24.3)	6.16 (156.5)
P	S	S1	S2	R	R1	R2	W	W1	W2	W3	W4
6.81 (173.1)	4.28 (108.8)	4.93 (125.2)	3.96 (100.7)	1.33 (33.7)	0.68 (17.3)	1.65 (41.8)	1.63 (41.3)	2.28 (57.8)	2.06 (52.3)	1.82 (46.3)	2.39 (60.8)

Inches (mm)



All commons internally connected on terminal strip



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

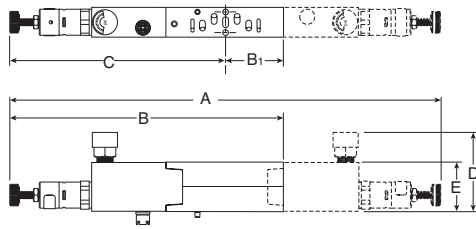
**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**

**H Series ISO 15407, HB / HA Sandwich Regulator**

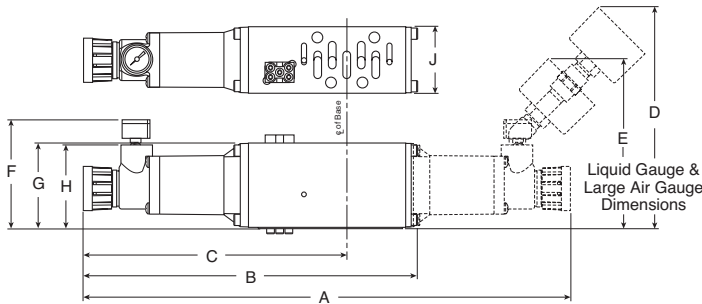


**HB / HA Series Sandwich Regulator, Dimensions**

	A	B	B <sub>1</sub>	C	D	E
<b>HB</b> (PS5637)	10.28 (261)	6.14 (156)	1.02 (26)	5.13 (130)	2.60 (66)	1.18 (30)
<b>HA</b> (PS5537)	10.00 (254)	6.42 (163)	1.42 (36)	5.00 (127)	2.72 (69)	1.18 (30)

Inches (mm)

**H Series ISO 5599, Size H1 Sandwich Regulator**



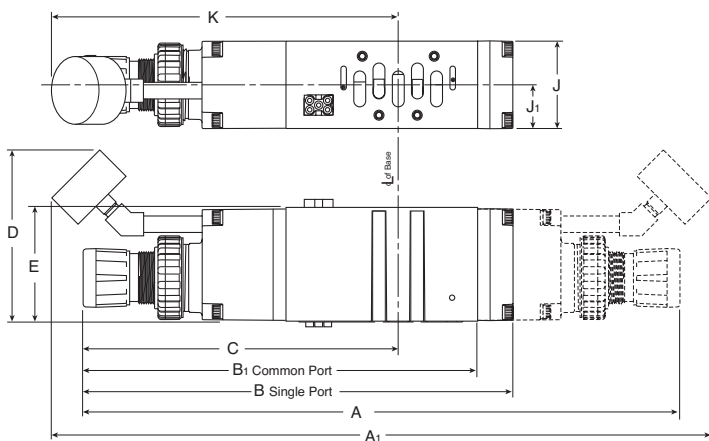
**H1 Series Sandwich Regulator, Dimensions**

	A	B	C	D	E	F
<b>H1</b> (PS4037)	11.84 (301)	8.13 (207)	6.40 (163)	5.45 (138)	4.25 (108)	2.85 (72)
<b>(PS4038)</b>	<b>G</b>	<b>H</b>	<b>J</b>			
	2.09 (53)	2.05 (52)	1.63 (41)			

Inches (mm)

**H Series ISO 5599, Size H2 & H3 Sandwich Regulator**

H2 Sandwich Regulator shown



**H2 & H3 Series Sandwich Regulator, Dimensions**

	A	A <sub>1</sub>	B	B <sub>1</sub>	C	D
<b>H2</b> (PS4137)	14.65 (372)	16.18 (411)	10.56 (268)	9.84 (250)	7.71 (196)	4.20 (107)
<b>(PS4138)</b>	<b>E</b>	<b>J</b>	<b>J<sub>1</sub></b>	<b>K</b>		
	2.80 (71)	2.15 (55)	1.07 (27)	8.50 (216)		
<b>H3</b> (PS4237)	15.67 (398)	17.15 (436)	11.53 (293)	10.67 (271)	8.37 (213)	4.20 (107)
<b>(PS4238)</b>	<b>E</b>	<b>J</b>	<b>J<sub>1</sub></b>	<b>K</b>		
	2.93 (75)	2.50 (64)	1.25 (32)	9.10 (231)		

Inches (mm)

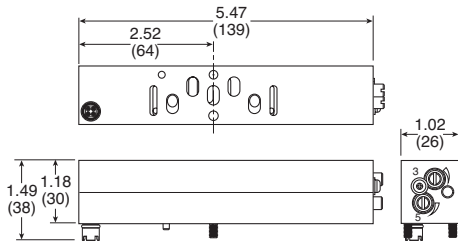
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



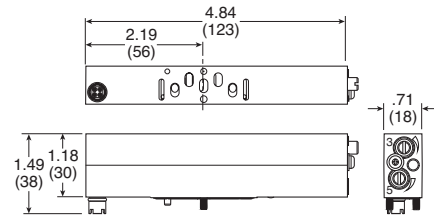
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**H Series ISO 15407, Size 18mm (HB) & 26mm (HA), Flow Control**

**HA Flow Control**

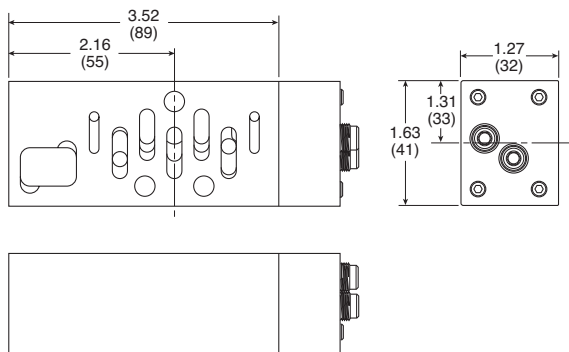


**HB Flow Control**

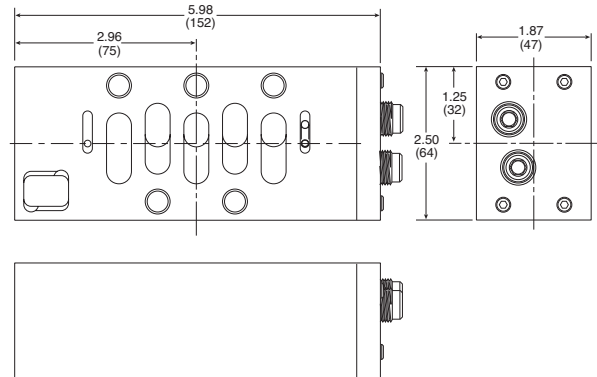


**H Series ISO 5599, Size H1, H2 & H3, Flow Control**

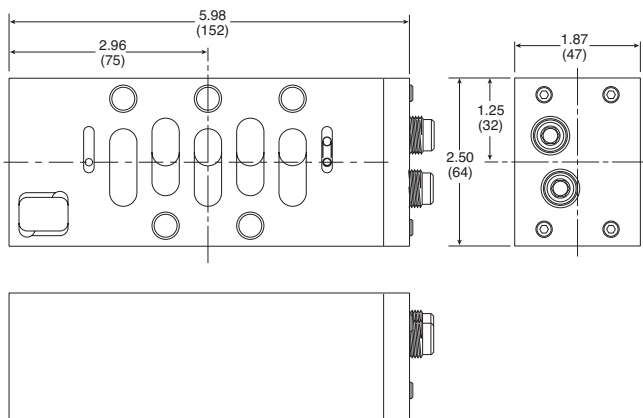
**H1 Flow Control**



**H2 Flow Control**



**H3 Flow Control**



**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual  
Valves

H Series  
Micro

Modulflex  
Series

H Series  
ISO

Network  
Connectivity

DX ISOMAX  
Series

Valvair II  
Series



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lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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Network Connectivity

Offering

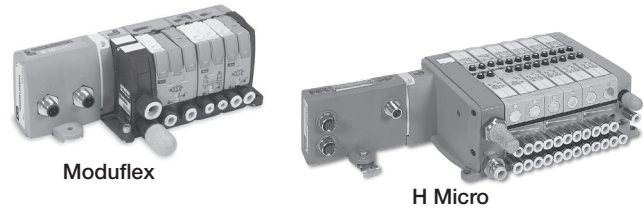
Valve series	P2M	P2H	PCH	H Series	Turck
Moduflex	X				
H Series Micro	X			X	X
H Series ISO	X	X	X	X	X

Protocol	P2M	P2H	PCH	H Series	Turck
IO-Link	X	X	X		
DeviceNet	X				X
EtherNet/IP	X		X	X	X
PROFIBUS-DP	X			X	X
PROFINET	X		X		X
Modbus/TCP	X		X		X
EtherCAT	X		X		
PowerLink	X				
AS-i	X				
CANopen	X				X
InterBus-S	X				

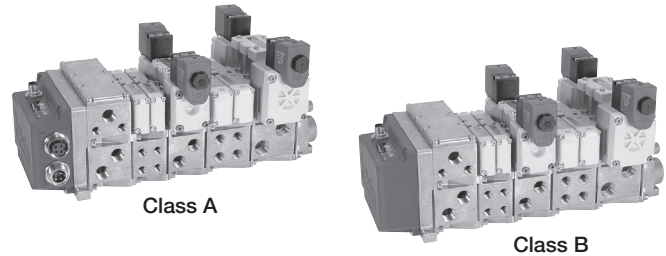
Options	P2M	P2H	PCH	H Series	Turck
Digital inputs / outputs*	X		X	X	X
Analog inputs / outputs				X	X
Class A IO-Link master module			X		X
24 Solenoid control**	X	X			X
32 Solenoid control			X	X	X
Short circuit protection on inputs			X		X
Current sensing outputs			X		X
Bus expansion				X	
DeviceNet subnet					X
Programmable comm modules			X		X
Power over DeviceNet / CANopen					X
Rockwell preferred connectivity				X	
CANopen expansion					X

\* P2M AS-i modules are available with 6 or 8 inputs and 6 or 8 solenoid outputs.  
\*\* P2M DeviceNet, PROFIBUS, AS-I, CANopen, and InterBus-S only 16 solenoids.

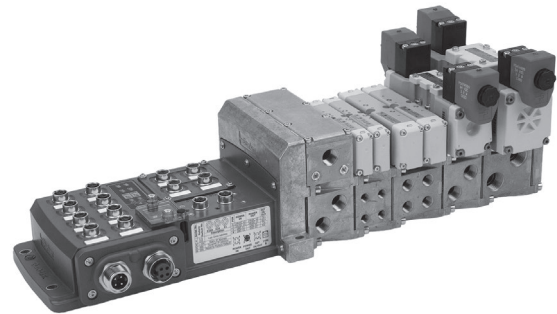
P2M Network Nodes (shown on H Micro & Moduflex)



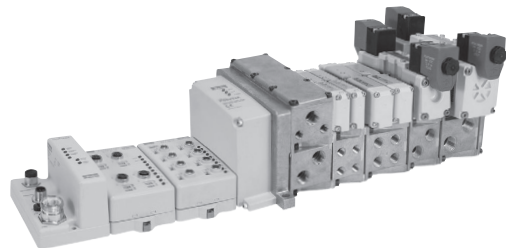
P2H Network Nodes (shown on H Series ISO)



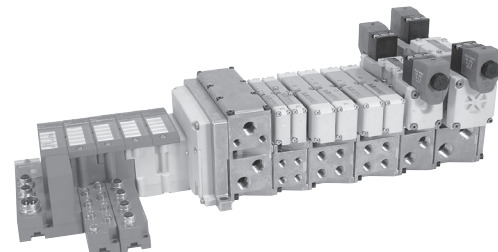
PCH Network Portal (shown on H Series ISO)



H Series Network Portal (shown on H Series ISO)



Turck Network Portal (shown on H Series ISO)



D

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

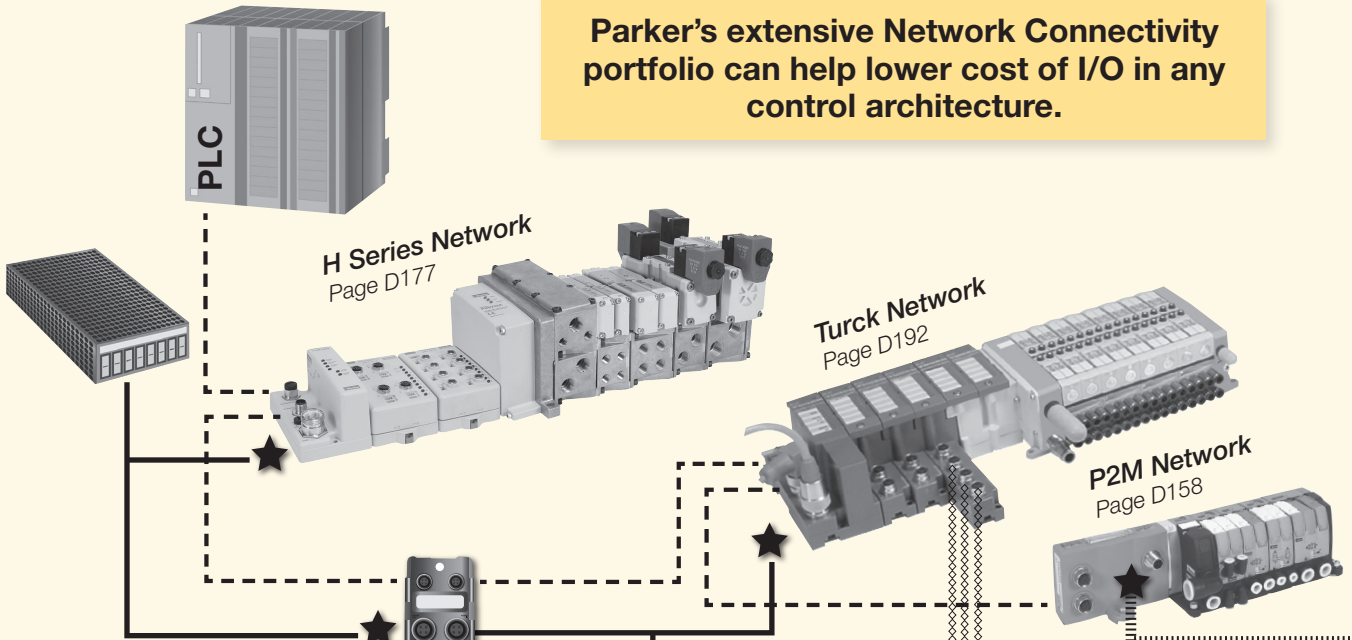
Network Connectivity

DX ISOMAX Series

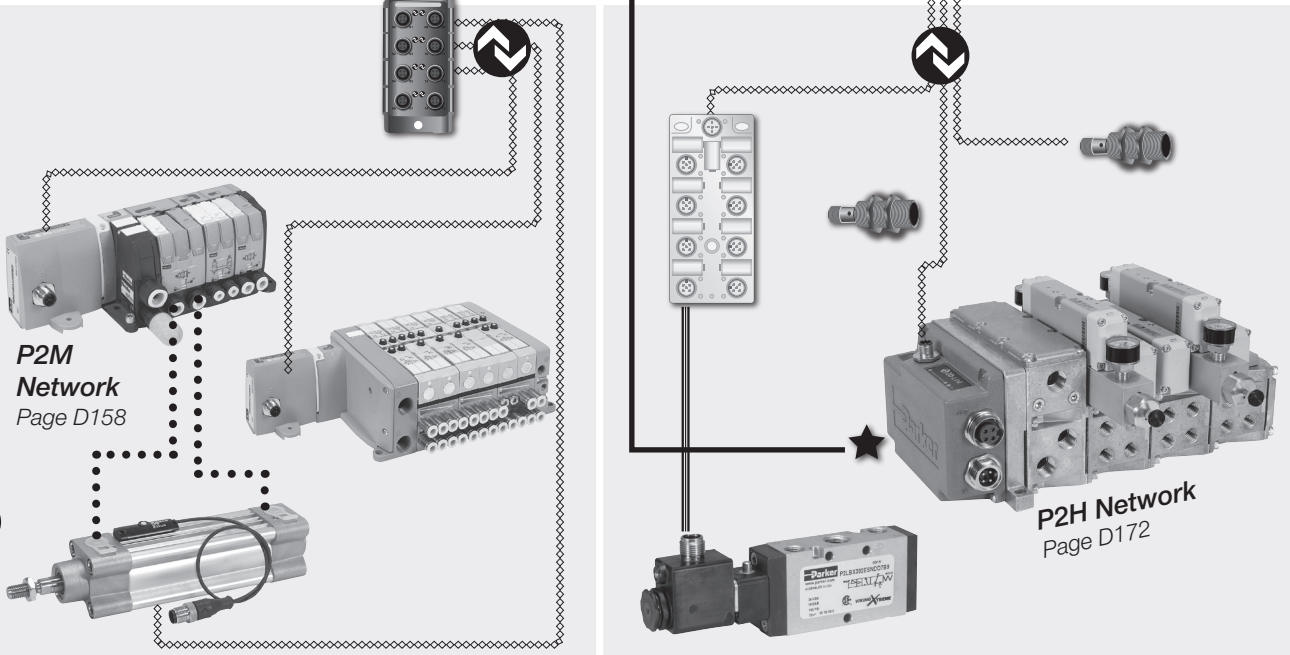
Valvair II Series

# Industrial Ethernet

Parker's extensive Network Connectivity portfolio can help lower cost of I/O in any control architecture.



# IO-Link



### Network to Remote IO-Link Master

Reduce cabinet size by using a de-centralized "on-machine" IO-Link Master

- \* Control all local I/O with IO-Link Masters
  - Discrete I/O
  - "Smart" I/O
  - P2M IO-Link Class B & CPS pictured see [www.parker.com/pdn/CPS](http://www.parker.com/pdn/CPS) and [www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

### Node Expansion Using IO-Link

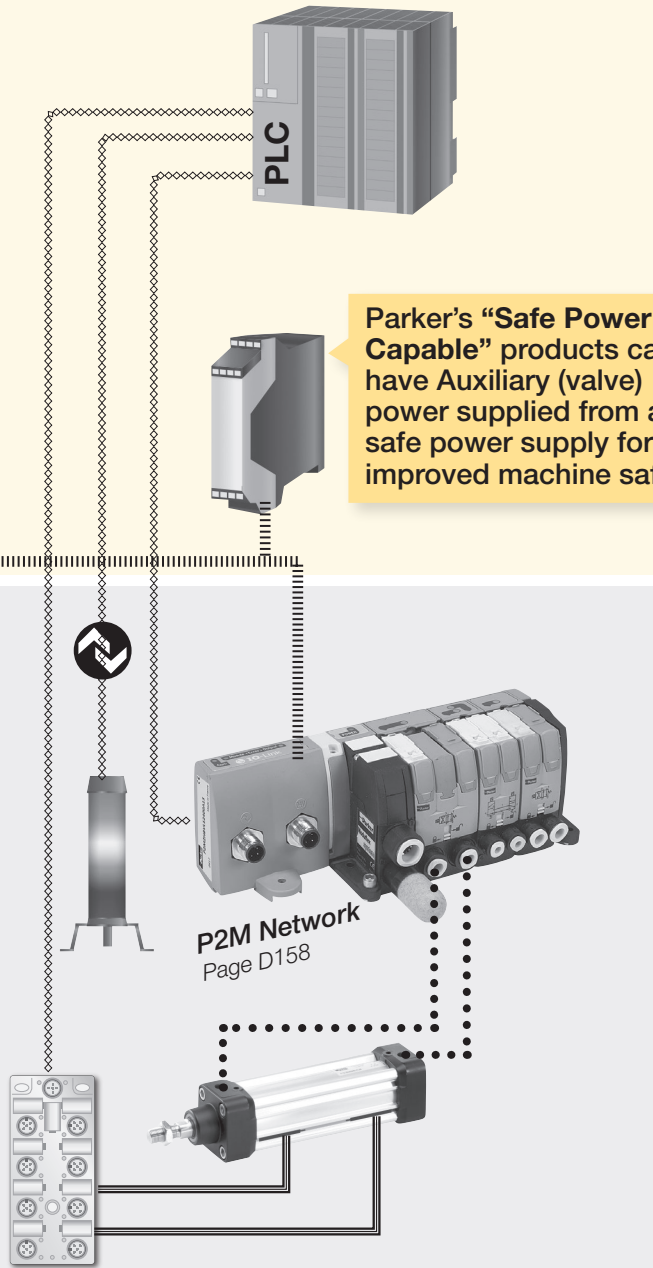
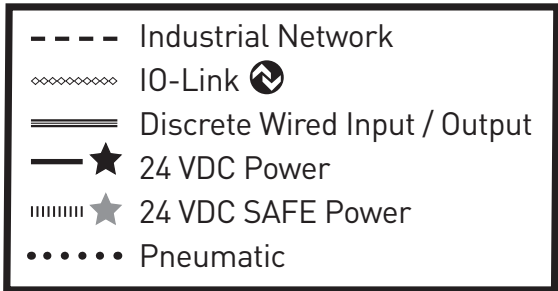
Reduce node count by adding an IO-Link Master module onto Turck Network manifold

- \* 20m max length for I/O-Link cables
- \* Control all "smart I/O" on 1 node
- \* Reduce cost of secondary valve manifold
  - P2H IO-Link Class A pictured see [www.parker.com/pdn/P2H\\_IOL](http://www.parker.com/pdn/P2H_IOL)

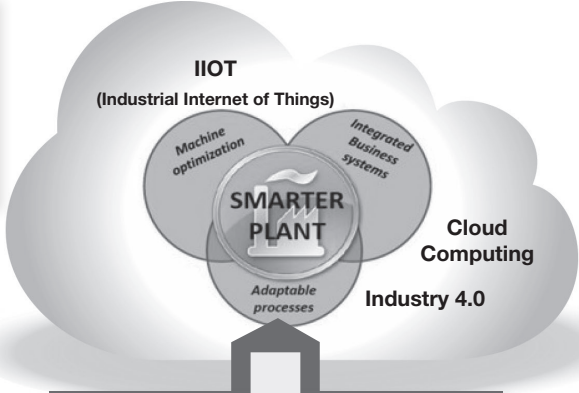
D	Subbase & Manual Valves
H Series Micro	Modulflex Series
H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



Parker's "Safe Power Capable" products can have Auxiliary (valve) power supplied from a safe power supply for improved machine safety.



**IO-Link** is another step towards the smarter plant by lowering the cost for gathering component level prognostics and diagnostics.

Out of Tolerance Warnings

- \* Voltage
- \* Temperature

Error Descriptors

- \* Solenoid short circuit
- \* IO-Link communication error cycle count for each valve

**Non-Network I/O Control Using IO-Link**  
Use PLC with integrated IO-Link Master for machines with smaller I/O counts

- \* 20m max length for I/O-Link cables
- \* Control all local I/O with IO-Link
  - Discrete I/O
  - "Smart" I/O
  - P2M IO-Link Class A pictured

- THIS IS EASIER** → Faster installation than discrete wiring  
Standard IP67 M12 cable
- THIS IS SAVINGS** → Fewer network nodes  
Easy expandability
- THIS IS VALUE** → Easy access diagnostics  
Prognostics to prevent downtime

D	Subbase & Manual Valves
H Series Micro	H Series ISO
Moduflex Series	Network Connectivity
DX ISOMAX Series	Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**System Overview - Discrete Wiring**

- Up to 24 solenoids per manifold
- Discretely wired solenoids - optimized for PLCs with onboard inputs and outputs
- 25-Pin D-Sub, 19-Pin Brad Harrison or M23, or 12-Pin M23 connectors available

**Centralized Application**

**Valves Inside Control Cabinet**

- Valves located near machine control
- Applications with caustic wash down, hazardous areas, or extreme temperatures

**Disadvantages**

- Difficult to troubleshoot
- Difficult to maintain
- Expensive bulkhead fittings
- Long wiring time in cabinet

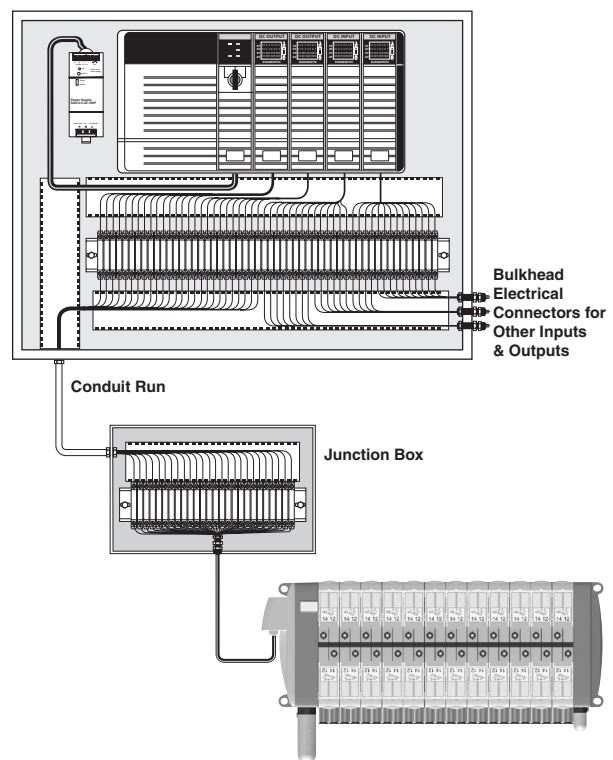
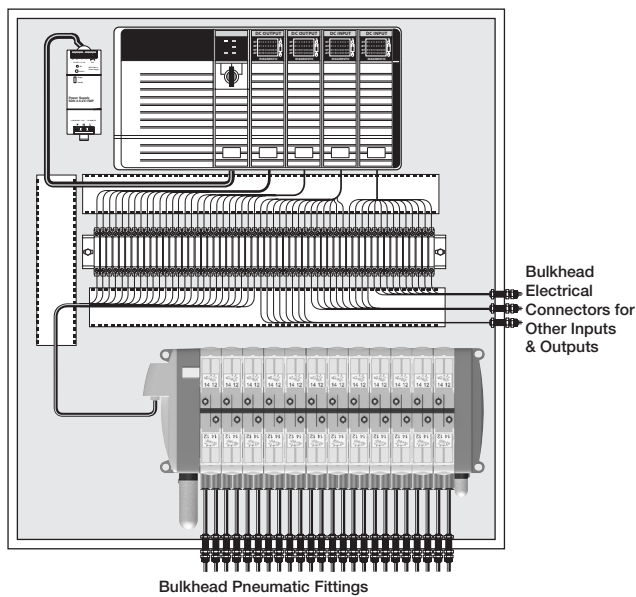
**De-centralized Application**

**Valves Outside Control Cabinet**

- Valves located near application - ready for machine mounting
- IP65 rating suitable for dusty and wet environments

**Disadvantages**

- Difficult to troubleshoot
- Difficult to maintain
- Long wiring time in cabinet
- Long wiring time in junction box



D	Subbase & Manual Valves
H Series Micro	Modulflex Series
H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Introduction to Control Systems**

**System Overview - P2M Network Node**

- Up to 24 solenoids per manifold
- Optimized for PLCs with network capability
- Routinely used on medium sized machines
- Connectivity to Moduflex, H Series Micro and H Series ISO valves

**Centralized Application**

**Valves Inside Control Cabinet**

- Valves located near machine control
- Applications with caustic wash down, hazardous areas, or extreme temperatures
- Additional inputs and outputs are not directly attached to valve manifold

**Advantages**

- Highest degree of environmental protection
- One location for all control devices
- Small size requires minimal cabinet space
- Eliminates terminal strips and wire ways for valves
- Greatly reduces wiring time
- Eliminates junction boxes for valves
- Eliminates conduit runs for valves

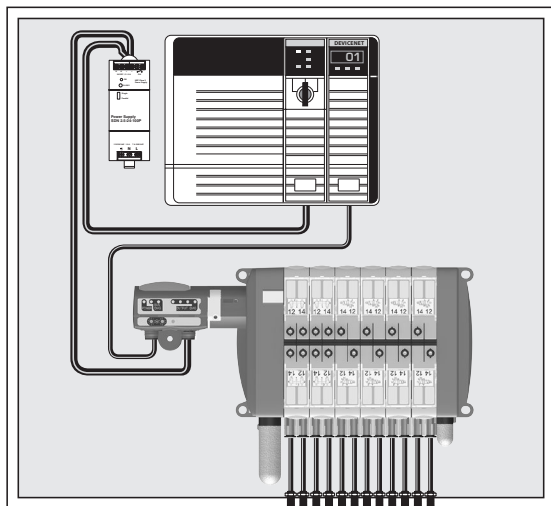
**De-centralized Application**

**H Series Micro Outside Control Cabinet**

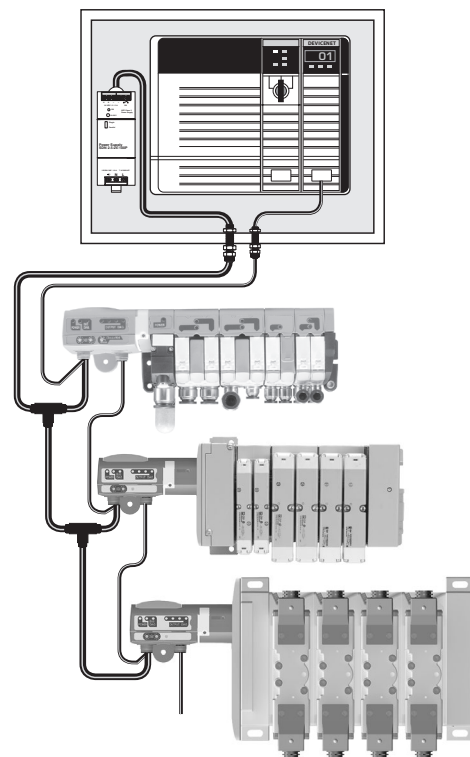
- Valves located near application - ready for machine mounting
- IP65 rating suitable for dusty and wet environments
- Additional inputs and outputs are not directly attached to valve manifold

**Advantages**

- Smallest control cabinet
- Reduces tubing length and improves pneumatic response time
- Eliminates pneumatic bulk fittings on control cabinet
- Many network nodes can be attached to the network with little incremental cost – valve manifolds, inputs, outputs and other devices
- Eliminates terminal strips and wire ways for valves
- Greatly reduces wiring time
- Eliminates junction boxes for valves
- Eliminates conduit runs for valves



Bulkhead Pneumatic Fittings



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**System Overview - H Series Network Portal**

- Up to 32 solenoids per manifold
- With H Series Micro bus extension functionality, 4 manifolds with up to 32 solenoids each can be connected on the same node
- Add inputs and outputs to the H Series Network Portal
- Optimized for PLC's with network capability
- Connectivity to H Series Micro and H Series ISO valves

**Centralized Application**

**Valves Inside Control Cabinet**

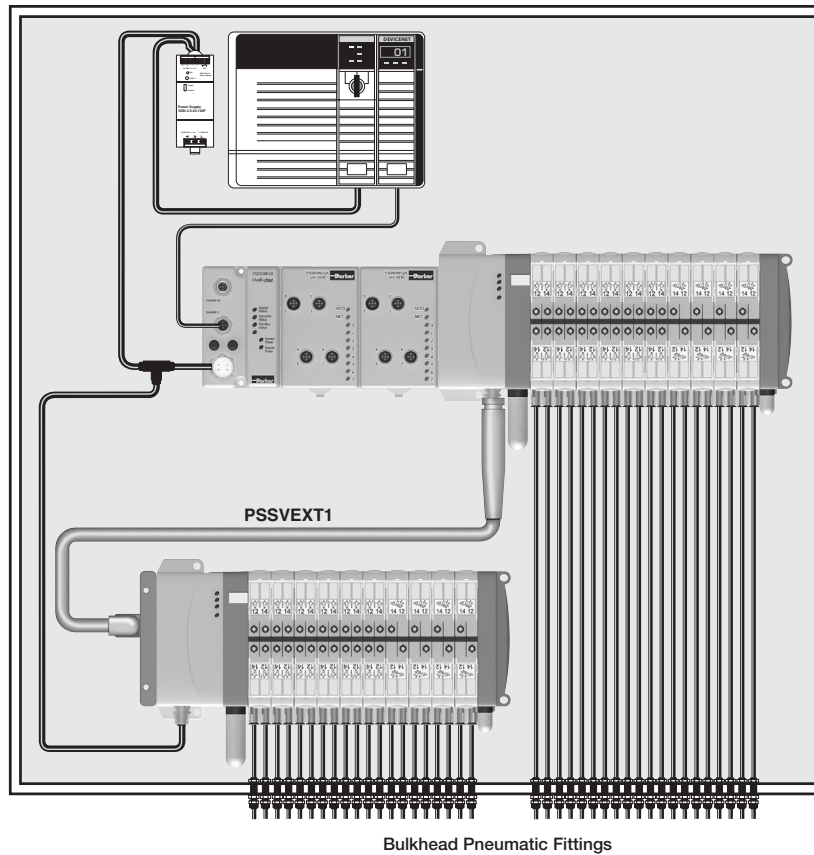
- H Series Network Portal with inputs and outputs
- Valves located near machine control
- Applications with caustic wash down, hazardous areas, or extreme temperatures
- Additional inputs and outputs are directly attached to valve manifold

**Advantages**

- Handle all I/O from one node
- Eliminate PLC input / output cards
- Up to 128 solenoids per node with bus extension cables
- Up to 256 inputs and 256 outputs per H Series Network node
- Analog inputs / outputs available
- Highest degree of environmental protection
- One location for all control devices
- Eliminates terminal strips and wire ways
- Greatly reduces wiring time



**EtherNet/IP™**



D	Subbase & Manual Valves	H Series Micro	Modulflex Series	H Series ISO	Network Connectivity	DX ISOMAX Series	Valvair II Series
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For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**System Overview - H Series Network Portal**

- Up to 32 solenoids per manifold
- With H Series Micro bus extension functionality, 4 manifolds with up to 32 solenoids each can be connected on the same node
- Add inputs and outputs to the H Series Network
- Optimized for PLC's with network capability
- Connectivity to H Series Micro and H Series ISO valves

**De-centralized Application**

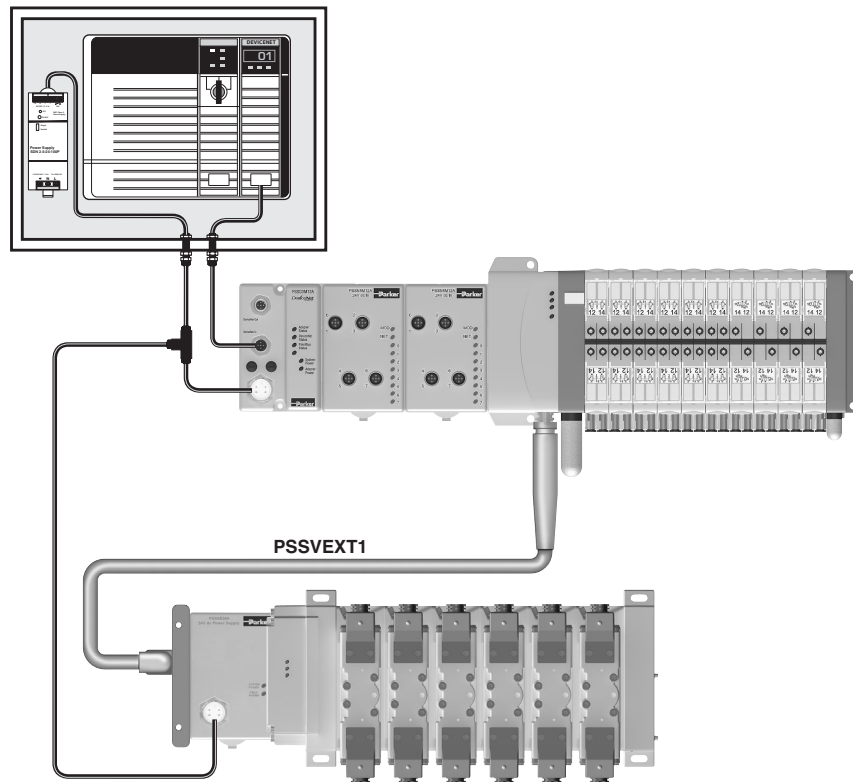
**Valves Outside Control Cabinet**

- H Series Network Portal with inputs and outputs
- Valves located near application - ready for machine mounting
- IP65 rating suitable for dusty and wet environments
- Additional inputs and outputs are directly attached to valve manifold

**Advantages**

- Handle all I/O from one node
- Eliminate PLC input / output cards
- Up to 128 solenoids per node with bus extension cables
- Up to 256 inputs and 256 outputs
- Analog Inputs / outputs available
- Smallest control cabinet
- Reduces tubing length and improves pneumatic response time
- Eliminates pneumatic bulk fittings on control cabinet
- Many network nodes can be attached to the network with little incremental cost – valve manifolds, inputs, outputs and other devices.
- Eliminates terminal strips and wire ways
- Greatly reduces wiring time
- Eliminates junction boxes for all inputs and outputs
- Eliminates conduit runs for all inputs and outputs

EtherNet/IP™



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D153

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Richland, Michigan  
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**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**

**System Overview - Turck Network Portal**

**General Product Features**

- Turck Network Portal with up to 256 inputs / outputs and 32 solenoids per manifold
- Digital inputs / outputs, analog inputs / outputs, serial interface, counter modules, and RFID modules available
- Connectivity to H Series Micro and H Series ISO valve series

**Advantages**

- Handle all I/O from one node; eliminate PLC input / output cards
- Optimized for PLC's with network capability
- Eliminates junction boxes, terminal strips, and conduit runs for all inputs and outputs, greatly reducing wiring time

**Centralized Application**

**Valves Inside Control Cabinet**

- Valves located near machine control
- Applications with caustic wash down, hazardous areas, or extreme temperatures

**Advantages**

- Highest degree of environmental protection
- One location for all control devices
- Small size requires minimal cabinet space

**De-centralized Application**

**Valves Outside Control Cabinet**

- Valves located near application - ready for machine mounting
- IP65 rating suitable for dusty and wet environments

**Advantages**

- Smallest control cabinet
- Reduces tubing length and improves response time
- Eliminates pneumatic bulk fittings on control cabinet

D

Subbase & Manual  
Valves

H Series  
Micro

Modulflex  
Series

H Series  
ISO

Network  
Connectivity

DX ISOMAX  
Series

Valvair-II  
Series

EtherNet/IP™

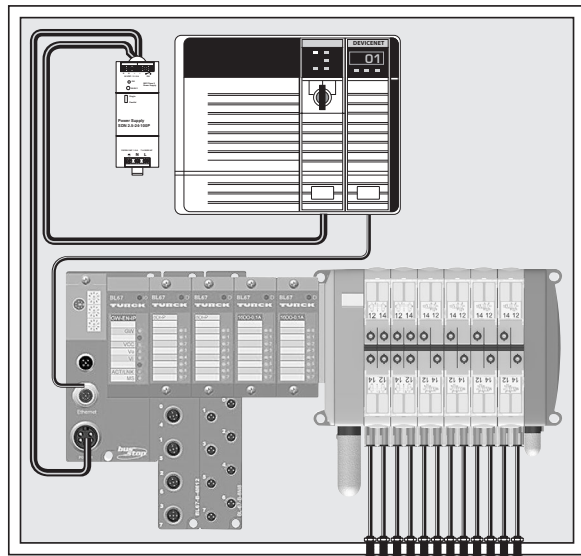


Modbus/TCP™

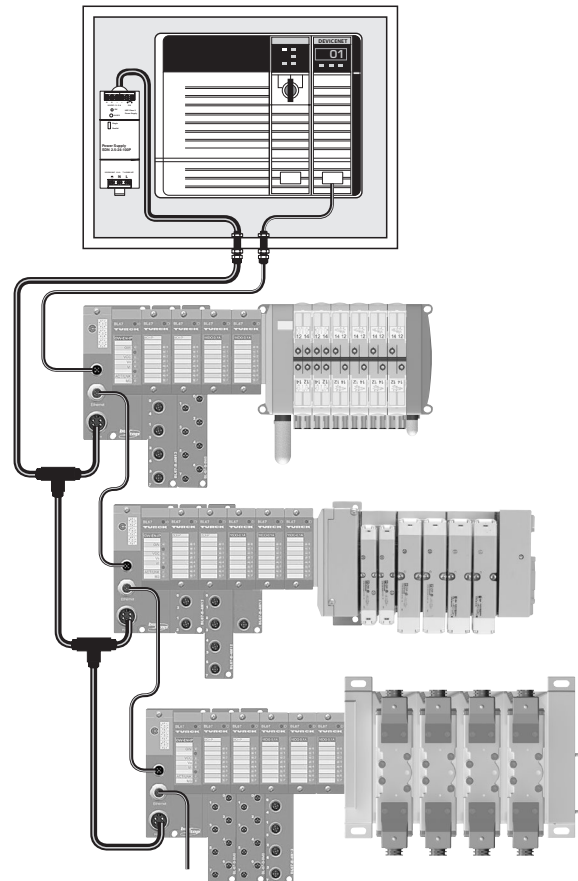
DeviceNet™



CANopen



Bulkhead Pneumatic Fittings



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**System Overview - Turck Network Portal with CANopen Expansion**

**General Product Features**

- Turck Network Portal with up to 256 inputs / outputs and 32 solenoids per manifold
- Digital inputs / outputs, analog inputs / outputs, serial interface, counter modules, and RFID modules available
- Connectivity to H Series Micro and H Series ISO valves

**CANopen Expansion Features**

- Using a CANopen interface module, a CANopen subnet is created within the Turck Network Portal, controlling an additional 64 inputs, outputs, or solenoids
- The CANopen subnet is independent of the main network, and is not visible to the master PLC
- Additional P2M CANopen modules can be attached to the CANopen subnet to provide a connection for 16 solenoids each
- Other 3rd party CANopen devices can also be used on this network, within the 64 bit CANopen expansion limit

**System Advantages**

- Handle all I/O from one node; eliminate PLC input / output cards
- Optimized for PLC's with network capability
- Several CANopen nodes can be attached to the network – valve manifolds, inputs, outputs or other devices
- CANopen expansion allows additional devices to be attached to the system without a CANopen scanner card
- Eliminates junction boxes, terminal strips, and conduit runs for all inputs and outputs, greatly reducing wiring time

**Centralized Application**

**Valves Inside Control Cabinet**

- Valves located near machine control
- Applications with caustic wash down, hazardous areas, or extreme temperatures

**Advantages**

- Highest degree of environmental protection
- One location for all control devices
- Small size requires minimal cabinet space

**De-centralized Application**

**Valves Outside Control Cabinet**

- Valves located near application - ready for machine mounting
- IP65 rating suitable for dusty and wet environments

**Advantages**

- Smallest control cabinet
- Reduces tubing length and improves response time
- Eliminates pneumatic bulk fittings on control cabinet

EtherNet/IP™

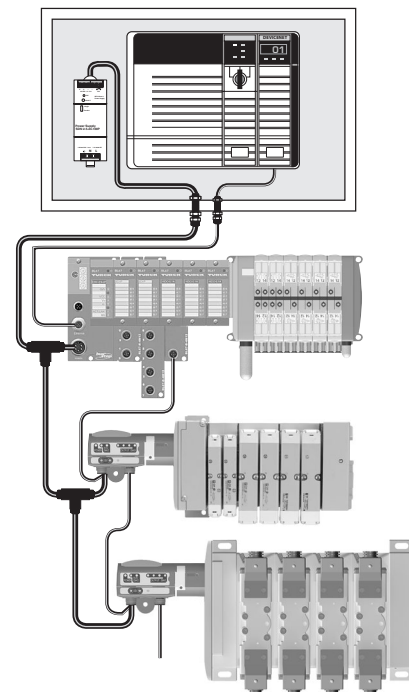
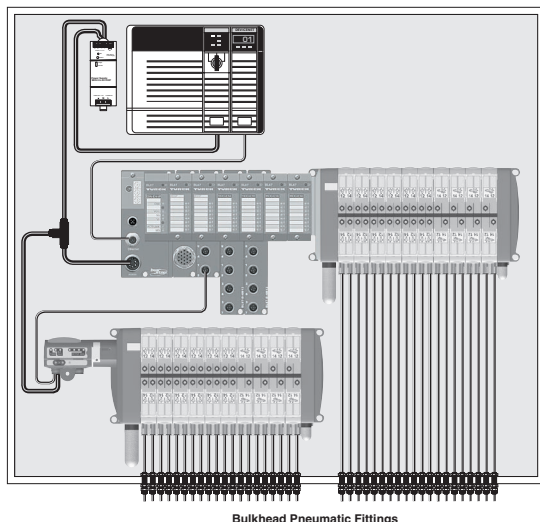


Modbus/TCP™

DeviceNet



CANopen



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**System Overview - Turck Network Portal with BL Remote DeviceNet Subnet**

**General Product Features**

- Turck Network Portal with up to 256 inputs / outputs and 32 solenoids per manifold
- Digital inputs / outputs, analog inputs / outputs, serial interface, counter modules, and RFID modules available
- Connectivity to H Series Micro and H Series ISO valves

**BL Remote DeviceNet Subnet Features**

- With BL remote DeviceNet subnet functionality, each communication module has its own DeviceNet master which provides a connection for 63 DeviceNet nodes with additional inputs, outputs, and solenoid control
- BL remote DeviceNet subnet is independent of the main network, and is not visible to the master PLC
- P2M DeviceNet modules can be attached to the subnet to provide a connection for 16 solenoids each
- Turck DeviceNet modules can be attached to the subnet to provide a connection for 16 or 32 solenoids each and inputs and outputs up to the 256 input and output limitation

**System Advantages**

- Handle all I/O from one node; eliminate PLC input / output cards
- Optimized for PLC's with network capability
- Many DeviceNet nodes can be attached to the network – valve manifolds, inputs, outputs or other devices
- Eliminates junction boxes, terminal strips, and conduit runs for all inputs and outputs, greatly reducing wiring time

**Centralized Application**

**Valves Inside Control Cabinet**

- Valves located near machine control
- Applications with caustic wash down, hazardous areas or extreme temperatures

**Advantages**

- Highest degree of environmental protection
- One location for all control devices
- Small size requires minimal cabinet space

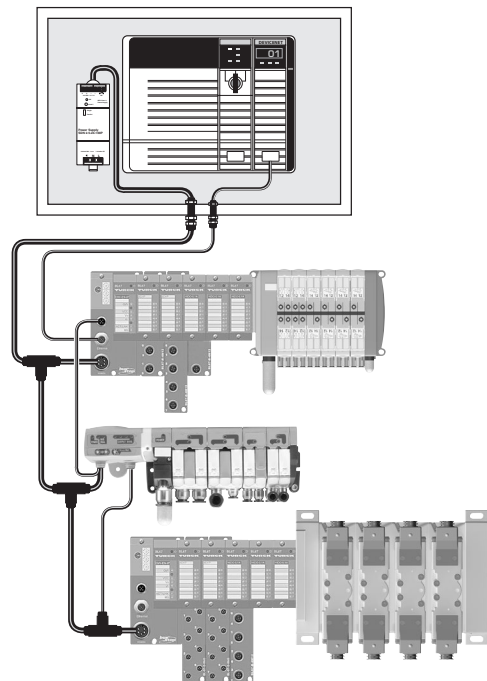
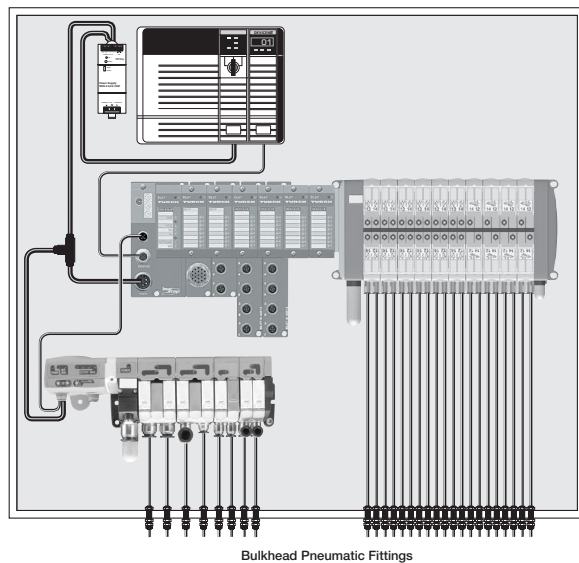
**De-centralized Application**

**Valves Outside Control Cabinet**

- Valves located near application - ready for machine mounting
- IP65 rating suitable for dusty and wet environments

**Advantages**

- Smallest control cabinet
- Reduces tubing length and improves response time
- Eliminates pneumatic bulk fittings on control cabinet



D	Subbase & Manual
Valves	Valves
H Series Micro	H Series Micro
Modulflex Series	Modulflex Series
H Series ISO	H Series ISO
Network Connectivity	Network Connectivity
DX ISOMAX Series	DX ISOMAX Series
Valvair-II Series	Valvair-II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**System Overview - Turck Network Portal with Stand Alone Control**

**General Product Features**

- Turck Network Portal with up to 256 inputs / outputs and 32 solenoids per manifold
- Digital inputs / outputs, analog inputs / outputs, serial interface, counter modules, and RFID modules available
- Connectivity to H Series Micro and H Series ISO valves

**Stand Alone Control Features**

- Communication modules equipped with standalone control – programmed according to IEC61131-3 with CoDeSys
- 512KB program memory with 32 bit RISC processor
- Run 1000 instructions in less than 1 ms
- Optimized for PLC’s with network capability or standalone controllers that need to interface with other devices

**System Advantages**

- Handle all I/O and control with one system; eliminate the PLC when used as the main controller for smaller machines
- Reduces programming and bandwidth requirements on large machines with a master PLC controller by handling local I/O and interfacing with the PLC over the network
- Eliminates junction boxes, terminal strips, and conduit runs for all inputs and outputs, greatly reducing wiring time

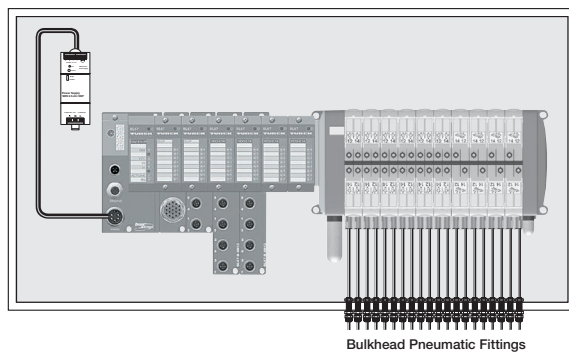
**Centralized Application Valves**

**Inside Control Cabinet**

- Valves attached to the machine control
- Applications with caustic wash down, hazardous areas, or extreme temperatures

**Advantages**

- Highest degree of environmental protection
- One location for all control devices



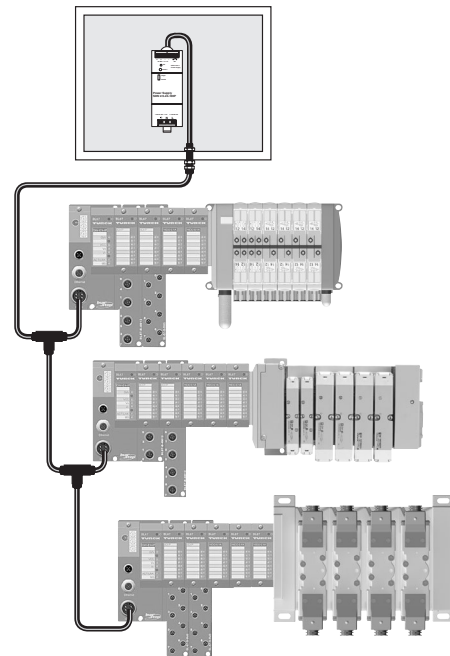
**De-centralized Application**

**Valves Outside Control Cabinet**

- Valves and machine control located near application - ready for machine mounting
- IP65 rating suitable for dusty and wet environments

**Advantages**

- No control cabinet needed when used as the main controller
- Reduces tubing length and improves response time
- Eliminates pneumatic bulk fittings on control cabinet



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**D**

Subbase & Manual  
Valves

H Series  
Micro

Modulflex  
Series

H Series  
ISO

Network  
Connectivity

DXISOMAX  
Series

Valvair II  
Series



For inventory, lead times, and kit  
lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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[www.parker.com/pneumatics](http://www.parker.com/pneumatics)



**Features**

**P2M Network Nodes**

P2M communication modules directly attach to the Moduflex valve series as well as the P2M endplates of the H Series Micro and H Series ISO valve products. It offers a compact and low cost network solution.

**Features**

- Small, compact product design
- IO-Link Class A & Class B nodes
- Broad protocol offering
- Channel-level diagnostics (LED and Electronic)
- Horizontal and vertical mounting without derating
- 5g vibration
- Quick-disconnects for I/O and network connectivity
- Built-in panel grounding
- CE certification



**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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Richland, Michigan  
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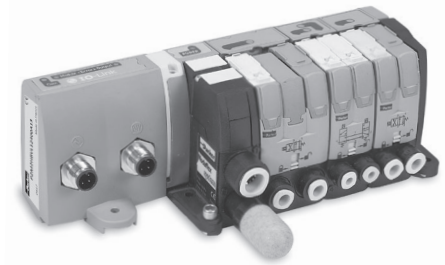
Features

P2M Network Nodes

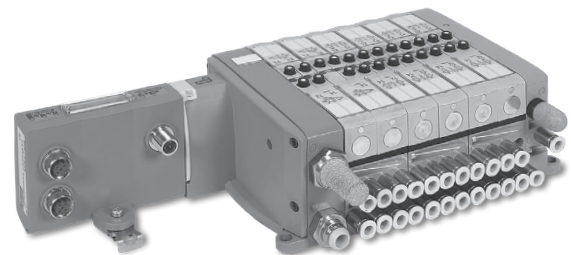
P2M communication module attaches directly to the end plate. It offers a compact and low cost network solution.

Features

- Small, compact product design
- IO-Link Class A & Class B nodes
- Broad protocol offering
- Built-in panel grounding
- CE certification



**P2M2HBVL12400A13**  
(Class A IO-Link)



**P2M2HBVE12400**  
(EtherNet/IP)

D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

Industrial Ethernet Protocol	Maximum Addresses †	Part number
EtherNet/IP (Safe Power Capable)	24 †	<b>P2M2HBVE12400</b>
PROFINET (Safe Power Capable)	24 †	<b>P2M2HBVN12400</b>
EtherCAT (Safe Power Capable)	24 †	<b>P2M2HBVT12400</b>
Modbus/TCP (Safe Power Capable)	24 †	<b>P2M2HBVM12400</b>
PowerLink (Safe Power Capable)	24 †	<b>P2M2HBVW12400</b>
CC-Link IE (Safe Power Capable)	24 †	<b>P2M2HBVK12400</b>

	IO-Link class	IO-Link	Aux. power	Aux. power pinout	Maximum addresses †	Part number	
						Standard	Safe power capable *
	Class A	3 Pins	3 Pins	1 & 3	24 †	<b>P2M2HBVL12400A13</b>	<b>P2M2HBVL12400A13-SPC</b>
		3 Pins	3 Pins	4 & 3	24 †	<b>P2M2HBVL12400A43</b>	<b>P2M2HBVL12400A43-SPC</b>
	3 Pins	5 Pins	4 & 2	24 †	<b>P2M2HBVL12400A42</b>	<b>P2M2HBVL12400A42-SPC</b>	
	Class B	5 Pins		2 & 5	24 †	<b>P2M2HBVL12400B25</b>	<b>P2M2HBVL12400B25-SPC</b>

\* Safe Power Capable (-SPC) version is suitable for connection to an OSSD (test pulsed) SAFE output source.

† If using with Modulflex valves, maximum solenoid addresses limit is 19.

Further details: [www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

Most popular.

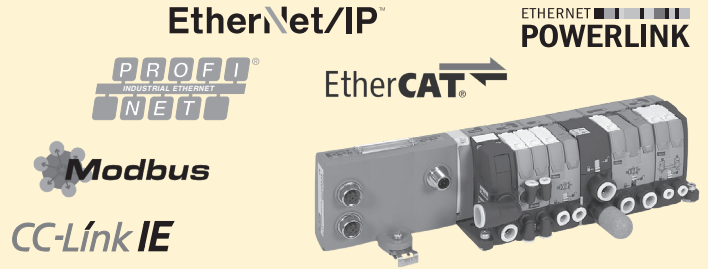


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**P2M Industrial Ethernet Node**

The P2M Industrial Ethernet 24 DO node allows a very simple and cost efficient connection to the most popular Industrial Ethernet networks.

Designed with isolated auxiliary power, it can easily be adapted to all power supply architectures and follow any required machine directives as Safe Power Capable.



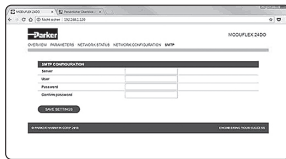
**Simple Product Set-Up**



The P2M Industrial Ethernet Node offers IP addressing through 3 rotary switches located on the top side.

The 3 rotary switches also allow for Factory Reset, IP address storage, and DHCP addressing.

If supported by the protocol used, the IP address can be modified through the embedded web page.



For an application requiring a regular disconnection / reconnection of communication & power, PROFINET and EtherNet/IP protocols allow respectively a Fast Start-Up (FSU) and Quick Connect mode. This mode can be enabled or disabled.

**Topology / Integrated Ethernet Switch**



The P2M Industrial Ethernet 24 DO Node offers 2 Ethernet ports allowing a line topology without external switch. The Ring topology can also be supported (enable/disable) for PROFINET, EtherNet/IP and Modbus TCP/IP.

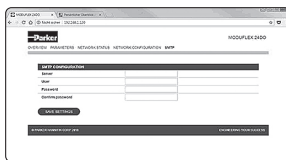
The integrated Ethernet switch supports Class C services allowing use in an isochronous real time (IRT) structure.

**Easy Diagnostics – Local LEDs, Process (cyclic) data, Parameter (acyclic) data**



The P2M Industrial Ethernet 24 DO Node offers local diagnostics through 7 LED's located on the visible top side, showing:

- Logic status
- Ethernet activity on both ports
- Standard status due to protocol
- Output error / Auxiliary power



This local information as well as configuration and predictive maintenance diagnostics (Power monitoring, Solenoid cycle counting, etc) are available via both Process Data (cyclic) and Parameter Data (acyclic) via the PLC through the network and also easily viewable from the embedded web page.

When the PLC is NOT in control, the web page allows the user to force ON/OFF the solenoids state. This function has password protection.

**Safe Power Capable**

Auxiliary power of P2M Industrial Ethernet 24 DO Node can be supplied from a safe output device following machinery directives. This includes:

- Output Signal Switch Device (OSSD) test pulse compatible
- Galvanic isolation between 0 VDC Logic and Auxiliary power
- PP or PM cabling modes

For more details, refer to the user manuals located at [www.parker.com/pdn/P2M\\_IE](http://www.parker.com/pdn/P2M_IE)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**P2M Industrial Ethernet Connections & Configuration**

**Ethernet ports and Auxiliary power connection**

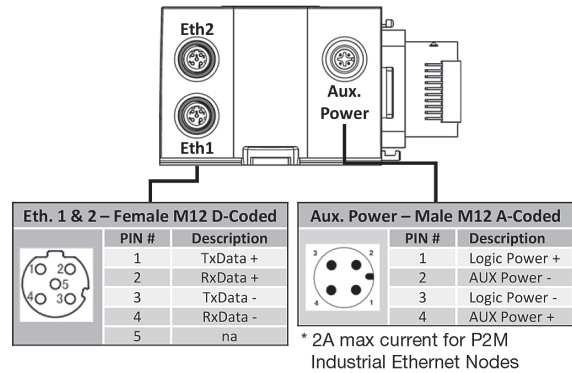
Ethernet ports: 2 x Standard Female M12 D-Coded – 5 pins  
 Auxiliary Power: Standard Male M12 A-Coded – 4 pins

**Configuration file**

The configuration files (.EDS, .GDS, etc) can be download from the product web page.

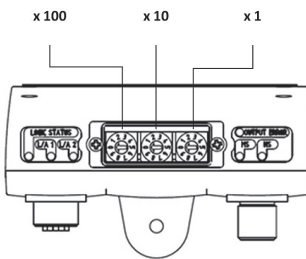
**Add on Instructions & Function Blocks**

Add on Instructions & Function Blocks to assist in the configuration and programming of the P2M Node are available on the product web page – [www.parker.com/pdn/P2M\\_IE](http://www.parker.com/pdn/P2M_IE)



**IP Address Setting**

Can be done via Rotary Switches, DHCP, Web page, Ipconfig Tool or TCP/IP Interface Object, depending on protocol:



Description	EtherNet/IP Profinet IO Modbus TCP/IP	Ethernet PowerLink	EtherCAT	CC-Link IE
IP-Address setting stored into the NV-memory of the P2M node	000	000	N/A	000
IP-Address setting determined by the 3 rotary switches:				
• IP Address: 192.168.1.xxx	001 – 254	001 – 239	N/A	001 – 120
• Subnet Mask: 255.255.255.0				
• Default Gateway for 001: 192.168.1.2				
• Default Gateway for 002 - 254: 192.168.1.1				
The device will obtain its address via DHCP	888	N/A	N/A	N/A
Reset to factory status	999	999	999	999
Invalid, the module will not start	All others	All others	All others	All others

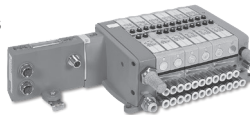
**P2M Industrial Ethernet Valve Control**

All P2M Industrial Ethernet Modules can easily connect to and control pneumatic valves sizes ranging from 0.18 Cv to 6.0 Cv utilizing the Moduflex, H Micro, or H ISO valve series including the new H ISO Universal manifold which can mix ISO sizes 15407 (sizes 02 & 01) and 5599 (sizes 1 & 2) without transition plates.

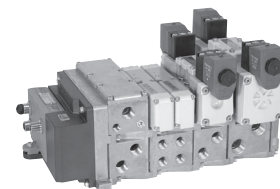
P2M on Moduflex



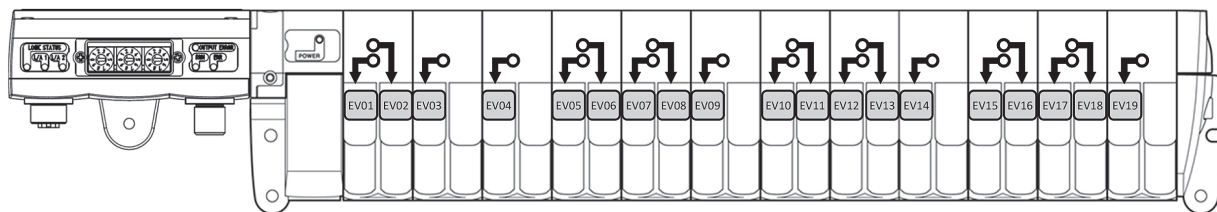
P2M on H Series Micro



P2M on H Series ISO Universal



**P2M Industrial Ethernet Node Output (Solenoid) data mapping - shown on Moduflex valve series**



	7 . . . . . 3	2 . . . . . 0
Byte 0	EV08 . . . . . EV01	
Byte 1	EV16 . . . . . EV09	
Byte 2*	EV24 . . . . . EV20	EV19 . . . . . EV17

\* Byte 2 / Bits 3 to 7 are only available when connected to H Series Micro or H Series ISO valve manifolds. The Moduflex valve series is limited to 19.

**Process (Cyclic) Diagnostic through network via ADI #9 – “Module Error Input”**

Easy to access diagnostic data transmitted to the PLC as Application Device Instance (ADI) #9

- Voltage warning, short circuit condition, module error, etc
- For more details refer to user manual on product web page – [www.parker.com/pdn/P2M\\_IE](http://www.parker.com/pdn/P2M_IE)

ADI	Instance name	Data type	Access
#9	Module error input	Unit 16	Read

Byte 0	Diag 7 . . . . . Diag 0
Byte 1	Reserved



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series





**“V” Series Valve Island  
P2M head module for IO-Link**

Electrical Module for 24 outputs  
(The last 5 outputs of this 24 DO module can not be used with Moduflex Valve)



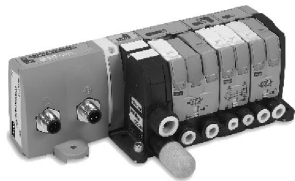
**M12 A coded Connector connection**

Description	IO-Link class	IO-Link	Aux. power	Aux. power pinout	Weight (g)	Part number	
						Standard	Safe power capable
 <b>Class A</b> P2M IO-Link communication module	Class A	3 Pin's	3 Pin's	1 & 3	160	<b>P2M2HBVL12400A13</b>	<b>P2M2HBVL12400A13-SPC</b>
		3 Pin's	3 Pin's	4 & 3	160	<b>P2M2HBVL12400A43</b>	<b>P2M2HBVL12400A43-SPC</b>
		3 Pin's	5 Pin's	4 & 2	160	<b>P2M2HBVL12400A42</b>	<b>P2M2HBVL12400A42-SPC</b>
 <b>Class B</b> Power & communication cable	Class B	5 Pin's		2 & 5	140	<b>P2M2HBVL12400B25</b>	<b>P2M2HBVL12400B25-SPC</b>
						<b>RKC 4.5T*-RSC 4.5T/S1587</b>	

IODD file can be downloaded from IODD Finder or the Moduflex web site:  
<https://ioddfinder.io-link.com> or [www.parker.com/pdn/io-link](http://www.parker.com/pdn/io-link)

Where \* = 1, 2, 3, 4, 5, 10, 20 meter standard lengths

**P2M Class A Module with Independent Auxiliary Power Supply**



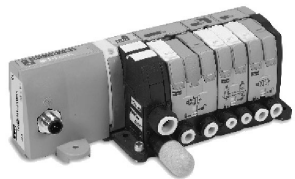
The P2M **IO-Link** Class A module can handle a Moduflex valve manifold having up to 19 solenoid outputs, or H Series Micro / ISO up to 24 solenoid outputs.

Thanks to its 2 x M12 A coded male connectors, the P2M node can be connected to any IO-Link Class A master and separately receive its auxiliary power supply for valves from an independent source.

The P2M **IO-Link** Class A module exists in 3 versions with the auxiliary power M12 connector pin out adapted to any sourcing through a standard M12 cable:

- P2M2HBVL12400A13 version: 24VDC / 0VDC on pins 1 & 3 – Standard version
- P2M2HBVL12400A43 version: 24VDC / 0VDC on pins 4 & 3 – Compatible with Siemens wiring
- P2M2HBVL12400A42 version: 24VDC / 0VDC on pins 4 & 2 – Compatible with Rockwell wiring and Turck wiring

**P2M Class B module**



The P2M **IO-Link** Class B module can handle a Moduflex valve manifold having up to 19 solenoid outputs, or H Series Micro / ISO up to 24 solenoid outputs.

Thanks to its single M12 A coded male connectors, P2M node can be connected to any IO-Link Class B master receiving its auxiliary power supply for valves on pins 2 & 5 from the only cable simplifying the connection.

- P2M2HBVL12400B25 version: 24VDC / 0VDC on pins 2 & 5

**Diagnostic**



The P2M **IO-Link** module offers a local diagnostic through 4 LED's located on the visible top side, showing:

- IO-Link com status
- Module error
- Output error
- Auxiliary power

Additional useful diagnostic information can be read by the PLC through the network simplifying diagnostic and allowing predictive maintenance (all details in the user manual).

 Most popular.

**Auxiliary power for safe supply**

The P2M **IO-Link** module is compatible with a SAFE power source for valve control.

For more details, refer to next page.

D	Subbase & Manual Valves
	H Series Micro
	Moduflex Series
	H Series ISO
	Network Connectivity
	DX ISOMAX Series
	Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**IO-Link Module Connection and Diagnostic Functions**



**IO-Link Module Connection**

Standard male M12 – type A

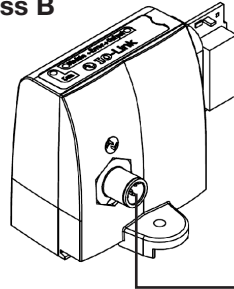
Usage of standard manufactured cables available from your usual electrical supplier is recommended.

Note: Auxiliary power for solenoids can be wired allowing the user to turn outputs off while the communications remains on.

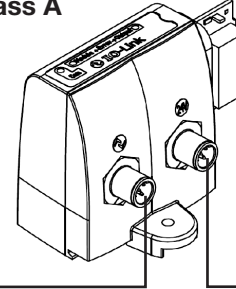
**Configuration**

IODD file can be downloaded from IODD Finder or the P2M web site:  
<https://ioddfinder.io-link.com>  
[www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

**Class B**



**Class A**



**Legend**

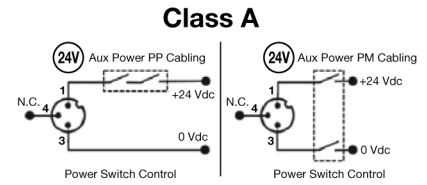
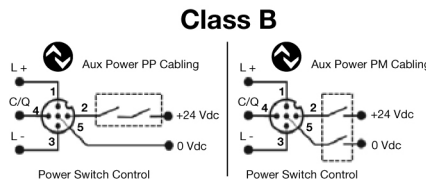
Symbol	Description
L+	IO-Link power supply "+"
L-	IO-Link power supply "-"
C/Q	IO-Link communication
Aux +	Auxiliary power supply 24 VDC
Aux -	Auxiliary power supply 0 VDC

M12 pin's	Class A		
	3 pin's		5 pin's
	P2M...A13	P2M...A43	P2M...A42
L+	Aux +	Not used	Not used
Aux +	-	-	Aux -
L-	Aux -	Aux -	Not used
C/Q	n.c.	Aux +	Aux +
Aux -	-	-	Not used

**Auxiliary Power Supply Compatibility**

The P2M IO-Link Node can be powered from a 24VDC auxiliary source in PP or PM mode as grounds are isolated.

The P2M Safe Power Capable (-SPC) versions can be connected from a SAFE OSSD test pulsed power source.



Cabling for P2M2HBVL12400A13

**IO-Link Module Diagnostic Functions**

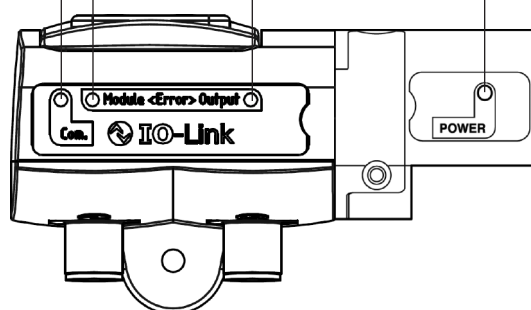
The P2M IO-Link module offers additional useful module status information:

- Solenoid overload or short circuit
- Auxiliary voltage out of tolerance
- Cycle counter for each solenoid
- Module temperature

For more information on product technical information and module diagnostic functionalities, please refer to the user manual available from the product web page:

[www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

COM Green LED			Module – Error Red LED			Error – Output Red LED			POWER Green LED		
LED Status	Description	Solving	LED Status	Description	Solving	LED Status	Description	Solving	LED Status	Description	Solving
OFF	IO-Link L+ / L- not powered	Check connection	OFF	Standard mode	NA	OFF	Standard mode	NA	OFF	AUX power failure	Check Auxiliary Power Supply
ON	IOL L+ / L- powered IO mode	Set IO-Link mode in IO-Link master	ON	24 VDC AUX power missing or any active malfunction	Check power supply or change module	ON	Any driver error (overload, over temperature, etc.)	Fix solenoid issue then acknowledge error	ON	Standard	NA
Blinking	IO-Link communication active	NA							Blinking	Aux Power is out of range, alarm level	Check Auxiliary Power Supply



**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair-II Series



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**Input Data**

One byte of diagnostic input data is transferred from P2M IO-Link to the IO-Link Master.

**Process input data**

7	6	5	4	3	2	1	0
Output driver SPI error	Output driver channel error	Polyfuse tripped	Temperature warning	SPI error	AUX voltage error	AUX voltage warning	Acknowledge Required

**Output Data**

Three bytes of process data are received by P2M IO-Link from the IO-Link Master for control of solenoids.

**Process output data (Byte 0)**

7	6	5	4	3	2	1	0
EV8	EV7	EV6	EV5	EV4	EV3	EV2	EV1

**Process output data (Byte 1)**

7	6	5	4	3	2	1	0
EV16	EV15	EV14	EV13	EV12	EV11	EV10	EV9

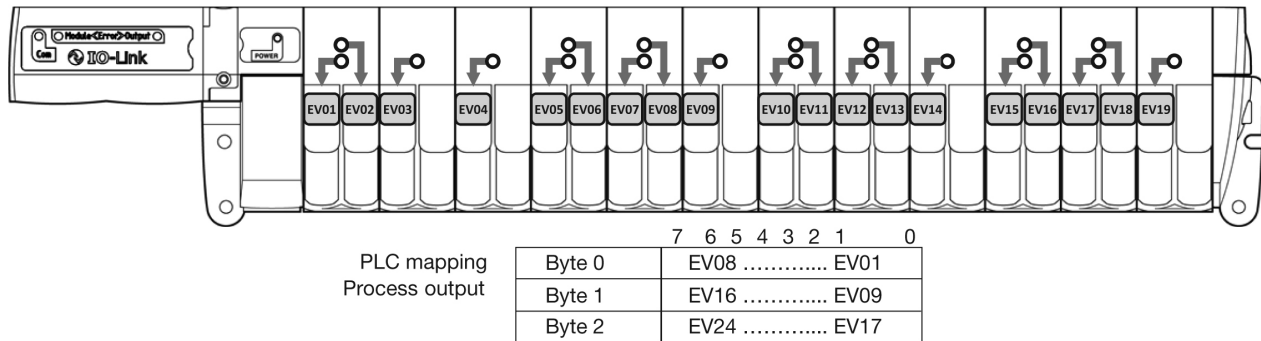
**Process output data (Byte 2)**

7	6	5	4	3	2	1	0
EV24	EV23	EV22	EV21	EV20	EV19	EV18	EV17

**Solenoid Pilots Addressing and Process Mapping**

**P2M IO-Link node addressing used with Moduflex Valve System**

The P2M IO-Link node, when used with Moduflex Valve System can handle up to 19 pilot solenoid valves. Addressing will be done as shown below.

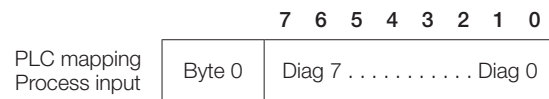


**P2M IO-Link Module Electrical Specifications**

IO-Link power supply	According to IO-Link standard V1.1.2
Speed communication	Com 2 – 38 kBd
Auxiliary power supply	20.4 VDC to 26.4 VDC
Current limit per channel	150 mA
Max current limit	4 A
Polarity inversion	YES
Short circuit protection	YES
Operating temperature	0°C to 55°C
Storage temperature	-25°C to 70°C
Shock according to IEC	60068-2-27:2008
Vibration according to IEC	60068-2-6:2007
EMC according to IEC	61000-4-2 up to -4-6

**Network Diagnostic Through Process Mapping:**

The P2M IO-Link module offers diagnostic data transmitted to the PLC through the master:



Diag bit	Error message	Detail
Diag 0.....	Fail-safe status .....	Acknowledgement required
Diag 1.....	Auxiliary voltage warning.....	Check auxiliary power
Diag 2.....	Auxiliary voltage failure.....	Check auxiliary power
Diag 3.....	Module failure .....	Module HS. must be replaced
Diag 4.....	Module over-temperature	
Diag 5.....	Module over-load	
Diag 6.....	Pilot solenoid(s) short circuit.....	Solenoid must be replaced
Diag 7.....	Outputs stage failure	

For further details, refer to the user manual: can be downloaded from [www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)



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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

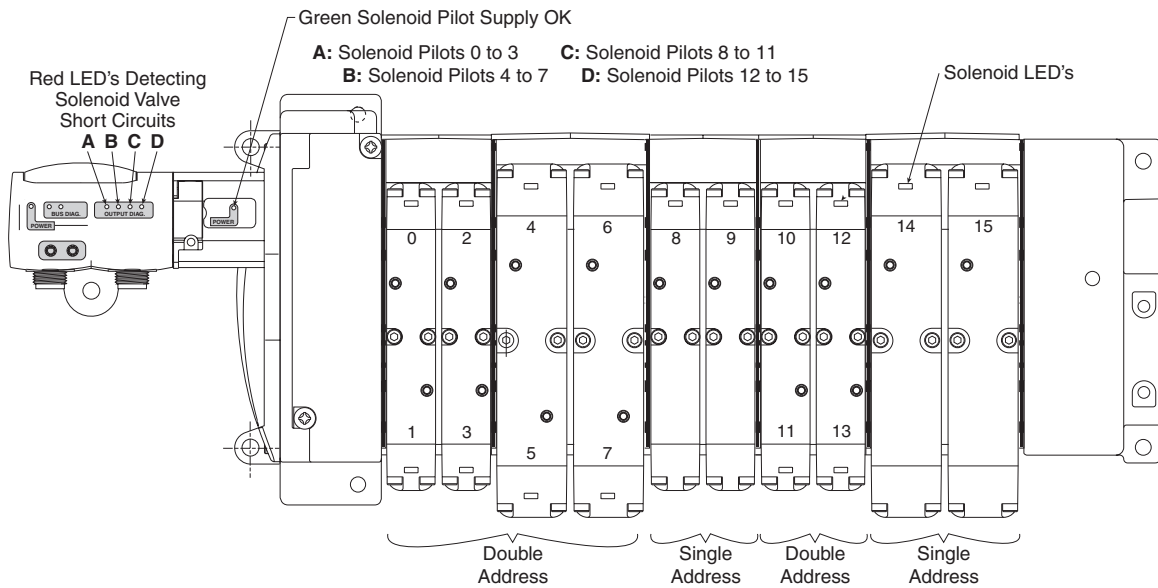
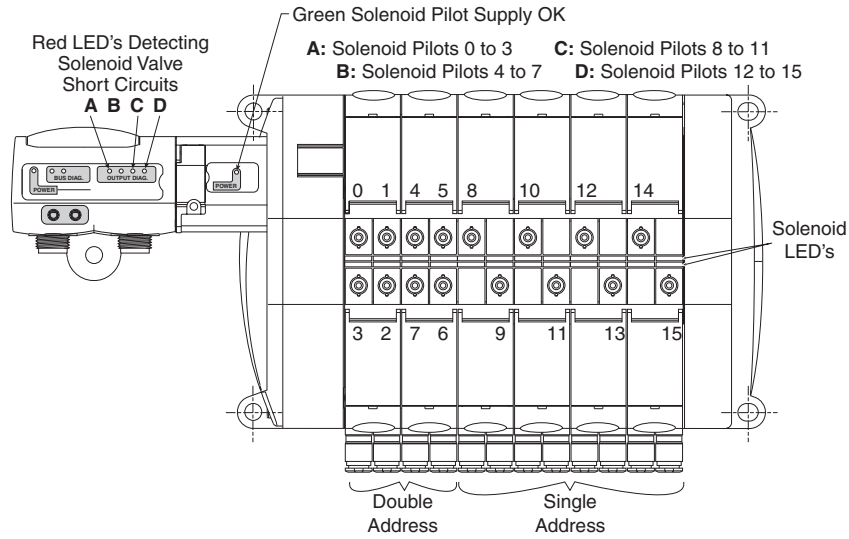
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**Solenoid Pilot Diagnostic Common to All P2M Nodes**



Inside the communication module, solenoid valve control is protected against short-circuits with the following visual indication provided:

- The red LEDs with code, shown above, detect solenoid valve short-circuits
- Supply is OK when the solenoid pilot power supply indicator is green

D
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series



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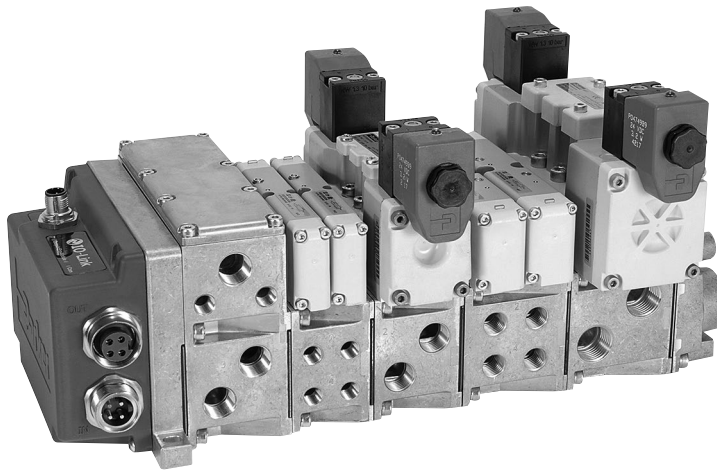
**Features**

**P2H Network Node**

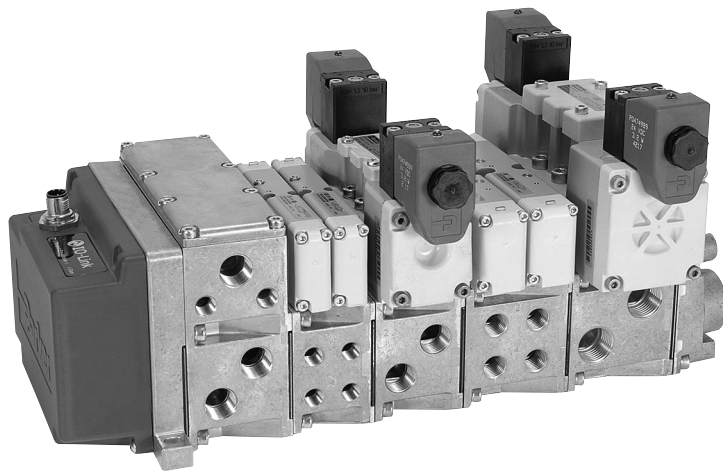
The P2H Network Node is available with IO-Link connectivity for the industries first connection of ISO valves (5599 & 15407) to the low cost IO-Link network.

**Features**

- Compact, robust product design
- Weld splatter resistant housing material
- Simple connection to IO-Link Class A or Class B masters
- Industries first power in & out capability for Class A version
- Industries first 7/8" power connectors on Class A version
- IO-Link connection to new H Series ISO Universal Manifold, capable of mixing valve sizes from 0.5 Cv – 3 Cv
- Safe Power Capable for supplying valve power from a safety device (ie. safe relay)
- Diagnostics made SIMPLE! Useful diagnostic flags in process (cyclic) data for easy access and use for preventative maintenance
- Certified to IP65 ingress protection
- CE certification



Class A Node



Class B Node



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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

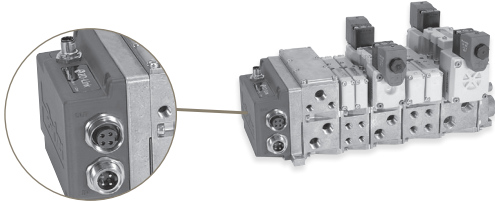
**Features**

**Overview - P2H Network Node**

Designed to integrate directly with all H Series ISO valve sizes, the P2H IO-Link Network Node provides a compact, robust and cost efficient solution for IO-Link capability. The P2H IO-Link network node is offered as an end plate kit on the H Series valve for five sizes (HB, HA, H1, H2 and H3). The P2H node is suitable for use on a valve manifold with up to 24 solenoid outputs.

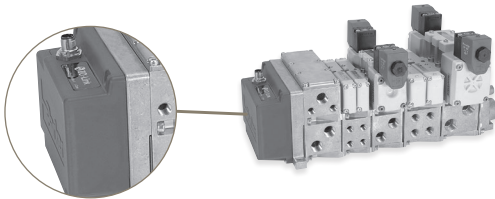
**Connection Types and Power:**

**Class A Node**



The Class A node has (1) 3 pin M12 connector for communication and logic power from any class A IO-Link master, and (2) 7/8" connectors for auxiliary valve power IN and OUT.

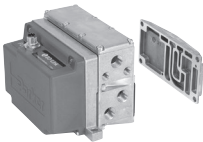
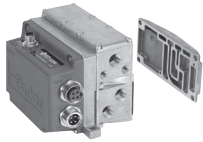
**Class B Node**



The Class B node has (1) 5 pin M12 connector to connect IO-Link for communication to a Class B IO-Link master, logic power and auxiliary power for the valve solenoids (up to the limit of the Class B node output\*).

\*It is recommended to use the Class A node with auxiliary power if the Class B master cannot provide enough power.

**Left and Right Hand End Plate**

	IO-Link class / type	Current	HB, HA, H1, H2 Valves		H3 Valves	
			NPT port	BSPP port	NPT port	BSPP port
 <b>Class B</b>	P2H IO-Link Class B, standard version, 24 address	3.2A max	<b>PSHU20N200P</b>	<b>PSHU20N201P</b>	<b>PS4220N20DP</b>	<b>PS4220N21DP</b>
<b>Class B</b>	P2H IO-Link Class B, Safe Power Capable, 24 address	2.0A max	<b>PSHU20S200P</b>	<b>PSHU20S201P</b>	<b>PS4220S20DP</b>	<b>PS4220S21DP</b>
 <b>Class A</b>	P2H IO-Link Class A, 4-pin Safe Power Capable, 24 address	3.2A max	<b>PSHU20S400P</b>	<b>PSHU20S401P</b>	<b>PS4220S40DP</b>	<b>PS4220S41DP</b>
<b>Class A</b>	P2H IO-Link Class A, 5-pin Safe Power Capable, 24 address	3.2A max	<b>PSHU20S500P</b>	<b>PSHU20S501P</b>	<b>PS4220S50DP</b>	<b>PS4220S51DP</b>

[www.parker.com/pdn/P2H\\_IOL](http://www.parker.com/pdn/P2H_IOL)

Description	Standard version	- Safe power capable versions
IO-Link power supply	According to IO-Link standard V1.1.2	
Speed communication	Com 2 – 38 kBd	
Auxiliary power supply	voltage	20,4 VDC to 26,4 VDC
	OSSD compatibility	No Yes
Short circuit protection	Yes	
Operating temperature	0°C to +55°C	
Shock	According to IEC 60068-2-27:2008	
Vibration	According to IEC 60068-2-6:2007	
EMC	According to EN 55011 & EN 61000-4-2 to -4-6	
Ingress protection	Certified to IP65	

**D**  
 Subbase & Manual Valves  
 H Series Micro Series  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

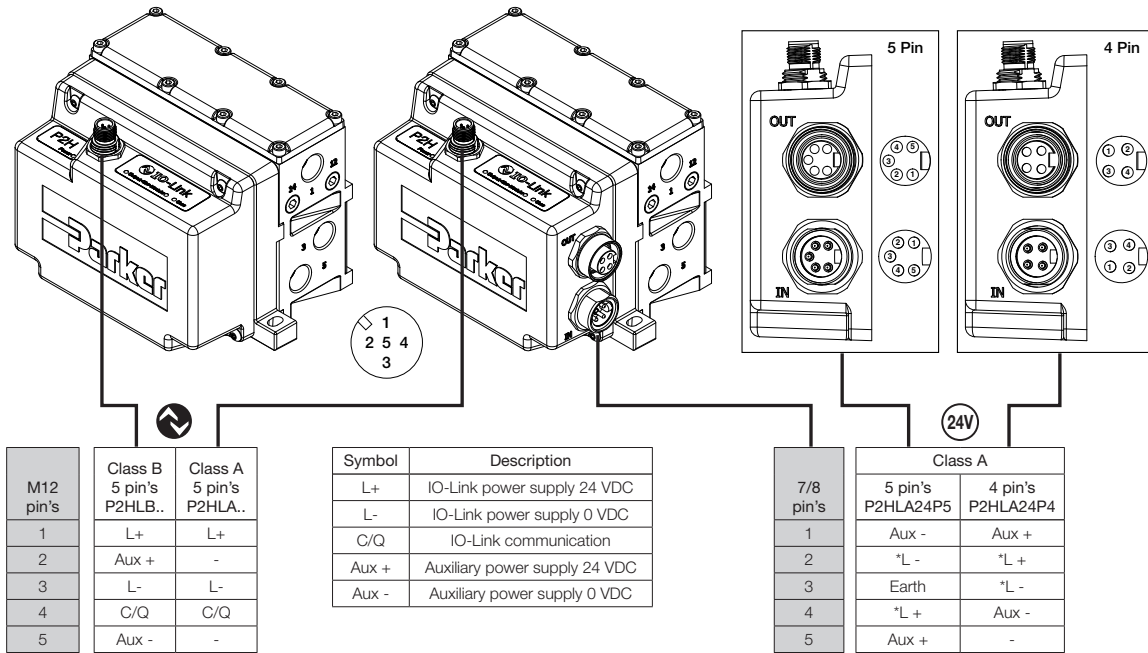


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**P2H Network Node – Connections and LED Diagnostics**

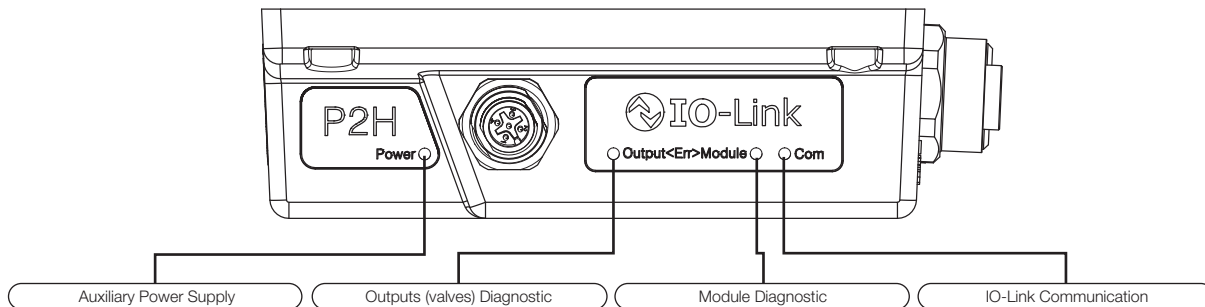


**Note:**  
 \*7/8" logic power has no connection to internal P2H unit but does carryover to OUT 7/8" connector (for jumper logic power only). Logic power for P2H unit will be supplied from M12 (pin 1 & 3)

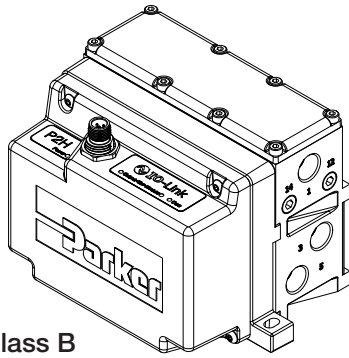
**Local diagnostic through LED:**

The P2H IO-Link Node offers a local diagnostic through 4 LED's status with interpretation described in the table below:

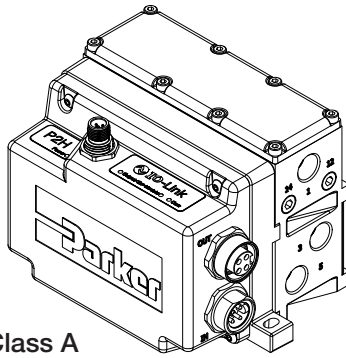
Power  Green LED			Output<Err> Red LED			<Err>Module  Red LED			Com Green LED		
LED Status	Description	Solving	LED Status	Description	Solving	LED Status	Description	Solving	LED Status	Description	Solving
OFF	Auxiliary power failure < 18V or > 28.5V	Check auxiliary power supply	OFF	Standard mode (No error active)	N/A	OFF	Standard mode (No error active)	N/A	OFF	IO-Link L+ / L- line not powered	Check IO-Link power supply from IO-Link Master (pin's 1 & 3)
ON	Standard mode (auxiliary power within normal range 20.4V* to 26.4V*)	N/A	ON	Any outputs driver error (auxiliary power error, overload, short circuit, over temperature, ...)	If auxiliary power OK (see Power LED status), check error messages and related troubleshooting	ON	24 VDC auxiliary power missing or any active malfunction	Check Auxiliary power supply. If auxiliary power supply OK, module must be replaced	ON	IO-Link L+ / L- line powered IO-Link master port set as SIO mode	Set IO-Link master channel in IO-Link mode
Blinking	Auxiliary power out of range (warning level*)	Check auxiliary power supply, check/reset adjusted values							Blinking	IO-Link communication active	N/A



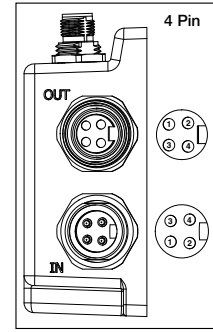
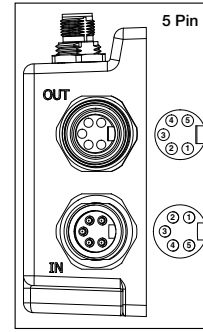
**P2H Network Node – Connections and LED Diagnostics**



Class B



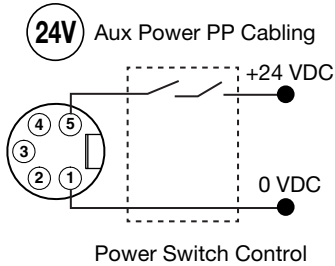
Class A



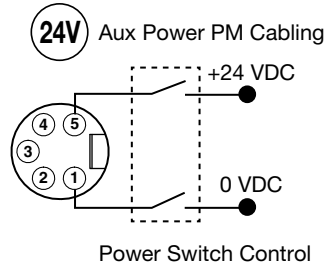
**P2H IO-Link 24DO Node connection to SAFE Power PP / PM mode for valve control**

The P2H IO-Link 24DO node can be powered from a SAFE 24 VDC auxiliary source in PP or PM mode as grounds are isolated. Auxiliary power for solenoids can be wired allowing the functionality to turn outputs OFF while communications remain active.

**Class A – 5 Pin**



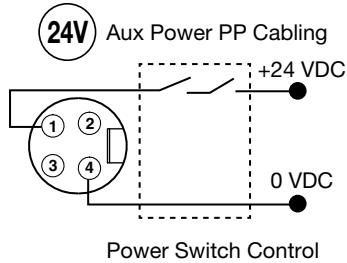
Power Switch Control



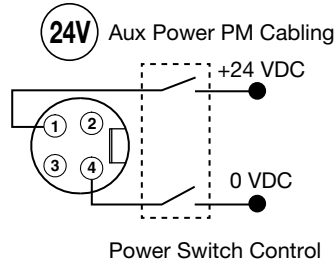
Power Switch Control

Pin Number	Address
1	AUX-
2	*L-
3	Earth
4	*L+
5	AUX+

**Class A – 4 Pin**



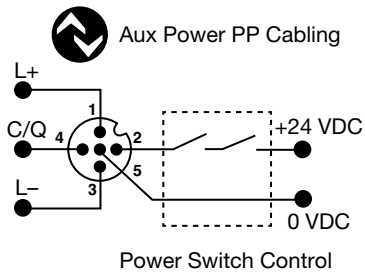
Power Switch Control



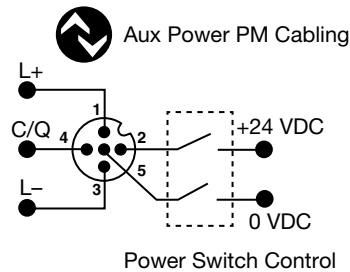
Power Switch Control

Pin Number	Address
1	AUX+
2	*L+
3	*L-
4	AUX-

**Class B**



Power Switch Control



Power Switch Control

Pin Number	Address
1	L+
2	AUX+
3	L-
4	C/Q
5	AUX-

\* 7/8" logic power has no connection to internal P2H unit but does carryover to OUT 7/8" connector (for jumper logic power only). Logic power for P2H unit will be supplied from M12 (pin 1 & 3).

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**P2H Network Node – Input / Output Data Mapping**

**Input Data**

One byte of diagnostic input data is transferred from Moduflex to the IO-Link Master.

**Process Input Data**

7	6	5	4	3	2	1	0
Output driver SPI error	Output driver channel error	Polyfuse tripped	Temperature warning	SPI error	Aux voltage error	Aux voltage warning	Acknowledge required

Diag bit	Error Message	Detail
Diag 0	Fail-safe status	Acknowledgment required
Diag 1	Auxiliary voltage warning	Auxiliary voltage out of range, check auxiliary power line
Diag 2	Auxiliary voltage failure	Auxiliary voltage out of order, check auxiliary power source
Diag 3	Module failure	Switch OFF / ON auxiliary power, if error message persists, replace the module
Diag 4	Module over-temperature	Switch OFF / ON auxiliary power, if error message persists, replace the module
Diag 5	Module over-load	Check overall pilot solenoid valves, if error message persists, replace the module
Diag 6	Pilot solenoid(s) short circuit	Check faulty pilot solenoid valve(s), replace if necessary
Diag 7	Outputs stage not available	Auxiliary power is OFF

**Output Data**

Three bytes of process data are received by Moduflex from the IO-Link Master for control of solenoids.

**Process Output Data (Byte 0)**

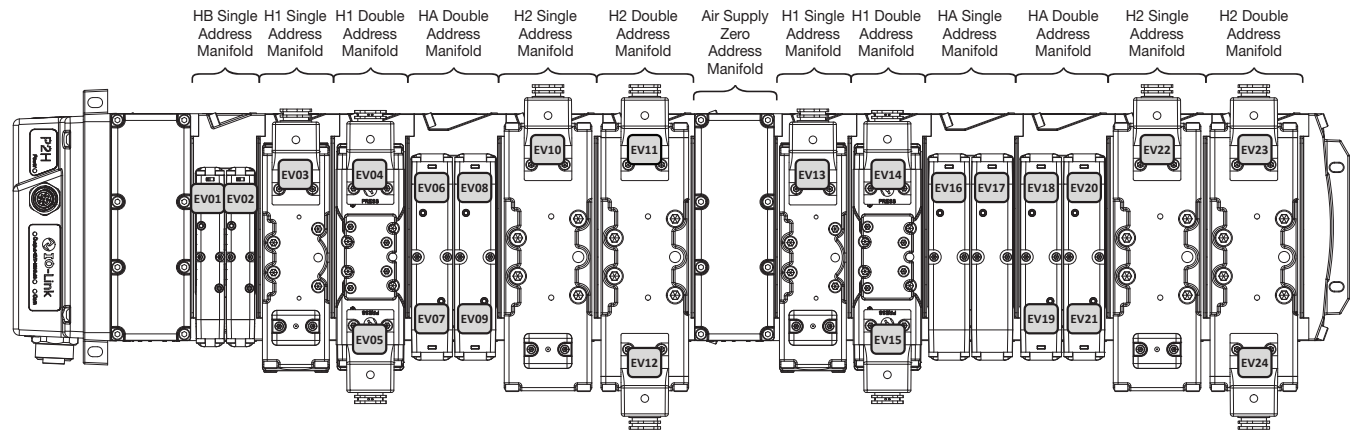
7	6	5	4	3	2	1	0
EV8	EV7	EV6	EV5	EV4	EV3	EV2	EV1

**Process Output Data (Byte 1)**

7	6	5	4	3	2	1	0
EV16	EV15	EV14	EV13	EV12	EV11	EV10	EV9

**Process Output Data (Byte 2)**

7	6	5	4	3	2	1	0
EV24	EV23	EV22	EV21	EV20	EV19	EV18	EV17



PLC Process outputs data mapping

Byte 0	EV08 ..... EV01
Byte 1	EV16 ..... EV09
Byte 2	EV24 ..... EV17

**Configuration IODD File**

IODD file can be downloaded from IODD Finder or the P2H IO-Link web site:

- <https://ioddfinder.io-link.com>
- [www.parker.com/pdn/P2H\\_IOL](http://www.parker.com/pdn/P2H_IOL)



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**D**

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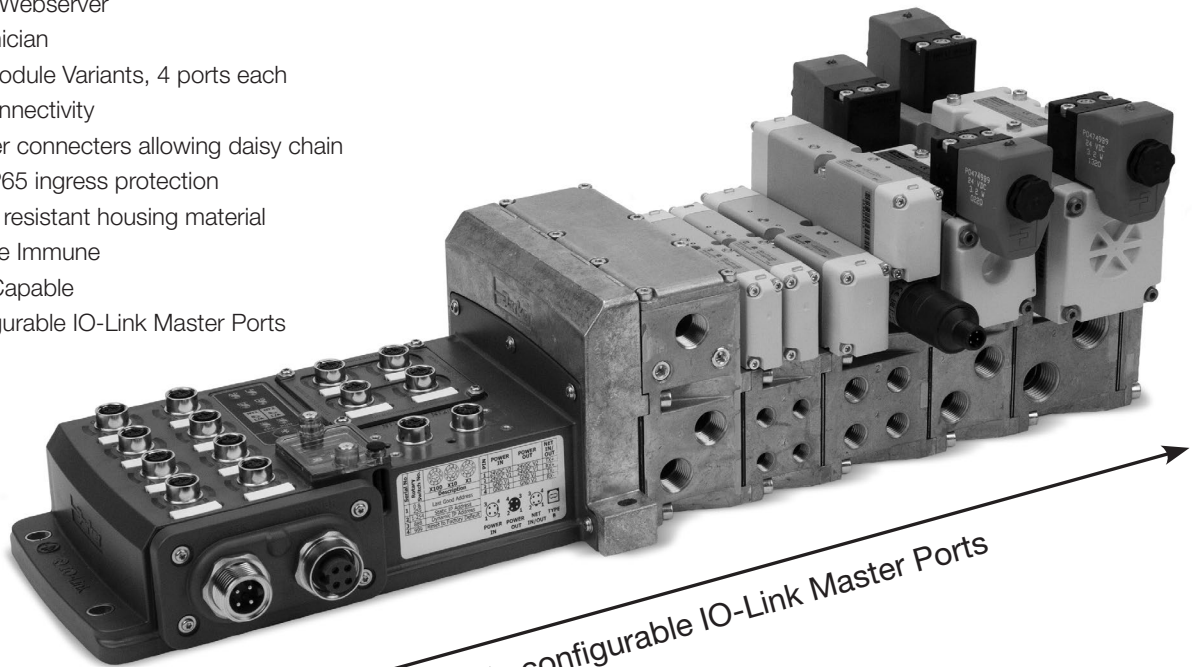
Valvair II Series

**Features**

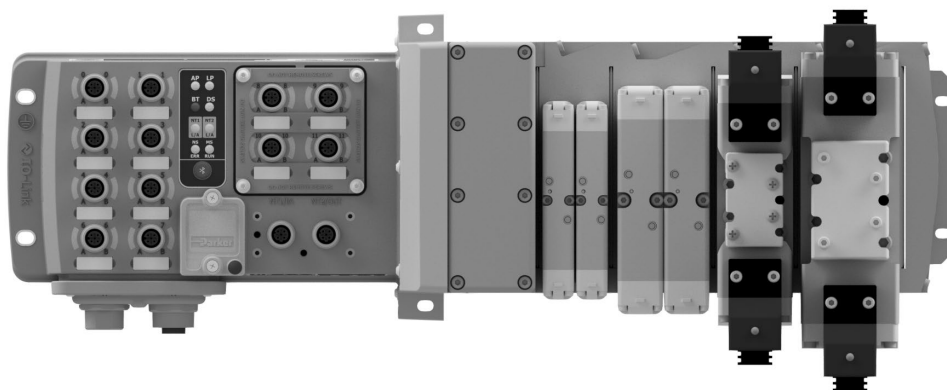
**PCH Network Portal**

**Features**

- Industrial Ethernet Communication
- Truly Configurable I/O
- Feature Rich Webserver
- Built-In Technician
- 3 Available Module Variants, 4 ports each
- Bluetooth Connectivity
- Flexible power connectors allowing daisy chain
- Certified to IP65 ingress protection
- Weld splatter resistant housing material
- Welding Noise Immune
- Safe Power Capable
- Built-in configurable IO-Link Master Ports



The PCH Network Portal redefines and revolutionizes decentralized machine I/O's architecture. The PCH Network Portal was engineered to support industrial ethernet protocols and the open protocol IO-Link with configurable inputs/outputs with true PNP/ NPN circuitry switching on each port for easy machine design changes. This integrated configurability gives the user flexibility in designing custom I/O architecture on the fly.



**EtherNet/IP™**

**PROFINET**  
INDUSTRIAL ETHERNET

**EtherCAT®**

**Modbus**  
TCP/IP

The PCH Network Portal can be assembled to Parker's H ISO Universal Manifold Platform, giving you access to a wide variety of low ranges all on one manifold.



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H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair-II Series

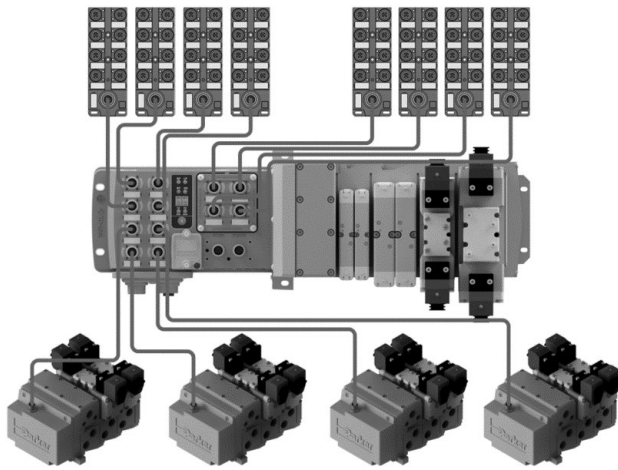
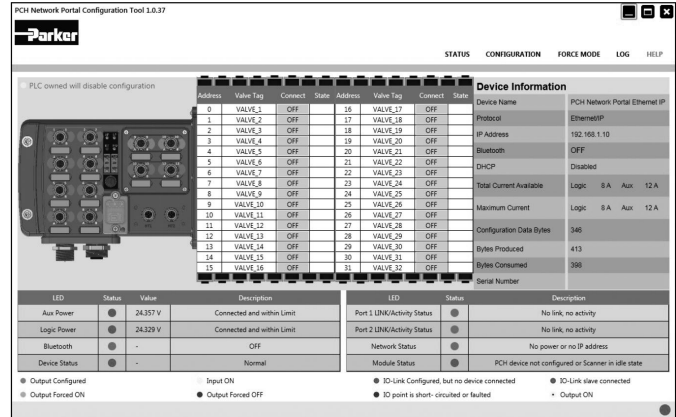
# Features

## Intuitive Interfaces

Modern factories recognize that plant floor architecture is an important structural part of machine design that can make a real difference in managing costs for future changes, integrations and expansions. The PCH Network Portal design team lived in this environment, therefore intuitive interfaces and complete modularity was the heart of PCH Network Portal design concepts.

As with all Cyber Physical Systems (CPS), intuitive interfaces are the backbone of simplicity in application. The PCH Network Portal offers several means of intuitive and embedded interfaces to shorten commission time.

# H Series ISO & Network Connectivity PCH Network Portal



## IO-Link

### Can't access the PLC? No Problem!

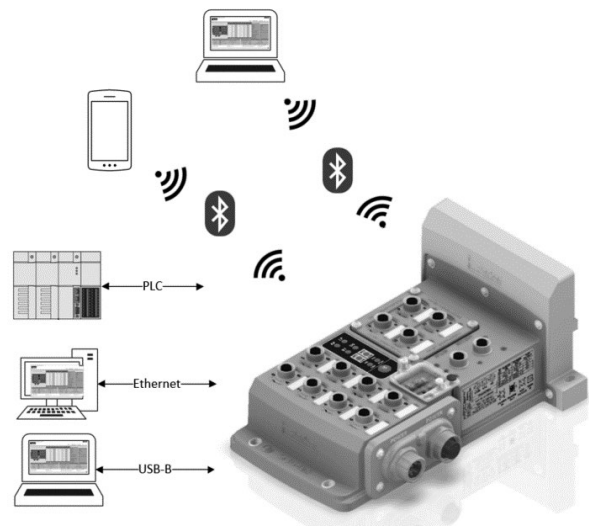
With meticulously designed embedded configuration tools, the PCH Network Portal can serve as your **virtual technician** to make problems easy to troubleshoot. A laptop, tablet or phone can access usable prognostic/diagnostic data and time stamped event logs to make accessing data and commissioning your machine simple. Once you've finished your configuration, the device's configuration profile can be downloaded and easily uploaded to other PCH Network Portals on your machine.

### Configure via:

- Bluetooth App via phone or tablet
- Bluetooth connection via PC
- Integrated Webpage via ethernet connection
- Stand-a-lone "PCH Portal Configuration Tool" software via USB-B

## Value Redefined

The PCH Network Portal minimizes machine costs by redefining the traditional process of connectivity within a single footprint that provides multiple configurations. The flexibility of configurable I/O combined with built-in IO-Link master ports revolutionizes machine design and can save thousands of dollars at the design phase which typically accounts for 30-40% of overall costs. Changes can be made to the system with easy software reconfiguration of ports eliminating the need for additional hardware or time consuming programming.



**Safety Foot Note:**  
Bluetooth application cannot turn on outputs if a PLC where present and in control. The application cannot override the PLC at any time.



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D

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Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

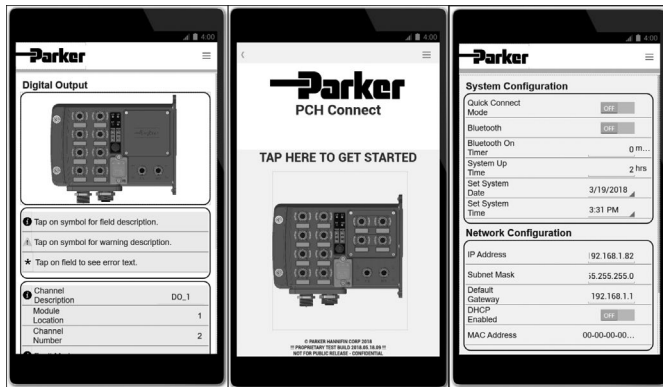
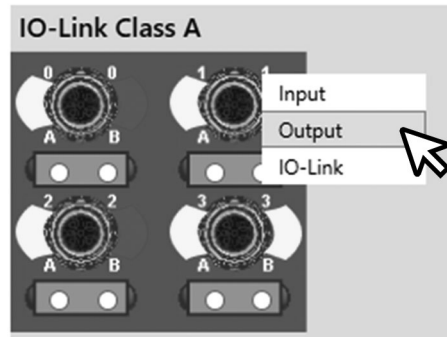
# Features

## Truly Configurable I/O

Configurable I/O means last minute design changes are now simple. Each PCH Network Portal is offered with three selectable modules that make up twelve configurable ports. All modules can be configured IO-Link A, IO-Link B or dual configurable I/O ports with true PNP/NPN circuitry switching on each port providing easy point and click changes on individual pins to customize a setup. Last minute design changes to the machine require minimal effort and no additional software or hardware. The ability to customize the machine design is no longer limited by the product.

# H Series ISO & Network Connectivity PCH Network Portal

## Port Config

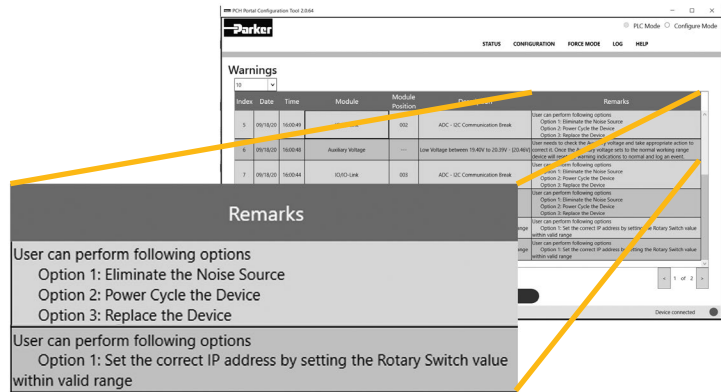


## Tools Designed for Productivity

When a line stops and needs a reset you are often left wondering why. The root cause can seem a mystery and often stems back to over voltage or other power issues caused by the plant floor. Working with the PCH Network Portal is like having your own built-in technician. Rolling 40 errors, warnings and events are time and date stamped allowing you to spend time on what matters - running the facility. Let PCH Network Portal give you the detail so time can be better utilized elsewhere.

## Built-In Technician

When using the 'PCH Portal Configuration Tool' your built-in technician comes to life with easy to follow screens for readouts, adjustments, and settings. Configuring the PCH Network Portal to the network is easy. Fast and storable configurations combined with embedded smart diagnostic and prognostic tools like built-in debounce times and up/down counters translate to quick change-over and short downtime. Further problems are easy to spot with the rolling 40 error, warnings, and events log which are time stamped. No more guessing at what went wrong in plant. Commissioning and troubleshooting a tool can even be done remotely from outside the work cell via the device's secure and lockable Bluetooth connectivity.



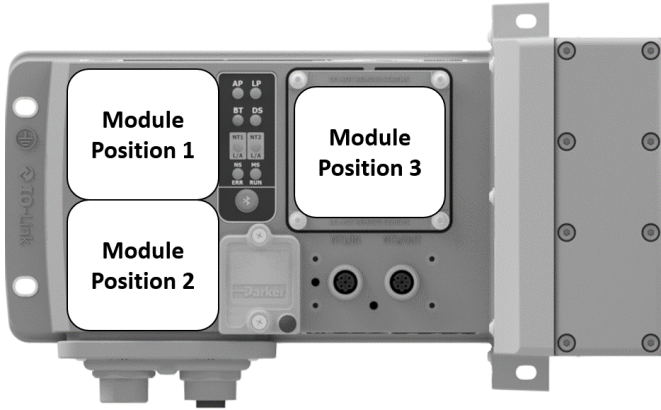
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 Network Connectivity  
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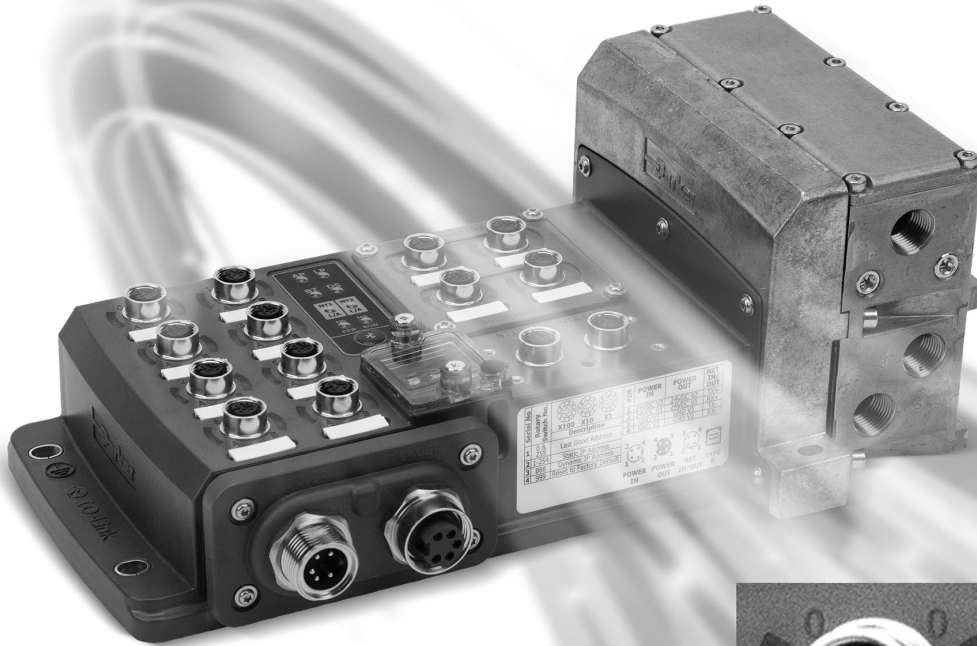


Value Redefined



What are Module Positions?

- The PCH Network Portal is split into 3 Module Positions
- Each Module Position can accept different Module Variants to meet the application needs
- Populating a Module Position with an I/O Module Variant gives the PCH Network Portal 4 configurable M12 ports

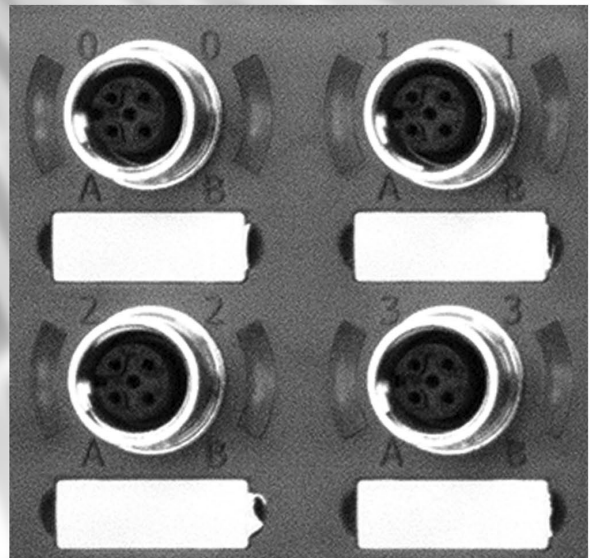


What is a Module Variant?

- 3 Module Variant are proposed offering each different capabilities (see details of Modules Variant A, B or C in next pages)
- A Module Variant offers 4 configurable M12 ports
- Depending on the Module Variant A, B or C selected, each M12 port can be individually configured differently between a variety of different behaviors

For Example

- With the Module Position 1 populated with Module Variant A, each M12 port can be individually configured as either IO-Link Class A Master or 2 Digital Inputs or 2 Digital Outputs
- A summary of the Module Variant offerings is on page D179



D

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H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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Features

PCH Network Portal

Module Variants

Module  
**A**

What is a Module Variant?

- The PCH Network Portal has 3 available Module Positions. Each module position can be populated with three different Module Variants
- Each Module Position can accept all module variants

Port Behavior

- Each port is capable of the following behavior listed below
- Through software, the user can click and change how the port behaves on the fly
- The A Module Variant gives the user access to IO-Link Class A Master ports



Possible Port Behavior

IO-Link, Class A Master or 2 x Digital Inputs or 2 x Digital Outputs*		IO-Link, Class A Master or 2 x Digital Inputs or 2 x Digital Outputs*
IO-Link, Class A Master or 2 x Digital Inputs or 2 x Digital Outputs*		IO-Link, Class A Master or 2 x Digital Inputs or 2 x Digital Outputs*

\*Digital Output draws current from logic power

Port Behavior

- Each port's behavior can differ from one another
- For example, the user can select the behavior listed below through software (shown below)

IO-Link, Class A Master or <b>2 x Digital Inputs</b> → 2 x Digital Outputs		<b>IO-Link, Class A Master</b> → 2 x Digital Inputs or 2 x Digital Outputs
IO-Link, Class A Master or 2 x Digital Inputs or <b>2 x Digital Outputs</b> →		IO-Link, Class A Master or 2 x Digital Inputs or <b>2 x Digital Outputs</b> →

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PCH Network Portal

Module Variants

Module  
**B**

What is a Module Variant?

- The PCH Network Portal has 3 available Module Positions. Each module position can be populated with three different Module Variants
- Each Module Position can accept all module variants

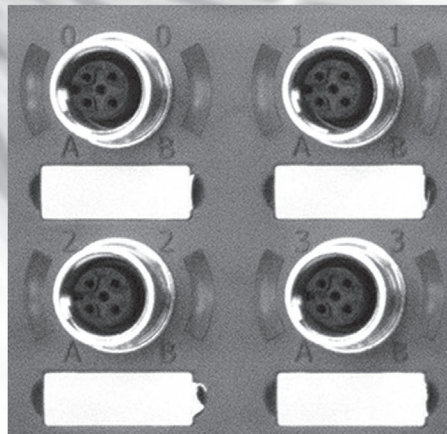
Port Behavior

- Each port is capable of the following behavior listed below
- Through software, the user can click and change how the port behaves on the fly
- The B Module Variant gives the user access to IO-Link Class B Master ports



Possible Port Behavior

- IO-Link, Class B Master or  
1 x Digital Input or  
1 x Digital Output\*
- IO-Link, Class B Master or  
1 x Digital Input or  
1 x Digital Output\*



- IO-Link, Class B Master or  
1 x Digital Input or  
1 x Digital Output\*
- IO-Link, Class B Master or  
1 x Digital Input or  
1 x Digital Output\*

\*Digital Output draws current from logic power

Port Behavior

- Each port's behavior can differ from one another
- For example, the user can select the behavior listed below through software (shown below)

- IO-Link, Class B Master or  
**1 x Digital Input** (arrow pointing to this option)
- IO-Link, Class B Master or  
1 x Digital Input or  
**1 x Digital Output** (arrow pointing to this option)
- IO-Link, Class B Master** (arrow pointing to this option)
- IO-Link, Class B Master or  
1 x Digital Input or  
**1 x Digital Output** (arrow pointing to this option)

<b>D</b>	Subbase & Manual Valves
	H Series Micro
	Moduflex Series
	H Series ISO
	Network Connectivity
	DX ISOMAX Series
	Valvair II Series



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Features

PCH Network Portal

Module Variants

Module



What is a Module Variant?

- The PCH Network Portal has 3 available Module Positions. Each module position can be populated with three different Module Variants
- Each Module Position can accept all module variants

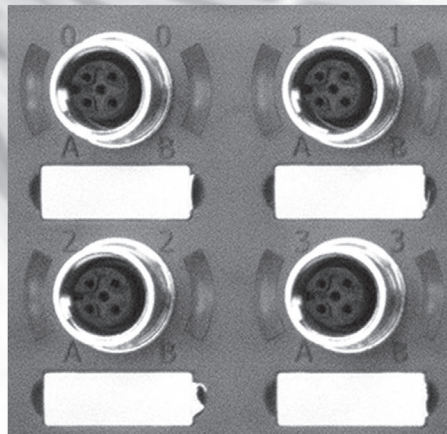
Port Behavior

- Each port is capable of the following behavior listed below
- Through software, the user can click and change how the port behaves on the fly
- The C Module Variant gives the user access to IO-Link Class B Master ports and fixed high current outputs



Possible Port Behavior

- 2 x Digital Outputs, 500 mA each, Fixed ¥
- IO-Link, Class B Master or 1 x Digital Input or 1 x Digital Output\*



- 2 x Digital Outputs, 500 mA each, Fixed ¥
- IO-Link, Class B Master or 1 x Digital Input or 1 x Digital Output\*

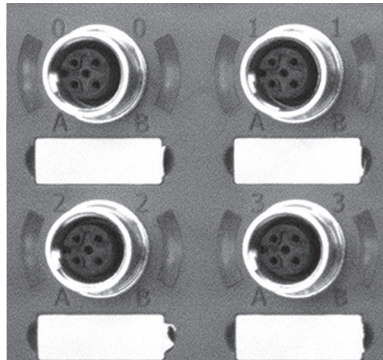
¥ Digital Outputs draw current from auxiliary power  
\* Digital Output draws current from logic power

Port Behavior

- Each port's behavior can differ from one another
- For example, the user can select the behavior listed below through software (shown below)

**2 x Digital Outputs, 500 mA each, Fixed**

IO-Link, Class B Master or 1 x Digital Input or **1 x Digital Output**



**2 x Digital Outputs, 500 mA each, Fixed**

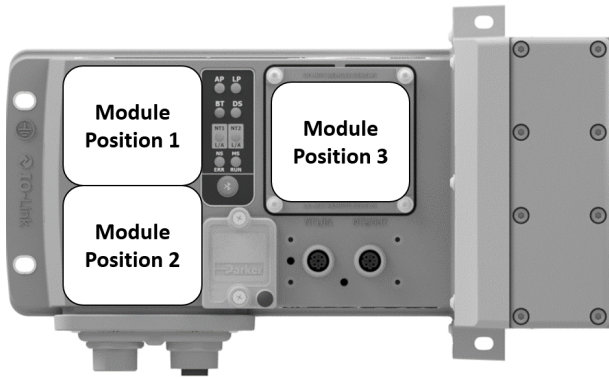
**IO-Link, Class B Master** or 1 x Digital Input or 1 x Digital Output

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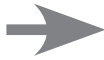
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I/O Module Combinations



- The PCH Network Portal gives true port flexibility
- The PCH Network Portal can be ordered with 3 available module variants
- Each module variant has 4, M12 Ports
- Each module variants can be chosen in any module position
- Each port is individually software configurable
- A blanking plate is available for Module Position 3
- **Important:** Once Module Variants are selected on the PCH Network Portal, they cannot be changed in the field

**Before** it comes through your door  
Select which Module Variant you want in each Module Position



**After** it comes through your door  
Truly Configurable I/O - Select port behavior from listed options

Module Variants

Module <b>A</b>		<ul style="list-style-type: none"> <li>• IO-Link, Class A Master <b>OR</b></li> <li>• 2 Inputs, PNP/NPN <b>OR</b></li> <li>• 2 Outputs, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class A Master <b>OR</b></li> <li>• 2 Inputs, PNP/NPN <b>OR</b></li> <li>• 2 Outputs, 250 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class A Master <b>OR</b></li> <li>• 2 Inputs, PNP/NPN <b>OR</b></li> <li>• 2 Outputs, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class A Master <b>OR</b></li> <li>• 2 Inputs, PNP/NPN <b>OR</b></li> <li>• 2 Outputs, 250 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class A Master <b>OR</b></li> <li>• 2 Inputs, PNP/NPN <b>OR</b></li> <li>• 2 Outputs, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class A Master <b>OR</b></li> <li>• 2 Inputs, PNP/NPN <b>OR</b></li> <li>• 2 Outputs, 250 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class A Master <b>OR</b></li> <li>• 2 Inputs, PNP/NPN <b>OR</b></li> <li>• 2 Outputs, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class A Master <b>OR</b></li> <li>• 2 Inputs, PNP/NPN <b>OR</b></li> <li>• 2 Outputs, 250 mA ea</li> </ul>
Module <b>B</b>		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>
Module <b>C</b>		<ul style="list-style-type: none"> <li>• 2 Outputs, 500 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• 2 Outputs, 500 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>
		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>		<ul style="list-style-type: none"> <li>• IO-Link, Class B Master <b>OR</b></li> <li>• 1 Input, PNP/NPN <b>OR</b></li> <li>• 1 Output, 250 mA ea</li> </ul>
Module <b>N</b>	Blank Cover, No Ports, Only available in Position 3			

D

Subbase & Manual Valves

H Series Micro

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H Series ISO

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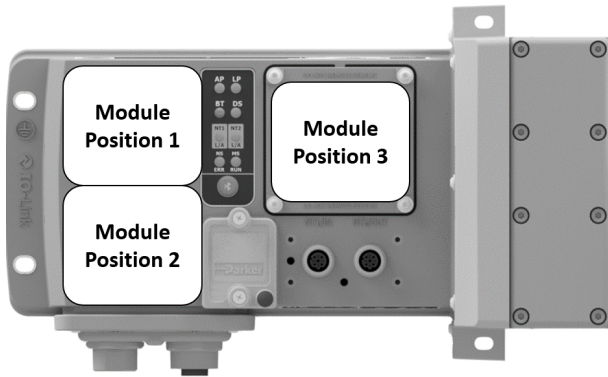


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**I/O Module Combinations**



- Below are 16 standard module combinations
- For simplicity, similar combinations of modules are consolidated into one combination



**Example Model Structure**



Below are the standard module configurations

Refer to page 183 for full product Module Structure.

Order Code	Module Position 1	Module Position 2	Module Position 3
AAA	A	A	A
AAB	A	A	B
AAC	A	A	C
AAN	A	A	N
ABB	A	B	B
ABC	A	B	C
ABN	A	B	N
ACC	A	C	C
ACN	A	C	N
BBB	B	B	B
BBC	B	B	C
BBN	B	B	N
BCC	B	C	C
BCN	B	C	N
CCC	C	C	C
CCN	C	C	N

For any module configurations not listed, consult factory.

<b>D</b>
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Power Options**

- The PCH Network Portal has 4 available power connectors
- There are two power schemes that can be achieved detailed below
- Any I/O ports using AUX power and any attached H ISO Universal manifold valves draw power from the AUX power pins of the power connector

**Consumption @ 24 VDC**

AUX power max consumption 12A  
 Logic power max consumption 8A

**Total possible passthrough for AUX line and Logic 20A**

Any power left over can be passed on to other devices on the network

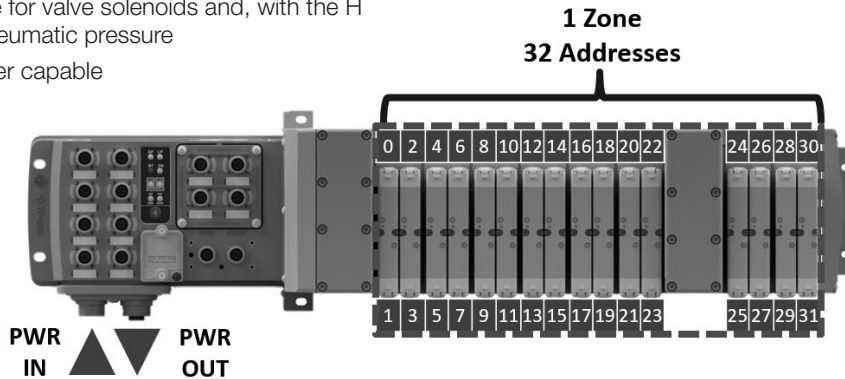


Power Connector *	
4-pin power in/out with 1 safe power capable zone	P4
5-pin power in/out with 1 safe power capable zone	P5
4-pin power in/out with 2 safe power zones	S4
5-pin power in/out with 2 safe power zones	S5
AIDA power in/out with 1 safe power capable zone	J1*

\* Only available with Profinet AIDA

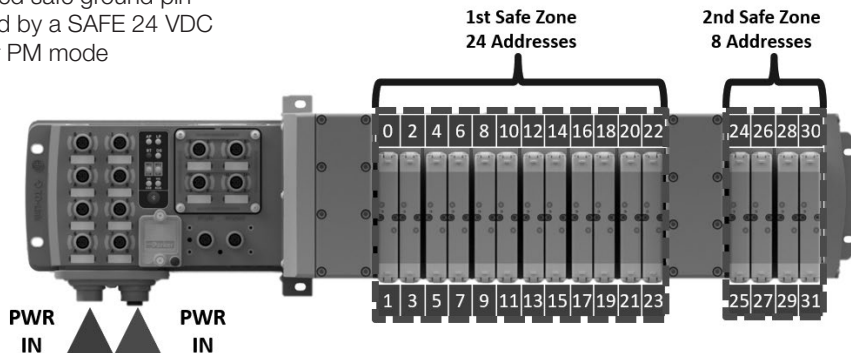
**Power Scheme 1**

- All 32 addresses are controlled in the same power zone
- Safety zoning is possible for valve solenoids and, with the H ISO Universal valves, pneumatic pressure
- Power zone is safe power capable
- Available in 4 or 5-pin 7/8" power connectors



**Power Scheme 2**

- The power connector separates the valve power
- Each zone has an isolated safe ground pin so each can be powered by a SAFE 24 VDC auxiliary source in PP or PM mode
- Available in 4 or 5 pin 7/8" power connectors



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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**Common Part Numbers**

**Popular Module Combinations**

- Listed below are popular module configurations
- For full model number structure, please refer to next page

**EtherNet/IP™**

Popular Part Number Configurations						
Pilot Type	Thread Type	Module Position			Power Connector	End Plate Part Number
		1	2	3		
Internal	NPT	A	A	A	4-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PEAAA-P4
Internal	NPT	A	A	B	4-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PEAAB-P4
Internal	NPT	A	B	C	4-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PEABC-P4
Internal	NPT	A	A	N	4-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PEAAN-P4
Internal	NPT	A	A	A	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PEAAA-P5
Internal	NPT	A	A	B	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PEAAB-P5
Internal	NPT	A	A	C	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PEAAC-P5
Internal	NPT	A	A	N	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PEAAN-P5
Internal	NPT	A	A	A	4-pin power IN/IN with 2 safe power zones	PSHU20P300PEAAA-S4
Internal	NPT	A	A	N	5-pin power IN/IN with 2 safe power zones	PSHU20P300PEAAN-S5



Popular Part Number Configurations						
Pilot Type	Thread Type	Module Position			Power Connector	End Plate Part Number
		1	2	3		
Internal	NPT	A	A	A	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PNAAB-P5
Internal	NPT	A	A	B	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PNAAB-P5
Internal	NPT	A	B	C	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PNABC-P5
Internal	NPT	A	A	N	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PNAAN-P5
Internal	NPT	A	A	A	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PNAAB-P5
Internal	NPT	A	A	B	5-pin power IN/IN with 2 safe power zones	PSHU20P300PNAAB-S5
Internal	NPT	A	A	C	5-pin power IN/IN with 2 safe power zones	PSHU20P300PNAAC-S5
Internal	NPT	A	A	N	5-pin power IN/IN with 2 safe power zones	PSHU20P300PNAAN-S5
Internal	NPT	A	A	A	5-pin power IN/IN with 2 safe power zones	PSHU20P300PNAAB-S5
Internal	NPT	A	A	N	5-pin power IN/IN with 2 safe power zones	PSHU20P300PNAAN-S5

**EtherCAT®**

Popular Part Number Configurations						
Pilot Type	Thread Type	Module Position			Power Connector	End Plate Part Number
		1	2	3		
Internal	NPT	A	A	A	4-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PTAAA-P4
Internal	NPT	A	A	B	4-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PTAAB-P4
Internal	NPT	A	B	C	4-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PTABC-P4
Internal	NPT	A	A	N	4-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PTAAN-P4
Internal	NPT	A	A	A	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PTAAA-P5
Internal	NPT	A	A	B	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PTAAB-P5
Internal	NPT	A	A	C	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PTAAC-P5
Internal	NPT	A	A	N	5-pin power IN/OUT with 1 safe power capable zone	PSHU20P300PTAAN-P5
Internal	NPT	A	A	A	4-pin power IN/IN with 2 safe power zones	PSHU20P300PTAAA-S4
Internal	NPT	A	A	N	5-pin power IN/IN with 2 safe power zones	PSHU20P300PTAAN-S5

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modutefx Series  
 H Series ISO Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



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**End Plate Kit – Universal Plug-in**

The PCH Network Portal is ordered as an endplate kit. This includes the PCH Network Portal, left hand air supply module, and right hand end plate.

For fully assembled manifold Add-A-Fold part number, reference page D88



**PSHU20 P3 0 0 P E AAA 0 - P4**

Valve Type	
Plug-in (Internal pilot)	<b>PSHU20</b>
Plug-in (External pilot)	PSHU2X

Thread Type	
NPT	<b>0</b>
BSPG "G"	1

Network Connections	
EtherNet/IP	<b>E</b>
EtherCAT	T
PROFINET	N
PROFINET AIDA	A
Modbus TCP	M

Power Connector *	
4-pin power IN/OUT with 1 safe power capable zone	<b>P4</b>
5-pin power IN/OUT with 1 safe power capable zone	P5
4-pin power IN/IN with 2 safe power zones	S4
5-pin power IN/IN with 2 safe power zones	S5
AIDA power IN/OUT with 1 safe power capable zone	J1*

\* Only available with Profinet AIDA

Right Hand End Plate Type / Thread Size	
Low profile (no ports)	<b>0</b>
1/2 Exhaust and inlet port	1
3/4 Exhaust and inlet port	2
H3 Transition plate and end plate (electrical pass through for plug-in valves only)	3
H3 Transition plate and end plate (expansion to 25th address for plug-in valves only)	4

Module Combinations		
Module Position 1	Module Position 2	Module Position 3
A	A	A
A	A	B
A	A	C
A	A	N
A	B	B
A	B	C
A	B	N
A	C	C
A	C	N
B	B	B
B	B	C
B	B	N
B	C	C
B	C	N
C	C	C
C	C	N

For any module configurations not listed, consult factory.

  Most popular.



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D	Subbase & Manual Valves
H Series Micro	Modulflex Series
H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair II Series

**Mechanical Data**

Housing Material	Housing /Enclosure: PBT with 33% GF and UL94-V0 Base Cover (plate): Aluminum 380
Enclosure rating	IP 65 (only when plugged-in and threaded-in)
Power Connectors	7/8" 4 or 5 pin male and female pin connector
Input ports/ Output ports	M12, A-coded (12 x female)
Dimensions (L x B x H in mm)	226.6mm x 130.7mm x 55mm
Mounting type	Screw Mount
Ground strap attachment	M5
Weight	Approx. 1.3 kg

**Operating Conditions**

Operating Temperature	0°C to 50°C
Storage Temperature	-25°C to 70°C
CE as per	IEC 61000-6-2 (Industrial Immunity)
	IEC 61000-6-4 (Industrial Emission)
Shock/Vibrations	IEC 60068-2-27:2008
	IEC 60068-2-6:2007
Electrostatic Discharge	IEC 61000-4-2
Electrical Fast Transient/ Burst	IEC 61000-4-4
Surge Immunity	IEC 61000-4-5

**Electrical Data**

Supply Voltage	24VDC (-15% to +20%)
Logic current at 24 V (V1)	Max Current 8A – Actual usage depends on configuration
Auxiliary current at 24 V (V2)	Max Current 12A – Actual usage depends on configuration

**Valve Configuration**

Compatible Valves	H Universal ISO Valves
Available addresses	24 addresses, 32 addresses with H Universal Extension Slice

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series





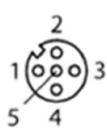

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**I/O Port Pin Outs**



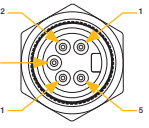
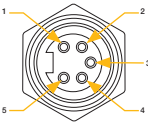




- The PCH Network Portal uses threaded M12 Ports for I/O Connections
- All configurable ports are configurable through software at any time

Module Variant	Connector	Pin No.	Function
<b>A</b> *Applies to ports 1-4 of this module		1	+24V, 500mA VLOG (V1)
		2	Input (PNP or NPN) / Output +24V, 250 mA (V1)
		3	GND (V1)
		4	IO-Link/Input (PNP or NPN) / Output +24V, 250mA (V1)
		5	Not Connected
<b>B</b> *Applies to ports 1-4 of this module		1	+24V, 250mA VLOG (V1)
		2	+24V, 1.2A VAUX (V2)
		3	GND (V1)
		4	IO-Link/Input (PNP or NPN) / Output +24V, 250mA (V1)
		5	GND (V2)
*Applies to ports 1-2 of this module  <b>C</b> *Applies to ports 3-4 of this module		1	Not Connected
		2	Output +24VAUX (V2), 500mA
		3	GND (V2)
		4	Output +24VAUX (V2), 500mA
		5	Not Connected
*Applies to ports 3-4 of this module		1	+24V, 250mA VLOG (V1)
		2	+24V, 1.2A VAUX (V2)
		3	GND (V1)
		4	IO-Link/Input (PNP or NPN) / Output +24V, 250mA (V1)
		5	GND (V2)

**Power Conector Pin Outs**

- The PCH Network Portal uses 7/8" ports for its left IN and right Out power connectors
- Any power configuration below can be ordered

\*For AIDA power connector, consult factory

Left Power Connector: Power IN				Right Power Connector: Power OUT			
Connector	Pin No.	Function	Description	Connector	Pin No.	Function	Description
<b>P4</b> 	1	+24 V	+24V V2 (VAUX), 12A		1	+24 V	+24V V2 (VAUX), 3.8A
	2	+24 V	+24V V1 (VLOG), 8A		2	+ 24V	+24V V1 (VLOG), 1.28A
	3	0 V	GND V1 (VLOG)		3	0 V	GND V1 (VLOG)
	4	0 V	GND V2 (VAUX)		4	0 V	GND V2 (VAUX)
<b>P5</b> 	1	0 V	GND V2 (VAUX)		1	+24 V	GND V2 (AUX)
	2	0 V	GND V1 (VLOG)		2	+ 24V	GND V1 (VLOG)
	3	Protective Earth	Protective Earth		3	Protective Earth	Protective Earth
	4	+24 V	+24V V1 (VLOG), 8A		4	+ 24 V	+24 V V1 (VLOG)
	5	+24 V	+24V V2 (VAUX), 12A		5	+ 24 V	+24 V V2 (VAUX)
<b>S4</b> 	1	+24 V	+24V V2 (VAUX), 12A		1	+24 V	+24V V2 (VAUX), 3.8A
	2	+ 24V	+24V V1 (VLOG), 8A		2	+ 24V	+24V V1 (VLOG), 1.28A
	3	0 V	GND V1 (VLOG)		3	0 V	Safe GND 1-3
	4	0 V	GND V2 (VAUX)		4	0 V	Safe GND 4
<b>S5</b> 	1	0V	GND V2 (VAUX)		1	+24 V	+24V V2 (VAUX), 3.8A
	2	0V	GND V1 (VLOG)		2	+ 24V	+24V V1 (VLOG), 1.28A
	3	Protective Earth	Protective Earth		3	Protective Earth	Protective Earth
	4	+24V	+24VV1 (VLOG), 8A		4	0 V	Safe GND 1-3
	5	+24V	+24V V2 (VAUX), 12A		5	0 V	Safe GND 4



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

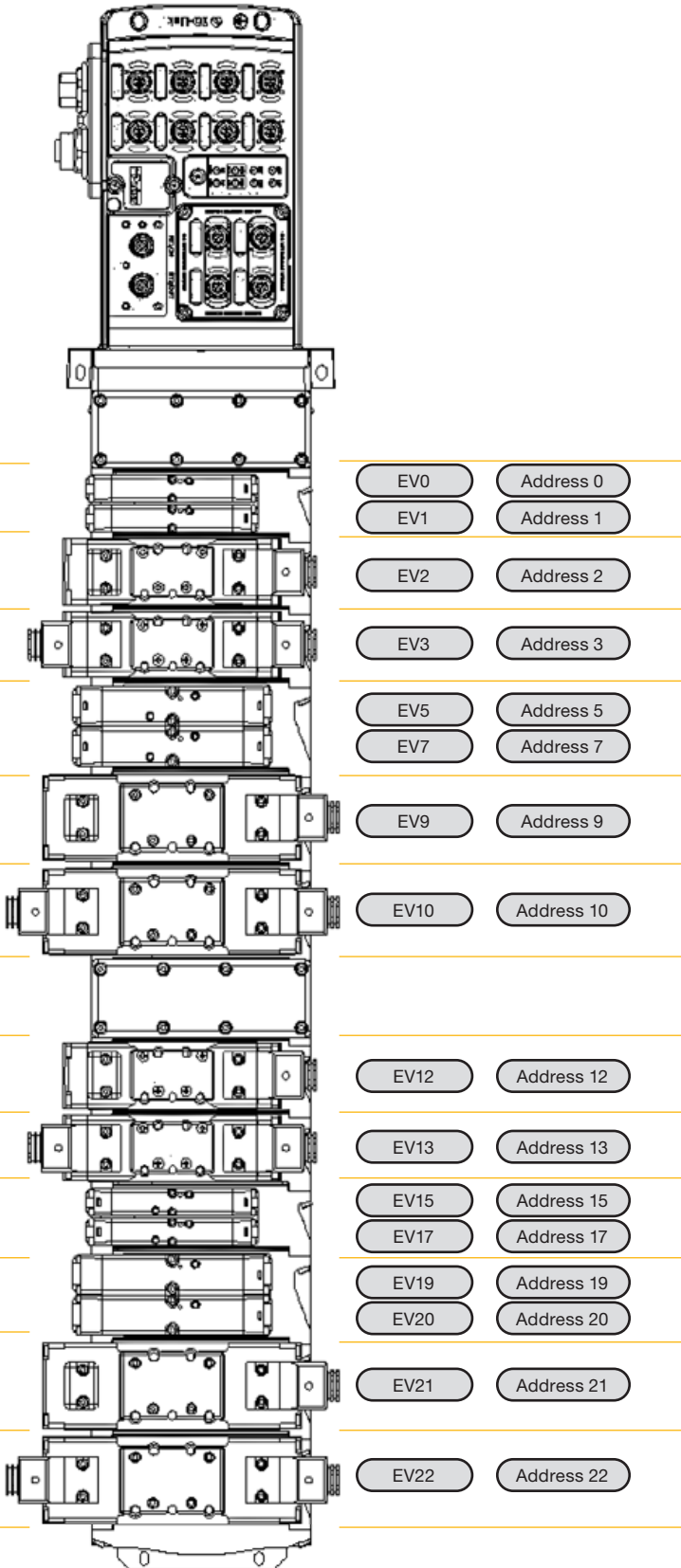
D185

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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Solenoid Addressing**

- The PCH Network Portal can use the following H ISO Universal Valves:
  - ISO 15407-2 – sizes 02 & 01
  - ISO 5599-2 – sizes 1, 2 & 3
- The PCH Network Portal can support up to 32 addresses as shown
- The data map and PCH Tool refers to each address with a Valve\_X designator. Each Valve\_X designator is as shown.
- Addresses 25-31 can be accessed using an Intermediate Air Supply with Electric Expansion
- Each address is one solenoid



Air Supply

HB Single Address  
Manifold

H1 Single Address  
Manifold

H1 Double Address  
Manifold

HA Double Address  
Manifold

H2 Single Address  
Manifold

H2 Double Address  
Manifold

Air Supply Zero  
Address Manifold

H1 Single Address  
Manifold

H1 Double Address  
Manifold

HB Double Address  
Manifold

HA Single Address  
Manifold

H2 Single Address  
Manifold

H2 Double Address  
Manifold

Low Profile End Plate  
(No Ports)

EV4      Address 4

EV6      Address 6

EV8      Address 8

EV11      Address 11

EV14      Address 14

EV16      Address 16

EV18      Address 18

EV23      Address 23

EV0      Address 0

EV1      Address 1

EV2      Address 2

EV3      Address 3

EV5      Address 5

EV7      Address 7

EV9      Address 9

EV10      Address 10

EV12      Address 12

EV13      Address 13

EV15      Address 15

EV17      Address 17

EV19      Address 19

EV20      Address 20

EV21      Address 21

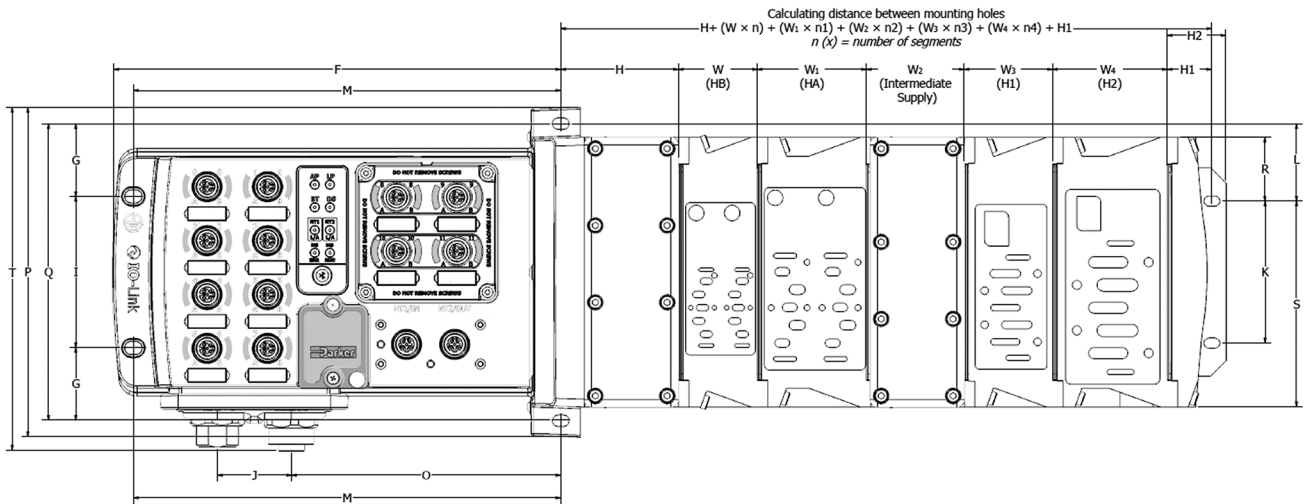
EV22      Address 22

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	H Series ISO
	Network Connectivity
	DX ISOMAX Series
Valvair-II Series	



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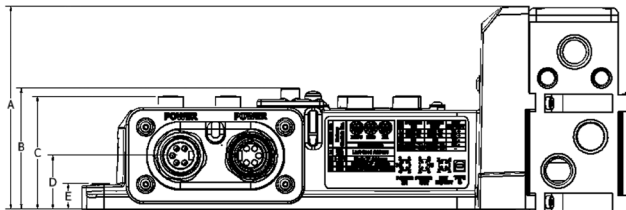
**PCH Network Portal with H Series ISO Valves**



n (x) = number of segments

A	B	C	D	E	F	G	H	H <sub>1</sub>	H <sub>2</sub>	J	K	L
4.42 (112.3)	2.64 (67.1)	2.46 (62.5)	1.17 (29.7)	.55 (14)	9.32 (236.7)	1.51 (38.4)	2.36 (59.9)	.9 (22.9)	1.22 (31)	1.55 (39.4)	2.95 (74.9)	1.6 (40.6)
M	O	P	Q	R	S	T	W	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	
8.91 (226.3)	5.61 (142.5)	6.86 (174.2)	6.18 (157)	1.33 (33.8)	4.28 (108.7)	7.14 (181.4)	1.63 (41.4)	2.28 (57.9)	2.03 (51.6)	1.82 (46.2)	2.39 (60.7)	

Inches (mm)



**D**

**Subbase & Manual  
Valves**

**H Series  
Micro**

**Moduflex  
Series**

**H Series  
ISO**

**Network  
Connectivity**

**DX ISOMAX  
Series**

**Valvair II  
Series**



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**Product Support**

- The PCH Network Portal Product Landing page can be accessed at the following:



[www.parker.com/pdn/PCHPortal](http://www.parker.com/pdn/PCHPortal)

- The PCH Network Portal support material can be accessed at the following website



[www.parker.com/pdn/networkconnectivity](http://www.parker.com/pdn/networkconnectivity)

User Manuals

- The PCH Network Portal User Manuals can be accessed at the following website

**EtherNet/IP™**

Ethernet/IP User Manual

QR Code  
Coming  
Soon

QR Code  
Coming  
Soon

Profinet User Manual



**EtherCAT®**

EtherCAT User Manual

QR Code  
Coming  
Soon

QR Code  
Coming  
Soon

Modbus User Manual



For more information on IO-link

[www.io-link.com](http://www.io-link.com)



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Network Connectivity
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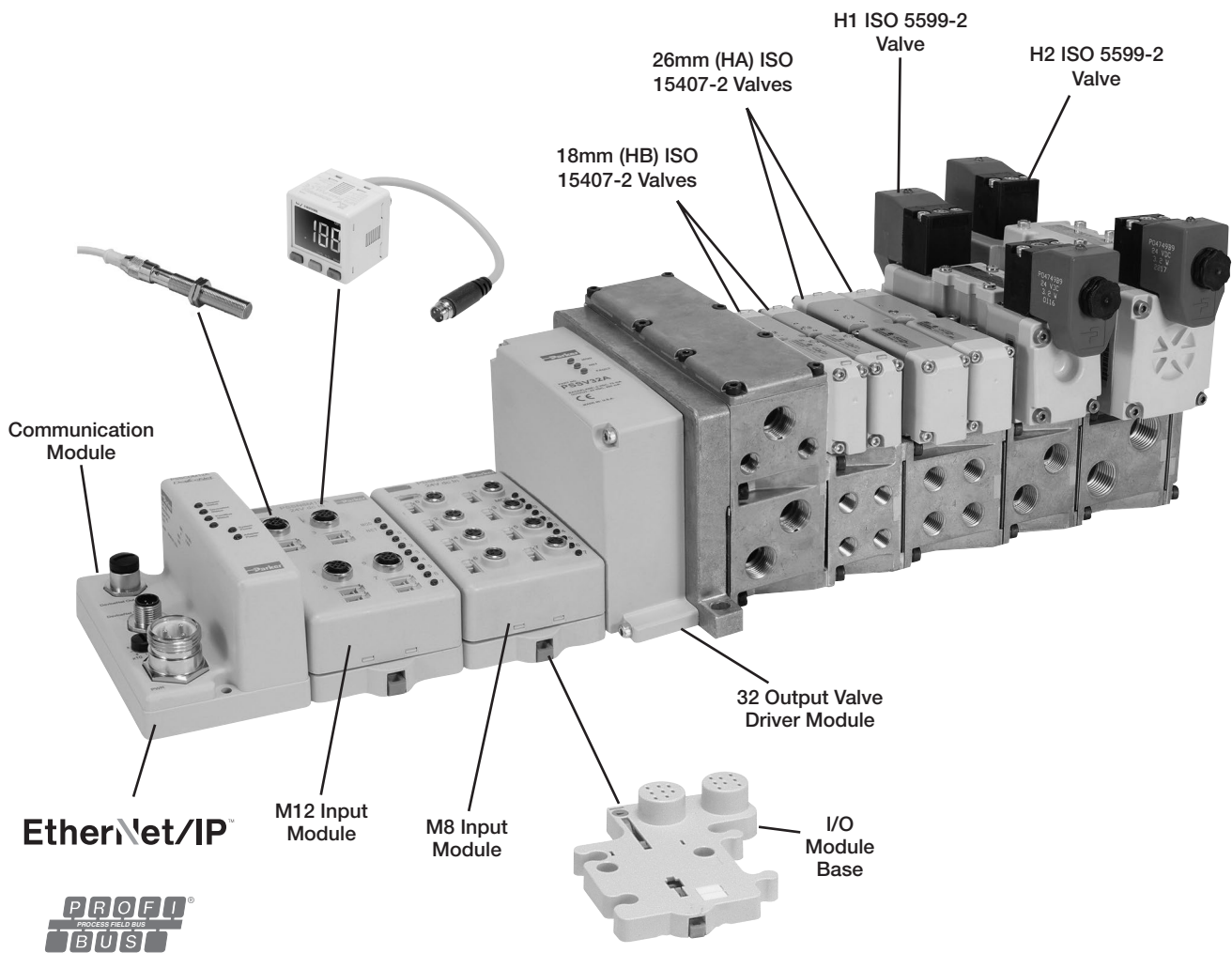


**H Series ISO & H Series Network Portal**

- A complete network communication offering for all H Series ISO and H Series Micro valves
- CSA, cCSAus and CE certifications (as marked)

**I/O Configuration**

- De-centralized H Series Network Portal
- M23, 12-Pin or 19-Pin output extension to an H Series ISO valve manifold
- Separate input clusters using a bus extender cable
- Separate output and input power using a power extension module
- I/O density per module = 8 or 16



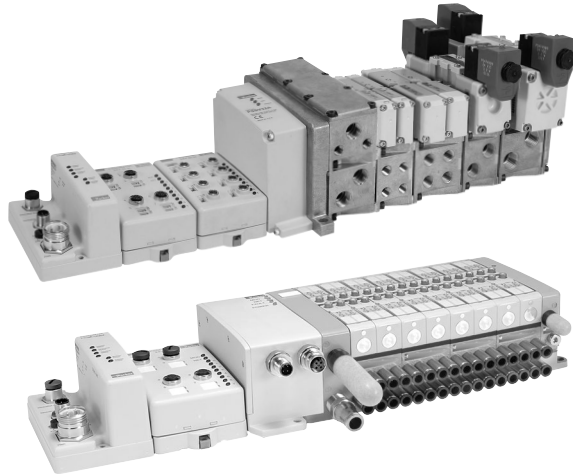
D
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series

## Features

### The H Series Network Portal

#### H Series Network Portal has four major components:

- Valve driver module provide control for 32 solenoids on a manifold, with bus extension providing connectivity to 3 more manifolds
- I/O modules provide the field interface, system-interface circuitry, and bases for mounting
- Communication modules provide the network-interface circuitry
- Power distribution module provide 5 additional power inputs to the H Series Network Portal



## H Series ISO & Network Connectivity H Series Network Portal

### Features

- Highly modular design (4pt – 16pt modularity)
- Broad application coverage
- Channel-level diagnostics (LED)
- Channel-level alarm and annunciation (electronic)
- Channel-level open-wire detection with electronic feedback
- Parameter-level explicit messaging
- Horizontal and vertical mounting without derating
- 5g vibration
- Electronic and mechanical keying
- Robust backplane design
- Quick-disconnects for I/O and network connectivity
- Built-in panel grounding
- Color-coded module labels
- UL, cUL, and CE certifications (as marked)
- Highly reliable structural integrity
- Optical isolation between field and system circuits

**D**  
 Subbase & Manual  
 Valves

### Communications Module



#### Protocol

- EtherNet/IP
- PROFIBUS-DP

#### Part number

- PSSCENA**
- PSSCPBA**

#### PSSCENA

All modules are IP67 certified.  
 Reference the following documents for installation instructions.  
 DeviceNet - E101P, PSS-UM001A; ControlNet - E103P  
 EtherNet/IP - E104P; PROFIBUS-DP - E102P

H Series  
 Micro  
 Modulflex  
 Series  
 H Series  
 ISO  
 Network  
 Connectivity  
 DX ISOMAX  
 Series  
 Valvair-II  
 Series

### Digital Inputs



#### I/O modules

- 16 digital inputs M12, 5-pin used with PNP sourcing input device
- 8 digital inputs M12, 5-pin used with PNP sourcing input device
- 8 digital inputs M8, 3-pin used with PNP sourcing input device

#### Voltage

- 10 to 28.8VDC
- 10 to 28.8VDC
- 10 to 28.8VDC

#### Part number

- PSSN16M12A**
- PSSN8M12A**
- PSSN8M8A**

#### PSSN16M12A

#### PSSN8M8A

Reference E106P document for installation instructions.

  Most popular.





For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**Digital Outputs**

	I/O modules	Voltage	Part number
 <b>PSST16M12A</b>	16 digital outputs M12, 5-pin used with PNP sourcing outputs*	10 to 28.8VDC	<b>PSST16M12A</b>
	8 digital outputs M12, 5-pin used with PNP sourcing outputs*	10 to 28.8VDC	<b>PSST8M12A</b>
 <b>PSST8M23A</b>	4 digital output, high watt relay M12, 5-pin used with PNP sourcing outputs (2 Amp) <sup>§</sup>	24VDC	<b>PSSTR4M12A</b>
	8 digital outputs M23, 12-pin used with PNP sourcing outputs*	10 to 28.8VDC	<b>PSST8M23A</b>


All modules are IP67 certified.  
 Reference the following documents for installation instructions.  
 \* E107P  
 § E109P  
 See [www.pdnplu.com](http://www.pdnplu.com)

**Analog Inputs**

	I/O modules	Voltage	Part number
 <b>PSSNACM12A</b>	2 Analog inputs voltage M12, 5-pin <sup>†</sup>	-10 to 10VDC or 0 to 10VDC	<b>PSSNAVM12A</b>
	2 Analog inputs current M12, 5-pin <sup>†</sup>	4 to 20mA or 0 to 20mA	<b>PSSNACM12A</b>


All modules are IP67 certified,  
<sup>†</sup> Reference E110P document for installation instructions.  
 See [www.pdnplu.com](http://www.pdnplu.com)

**Terminating Base Module**

	Base module	Part number
 <b>PSSTERM</b>	Termination base for stand alone units	<b>PSSTERM</b>

Used as the last terminating module for a stand alone H Series network assembly.

**Power Extender Module**

	Extender module	Part number
 <b>PSSSE24A</b>	24VDC field power module	<b>PSSSE24A</b>


A Power Extender Module must be used on every 14th module in H Series Network assembly.  
 Reference document E105P and PSS-SG001 for configuration instructions.  
 See [www.pdnplu.com](http://www.pdnplu.com)

 Most popular.




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**Bus Extender Cable**

	Description	Voltage	Part number
	1 meter cable*	24VDC	<b>1738-EXT1</b>
	3 meter cable*	24VDC	<b>1738-EXT3</b>


\* Requires a PSSSE24 Power Extender Module.  
 IP67 certified.  
 Reference E117P document for installation instructions.  
 See [www.pdnplu.com](http://www.pdnplu.com)

**H Series Micro Bus Extender Cable**

	Description	Voltage	Part number
	1 meter cable*	24VDC	<b>PSSVEXT1</b>

\* IP67 certified.

**Replacement Base Module**

	Description	Part number
	Base module	<b>PSSBASE</b>

**D**

Subbase & Manual Valves

H Series Micro


Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

 Most popular.



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**Using Bus Extender Cables**

**Example #1:**

**H Series Micro with Standard Bus Extender Cable**

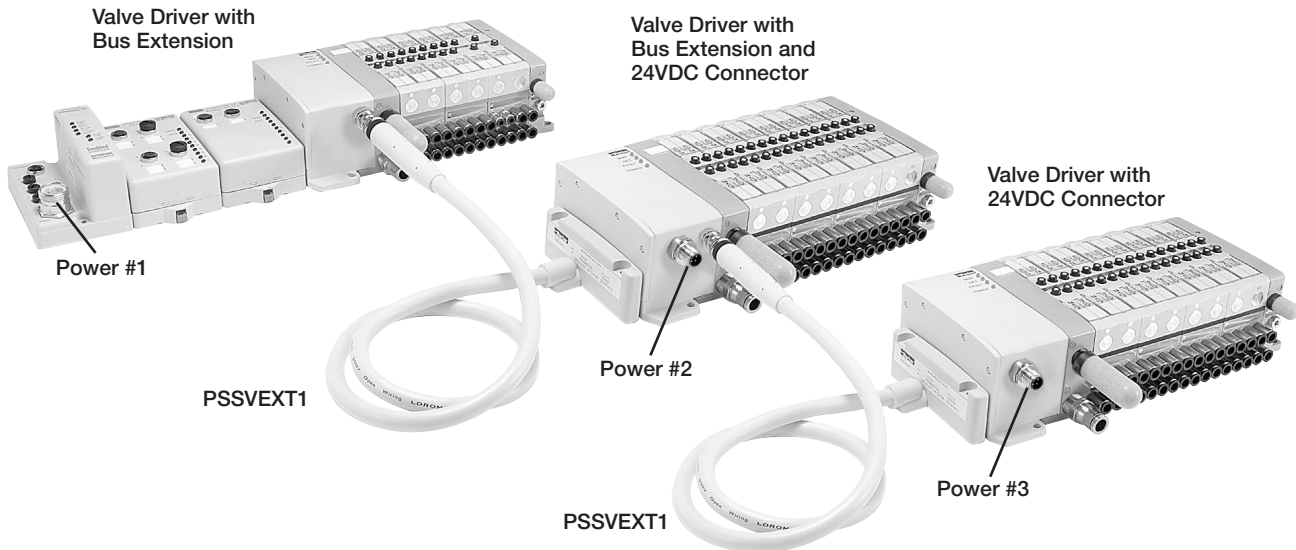
- Separate the communication module and a portion of the I/O from other I/O and the valve manifold
- Commonly used when overall length is restricted
- PSSSE24A is needed on the extension. No 24VDC connector needed on the H Series Network end plate
- Can be used with H Series ISO and H Series Micro valves



**Example #2:**

**H Series Micro with Bus Extension on Valve Driver Module – No additional I/O at the Extension**

- Add up to three additional valve manifolds without adding another communication module
- No PSSSE24A is needed on the extension when the valve driver module with 24VDC connector is used
- Commonly used when many valves are required
- Bus expansion only available with H Series Micro valves



**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

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Valvair II Series



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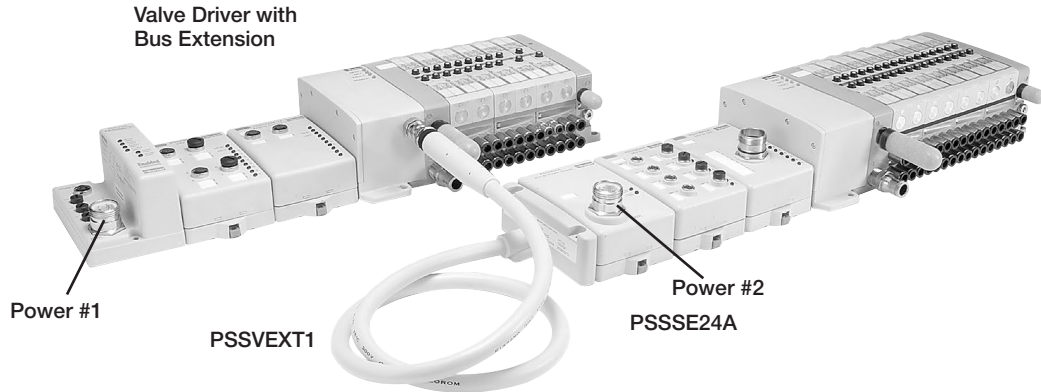
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**Using Bus Extender Cables (continued)**

**Example #3:**

**H Series Micro with Bus Extension on Valve Driver – With I/O at Extension**

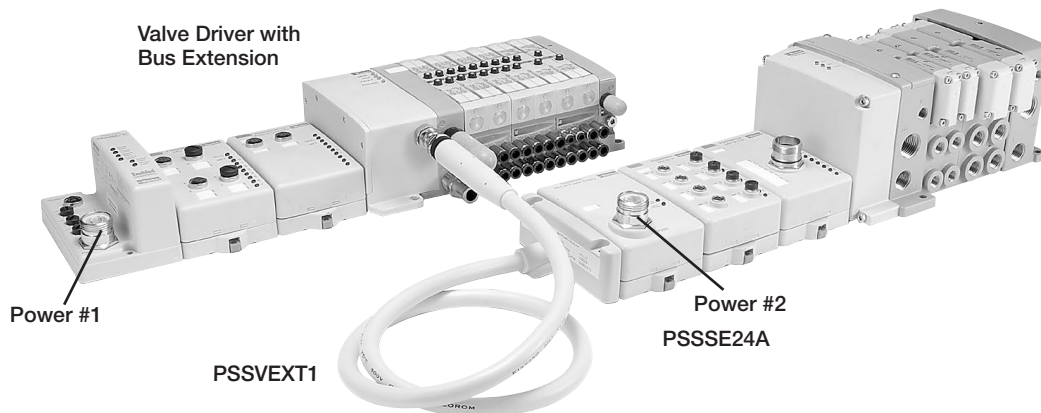
- Add up to three additional valve manifolds without adding another communication module
- PSSSE24A is needed on the extension. No 24VDC connector needed on the H Series Network end plate
- Commonly used when many valves are required, and each location requires additional I/O
- Bus expansion only available with H Series Micro



**Example #4:**

**H Series Micro with Bus Extension on Valve Driver Module – With I/O at the Extension and Larger H Series ISO Valve Manifold**

- Add up to two additional H Series Micro valve manifolds and one H Series ISO valve manifold without adding another communication module
- PSSSE24A is needed on the extension
- H Series ISO valve manifold must be the last manifold on the extension
- Commonly used when many valves are required, and each location requires additional I/O
- Bus expansion only available with H Series Micro, H Series ISO manifold must be the last manifold in the system



D	Subbase & Manual
Valves	H Series Micro
Modulflex Series	H Series ISO
Network Connectivity	DX ISOMAX Series
Valvair-II Series	



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**Digital I/O Modules**

Choose digital I/O modules when you need:

- **Input Modules.** An input module responds to an input signal in the following manner:
  - Input filtering limits the effect of voltage transients caused by contact bounce and/or electrical noise. If not filtered, voltage transients could produce false data. All input modules use input filtering.
  - Optical isolation shields logic circuits from possible damage due to electrical transients.
  - Logic circuits process the signal.
  - An input LED turns on or off indicating the status of the corresponding input device.
- **Output Modules.** An output module controls the output signal in the following manner:
  - Logic circuits determine the output status.
  - An output LED indicates the status of the output signal.
  - Optical isolation separates module logic and bus circuits from field power.
  - The output driver turns the corresponding output on or off.
- **Surge Suppression.** Most output modules have built-in surge suppression to reduce the effects of high-voltage transients. However, we recommend that you use an additional suppression device if an output is being used to control inductive devices, such as:
  - Relays
  - Motor starters
  - Solenoids
  - Motors

Additional suppression is especially important if your inductive device is in series with, or parallel to, hard contacts such as:

  - Push buttons
  - Selector switches

The digital I/O modules support:

- A wide variety of voltage interface capabilities
- Isolated and non-isolated module types
- Point-level output fault states
- Choice of direct-connect or rack-optimized communications
- Field-side diagnostics on select modules

Connector types are indicated by the catalog number. For example, the PSSN16M12A has an M12 connector.

**Digital DC Input Modules**

	PSSN8M8A PSSN8M12A	PSSN16M12A
Number of inputs	8 PNP sourcing	16 PNP sourcing
Key switch position	1	
Voltage, on-state input, nom.	24VDC	
Voltage, on-state input, min.	10VDC	
Voltage, on-state input, max.	28.8VDC	
Input delay time, ON to OFF	0.5 ms hardware + (0...65 ms selectable)*	
Current, on-state input, min.	2 mA	
Current, on-state input, max.	5 mA	
Current, off-state input, max.	1.5 mA	
Bus power current (mA)	75	
Power dissipation, max.	1.0 W @ 28.8VDC	

\* Input ON-to-OFF delay time is the time from a valid input signal to recognition by the module.

**Digital DC Output Modules**

	PSST8M12A PSST8M23A	PSST16M12A
Number of outputs	8 PNP sourcing	16 PNP sourcing
Keyswitch position	1	
Voltage, on-state output, nom.	24VDC	
Voltage, on-state output, min.	10VDC	
Voltage, on-state output, max.	28.8VDC	
Output current rating, max.	3.0 A per module, 1.0 A per channel	
Bus power current (mA)	75	
Power dissipation, max.	1.2 W @ 28.8VDC	

**Relay Output Module**

	PSSTR4M12A
Number of outputs	4 Form A (N.O.) relays, isolated
Key switch position	7
Output delay time, ON to OFF, max.	26 ms*
Contact resistance, initial	30 mΩ
Current leakage, Off-state output, max.	1.2 mA and bleed resistor thru snubber circuit @ 240V ac
Output current rating, max	8.0 A per module, 2.0 A per channel
Bus power current (mA)	90
Power dissipation, max.	0.5 W

\*Time from valid output off signal to relay de-energization by module.



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**Analog I/O Modules**

The H Series Network Portal analog modules support: on-board, channel-level data alarming (four set-points per channel); scaling to engineering units; channel-level diagnostics (electronic bits and LEDs); and integer format.

Choose analog input modules when you need:

- **Individually configurable channels** to use the module(s) with a variety of sensors.
- **On-board scaling** to eliminate the need to scale the data in the controller. Controller processing time and power are preserved for more important tasks, such as I/O control, communications, or other user-driven functions.
- **On-line configuration.** Modules can be configured in the RUN mode using the programming software or the control program. This allows you to change configuration while the system is operating. For example, the input filter for a particular channel could be changed, or a channel could be disabled based on a batch condition. To use this feature, the controller and network interface must also support this feature.
- **Over- and under-range detections and indications.** This eliminates the need to test values in the control program, saving valuable processing power of the controller. In addition, since alarms are handled by the module, the response is faster and only a single bit per channel is monitored to determine if an error condition has occurred.
- **Ability to individually enable and disable channels.** Disabling unused channels improves module performance.
- **Selectable input filters** This lets you select the filter frequencies for each channel that best meets the performance needs of your application based on environmental limitations. Lower filter settings provide greater noise rejection and resolution. Higher filter settings provide faster performance. Note: The analog modules provide four input filter selections.
- **Selectable response to broken input sensor.** This feature provides feedback to the controller that a field device is not connected or operating properly. This lets you specify corrective action based on the bit or channel condition.
- **High accuracy.** The modules share a high accuracy rating of  $\pm 0.1\%$  of full-scale accuracy at 25°C.

**Analog Input Modules**

	PSSNACM12A	PSSNAVM12A
Number of inputs	2	2
Key switch position	3	3
Input signal range	4...20 mA 0...20 mA	-10 to 10VDC 0 to 10VDC
Input resolution, bits	16 bits - over 21 mA 0.32 $\mu$ A/cnt	15 bits plus sign 320 $\mu$ V/cnt in unipolar or bipolar mode
Absolute accuracy, current input	0.1% full scale @ 25°C*†	—
Absolute accuracy, voltage input	—	0.1% full scale @ 25°C*†
Input step response, per channel	70 ms @ notch = 60 Hz (default) 80 ms @ notch = 50 Hz 16 ms @ notch = 250 Hz 8 ms @ notch = 500 Hz	70 ms @ notch = 60 Hz (default) 80 ms @ notch = 50 Hz 16 ms @ notch = 250 Hz 8 ms @ notch = 500 Hz
Input conversion type	Delta Sigma	Delta Sigma
Bus power current (mA)	75	75
Power dissipation, max.	0.6 W @ 28.8VDC	0.6 W @ 28.8VDC

\* Includes offset, gain, non-linearity and repeatability error terms.

† Analog input modules support these configurable parameters and diagnostics: open-wire with LED and electronic reporting; four-alarm and annunciation set-points; calibration mode and electronic reporting; under- and over-range and electronic reporting; channel signal range and update rate and on-board scaling; filter-type; channel update rate.

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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**Valve Driver Modules**

The PSSV32A and PSSVM32A valve driver modules provide an interface between the H Series Network Portal and the valve assembly. These modules will always be the last on the H Series Network serial bus, and control 32 digital outputs at 24VDC. Depending on the valve selection, a valve driver module can control up to 32 single solenoid valves or 16 double solenoid valves.

PSSV32A is used with H Series ISO valves and PSSVM32A is used with H Series Micro valves.

**Specifications**

	<b>PSSV32A and PSSVM32A</b>
Outputs per module	32, PNP sourcing
Voltage drop, on-state output, maximum	0.2VDC
Voltage, off-state output, maximum	28.8VDC
Voltage, on-state output, maximum	28.8VDC
minimum	10VDC
nominal	24VDC
Output current rating	200 mA per channel, not to exceed 6.0 A per module
Output surge current, maximum	0.5 A for 10 ms, repeatable every 3 seconds
Current leakage, off-state output, Maximum	0.1 mA
Current, on-state output minimum	200 mA per channel
Output delay time OFF to ON, Maximum <sup>1</sup>	0.1 ms
Output delay time, ON to OFF, Maximum <sup>1</sup>	0.1 ms
External DC power supply voltage range	10 to 28.8VDC
External DC power supply voltage nominal	24VDC

1. OFF to ON or ON to OFF delay is time from a valid output "on" or "off" signal to output energization or de-energization.

**Select the Appropriate Power Supply**

Part number	Power supply input voltage, nom.	Operating voltage range	Maximum continuous current draw	Power supply inrush current, max.	Input overvoltage protection	Power supply interruption protection
<b>PSSCENA</b>						
<b>PSSCPBA</b>	24VDC	10...28.8VDC	10 A	6 A for 10 ms	Reverse polarity protected	Output voltage will stay within specifications when input drops out for max. load.
<b>PSSSE24A</b>						

**D**

Subbase & Manual Valves

H Series Micro

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H Series ISO

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**Power Extender Module**

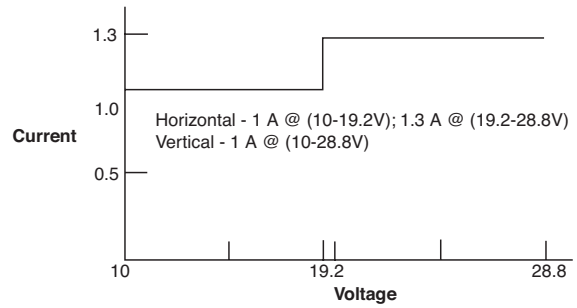
The PSSSE24A expansion power unit passes 24VDC field power to the I/O modules to the right of it. This unit extends the backplane bus power and creates a new field voltage partition segment for driving field devices for up to 13 I/O modules. The expansion power unit separates field power from I/O modules to the left of the unit, effectively providing functional and logical partitioning for:

- Separating field power between input and output modules
- Separating field power to the analog and digital modules
- Grouping modules to perform a specific task or function

You can use multiple expansion power units with any of the communication adapters to assemble a full system. If you are using the PSSCENA adapter, you may use a PSSSE24A expansion power unit to add additional modules. For example, if you had a 36 module system with a PSSCENA adapter, you would have at least two or more PSSSE24A expansion power units to provide more bus power current for modules to the right of the supply.

- 1.3A of additional bus power
- Starts new voltage distribution
- Partitioning for E-Stop wiring

**PSSSE24A Current Derating for Mounting**



**Power Distribution General Specifications**

	PSSSE24A
Power supply requirements	<b>Note:</b> In order to comply with CE low voltage directives (LVD), you must use a safety extra low voltage (SELV) or a protected extra low voltage (PELV) power supply to power this adapter
Field side power requirements	24VDC (+20% = 28.8VDC max.) @ 400 mA
Inrush current, max.	6 A for 10 ms
Input overvoltage protection	Reverse polarity protected
Power supply interruption protection	Output voltage will stay within specifications when input drops out for 10 ms at 10V with max. load
Power supply input voltage, nom.	24VDC
Operating voltage range	10...28.8VDC
Power consumption, max.	9.8 W @ 28.8VDC
Power dissipation, max.	3.0 W @ 28.8VDC
Thermal dissipation, max.	10.0 BTU/hr @ 28.8VDC
Isolation voltage	1250V rms
Bus power supply current, max.	1.5 A
Field power supply current, max.	10 A

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

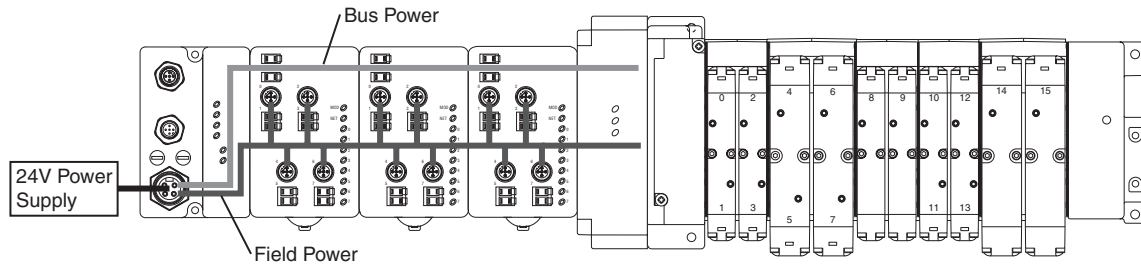


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**Power Distribution Options for H Series ISO**

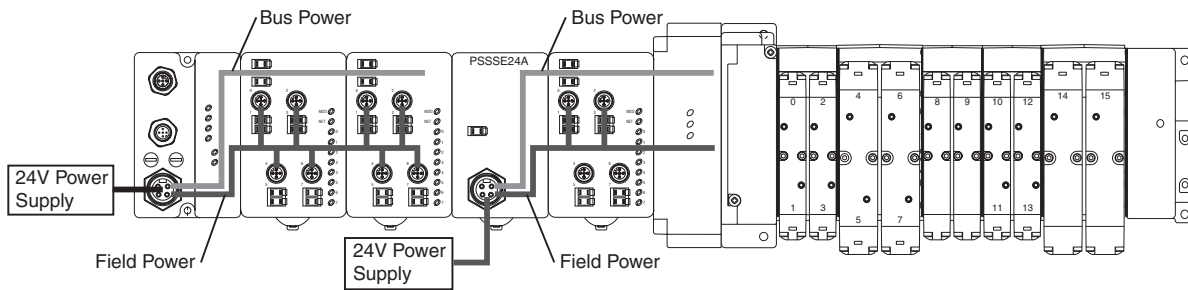
**H Series Network Communication and I/O Modules**

An auxiliary 24VDC power supply from the communication module provides power to the backplane bus power and I/O module field power. You can connect up to 13 I/O modules with a maximum of 10A field power, using the auxiliary power.



**H Series Network Portal with 24VDC Expansion Power Unit (PSSSE24A)**

The auxiliary power from the communication module supports up to 13 I/O modules with a maximum of 10A field power. The 24VDC power extender module (PSSSE24A) extends the backplane bus power and I/O Module field power to support up to 13 more I/O modules. Connect additional power extender modules to expand the I/O assembly up to the maximum of 63 I/O modules. This secondary 24VDC connector on the PSSSE24A can be wired into an emergency stop circuit.



**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**



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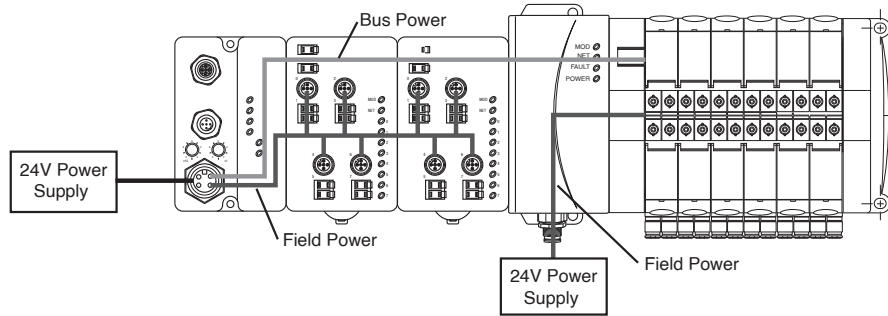
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**Additional Power Distribution Options for H Series Micro**

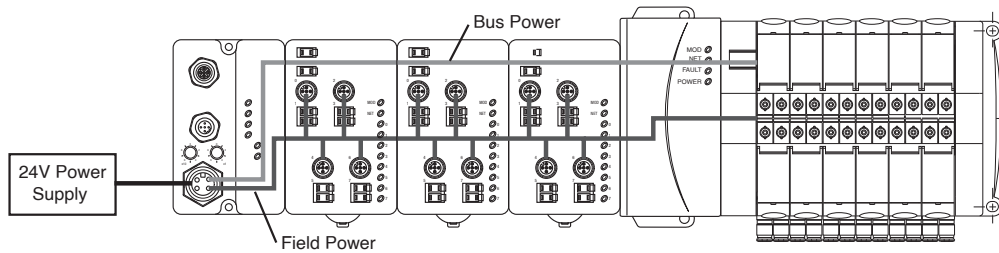
**H Series Network Communication Module and Valve Driver Module with 24VDC Connector**

The 24VDC power supply from the communication adaptor provides power to the backplane bus power and I/O module field power for up to 13 modules and an adapter with a maximum of 10A field power. In this configuration, backplane bus power and I/O module field power are supplied to the input and output modules. The communication module only supplies backplane bus power to the valve driver module, as the H Series Micro with 24VDC connector separates the field power from the rest of the network. This secondary 24VDC connector on the valve driver module supplies field power to the valves, and can be wired into an emergency stop circuit.



**H Series Network Communication and I/O Modules**

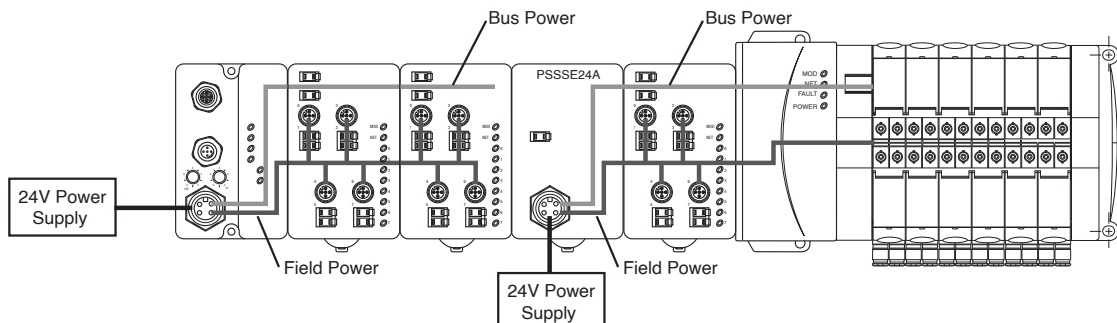
The 24VDC power supply from the communication module provides power to the backplane bus power and I/O module field power. You can connect up to 13 modules and an adapter with a maximum of 10A field power, using this power source.



**H Series Network Communication and I/O Modules**

The 24VDC power supply from the communication module provides power to the backplane bus power and I/O module field power. You can connect up to 13 modules and an adapter with a maximum of 10A field power, using this power source.

The 24VDC power extender module (PSSSE24A) extends the backplane bus power and I/O module field power to support up to 13 more modules. Connect additional power extender modules to expand the assembly up to the maximum of 63 I/O modules. The valve driver module is the last module on the system, and will draw bus power and field power from the PSSSE24A to the left of it. This secondary 24VDC connector on the PSSSE24A can be wired into an emergency stop circuit.



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Valves	H Series Micro
Modulflex Series	H Series ISO
Network Connectivity	DX ISOMAX Series
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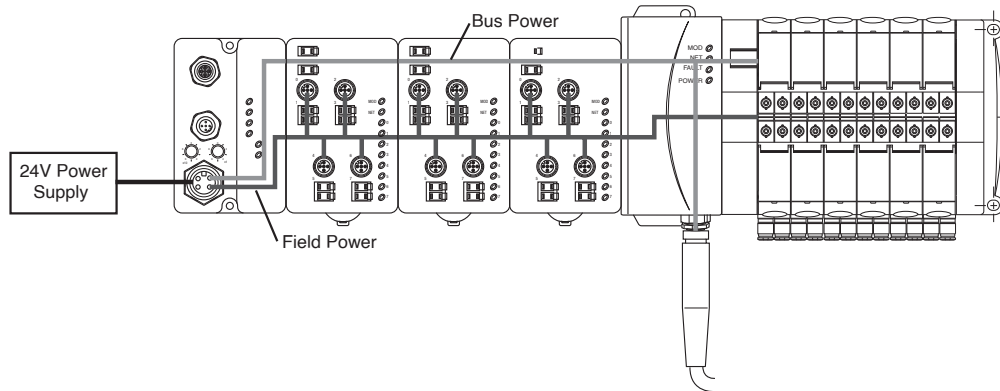
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**Power Distribution Options for H Series Micro (Continued)**

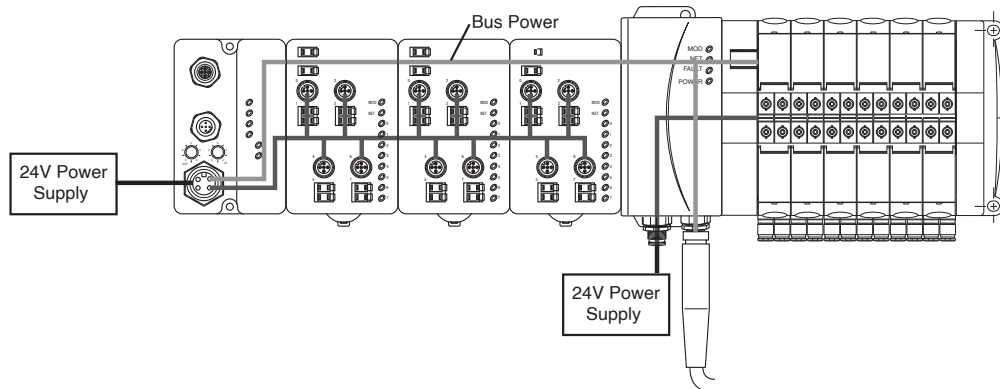
**H Series Network Communication Module with Bus Extension Connector and I/O Modules**

The 24VDC power supply from the communication module provides power to the backplane bus power and I/O module field power. You can connect up to 13 modules and an adapter with a maximum of 10A field power, using this power source. The H Series Micro with bus extension connector carries backplane bus power and communication down to another H Series network assembly through the PSSVEXT1 cable. If additional H Series Network input and output modules or H Series ISO valve manifold is used on this extension, a PSSSE24A power extender module is required to provide field power. If the extension is attached directly to an H Series Micro manifold, field power can be supplied directly by using the 24VDC connector option.



**H Series Network Communication Module with 24VDC and Bus Extension Connectors and I/O Modules**

The 24VDC power supply from the communication module provides power to the backplane bus power and I/O module field power. In this configuration, bus power and field power are supplied to the input and output modules. The communication module only supplies bus power to the valve driver module, as the 24VDC connector separates the field power from the rest of the network. This secondary 24VDC connector on the valve driver module supplies field power to the valves, and can be wired into an emergency stop circuit. The bus extension connector carries bus power and communication down to another H Series Network assembly through the PSSVEXT1 cable. If additional H Series Network input and output modules or H Series ISO valve manifold is used on this extension, a PSSSE24A power extender module is required to provide field power. If the extension is attached directly to an H Series Micro manifold with 24VDC connector, field power can be supplied directly by using the 24VDC connector option.



**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**



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**Placing H Series Network Modules**

**Maximum Size Layout**

Part number	Bus power supply	Maximum I/O modules with 24VDC backplane current at 75 mA each	Maximum I/O modules with expansion power supplies
PSSCENA on EtherNet/IP PSSCPBA on PROFIBUS	1000		
PSSSE24A Expansion Power	Horizontal mounting: 1A @ 10...19.2V input; 1.3A @ 19.2...28.8V input  Vertical mounting: 1A @ 10...28.8V input	Up to 13	63

**Power Supply Distance Rating**

Modules are placed to the right of the power supply. Each H Series Network module can be placed in any of the slots to the right of the power supply until the usable backplane current of that supply has been exhausted. A communication module provides 1 A current to the PointBus. The power extend module, PSSSE24A, provides up to 1.3 A and I/O modules require from 75 mA (typical for the digital and analog I/O modules) up to 90 mA or more.

**Current Requirements**

Part number	PointBus current requirements
<b>PSSN8xxx</b>	
<b>PSSP8xxx</b>	
<b>PSST8xxx</b>	75 mA
<b>PSSN16xxx</b>	
<b>PSST16xxx</b>	
<b>PSSTR4MRA</b>	90 mA
<b>PSSNACM12A</b>	
<b>PSSNAVM12A</b>	75 mA
<b>PSSV32A</b>	
<b>PSSVM32A</b>	

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**Related Documentation**

Additional user documentation presents information according to the tasks performed and the programming environment used. Refer to the table below for information on H Series Network Portal products.

**H Series Network Portal Related Publications\***

	Part number	Description	Instruction sheet*
General information	—	Industrial automation wiring and grounding guidelines	E115P
		Safety guidelines for the application, installation and maintenance of solid state control	E116P
Communication interfaces	<b>PSSCENA</b>	H Series EtherNet/IP 10/100 Mbps adapter module	E104P, installation instructions
	<b>PSSCPBA</b>	H Series PROFIBUS adapter module	E102P, installation instructions
Valve driver module	<b>PSSV32A, PSSVM32A</b>	32 Point valve driver module	E100P
DC I/O	<b>PSSN16M12A</b>	24VDC 16 sink input w/8 M12 connectors, 2 points per connector	E106P
	<b>PSSN8M8A</b>	24VDC 8 sink input w/8 M8 connectors	
	<b>PSSN8M12A</b>	24VDC 8 sink input w/4 M12 connectors, 2 points per connector	E107P
	<b>PSST16M12A</b>	24VDC 16 source output w/8 M12	
	<b>PSST8M12A</b>	24VDC 8 source output w/4 M12	
	<b>PSST8M23A</b>	24VDC 8 source output w/8 M8	
Analog	<b>PSSNACM12A</b>	24VDC analog current input w/ 2 M12 connectors	E110P
	<b>PSSNAVM12A</b>	24VDC 2 analog voltage input w/ 2 M12 connectors	
Power unit	<b>PSSSE24A</b>	24VDC expansion power supply	E105P
Relay output	<b>PSSTR4M12A</b>	4 from A isolated (normally open) electromechanical relays	E109P

\* Publications are electronic versions only. To make copies of these publications, go to: [www.pdnplu.com](http://www.pdnplu.com)

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## Features

### The Turck Network Portal

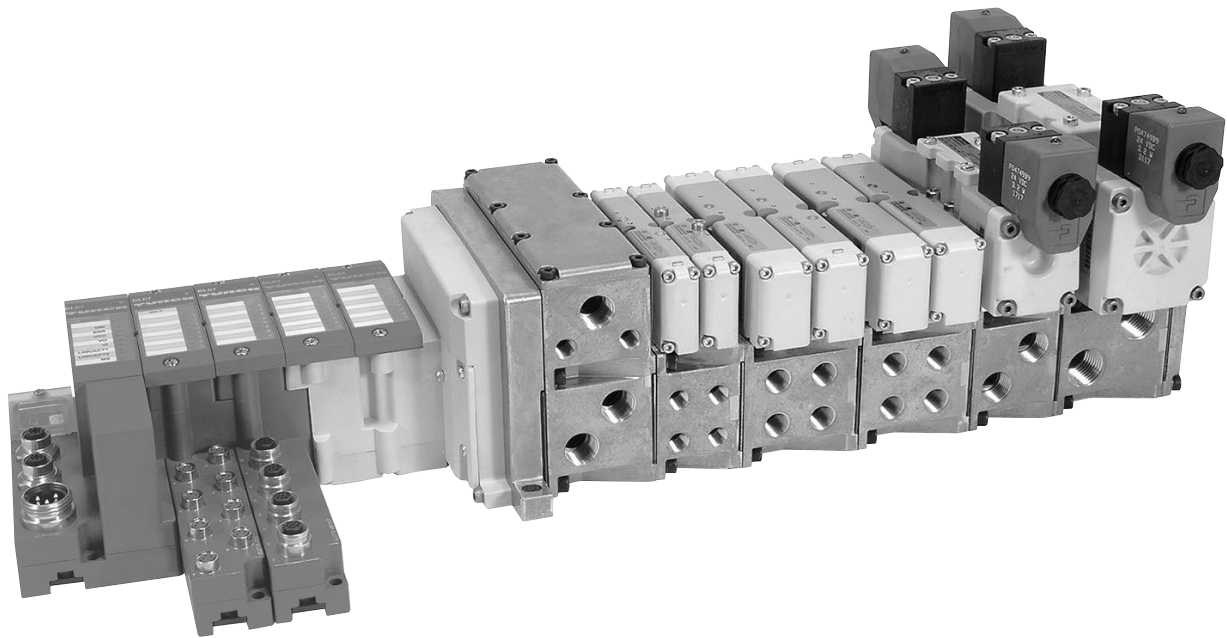
Turck Network Portal has four major components:

- **Valve Driver Module** provide control for either 16 or 32 solenoids on a manifold
- **I/O Modules** provide the field interface and system-interface circuitry
- **Communication Modules** provide the network-interface circuitry
- **Power Distribution Module** provide 5 additional power inputs to the Turck system

## H Series ISO & Network Connectivity Turck Network Portal

### Turck Features

- Highly modular design (4pt – 16pt modularity)
- Broad application coverage
- Expandable 4 port Class A IO-Link master
- Channel-level diagnostics (LED and electronic)
- Channel-level alarm and annunciation (electronic)
- Channel-level open-wire detection with electronic feedback
- Channel-level short-circuit detection with electronic feedback
- Horizontal and vertical mounting without derating
- 5g vibration
- Electronic and mechanical keying
- Robust backplane design
- Quick-disconnects for I/O and network connectivity
- Built-in panel grounding
- Color-coded module labels
- UL, cCSAus, and CE certifications (as marked)
- Highly reliable structural integrity
- Optical isolation between field and system circuits



D

Subbase & Manual  
ValvesH Series  
MicroModulflex  
SeriesH Series  
ISONetwork  
ConnectivityDX ISOMAX  
SeriesValvair-II  
Series

For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D204

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Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Turk Network Portal**

- A complete network communication offering for all H Series ISO and H Series Micro valves
- CSA, cULus and CE certifications (as marked)

**I/O Configuration**

- Centralized Turk Network Portal
- Pneumatics and I/O are in close proximity with one another
- M23, 12-Pin or 19-Pin output extension to an additional H Series valve manifold
- I/O density per module = 4, 8 or 16

EtherNet/IP™

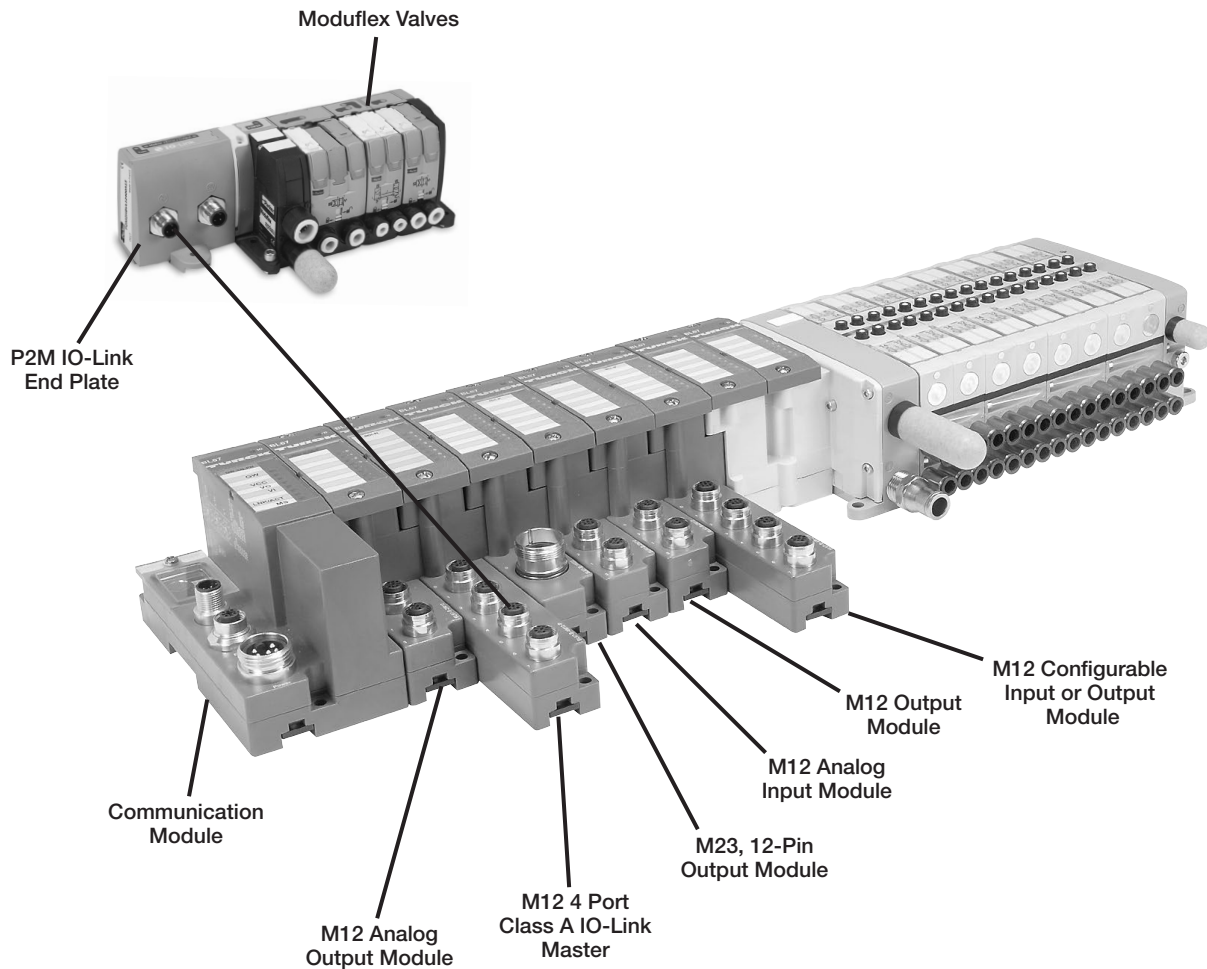
DeviceNet

PROFIBUS  
PROCESS FIELD BUS

PROFINET  
INDUSTRIAL ETHERNET

Modbus/TCP™

CANopen



**Configure / Program any module with RS232, or directly through Ethernet for any module with an Ethernet physical layer.**



**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D205

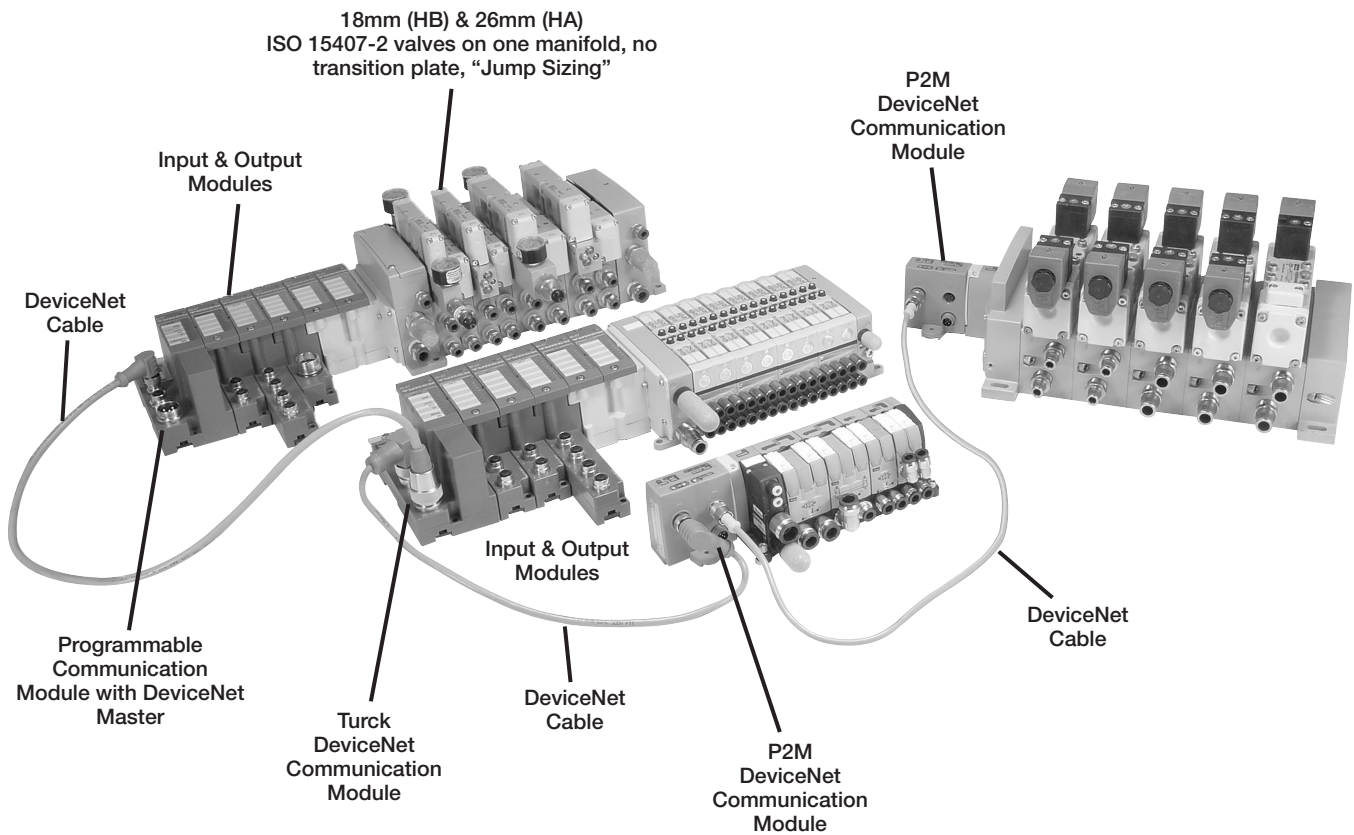
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 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Turk Network Portal**

- A complete network communication offering for all H Series ISO and H Series Micro valves.
- CSA, cCSAus and CE certifications (as marked).

**I/O Configuration**

- Complete control of all I/O and valves with stand alone control
- Additional I/O and valves connected over DeviceNet with BL Remote Subnet
- BL Remote connection to P2M and Turk DeviceNet equipped communication modules
- I/O density per module = 4, 8 or 16



D	Subbase & Manual Valves
	H Series Micro
Modulflex Series	
H Series ISO	
Network Connectivity	
DX ISOMAX Series	
Valvair II Series	



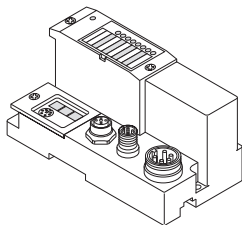
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D206

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 Richland, Michigan  
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**Communications Module**

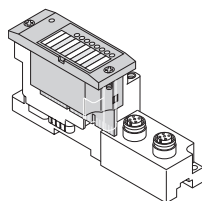


BL67 communication modules are the heart of a BL67 station. They are designed to connect the modular nodes to the higher level network (PROFIBUS-DP, DeviceNet, CANopen, Ethernet).

All BL67 electronic modules communicate over the internal module bus with the communication modules. The communication module structures the data and sends them clustered via network nodes to the higher control system.

This way all I/O modules can be configured independently of the system.

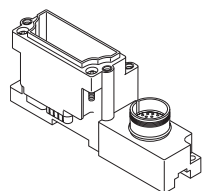
**Electronic Module**



BL67 electronic modules are inserted into the passive base modules from above and then simply affixed with two screws. Maintenance is extremely simplified due to the separation of connection level and module electronics.

Moreover, flexibility is enhanced because the base modules provide different types of connectors. Voltage supply for the electronic modules is either provided via the communication modules or a Power Extender module. Power Extender modules can be used to create galvanically isolated potential groups.

**Base Module**



BL67 base modules are aligned one by one to the right of the communication module and are tightened each with two screws, either with the communication modules or with the previous module. A DIN rail is not required. This way a compact and stable unit is created which can be mounted directly on the machine.

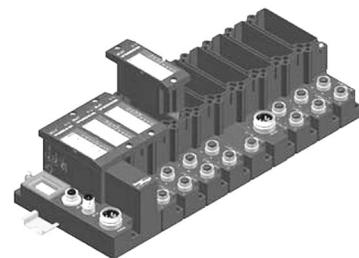
The base modules serve for connection of the field devices and are available with different connection types (M8, M12, M23 and 7/8).

A BL67 system can be extended to a total length of 1 m, comprising of a communication module for PROFIBUS-DP, DeviceNet / CANopen or Ethernet and a maximum of 32 modules.

System supply: The power supply for the BL67 system is either derived separately for Profibus-DP and Ethernet communication modules or directly from the DeviceNet / CANopen cable for the DeviceNet / CANopen communication module.

Power Extender modules can be inserted anywhere in the BL67 station. They provide isolated field voltage for the I/O modules mounted to their right.

Thus Power Extender modules can also be used to create different potential groups.



**Maximum System Extension**

Module type		PROFIBUS		DeviceNet		CANopen		ModbusTCP		EtherNet/IP		PROFIBUS NET	
		chan.	mod.	chan.	mod.	chan.	mod.	chan.	mod.	chan.	mod.	chan.	mod.
Digital inputs	4 DI	128	32	128	32	128	32	128	32	128	32	128	32
	8 DI	256	32	256	32	256	32	256	32	256	32	256	32
Digital outputs	4 DO	128	32	128	32	128	32	128	32	128	32	128	32
	8 DO	256	32	256	32	256	32	256	32	256	32	256	32
	16 DO	512	32	512	32	512	32	512	32	512	32	512	32
Analog inputs	2AI	64	32	64	32	64	32	64	32	64	32	64	32
	4AI	112	28	124	31	124	31	128	32	128	32	128	32
	2 AI-PT	56	28	64	32	64	32	64	32	64	32	64	32
	2 AI-TC	64	32	64	32	64	32	64	32	64	32	64	32
Analog outputs	2 AO-I	38	19	64	32	64	32	64	32	64	32	64	32
	2 AO-V	38	19	50	25	50	25	50	25	50	25	50	25



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

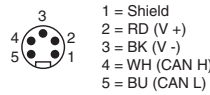
Valvair II Series

**BL67-GW-DN**

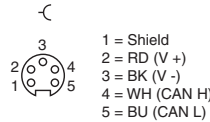
DeviceNet Communication  
 Module with Power Over  
 the Network



7/8 Mini bus in wiring,  
 view into male connector



7/8 Mini bus out wiring,  
 view into female connector



Turck Network Portal with up to 256 inputs, outputs, and 32 solenoids per H Series Micro or H Series ISO manifold. Digital inputs / outputs, analog inputs / outputs, serial interface, and counter modules are available. DeviceNet communication speeds selectable between 120, 250, 500 kbps, and CANopen communication speeds are selectable between 10 kbps up to 1 Mbps. Addressing for either module can be selected via rotary switches or set through software.

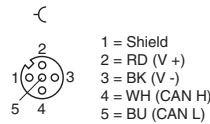
With the Power over the Network feature, it is only necessary to connect one cable to the communication module. For networks requiring additional power, a Bus Power Tee can be installed to combine separate network and power feeds into the communication module. See the Cables and Cordsets section for additional information.

**BL67-GW-CO**

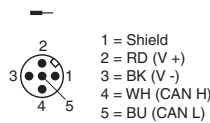
CANopen Communication  
 Module



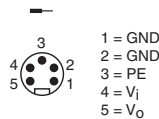
M12 A-code bus out Wiring,  
 view into female connector



M12 A-code bus In Wiring,  
 view into male connector



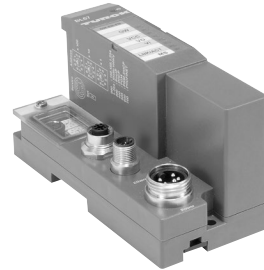
7/8 Mini Power in wiring,  
 view into male connector



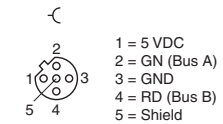
Turck Network Portal with up to 256 inputs, outputs, and 32 solenoids per H Series Micro or H Series ISO manifold. Digital inputs / outputs, analog inputs / outputs, serial interface, and counter modules are available. CANopen communication speeds are selectable between 10 kbps up to 1 Mbps, and addressing can be selected via rotary switches or set through software.

**BL67-GW-DPV1**

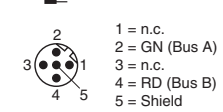
PROFIBUS Communication  
 Module



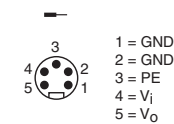
M12 B-code bus out Wiring,  
 view into female connector



M12 B-code bus In Wiring,  
 view into male connector



7/8 Mini Power in wiring,  
 view into male connector



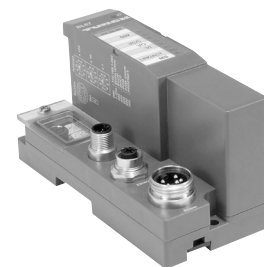
Turck Network Portal with up to 256 inputs, outputs, and 32 solenoids per H Series Micro or H Series ISO manifold. Digital inputs / outputs, analog inputs / outputs, serial interface, and counter modules are available. PROFIBUS communication speeds are selectable between 9.6 kbps up to 12 Mbps, and addressing can be selected via rotary switches or set through software.

**BL67-GW-EN**

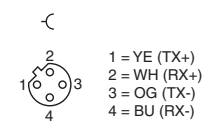
Modbus/TCP, EtherNet/IP, and PROFINET

**BL67-GW-EN-PN**

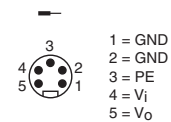
PROFINET Communication Module



M12 D-code  
 Ethernet in Wiring,  
 view into female connector



7/8 Mini Power in wiring,  
 view into male connector



Turck Network Portal with up to 256 inputs, outputs, and 32 solenoids per H Series Micro or H Series ISO manifold. Digital inputs / outputs, analog inputs / outputs, serial interface, and counter modules are available. Communication speeds of 10/100 Mbps, and addressing can be selected via rotary switches, BOOTP, DHCP, or through software.

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DXISOMAX Series

Valvair II Series



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**BL67-GW-EN-DN**

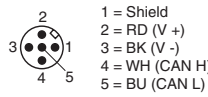
Modbus/TCP Communication Module with DeviceNet Subnet

**BL67-GW-EN-IP-DN**

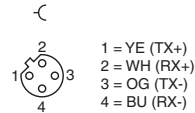
EtherNet/IP Communication Module with DeviceNet Subnet



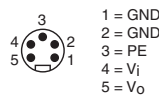
**DeviceNet OUT**



**M12 D-code Ethernet in Wiring, view into female connector**



**7/8 Mini Power in wiring, view into male connector**



With BL Remote DeviceNet subnet functionality, each communication module has its own DeviceNet master which provides a connection for 63 DeviceNet nodes with additional inputs, outputs, and solenoid control. BL Remote DeviceNet subnet is independent of the main network, and is not visible to the master PLC.

**BL67-PG-EN-DN**

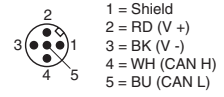
Modbus/TCP Programmable Communication Module with DeviceNet Subnet

**BL67-PG-EN-IP-DN**

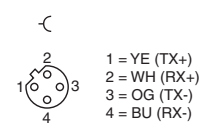
EtherNet/IP Programmable Communication Module with DeviceNet Subnet



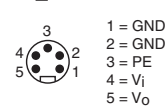
**DeviceNet OUT**



**M12 D-code Ethernet in Wiring, view into female connector**



**7/8 Mini Power in wiring, view into male connector**



Communication modules are equipped with a built in standalone controller which is programmed according to IEC61131-3 with CoDeSys. Each module has 512KB Program memory with 32 bit RISC processor, and can run 1000 instructions in less than 1 ms. These network equipped modules are optimized to interface with PLC's with network capability or act as standalone controllers that need to interface with other network equipped devices.

With BL Remote DeviceNet subnet functionality, each communication module has its own DeviceNet master which provides a connection for 63 DeviceNet nodes with additional inputs, outputs, and solenoid control. BL Remote DeviceNet subnet is independent of the main network, and is not visible to the master PLC.

**BL67-PG-DP**

PROFIBUS Programmable Communication Module

**BL67-PG-EN**

Modbus/TCP Programmable Communication Module

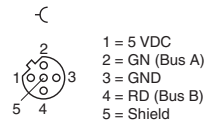
**BL67-PG-EN-IP**

EtherNet/IP Programmable Communication Module

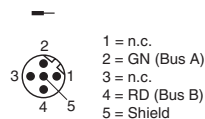


**Profibus Wiring**

**M12 B-code bus out Wiring, view into female connector**

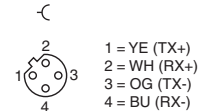


**M12 B-code bus in Wiring, view into female connector**

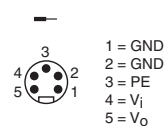


**Ethernet Wiring**

**M12 D-code Ethernet in Wiring, view into female connector**



**7/8 Mini Power in wiring, view into male connector Common to modules**



Communication modules are equipped with a built in standalone controller which is programmed according to IEC61131-3 with CoDeSys. Each module has 512KB Program memory with 32 bit RISC processor, and can run 1000 instructions in less than 1 ms. These network equipped modules are optimized to interface with PLC's with network capability or act as standalone controllers that need to interface with other network equipped devices.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

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Network Connectivity

DX ISOMAX Series

Valvair II Series

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DXISOMAX Series  
 Valvair II Series

Base Modules													
	BL67-B-4M8	BL67-B-8M8	BL67-B-1M12	BL67-B-1M12-8	BL67-B-2M12	BL67-B-2M12-P	BL67-B-4M12	BL67-B-4M12-P	BL67-B-1M23	BL67-B-1M23-19	BL67-B-1RSM	BL67-B-1RSM-4	BL67-1RSM-VO
<b>Power Extender Modules</b>													
BL67-PF-24VDC											✓	✓	✓
<b>Digital Input Modules</b>													
BL67-4DI-P	✓				✓	✓	✓		✓				
BL67-8DI-P		✓					✓	✓	✓				
BL67-4DI-PD	✓				✓	✓	✓		✓				
BL67-8DI-PD		✓					✓	✓	✓				
BL67-4DI-N	✓				✓	✓	✓		✓				
BL67-8DI-N		✓					✓	✓	✓				
<b>Digital Output Modules</b>													
BL67-4DO-0.5A-P	✓				✓	✓	✓		✓				
BL67-4DO-2A-P	✓				✓	✓	✓		✓				
BL67-8DO-0.5A-P		✓					✓	✓	✓				
BL67-16DO-0.1A-P										✓			
BL67-4DO-2A-N	✓				✓	✓	✓		✓				
BL67-8DO-0.5A-N		✓					✓	✓	✓				
<b>Relay Output Modules</b>													
BL67-8DO-R-NO								✓					
<b>Digital Input / Output Modules</b>													
BL67-4DI4DO-PD		✓					✓	✓	✓				
<b>Configurable Digital Input / Output Modules</b>													
BL67-8XSG-PD		✓					✓	✓	✓				
<b>Analog Input Modules</b>													
BL67-2AI-I					✓								
BL67-2AI-V					✓								
BL67-4AI-V/I							✓						
BL67-2AI-PT					✓								
BL67-2AI-TC					✓								
<b>Analog Output Modules</b>													
BL67-2AO-I					✓								
BL67-2AO-V					✓								
<b>Technology Modules</b>													
BL67-1RS232			✓	✓					✓				
BL67-1RS485/422			✓	✓					✓				
BL67-1SSI				✓					✓				
BL67-1CNT/ENC				✓					✓				
BL67-1CVI			✓										
<b>BL Ident® RFID Modules</b>													
BL67-2RFID-A					✓								
BL67-2RFID-S					✓								



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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### System Supply via the Module Bus

The number of BL67 modules that can be powered by the communication module, depends on the nominal current draw of all the modules in the system. The total bus power current consumption of the installed BL67 modules may not exceed 1.5 A. The total field power current for inputs may not exceed 4 A, and the total field power for outputs may not exceed 8 A for DeviceNet and CANopen with power over the network, or 10A for all other communication modules.

When using the software PACTware, the menu item <Station - Verify> will automatically generate an error message if the system supply via the module bus is not reliably ensured.

### Nominal Current Consumption

The following table shows the nominal current consumption of the various BL67 modules:

Modules	Bus power current (mA)	Field power for inputs <sup>1)</sup> (mA)	Field power for outputs (mA)
PROFIBUS-DP communication module	0		150
DeviceNet communication module	0		150
CANopen communication module	0		150
Ethernet communication module	0		150
Valve driver with 16 outputs	30		< 109 mA (plus load current)
Valve driver with 32 outputs	60		< 218 mA (plus load current)
BL67-PF-24VDC	30		9
BL67-4DI-P	30	< 49 mA	
BL67-4DI-N	30	< 10 mA	
BL67-4DI-PD	30	< 109 mA	
BL67-8DI-P	30	< 49 mA	
BL67-8DI-N	30	< 10 mA	
BL67-8-DI-PD	30	< 109 mA	
BL67-4DO-0.5A-P	30		< 109 mA (plus load current)
BL67-4DO-2A-P	30		< 109 mA (plus load current)
BL67-4DO-2A-N	30		< 109 mA (plus load current)
BL67-8DO-0.5A-P	30		< 109 mA (plus load current)
BL67-8DO-0.5A-N	30		< 109 mA (plus load current)
BL67-16DO-0.1A-P	30		< 109 mA (plus load current)
BL67-4DI4DO-PD	30		< 109 mA (plus load current)
BL67-8XSG-PD	30		< 109 mA (plus load current)
BL67-8DO-R-NO	30		< 109 mA (plus load current)
BL67-2AI-V	35	< 22 mA	
BL67-2AI-I	35	< 22 mA	
BL67-4AI-I/V	35	< 22 mA	
BL67-2AI-TC	35	< 40 mA	
BL67-2AI-PT	45	< 58 mA	
BL67-2AO-I	40		< 62 mA
BL67-2AO-V	60		< 67 mA
BL67-1RS232	140	< 90 mA	
BL67-1RS485/422	60	< 42 mA	
BL67-1SSI	50	< 39 mA	
BL67-1CNT/ENC	30	< 109 mA	
BL67-1CVI	30	< 109 mA	

1) Is limited to 4A by means of the integrated short-circuit protection.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

## Part Numbers

### Digital Input Modules

I/O modules	Voltage	Part number
8 PNP input module	7 to 30 VDC	<b>BL67-8DI-P</b>
8 PNP input module, with diagnostics	7 to 30 VDC	<b>BL67-8DI-PD</b>
8 NPN input module	24 VDC	<b>BL67-8DI-N</b>



Base module	Part number
8 x M8, 3 pole, female	<b>BL67-B-8M8</b>
4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>
4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12-P</b>
1 x M23, 12 pole, female	<b>BL67-B-1M23</b>



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I/O modules	Voltage	Part number
4 PNP input module	7 to 30 VDC	<b>BL67-4DI-P</b>
4 PNP input module, with diagnostics	7 to 30 VDC	<b>BL67-4DI-PD</b>
4 NPN input module	24 VDC	<b>BL67-4DI-N</b>

Base module	Part number
4 x M8, 3 pole, female	<b>BL67-B-4M8</b>
2 x M12, 5 pole, female, A-code	<b>BL67-B-2M12</b>
2 x M12, 5 pole, female, A-code	<b>BL67-B-2M12-P</b>
4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>
1 x M23, 12 pole, female	<b>BL67-B-1M23</b>



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### Digital Output Modules

I/O modules	Output current	Part number
8 PNP output module	0.5 amps per channel	<b>BL67-8DO-0.5A-P</b>
8 NPN output module	0.5 amps per channel	<b>BL67-8DO-0.5A-N</b>



Base module	Part number
8 x M8, 3 pole, female	<b>BL67-B-8M8</b>
4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>
4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12-P</b>
1 x M23, 12 pole, female	<b>BL67-B-1M23</b>



I/O modules	Output Current	Part number
4 PNP output module	0.5 amps per channel	<b>BL67-4DO-0.5A-P</b>
4 PNP output module	2 amps per channel	<b>BL67-4DO-2A-P</b>
4 PNP output module	4 amps per channel	<b>BL67-4DO-4A-P</b>
4 NPN output module	2 amps per channel	<b>BL67-4DO-2A-N</b>

Base module	Part number
4 x M8, 3 pole, female	<b>BL67-B-4M8</b>
2 x M12, 5 pole, female, A-code	<b>BL67-B-2M12</b>
2 x M12, 5 pole, female, A-code	<b>BL67-B-2M12-P</b>
4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>
1 x M23, 12 pole, female	<b>BL67-B-1M23</b>



Most popular.




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**Digital Output Modules**

I/O modules	Output current	Part number
16 PNP output module	0.14 amps per channel	<b>BL67-16DO-0.1A-P</b>

Base module	Part number
 1 x M23, 19 pole, female	<b>BL67-B-1M23-19</b>


**Relay Output Modules**

I/O modules	Output current	Part number
8 normally open relays	0.14 amps per channel	<b>BL67-8DO-R-NO</b>


Base module	Part number
 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12-P</b>

**Analog Input Modules**

I/O modules	Input type	Part number
4 configurable current or voltage analog input module	4 to 20 mA or 0 to 20 mA -10 to +10 VDC or 0 to +10 VDC	<b>BL67-4AI-V/I</b>

Base module	Part number
 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>


I/O modules	Input type	Part number
2 current analog input module	4 to 20 mA or 0 to 20 mA	<b>BL67-2AI-I</b>
2 voltage analog input module	-10 to +10 VDC or 0 to +10 VDC	<b>BL67-2AI-V</b>
2 temperature analog input module	PT100, PT200, PT500, PT1000, Ni100, Ni1000	<b>BL67-2AI-PT</b>
2 temperature analog input module	Type B, E, J, K, N, R, S, T	<b>BL67-2AI-TC</b>


Base module	Part number
 2 x M12, 5 pole, female, A-code	<b>BL67-B-2M12</b>


 Most popular.

**Combination Input / Output Modules**

I/O modules	Input voltage & output current	Part number
4 PNP output 4 PNP input module, with diagnostics	7 to 30 VDC 0.5 Amps	<b>BL67-4DI4DO-PD</b>
8 PNP configurable input or output module, with diagnostics	7 to 30 VDC 0.5 Amps	<b>BL67-8XSG-PD</b>


Base module	Part number
 8 x M8, 3 pole, female	<b>BL67-B-8M8</b>

Base module	Part number
 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>


Base module	Part number
 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12-P</b>

**Analog Output Modules**

I/O modules	Input type	Part number
4 voltage analog output module	-10 to +10 VDC or 0 to +10 VDC	<b>BL67-4AO-V</b>

Base module	Part number
 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>

I/O modules	Input type	Part number
2 current analog output module	4 to 20 mA or 0 to 20 mA	<b>BL67-2AO-I</b>
2 voltage analog output module	-10 to +10 VDC or 0 to +10 VDC	<b>BL67-2AO-V</b>

Base module	Part number
 2 x M12, 5 pole, female, A-code	<b>BL67-B-2M12</b>



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## Part Numbers


### Combination Analog Input / Output Modules

I/O modules	Output current	Part number
4 configurable input and 4 configurable output current or voltage analog module	4 to 20 mA or 0 to 20 mA -10 to +10 VDC or 0 to +10 VDC	<b>BL67-4AI4AO-V/I</b>

Base module	Part number
 8 x M8, 3 pole, female	<b>BL67-B-8M8</b>
 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>


### CANopen Subnet Module

Extender module	Capacity	Part number
1 CANopen connection	64 bits of inputs or outputs	<b>BL67-1CVI</b>

Base module	Part number
 1 x M12, 5 pole, female, A-code	<b>BL67-B-1M12</b>




### IO-Link Class A Master

Extender module	Part number
4 master channels	<b>BL67-4IOL</b>

Base module	Part number
 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>

### Power Extender Module


Extender module	Current capacity	Part number
24 VDC field power module	10 amps input	<b>BL67-PF-24VDC</b>

Base module	Part number
 5 pole mini connector to supply bus power and field power	<b>BL67-B-1RSM</b>
 5 pole mini connector to field power only	<b>BL67-B-1RSM-VO</b>
 4 pole mini connector to supply bus power and field power	<b>BL67-B-1RSM-4</b>

 Most popular.




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I/O modules	Output current	Part number
2 configurable input and 2 configurable output current or voltage analog module	4 to 20 mA or 0 to 20 mA -10 to +10 VDC or 0 to +10 VDC	<b>BL67-2AI2AO-V/I</b>

Base module	Part number
 8 x M8, 3 pole, female	<b>BL67-B-8M8</b>



### Serial Interface Module

Extender module	Capacity	Part number
1 RS232 serial interface	300 to 115200 bps	<b>BL67-1RS232</b>
1 RS485 or 422 serial interface	300 to 115200 bps	<b>BL67-1RS485/422</b>

Base module	Part number
 1 x M12, 5 pole, female, A-code	<b>BL67-B-1M12</b>
 1 x M12, 8 pole, female, A-code	<b>BL67-B-1M12-8</b>
 1 x M23, 12 pole, female	<b>BL67-B-1M23</b>

### SSI and Counting Modules

Extender module	Capacity	Part number
1 SSI sensor interface	65 kbps up to 1 Mbps	<b>BL67-1SSI</b>
1 counter interface	Up to 250 kHz	<b>BL67-1CNT/ENC</b>

Base module	Part number
 1 x M12, 8 pole, female, A-code	<b>BL67-B-1M12-8</b>
 1 x M23, 12 pole, female	<b>BL67-B-1M23</b>

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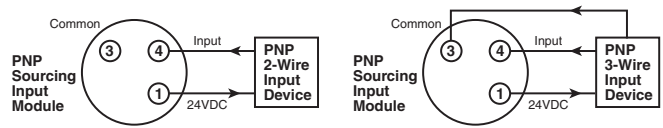
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**Digital PNP Input Modules**

DC Input Module	BL67-4DI-P	BL67-8DI-P	BL67-4DI-PD	BL67-8DI-PD
Number of inputs	4	8	4	8
Sensor requirement	PNP Sourcing		PNP Sourcing	
Voltage, on-state input, nom.	24 VDC		24 VDC	
Field power for inputs current consumption	49 mA		109 mA	
Bus power current consumption	30 mA		30 mA	
Low level signal voltage	<4.5 V		<4.5 V	
High level signal voltage	7...30V		7...30V	
Low level signal current	<1.5 mA		<1.5 mA	
High level signal current	2.1...3.7 mA		2.1...3.7 mA	
Type of diagnostics	Group Diagnostics		Channel Diagnostics	
Short circuit protection	Group Protection		Channel Protection	
Input delay	0.25 ms		0.25; 2.5 ms	

**PNP (Sourcing)**

PNP input modules provide sourcing capabilities. When the input field device is passing, current flows from the input device into the Turck input module.

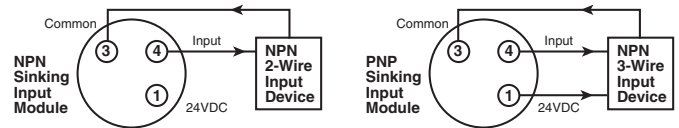


**Digital NPN Input Modules**

Digital DC Input Module	BL67-4DI-N	BL67-8DI-N
Number of inputs	4	8
Sensor requirement	NPN Sinking	NPN Sinking
Voltage, on-state input, nom.	24 VDC	24 VDC
Field power for inputs current consumption	10 mA	10 mA
Bus power current consumption	30 mA	30 mA
Low level signal voltage	>7 V	>7 V
High level signal voltage	<5 V	<5 V
Low level signal current	<2.5 mA	<1.2 mA
High level signal current	>3 mA	>1.5 mA
Type of diagnostics	Group Diagnostics	Group Diagnostics
Short circuit protection	Group Protection	Group Protection
Input delay	0.25 ms	0.25 ms

**NPN (Sinking)**

NPN input modules provide sinking capabilities. When the input field device is passing, current out of the Turck input module into the field input device.



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**D**

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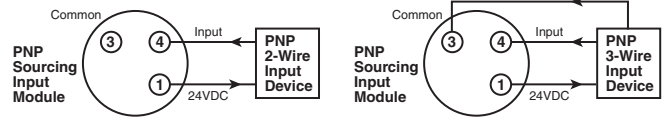
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**Digital PNP Output Modules**

Digital DC Output Module	BL67-4DO-0.5A-P	BL67-8DO-0.5A-P	BL67-4DO-2A-P	BL67-16DO-0.1A-P
Number of outputs	4	8	4	16
Sensor requirement	PNP Sourcing	PNP Sourcing	PNP Sourcing	PNP Sourcing
Output voltage	24 VDC	24 VDC	24 VDC	24 VDC
Field power for outputs current consumption	109 mA (Plus load current)	109 mA (Plus load current)	109 mA (Plus load current)	109 mA (Plus load current)
Bus power current consumption	30 mA	30 mA	30 mA	30 mA
Output current per channel	0.5 A	0.5 A	2.0A	0.1 A
Output delay	3 ms	3 ms	3 ms	3 ms
Load type	Resistive, Inductive, Lamp Load	Resistive, Inductive, Lamp Load	Resistive, Inductive, Lamp Load	Resistive, Inductive
Load resistance, resistive	>48 Ohm	>48 Ohm	>12 Ohm	>250 Ohm
Load resistance, inductive	<1.2 H	<1.2 H	<1.2 H	<1.2 H
Lamp load	< 3W	< 3W	< 10W	< 10W
Switching frequency, resistive	<200 Hz	<200 Hz	<200 Hz	<200 Hz
Switching frequency, inductive	< 2 Hz	< 2 Hz	< 2 Hz	< 2 Hz
Switching frequency, lamp load	< 20 Hz	< 20 Hz	< 20 Hz	< 20 Hz
Short-circuit protection	Group Protection	Group Protection	Group Protection	Group Protection
Diagnostic bits	4	8	4	16

**PNP (Sourcing)**

PNP input modules provide sourcing capabilities. When the input field device is passing, current flows from the input device into the Turck input module.

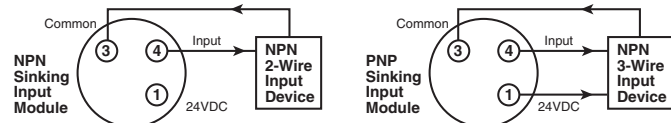


**Digital NPN Output Modules**

Digital DC Output Module	BL67-8DO-0.5A-N	BL67-4DO-2A-N
Number of outputs	8	4
Sensor requirement	NPN Sinking	NPN Sinking
Output voltage	24 VDC	24 VDC
Field power for outputs current consumption	109 mA (Plus load current)	109 mA (Plus load current)
Bus power current consumption	30 mA	30 mA
Output current per channel	0.5 A	2.0 A
Output delay	3 ms	3 ms
Load type	Resistive, Inductive, Lamp Load	Resistive, Inductive, Lamp Load
Load resistance, resistive	>48 Ohm	>48 Ohm
Load resistance, inductive	<1.2 H	<1.2 H
Lamp load	< 3W	< 3W
Switching frequency, resistive	<200 Hz	<200 Hz
Switching frequency, inductive	< 2 Hz	< 2 Hz
Switching frequency, lamp load	< 20 Hz	< 20 Hz
Short-circuit protection	Group Protection	Group Protection
Diagnostic bits	4	8

**NPN (Sinking)**

NPN input modules provide sinking capabilities. When the input field device is passing, current out of the Turck input module into the field input device.



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**Relay Output Modules**

Relay Output Module	BL67-8DO-R-NO
Number of outputs	8
Output type	Relay
Output voltage	24 VDC
Field power for outputs current consumption	109 mA (Plus load current)
Bus power current consumption	30 mA
Output current per channel	100 mA
Output delay	3 ms
Load type	Resistive, TTL logic
Switching resistor	<31 Ohm
Switching frequency, resistive	<200 Hz
Short-circuit protection	None

**Combination Digital Modules**

Combination Input and Output Modules	BL67-4DI4DO-PD	BL-67-8XSG-PD
Number of outputs	4	Configurable 0 to 8
Number of inputs	4	Configurable 0 to 8
Total channels	8	8
Sensor requirement	PNP Sourcing	PNP Sourcing
Voltage, on-state input, nom.	24 VDC	24 VDC
Output voltage	24 VDC	24 VDC
Field power for outputs current consumption	109 mA	109 mA
Bus power current consumption	30 mA	30 mA
Input low level signal voltage	<4.5 V	<4.5 V
Input high level signal voltage	7...30V	7...30V
Input low level signal current	<1.5 mA	<1.5 mA
Input high level signal current	2.1...3.7 mA	2.1...3.7 mA
Input delay	0.25; 2.5 ms	0.25; 2.5 ms
Output current per channel	0.5 A	0.5 A
Output delay	3 ms	3 ms
Load type	Resistive, Inductive, Lamp Load	Resistive, Inductive, Lamp Load
Load resistance, resistive	>48 Ohm	>48 Ohm
Load resistance, inductive	<1.2 H	<1.2 H
Lamp load	< 3W	< 3W
Switching frequency, resistive	<200 Hz	<200 Hz
Switching frequency, inductive	< 2 Hz	< 2 Hz
Switching frequency, lamp load	< 20 Hz	< 20 Hz
Short-circuit protection	Channel Protection	Channel Protection
Diagnostic bits	8	12

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**Analog Input Modules**

Analog Input Module	BL67-2AI-I	BL67-2AI-V	BL67-4AI-V/I
Number of inputs	2	2	4
Nominal voltage	24 VDC	24 VDC	24 VDC
Field power for inputs current consumption	22 mA	22 mA	22 mA
Bus power current consumption	35 mA	35 mA	35 mA
Analog input type	0/4...20mA	-10/0...+10 VDC	0/4...20mA or -10/0...+10 VDC
Input resistance	<0.125 kOhm	<98.5 kOhm	<0.125 kOhm or <98.5 kOhm
Maximum limiting frequency	50 Hz		20 Hz
Fault limit @ 23 degree C	<0.2%		<0.3%
Repeatability	0.05%	0.05%	0.05%
Temperature coefficient (ppm/degree C of full scale)	<300	<150	<300
Resolution	16 Bit	16 Bit	16 Bit
Measuring principle	Sigma Delta	Sigma Delta	Sigma Delta
Measured value display	16 bit signed integer, 12 bit full range left justified	16 bit signed integer, 12 bit full range left justified	16 Bit signed integer, 12 bit full range left justified
Diagnostic bits	16		32

**Temperature Inputs**

Analog Input Module	BL67-2AI-PT	BL67-2AI-TC
Number of inputs	2	2
Nominal voltage	24 VDC	24 VDC
Field power for inputs current consumption	58 mA	40 mA
Bus power current consumption	45 mA	35 mA
Temperature input type	PT100, PT200, PT500, PT1000, Ni100, Ni1000	B, E, J, K, N, R, S, T
Voltage resolution	n/a	+/- 50mV; <2uV
Fault limit @ 23 degree C	<0.2%	<0.2%
Repeatability	0.05%	0.05%
Temperature coefficient (ppm/degree c of full scale)	<300	<300
Resolution	16 Bit	16 Bit
Measured value display	16 bit signed integer, 12 bit full range left justified	16 bit signed integer, 12 bit full range left justified
Diagnostic bits	16	16

**D**

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**Analog Input Modules**

Analog Input Module	BL67-2AO-I	BL67-2AO-V
Number of inputs	2	2
Nominal voltage	24 VDC	24 VDC
Field power for outputs current consumption	62 mA	67 mA
Bus power current consumption	40 mA	60 mA
Analog output type	0/4...20mA	-10/0...+10 VDC
Output current per channel	n/a	250 mA
Load resistance, resistive	<0.45 kOhm	> 1kOhm
Load resistance, inductive	<1 mH	n/a
Load resistance, capacitive	n/a	> 1 uF
Transmission frequency	<200 Hz	<100 Hz
Fault limit @ 23 degree C	<0.2%	<0.2%
Repeatability	0.05%	0.05%
Temperature coefficient (ppm/degree c of full scale)	<150	<300
Resolution	16 bit	16 bit
Measured value display	16 bit signed integer, 12 bit full range left justified	16 bit signed integer, 12 bit full range left justified

**Combination Analog Modules**

Analog Combination Module	BL67-4AI4AO-V/I	BL67-2AI2AO-V/I
Number of analog inputs	4	2
Number of analog outputs	4	2
Nominal voltage	24 VDC	24 VDC
Field power for outputs current consumption	67 mA	67 mA
Bus power current consumption	60 mA	60 mA
Analog input type	0/4...20mA or -10/0...+10 VDC	0/4...20mA or -10/0...+10 VDC
Input resistance	0.065 or 225 kOhm	0.065 or 225 kOhm
Maximum limiting frequency	20 Hz	20 Hz
Fault limit @ 23 degree c	<0.3%	<0.3%
Repeatability	0.05%	0.05%
Temperature coefficient (ppm/degree c of full scale)	<300	<300
Resolution	16 bit	16 bit
Measuring principle	Sigma Delta	Sigma Delta
Measured value display	16 bit signed integer, 12 bit full range left justified	16 bit signed integer, 12 bit full range left justified
Analog output type	-10/0...+10 VDC	-10/0...+10 VDC
Output current per channel	250 mA	250 mA
Load resistance, resistive	>1 kOhm	>1 kOhm
Load resistance, capacitive	<1 uF	<1 uF
Transmission frequency	<100 Hz	<100 Hz
Fault limit @ 23 degree C	<0.3%	<0.3%
Repeatability	0.05%	0.05%
Temperature coefficient (ppm/degree c of full scale)	<300	<300
Resolution	16 bit	16 bit
Measured value display	16 bit signed integer, 12 bit full range left justified	16 bit signed integer, 12 bit full range left justified
Diagnostic bits	8	4

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**Power Extender Module**

Power Extender Module	BL67-PF-24VDC
Nominal voltage	24 VDC
Field power for outputs current consumption	9 mA
Bus power current consumption	30 mA
Supply for field power for inputs current	4.0 A
Supply for field power for outputs current	10 A
Diagnostic bits	3

**RS232 Interface**

RS232 Interface	BL67-1RS232
Number of channels	1
Field power for inputs current consumption	90 mA
Bus power current consumption	140 mA
Transmission level active (u rs1)	-15 to -3 VDC
Transmission level inactive (urso)	3 to 15 VDC
Common-mode range (ugl)	-7 to 12 VDC
Transmission signals	RxD, TxD, RTS, CTS
Data buffer received	128 Byte
Send data buffer	64 Byte
Connection type	Full Duplex
Transmission rate	300 to 115200 bps
Parameter	Transmission Rate, Diagnostics, Data Bits, Stop Bits, XON - Character, XOFF - Character, Parity, Flow Control
Cable length	15 m
Diagnostic bits	8

**RS485 / 422 Interface**

RS485/422 Interface	BL67-1RS485/422
Number of channels	1
Field power for inputs current consumption	42 mA
Bus power current consumption	60 mA
Transmission signals	RxD, TxD
Connection type	2 Wire Half Duplex or 4 Wire Full Duplex
Transmission rate	300 to 115200 bps
Parameter	RS485/422, Transmission Rate, Diagnostics, Data Bits, Stop Bits, XON - Character, XOFF - Character, Parity, Flow Control
Cable length	1000 m
Line impedence	120 Ohm
Bus termination	External
Diagnostic bits	8

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**SSI Sensor Interface**

SSI Sensor Interface	BL67-1SSI
Number of channels	1
Field power for inputs current consumption	39 mA
Bus power current consumption	50 mA
Transmission signals	CL, D
Connection type	4 Wire Full Duplex (Clock Output/Signal Input)
Transmission rate	62.5 kbps up to 1 Mbps
Parameter	Transmission Rate, Diagnostics, Data Format (Binary / GRAY coded), Data Fram Bits (1-32), Number of Invalid Bits (LSB: 0-15, MSB 0-7)
Cable length	30 m
Diagnostic bits	8

**Counting Module**

Counting Module	BL67-1CNT/ENC
Number of channels	1
Field power for inputs current consumption	109 mA
Bus power current consumption	30 mA
Input type	PNP
Output type	PNP
Output current per channel	0.5 A
Output delay	2 ms
Load type	Resistive
Frequency measurement	Up to 250 kHz
Speed measurement	Factor Configurable
Period duration measurement	2 usec
Upper count limit	0x80000000 up to 0xFFFFFFFF
Lower count limit	0x80000000 up to 0xFFFFFFFF
Short circuit protection	Channel Protection

**CANopen Expansion Module**

CANopen Expansion Module	BL67-1CVI
Number of channels	1
Field power for inputs current consumption	109 mA
Bus power current consumption	30 mA
Transmission signals	CAN High, CAN Low
Connection type	CANopen
Transmission speed	10 kbps up to 1 Mbps
Parameter	Transmission Rate, Diagnostics, Bus Termination, Range of I/O Data
Bus termination	Internal
Diagnostic bits	48
Max number of CANopen nodes	8
Max processing data per module	8 Byte
Max data per node	4 Byte

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

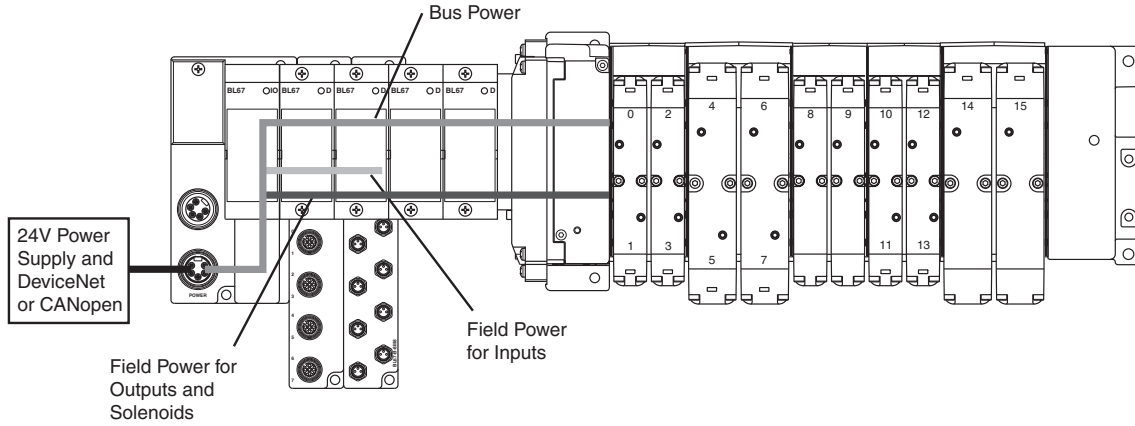
D221

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**Power Distribution Options for Turck Network Portal**

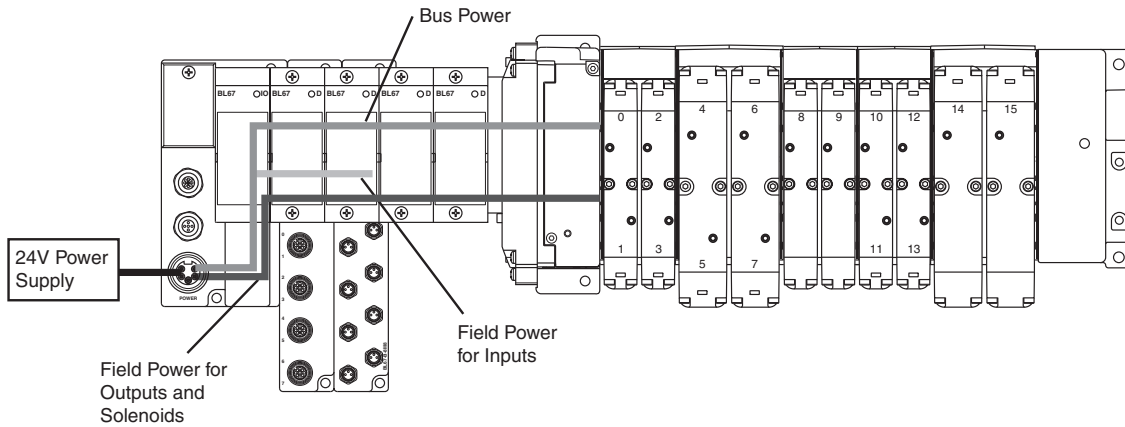
**Turck Communication and I/O Modules - DeviceNet and CANopen, Power Over Network**

The 24VDC power supply pins from the DeviceNet or CANopen network connection on the communication module provides a single power circuit. This circuit provides 1.5A bus power, 4A field power for inputs and 8A field power for outputs.



**Turck Communication and I/O Modules - EtherNet/IP, Modbus/TCP, PROFINET, PROFIBUS, and CANopen**

An auxiliary 24VDC power supply from the communication module provides power across two separate circuits. The first circuit provides 1.5A bus power and 4A field power for inputs. The second circuit provides 10A field power for outputs which can be wired to an e-stop circuit to kill all outputs.



D
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series



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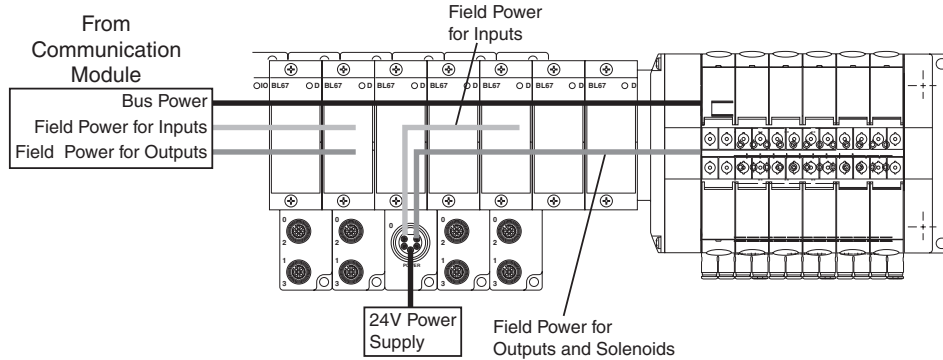
D222

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**Power Distribution Options for Turk Network Portal (continued)**

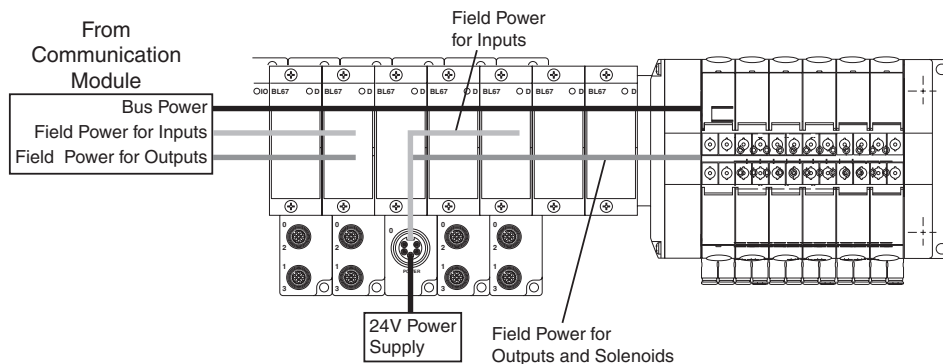
**24VDC Power Extender Module (BL67-PF-24VDC) with Base Module BL67-B-1RSM**

This configuration creates an auxiliary 24VDC power supply and provides power across two separate circuits, regardless of the communication module used. The first circuit provides 4A field power for inputs. The second circuit provides 10A field power for outputs which can be wired to an e-stop circuit to kill all outputs and solenoids to the right of the module. The 1.5A bus power is uninterrupted, and is still supplied from the communication module.



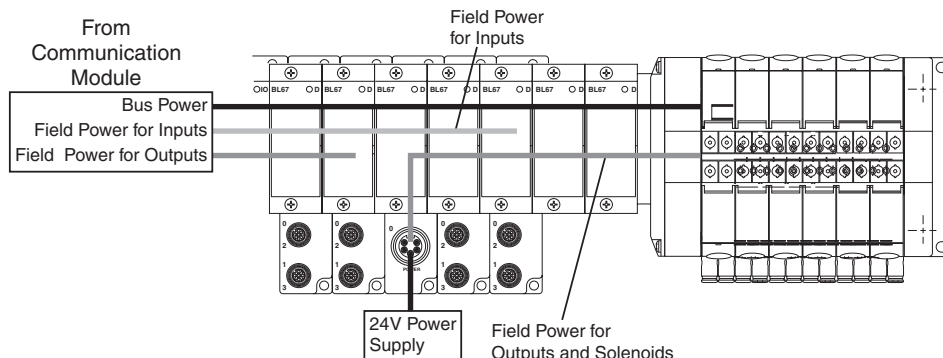
**24VDC Power Extender Module (BL67-PF-24VDC) with Base Module BL67-B-1RSM-4**

This configuration creates an auxiliary 24VDC power supply and provides power across one circuit, regardless of the communication module used. This circuit provides 4A field power for inputs and 10A field power for outputs. The 1.5A bus power is uninterrupted, and is still supplied from the communication module.



**24VDC Power Extender Module (BL67-PF-24VDC) with Base Module BL67-B-1RSM-VO**

This configuration creates an auxiliary 24VDC power supply and provides power across one circuit, regardless of the communication module used. This circuit provides 10A field power for outputs which can be wired to an e-stop circuit to kill all outputs and solenoids to the right of the module. The 1.5A bus power and 4A field power for inputs are uninterrupted, and are still supplied from the communication module.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

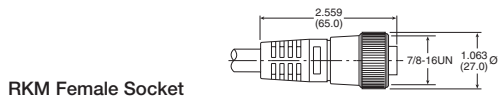
H Series ISO

Network Connectivity

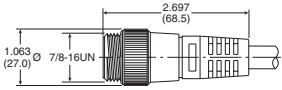
DX ISOMAX Series

Valvair II Series

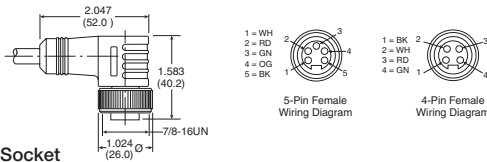
7/8" Mini Power Cables - P2H Network Node, H Series Network Portal, Turck Network Portal



RKM Female Socket



RSM Male Pins

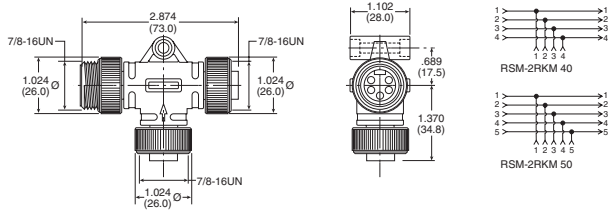


WKM Female Socket

Description	Part number
4-pin female to flying lead cable, 5 meters, TPE	<b>RKM 46-5M/S1587</b>
5-pin female to flying lead cable, 5 meters, TPE	<b>RKM 56-5M/S1587</b>
4-pin male to female cable, TPE	<b>RSM RKM 46-x/S1587</b>
5-pin male to female cable, TPE	<b>RSM RKM 56-x/S1587</b>
4-pin right angle female to flying lead cable, 5 meters, TPE	<b>WKM 46-5M/S1587</b>
5-pin right angle female to flying lead cable, 5 meters, TPE	<b>WKM 56-5M/S1587</b>

Where x = 2, 4, 5, 6, 8, 10 meter standard lengths

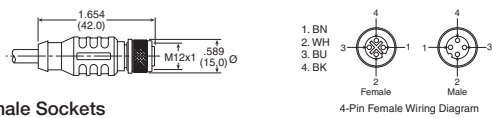
Power Tee - P2H Network Node, H Series Network Portal, Turck Network Portal



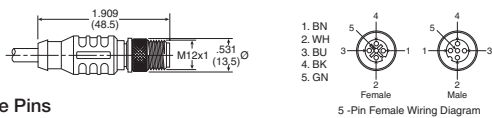
Description	Part number
4-pin Male to 2 female sockets	<b>RSM-2RKM 40</b>
5-pin Male to 2 female sockets	<b>RSM-2RKM 50</b>

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

M12 A-code Cables - P2M IO-Link, P2H IO-Link, H Series IO-Link Network Portal, Turck IO-Link Network Portal



RKC Female Sockets

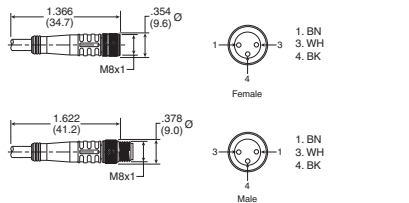


RSC Male Pins

Description	Part number
4-pin female to flying lead cable, PVC	<b>RKC 4.4T-1</b>
4-pin male to flying lead cable, PVC	<b>RSC 4.4T-*</b>
4-pin male to female cable, PVC	<b>RKC 4.4T-*/RSC 4.4T</b>
5-pin female to flying lead cable, TPE	<b>RKC 4.5T-*/S1587</b>
5-pin male to flying lead cable, TPE	<b>RSC 4.5T-4/S1587</b>
5-pin male to female cable, TPE	<b>RKC 4.5T-*/RSC 4.5T/S1587</b>

Where \* = 1, 2, 3, 4 meter standard lengths

M8 Cables - H Series IO-Link Network Portal, Turck IO-Link Network Portal



Description	Part number
3-pin female to flying lead cable, PUR	<b>PKG 3M-4/S90</b>
3-pin male to flying lead cable, PUR	<b>PSG 3M-*/S90</b>
3-pin male to female cable, PUR	<b>PKG 3M-*/PSG 3M/S90</b>

Where \* = 1, 2, 3, 4 meter standard lengths

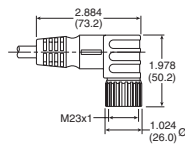
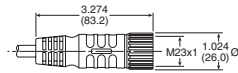
Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



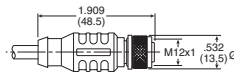
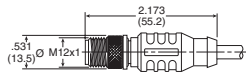
M23 Cables



Description	Part number
12-pin, double ended female thread with male pins and female socket, PUR. Pinout optimized for H Series Network Portal.	<b>CSCM CKCM 12-11-x/S90</b>
19-pin, double ended female thread with male pins and female socket, PUR. Pinout optimized for H Series Network Portal.	<b>CSM CKM 19-19-x/S90</b>
19-pin, 90° double ended female thread with male pins and female socket, PUR. Pinout optimized for Turck Network Portal.	<b>CSWM CKWM 19-19-x/CS12852</b>

Where x = 1, 2, 3, 4 meter standard lengths

PROFIBUS Cables - P2M Network Node, Turck Network Portal



Description	Part number
M12 male to M12 female, PUR	<b>RSSW RKSX 455-xM</b>

Where x = 2, 4, 5, 6, 8, 10 meter standard lengths

RSSW Side, Male Pins

RKSX Side, Female Sockets

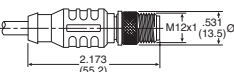
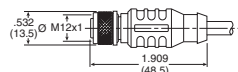
PROFIBUS Terminating Resistor - P2M Network Node, Turck Network Portal



Male Pins

Description	Part number
M12 male pin terminating resistor	<b>P8BPA00MB</b>

Ethernet Cables - P2M Network Node, H Series Network Portal, Turck Network Portal

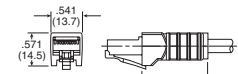


RKSD Side, Female Sockets

RSSD Side, Male Pins

Description	Part number
M12 female to M12 male, PUR	<b>RSSD RKSD 443-xM</b>
RJ45 to M12 male, PUR	<b>RSSD RJ45S 443-2M</b>

Where x = 2, 5, 10, 15, 20, 30 meter standard lengths



RJ45S Side

25-pin, D-Sub Cable (Female)

Description	Length	Part number
25-pin, D-sub cable, IP20, PUR	3 meters	<b>P8LMH25M3A</b>
25-pin, D-sub cable, IP20, PUR	9 meters	<b>SCD259D</b>
25-pin, D-sub cable, IP65, PUR	3 meters	<b>SCD253W</b>
25-pin, D-sub cable, IP65, PUR	9 meters	<b>SCD259WE</b>

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D225

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D

Subbase & Manual Valves

H Series Micro

Modulflex Series

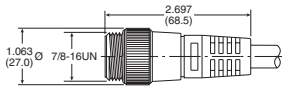
H Series ISO

Network Connectivity

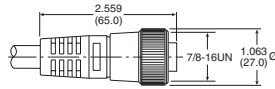
DX ISOMAX Series

Valvair II Series

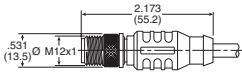
**DeviceNet and CANopen Cables** - P2M Network Node, H Series Network Portal, Turck Network Portal



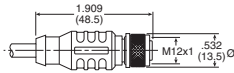
RSM Side, 7/8 Mini with Male Pins



RKM Side, 7/8 Mini with Male Pins



RSC Side, Male Pins

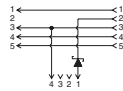
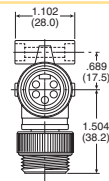
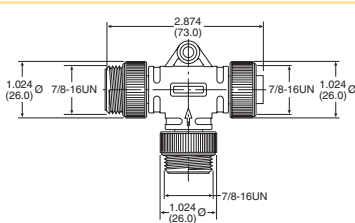


RKC Side, Female Sockets

Description	Part number
7/8" mini male to 7/8" mini female, PUR	<b>RSM RKM 5711-xM</b>
7/8" mini male to M12 female, PUR	<b>RSM RKC 5711-xM</b>
M12 male to M12 female, PUR	<b>RSC RKC 5711-xM</b>
M12 male to 7/8" mini female, PUR	<b>RSC RKM 5711-xM</b>

Where x = 2, 4, 5, 6, 8, 10 meter standard lengths

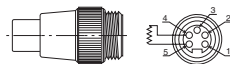
**Bus Power Tee** - P2M Network Node, H Series Network Portal, Turck Network Portal



Description	Part number
Bus power tee	<b>RSM RKM 57 WSM 40 PST</b>

For systems not equipped with Power over network, combines separate network and power feeds into the communication module. Includes reverse current protection

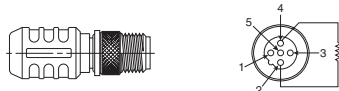
**DeviceNet & CANopen Terminating Resistor** - P2M Network Node, H Series Network Portal, Turck Network Portal



RSM 57-TR2

Male Pins

Description	Part number
7/8" Mini Male Pin Terminating Resistor	<b>RSM 57-TR2</b>
M12 Male Pin Terminating Resistor	<b>P8BPA00MA</b>



P8BPA00MB

Male Pins

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 Subbase & Manual Valves  
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 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

Most popular.

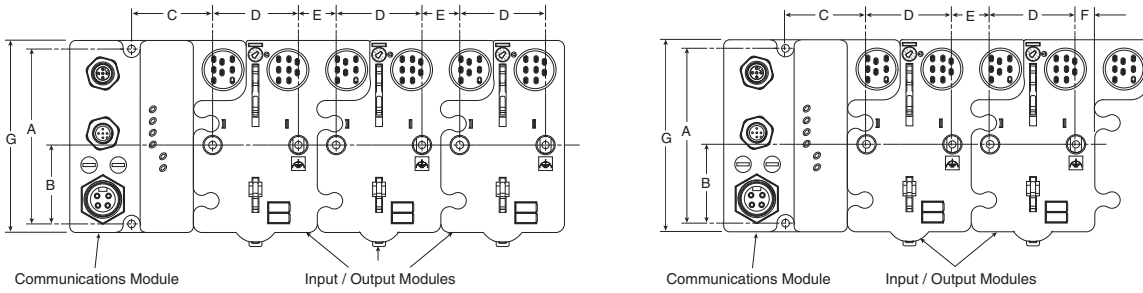


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D226

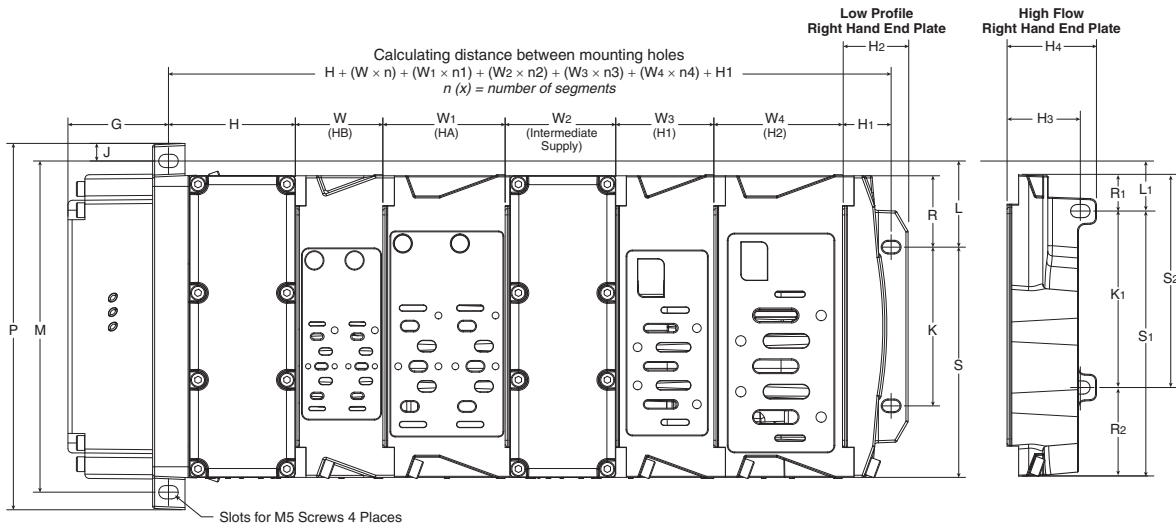
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 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**H Series Network with H Series ISO Valves**



A	B	C	D	E	F	G
4.00	1.80	1.90	2.00	.87	.43	4.41
(102)	(46)	(48)	(50)	(22)	(11)	(112)

Inches (mm)

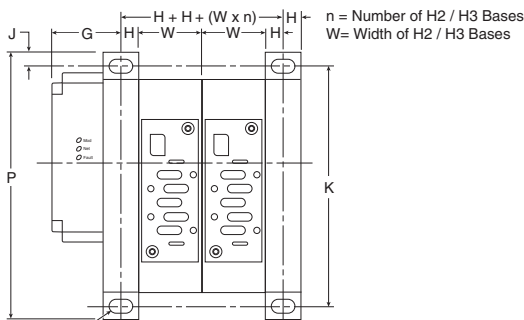


$n(x)$  = number of segments

G	H	H1	H2	H3	H4	J	K	K1	L	L1	M
1.87	2.36	0.90	1.22	1.36	1.66	0.33	2.95	3.28	1.60	0.96	6.16
(47.5)	(60.0)	(23.0)	(31.0)	(34.6)	(42.3)	(8.3)	(75.0)	(83.4)	(40.7)	(24.3)	(156.5)
P	S	S1	S2	R	R1	R2	W	W1	W2	W3	W4
6.81	4.28	4.93	3.96	1.33	0.68	1.65	1.63	2.28	2.06	1.82	2.39
(173.1)	(108.8)	(125.2)	(100.7)	(33.7)	(17.3)	(41.8)	(41.3)	(57.8)	(52.3)	(46.3)	(60.8)

Inches (mm)

**H3 Manifold Assembly**



Slots for M10 (or 7/16) Screws 4 Places

G	H	J	K	P	W
2.34	.65	.59	10.43	11.61	2.80
(59.5)	(16.5)	(15)	(265)	(295)	(71)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D227

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**D**

**Subbase & Manual Valves**

**H Series Micro**

**Modulflex Series**

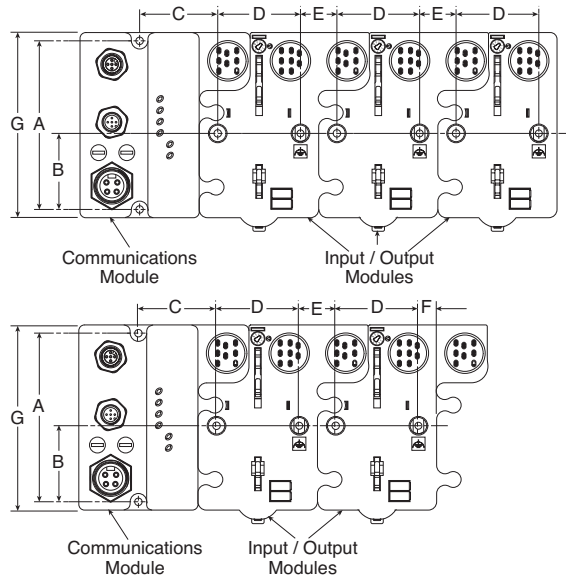
**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

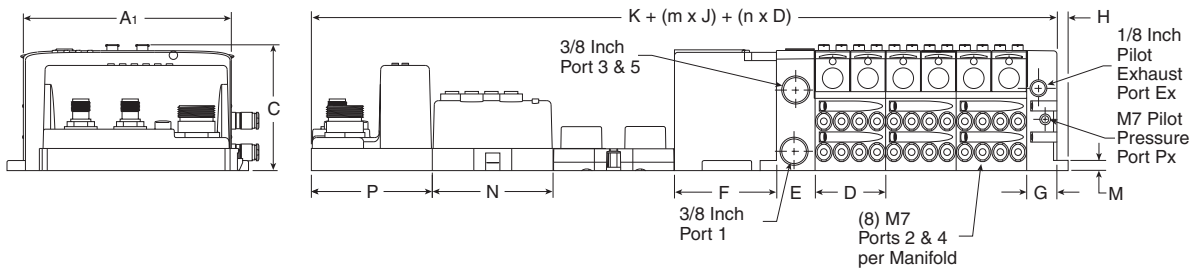
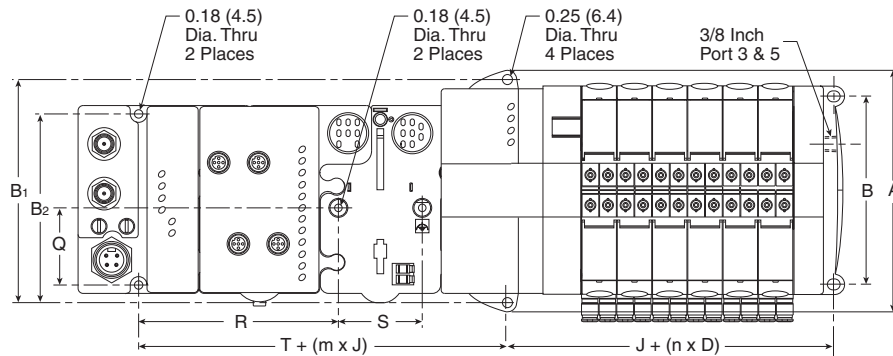
**Valvair II Series**

**H Series Network with H Series Micro Valves**



A	B	C	D
4.00 (102)	1.80 (46)	1.90 (48)	2.00 (50)
E	F	G	
.87 (22)	.43 (11)	4.41 (112)	

Inches (mm)



A	A1	B	B1	B2	C	D	E	F	G
5.67 (144.0)	4.88 (124.0)	4.41 (112.0)	5.24 (133.0)	4.02 (102.0)	2.95 (75.0)	1.65 (42.0)	0.91 (23.0)	2.40 (61.0)	0.71 (18.0)
H	J	K	M	N	P	Q	R	S	T
0.49 (12.5)	2.72 (69.0)	7.32 (186.0)	0.24 (6.1)	2.83 (72.0)	2.83 (72.0)	1.81 (46.0)	4.72 (120.0)	2.01 (51.0)	2.01 (51.0)

n = Number of Manifolds  
m = Number of Modules

Inches (mm)

**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series

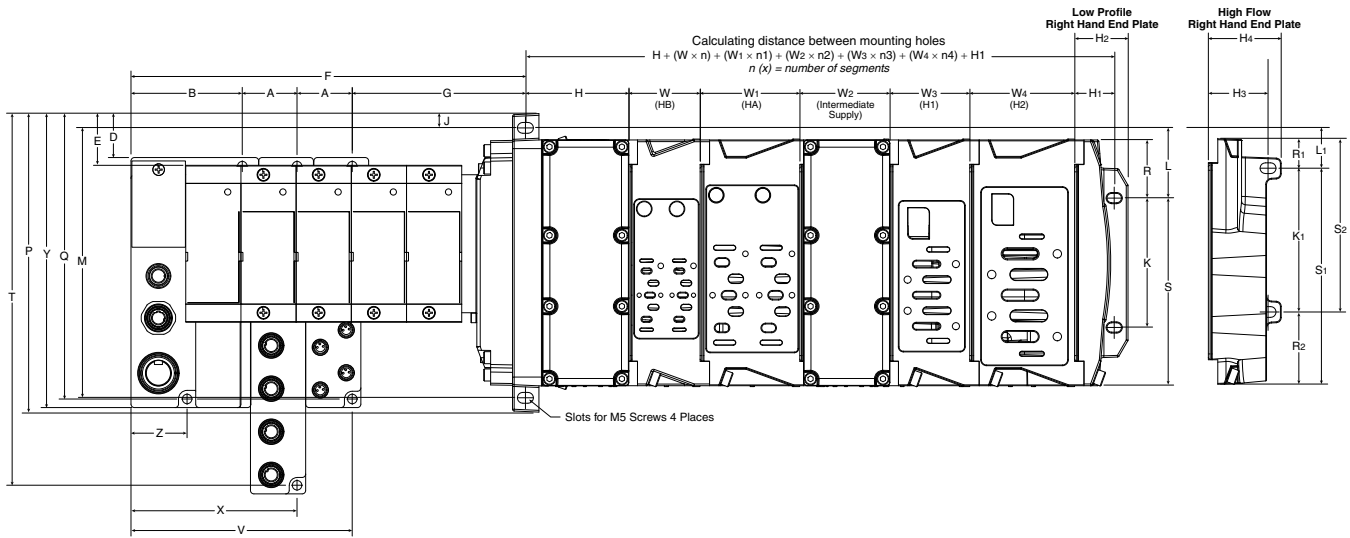


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**Turck with H Series ISO Valves**

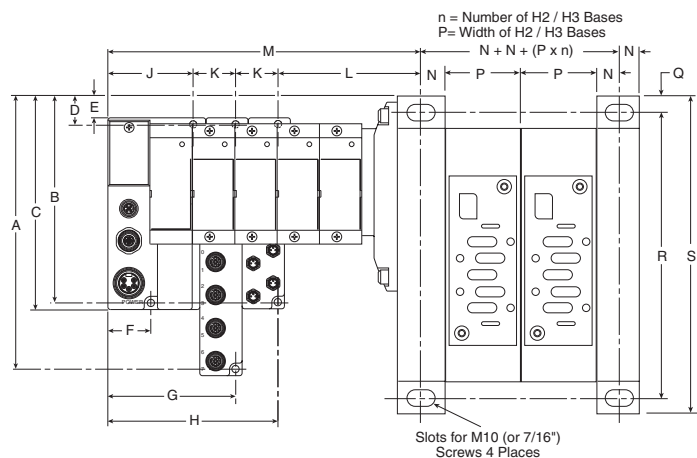


n (x) = number of segments

<b>A</b>	<b>B</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>H1</b>	<b>H2</b>	<b>H3</b>	<b>H4</b>	<b>J</b>
1.26 (32.0)	2.54 (64.5)	1.00 (25.4)	1.18 (29.9)	8.99 (228.4)	3.94 (100.1)	2.36 (60.0)	0.90 (23.0)	1.22 (31.0)	1.36 (34.6)	1.66 (42.3)	0.33 (8.3)
<b>K</b>	<b>K1</b>	<b>L</b>	<b>L1</b>	<b>M</b>	<b>P</b>	<b>Q</b>	<b>R</b>	<b>R1</b>	<b>R2</b>	<b>S</b>	<b>S1</b>
2.95 (75.0)	3.28 (83.4)	1.60 (40.7)	0.96 (24.3)	6.16 (156.5)	6.81 (173.1)	6.51 (165.4)	1.33 (33.7)	0.68 (17.3)	1.65 (41.8)	4.28 (108.8)	4.93 (125.2)
<b>S2</b>	<b>T</b>	<b>V</b>	<b>W</b>	<b>W1</b>	<b>W2</b>	<b>W3</b>	<b>W4</b>	<b>X</b>	<b>Y</b>	<b>Z</b>	
3.96 (100.7)	8.48 (215.4)	5.05 (128.3)	1.63 (41.3)	2.28 (57.8)	2.06 (52.3)	1.82 (46.3)	2.39 (60.8)	3.79 (96.3)	6.71 (170.4)	1.28 (32.5)	

Inches (mm)

**H3 Manifold Assembly**



<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>
8.62 (218.9)	6.65 (168.9)	6.85 (173.9)	1.33 (33.9)	1.14 (28.9)	1.28 (32.5)	3.79 (96.5)	5.06 (128.5)	2.53 (64.5)	1.26 (32)	4.34 (110)	See note 1	.65 (16.5)	2.80 (71)	.59 (15)	10.43 (265)	11.61 (295)

Note 1: M = J + L + n<sub>2</sub> x K, where n<sub>2</sub> = Number of Turck input / output modules  
 Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D229

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**D**

**Subbase & Manual  
 Valves**

**H Series  
 Micro**

**Moduflex  
 Series**

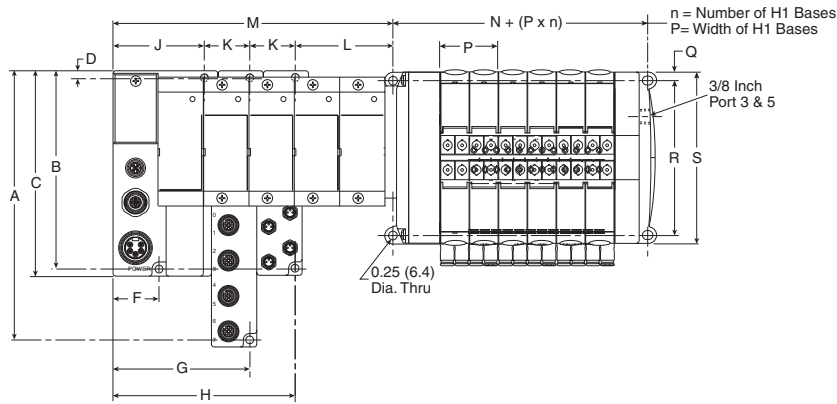
**H Series  
 ISO**

**Network  
 Connectivity**

**DX ISOMAX  
 Series**

**Valvair II  
 Series**

**Turck with H Series Micro Valves**



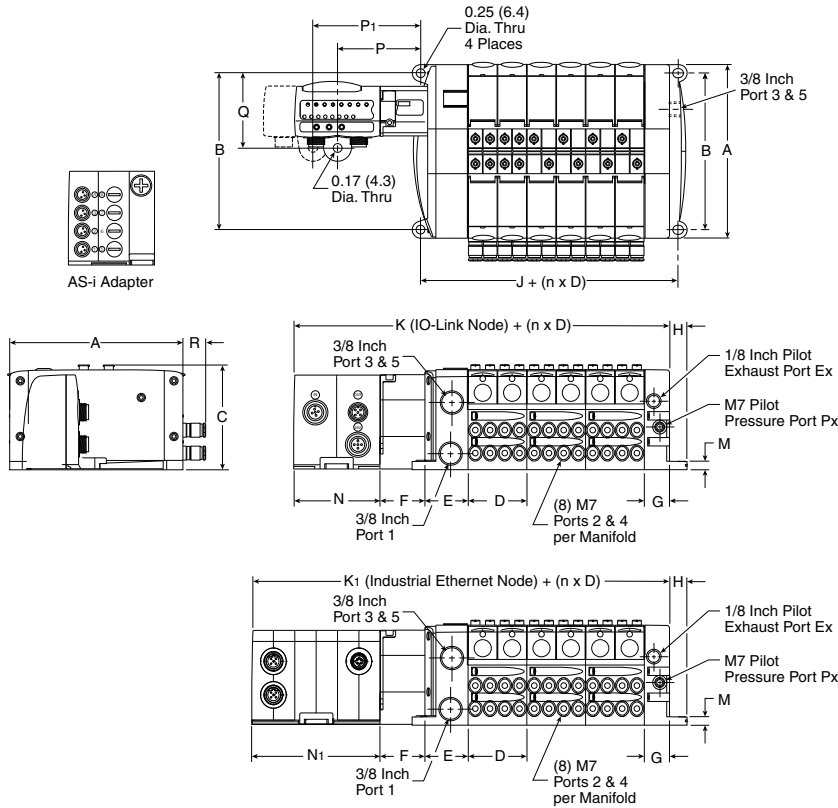
n = number of segments

A	B	C	D	F	G	H	J	K	L	M	N	P	Q	R	S
7.48	5.51	5.71	0.20	1.28	3.79	5.06	2.53	1.26	2.54	See note 1	2.28	1.65	.19	4.41	4.88
(190)	(140)	(145)	(5)	(32.5)	(96.5)	(128.5)	(64.5)	(32)	(64)	note 1	(58)	(42)	(4.9)	(112)	(124)

Note 1:  $M = J + L + n_2 \times K$ , where  $n_2$  = Number of Turck input / output modules  
 Inches (mm)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**P2M Adapter, Side Ported**



n = number of segments

A	B	C	D	E	F	G	H	J	K	K1	M	N	N1	P	P1	Q	R
4.88	4.41	2.95	1.65	1.22	1.28	0.71	0.49	2.28	6.10	6.87	0.24	2.40	3.71	2.36	2.94	2.07	0.56
(124.0)	(112.0)	(75.0)	(42.0)	(31.0)	(32.5)	(18.0)	(12.5)	(58.0)	(155.0)	(174.5)	(6.1)	(61.0)	(94.3)	(60.0)	(74.7)	(52.5)	(14.3)

Inches (mm)



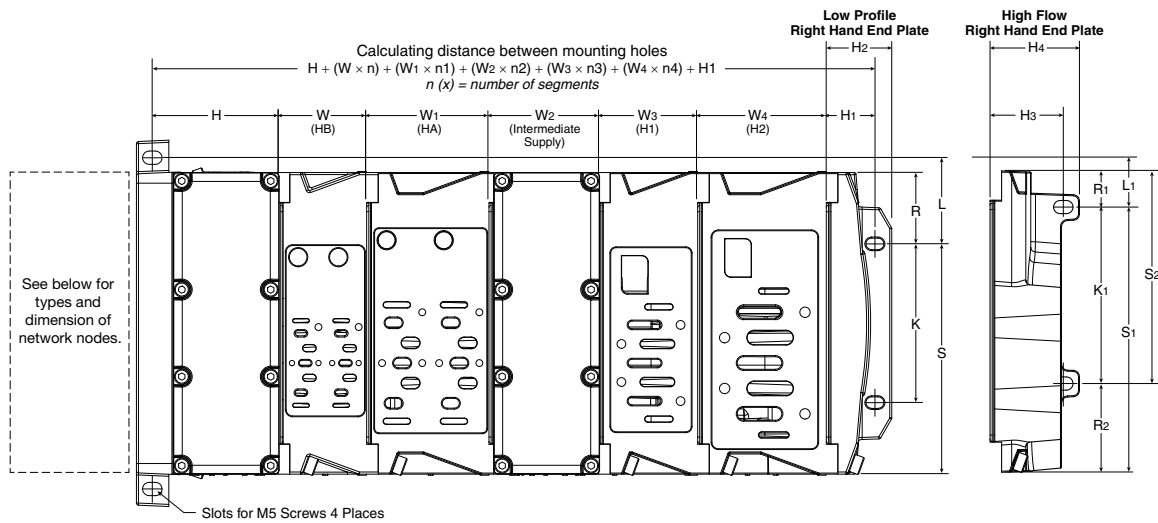
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D230

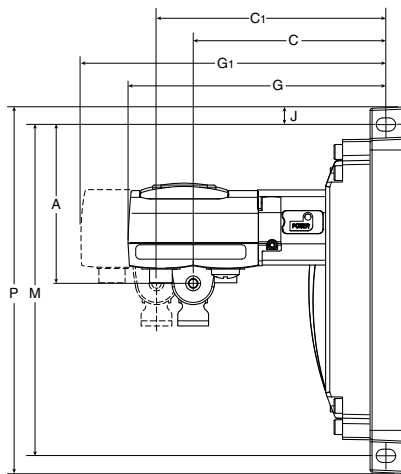
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 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)



**H Series ISO Valve Manifold**

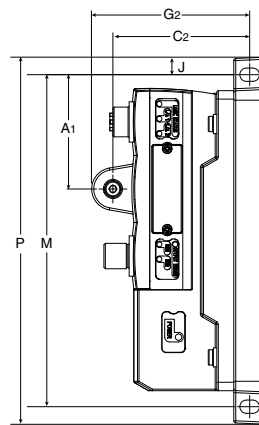


**Network Nodes**

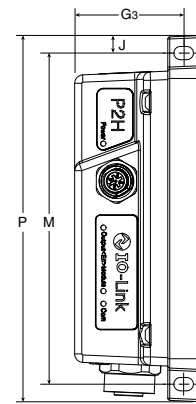


**P2M Side Mount**

G .....P2M IO-Link  
G1 .....P2M Industrial Ethernet Protocol



**P2M Low Profile**



**P2H**

<b>A</b>	<b>A1</b>	<b>C</b>	<b>C1</b>	<b>C2</b>	<b>G</b>	<b>G1</b>	<b>G2</b>	<b>G3</b>	<b>H</b>	<b>H1</b>	<b>H2</b>	<b>H3</b>	<b>H4</b>
2.97 (75.5)	2.12 (53.9)	3.57 (90.8)	4.32 (109.8)	2.54 (64.5)	4.79 (121.6)	6.19 (157.2)	2.93 (74.5)	2.03 (51.5)	2.36 (60.0)	0.90 (23.0)	1.22 (31.0)	1.36 (34.6)	1.66 (42.3)
<b>J</b>	<b>K</b>	<b>K1</b>	<b>L</b>	<b>L1</b>	<b>M</b>	<b>P</b>	<b>S</b>	<b>S1</b>	<b>S2</b>	<b>R</b>	<b>R1</b>	<b>R2</b>	<b>W</b>
0.33 (8.3)	2.95 (75.0)	3.28 (83.4)	1.60 (40.7)	0.96 (24.3)	6.16 (156.5)	6.81 (173.1)	4.28 (108.8)	4.93 (125.2)	3.96 (100.7)	1.33 (33.7)	0.68 (17.3)	1.65 (41.8)	1.63 (41.3)
<b>W1</b>	<b>W2</b>	<b>W3</b>	<b>W4</b>										
2.28 (57.8)	2.06 (52.3)	1.82 (46.3)	2.39 (60.8)										

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

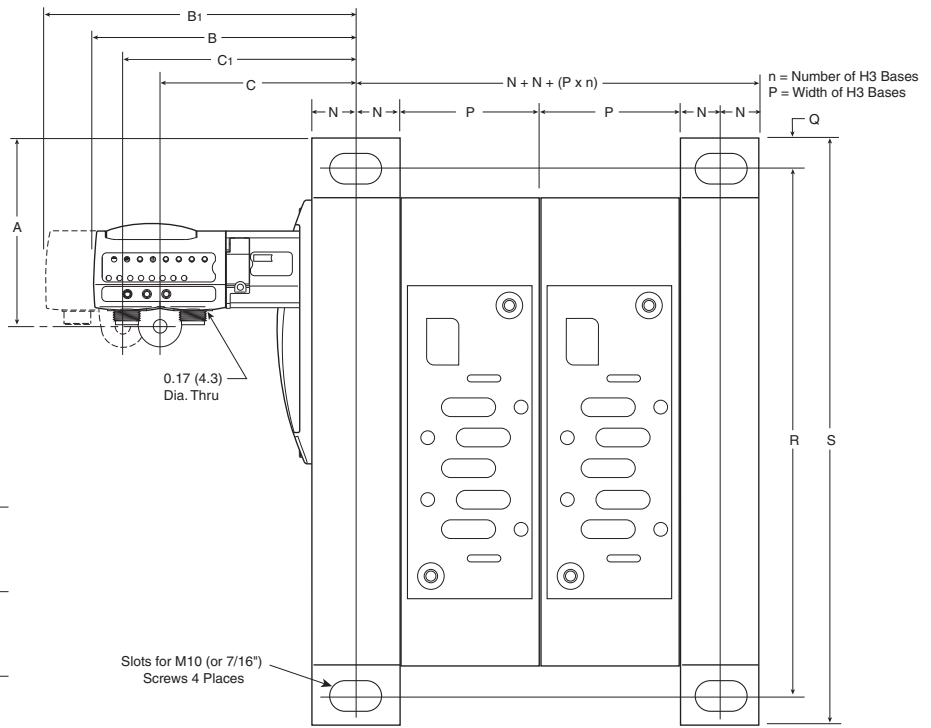
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**P2M with H3 Series ISO Valves**

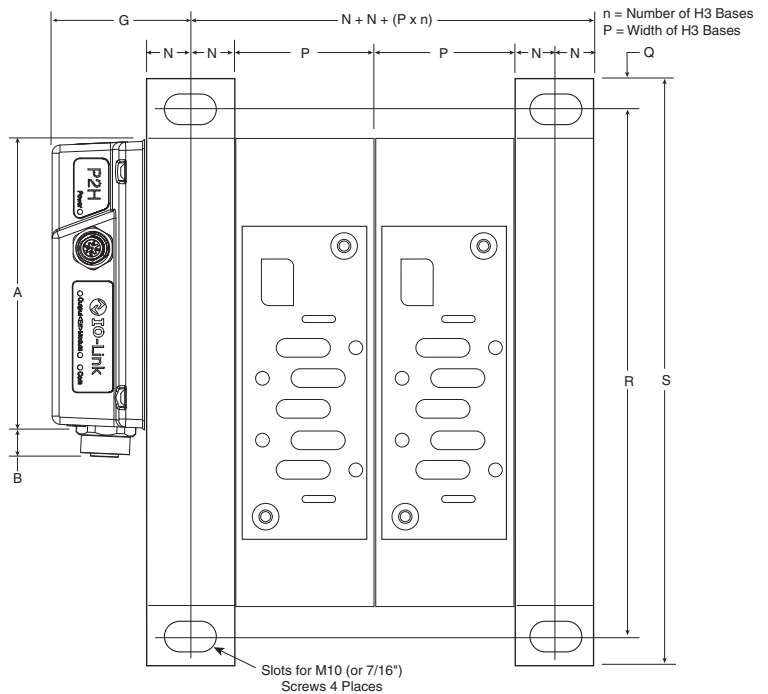


B ..... P2M IO-Link  
B1 ..... P2M Industrial Ethernet Protocol

A	B	B1	C
3.31 (84.2)	6.40 (161.5)	6.04 (153.3)	5.19 (131.8)
C1	N	P	Q
4.31 (109.5)	.65 (16.5)	2.80 (71)	.59 (15)
R	S		
10.43 (265)	11.61 (295)		

Inches (mm)

**P2H with H3 Series ISO Valves**



n (x) = number of segments

A	B	G	N
5.51 (140)	0.49 (12.5)	3.01 (76.5)	0.65 (16.5)
P	Q	R	S
2.80 (71)	0.59 (15)	10.43 (265)	11.61 (295)

Inches (mm)

**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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Richland, Michigan  
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**DX ISOMAX Series**

The ISOMAX range of directional control valves complies with ISO 15407-1 and VDMA 24563 for sizes 02 and 01 and ISO 5599-1 for sizes 1, 2 and 3. ISOMAX provides flows from 0.55 Cv to 4.15 Cv.

The ISOMAX range includes valves for pneumatic and electrical actuation with a wide choice of subbases and manifolds to suit different application needs.

All ISOMAX products use high-tech ceramic switching technology providing:

Excellent reliability

- Long life in excess of 100 million operations\*
- Operates with lubricated or non-lubricated air
- Low sensitivity to air quality changes

High performance

- Slide valve concept allows high flow / size ratio and short response time due to short slide stroke and low friction

Stable long lasting performances

- Low friction switching: minimum wear of the valve member / seal assembly

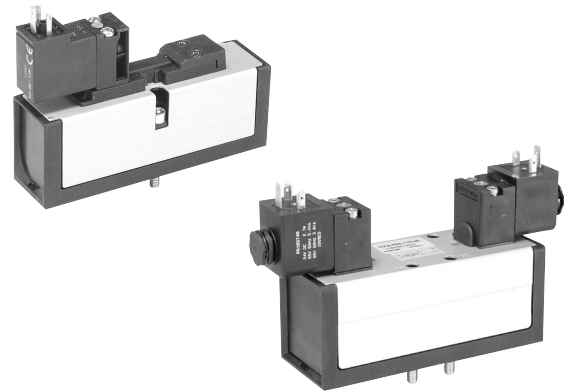
Valves fitted with switchable selector to give internal or external pilot supply

Corrosion free and modern design

Vacuum operation

Dual pressure

\* Refer to our warranty conditions.



**Operating information**

Operating Pressure: Vacuum to 145 PSIG (10 bar)

Function		M.O.P (PSIG)
20, 21, 22, 23	2-position, spring return	36
50, 51, 53, 54	2-position, air return	30
04, 05, 06, 08	2-position	15
09, 11, 12, 27	3-position, CE	45
16, 18, 19, 25	3-position, APB	45

Working temperatures:

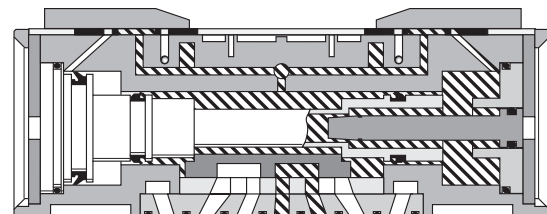
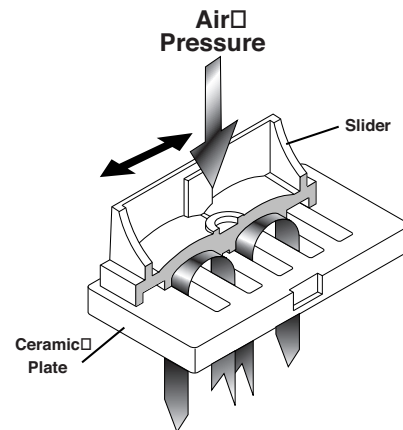
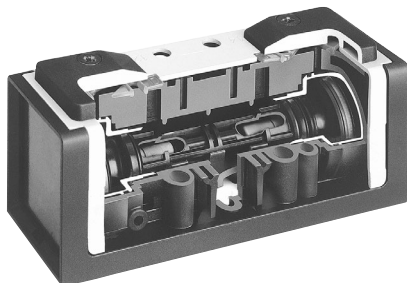
-10°C to 60°C (14°F to 140°F)

Storage temperatures:

-20°C to 70°C (-4°F to 158°F)

**Material specifications**

Body	Polyamide reinforced fiberglass
Casing	Anodized aluminum
End plates	Painted zinc plated steel
Function selector	Polyamide reinforced fiberglass
Screws	Zinc plated steel
Seals	Nitrile
Seat	Ceramic
Springs	Stainless steel
Top cover seals	Polyester
Valve members	Self lubricating acetal
Valve plate	Zinc



Remote Pilot



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

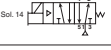
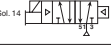
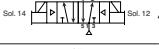

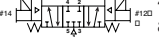
H Series ISO

Fieldbus Systems






DX ISOMAX Series

Valvair II Series

**DX02 ISO Solenoid Valves**

Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
	4-way, 2-position, spring return	0.55	Single solenoid	Internal	Non-locking	<b>DX02-621-951M</b>	<b>DX02-621-951J</b>
	4-way, 2-position, air return	0.55	Single solenoid	Internal	Non-locking	<b>DX02-651-951M</b>	<b>DX02-651-951J</b>
	4-way, 2-position	0.55	Double solenoid	Internal	Non-locking	<b>DX02-606-951M</b>	<b>DX02-606-951J</b>
	4-way, 3-position, center exhaust	0.4	Double solenoid	Internal	Non-locking	<b>DX02-611-951M</b>	<b>DX02-611-951J</b>
	4-way, 3-position, all ports blocked	0.4	Double solenoid	Internal	Non-locking	<b>DX02-616-951M</b>	<b>DX02-616-951J</b>

**DX02 ISO Remote Pilot Valves**




Symbol	Type	Cv	Operator	Pilot	Part Number
	4-way, 2-position, spring return	0.55	Single remote pilot	Remote	<b>DX02-421-60</b>
	4-way, 2-position, air return	0.55	Single remote pilot	Remote	<b>DX02-451-60</b>
	4-way, 2-position	0.55	Double remote pilot	Remote	<b>DX02-406-60</b>
	4-way, 3-position, center exhaust	0.4	Double remote pilot	Remote	<b>DX02-411-60</b>
	4-way, 3-position, all ports blocked	0.4	Double remote pilot	Remote	<b>DX02-416-60</b>

**Torque Specifications**

DX02: 15 to 25 in-lbs (1.69 to 2.82 Nm)

DX01: 20 to 30 in-lbs (2.26 to 3.39 Nm)

**DX02 Series Accessories**

Accessory	Description	Part Number
Sandwich regulator 	Common pressure	2-60 PSIG w/ gauge <b>PS5637155DXP</b>
	Common pressure	5-125 PSIG w/ gauge <b>PS5637166DXP</b>
	Independent pressure	2-60 PSIG w/ gauge <b>PS5637255DXP</b>
	Independent pressure	5-125 PSIG w/ gauge <b>PS5637266DXP</b>
Gauge adapter kit	Includes 1/8" coupling and long nipple	<b>PS5651160P</b>
Sandwich supply module	1/8" NPT	<b>PS562600P</b>
	1/8" BSPP	<b>PS562601P</b>
Sandwich exhaust module	1/8" NPT	<b>PS562700P</b>
	1/8" BSPP	<b>PS562701P</b>
2 Station manifold bases 	Description	1/8" NPT
	End ported bases	<b>PS5611510P</b> <b>PS5611520P</b>
End plate kit 	Description	NPT port
	Non-collective wiring end plate	<b>PS5631010P</b> <b>PS5631011P</b>

 Most popular.

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair-II Series

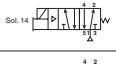

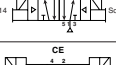
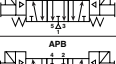



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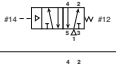
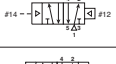
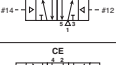
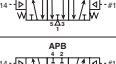
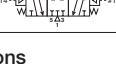
D234

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**DX01 ISO Solenoid Valves**




Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
	4-way, 2-position, spring return	0.75	Single solenoid	Internal	Non-locking	<b>DX01-621-951M</b>	<b>DX01-621-951J</b>
	4-way, 2-position, air return	0.75	Single solenoid	Internal	Non-locking	<b>DX01-651-951M</b>	<b>DX01-651-951J</b>
	4-way, 2-position	0.75	Double solenoid	Internal	Non-locking	<b>DX01-606-951M</b>	<b>DX01-606-951J</b>
	4-way, 3-position, center exhaust	0.5	Double solenoid	Internal	Non-locking	<b>DX01-611-951M</b>	<b>DX01-611-951J</b>
	4-way, 3-position, all ports blocked	0.5	Double solenoid	Internal	Non-locking	<b>DX01-616-951M</b>	<b>DX01-616-951J</b>

**DX01 ISO Remote Pilot Valves**

Symbol	Type	Cv	Operator	Pilot	Part Number
	4-way, 2-position, spring return	0.75	Single remote pilot	Remote	<b>DX01-421-60</b>
	4-way, 2-position, air return	0.75	Single remote pilot	Remote	<b>DX01-451-60</b>
	4-way, 2-position	0.75	Double remote pilot	Remote	<b>DX01-406-60</b>
	4-way, 3-position, center exhaust	0.5	Double remote pilot	Remote	<b>DX01-411-60</b>
	4-way, 3-position, all ports blocked	0.5	Double remote pilot	Remote	<b>DX01-416-60</b>

**Torque Specifications**  
 DX02: 15 to 25 in-lbs (1.69 to 2.82 Nm)  
 DX01: 20 to 30 in-lbs (2.26 to 3.39 Nm)

**DX01 Series Accessories**

Accessory	Description	Part Number
Sandwich regulator 	Common pressure	2-60 PSIG w/ gauge <b>PS5537155DXP</b>
	Common pressure	5-125 PSIG w/ gauge <b>PS5537166DXP</b>
	Independent pressure	2-60 PSIG w/ gauge <b>PS5537255DXP</b>
	Independent pressure	5-125 PSIG w/ gauge <b>PS5537266DXP</b>
Gauge adapter kit	Includes 1/8" coupling and long nipple	<b>PS5651160P</b>
Remote pilot access plate kit	1/4" NPT	<b>PS551500P</b>
	1/4" BSPP	<b>PS551501P</b>
Sandwich supply module	1/4" NPT	<b>PS552600P</b>
	1/4" BSPP	<b>PS552601P</b>
Sandwich exhaust module	1/4" NPT	<b>PS552700P</b>
	1/4" BSPP	<b>PS552701P</b>
Manifold to manifold gasket kits	Used with manifold PJLP02	<b>DX01M2MGSKT</b>
Manifold hardware kit	Includes 10 bolts, 10 washers, 10 nuts	<b>DX02M2MB</b>
2 Station manifold bases 	Description	1/4" NPT
	End ported bases	<b>PS5511530P</b> <b>PS5511540P</b>
End plate kit 	Description	NPT port
	Non-collective wiring end plate	<b>PS5631010P</b> <b>PS5531011P</b>

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

**Model Number**

**DX02 - 6 06 - 95 1 M**

Basic Series	
ISO 15407-1 (18mm)	DX02
ISO 15407-1 (26mm)	DX01

Pilot	
Air Operated Remote Pilot	4
Solenoid Operated	6

Voltage & Frequency			
	AC		DC
	60Hz	50Hz	
J	120	110	
M			24
Blank	Remote Pilot		

Function	
<b>Internal Pilot Supply / Captured Exhaust 12</b>	
2-Position, Spring Return	21
2-Position, Air Return	51
2-Position	06
3-Position, CE	11
3-Position, APB	16
<b>External Pilot 14 Supply / Captured Exhaust 12*</b>	
2-Position, Spring Return	23
2-Position, Air Return	54
2-Position	05
3-Position, CE	09
3-Position, APB	19
<b>Internal Pilot Supply / Vented Exhaust</b>	
2-Position, Spring Return	20
2-Position, Air Return	50
2-Position	04
3-Position, CE	27
3-Position, APB	25
<b>External Pilot Supply / Vented Exhaust*</b>	
2-Position, Spring Return	22
2-Position, Air Return	53
2-Position	08
3-Position, CE	12
3-Position, APB	18

Override	
Blank	Remote Pilot
1	Non-Locking, Flush
3	Locking, Flush

Operator	
60	None, Remote Pilot Valve
95	15mm, 3-Pin, DIN 43650C

\* Must be specified when using Sandwich Regulators.

*Note: DX02 18mm Valve Remote Pilot Option only available with PL02 Individual Subbase Kits*

**D**

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15407-1, DX02 & DX01 Manifold / Subbase Kits

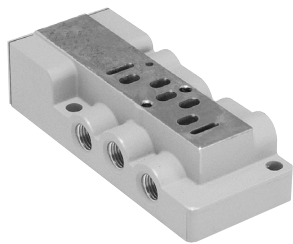
**PS5511** **13** **0** **P**

Basic Series	
ISO 15407-1 DX02	PS5611
ISO 15407-1 DX01	PS5511

Enclosures / Lead Length	
0	None, No Electrical Plug - 15407-1

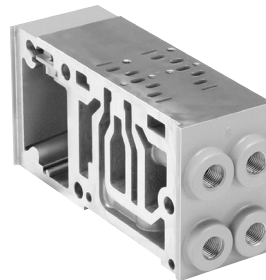
Mounting Style / Port Size	
DX02	
Manifold with 1/8 NPT End Ports	51
Manifold with 1/8 BSPP End Port	52
Manifold with 1/8 NPT Bottom / End Port	61
Manifold with 1/8 BSPP Bottom / End Port	62
DX01	
Subbase with 1/4 NPT Side Ports	13
Subbase with 1/4 BSPP Side Ports	14
Subbase with 1/4 NPT Bottom / Side Port	23
Subbase with 1/4 BSPP Bottom / Side Port	24
Manifold with 1/4 NPT End Port	53
Manifold with 1/4 BSPP End Port	54
Manifold with 1/4 NPT Bottom / End Port	63
Manifold with 1/4 BSPP Bottom / End Port	64

Subbase Kits

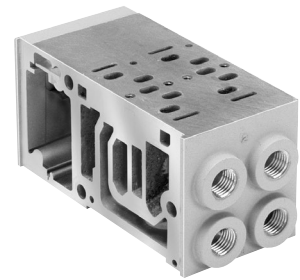


DX01 Series Subbase

Manifold Kits



DX02 Series 2-Station Manifold

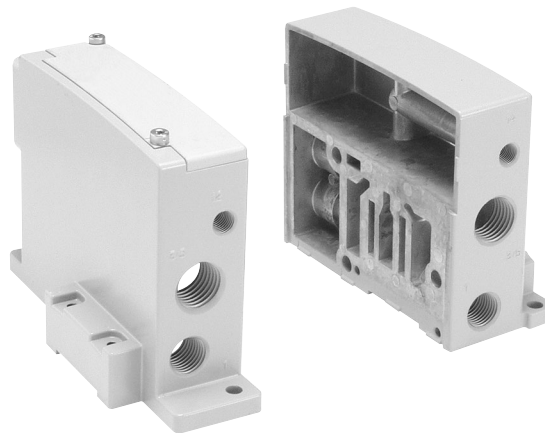
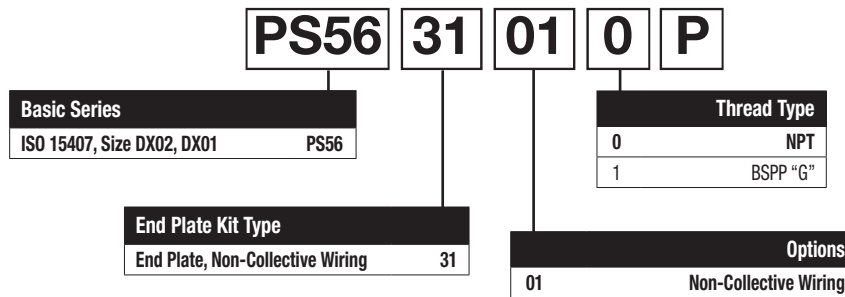


DX01 Series 2-Station Manifold



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**15407-1, DX02 & DX01 End Plate Kits**



DX02 - DX01 Non-Collective Wiring  
 End Plates

<b>D</b>
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Fieldbus Systems
DX ISOMAX Series
Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**Sandwich Regulators Features**

- Remote Air Pilot Operated for hard-to-reach pressure control.
- Unregulated Pilot Pressure to valve for consistent valve shifting regardless of pressure adjustment.

**PS5637 1 6 6 DX P**

Basic Series	
DX02	
15407-1, 18mm	PS5637
DX01	
15407-1, 26mm	PS5537

Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator / Gauge*	
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

#4 Port Regulator / Gauge*	
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)



**DX02**  
 (Independent Dual Port Regulator Shown)



**DX01**  
 (Common Port Regulator Shown)

**Remote Pilot Access Plate Kit**

Size	Port size	Part number	
		NPT	BSPP
26mm DX01	1/8"	PS551500P	PS551501P



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

**Ordering Information**

**How To Order 15407-1 Non Plug-in Add-A-Fold Assemblies**

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete Valve, Regulator, Flow Control and Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)

**Add-A-Fold Assembly Model Number**

**AA HBS 0 04**

Valve Series	
Right & Left End Plate 15407-1 (HB 18mm & HA 26mm)	HBS†

† For use with PS5511 and PS5611 manifolds.

Thread Type	
NPT	0
BSPP "G"	1*

\* BSPP conforms to ISO 1179-1 w  
 228-1 threads for end plate Type "S".

Number of Stations*	
02	
04	
•	
24	
•	
32	

\* Must be ordered in multiples of (2)  
 unless using the HB/HA to H2  
 transition plate.

**Example**

Application requires a 4-Station manifold.  
 (Two 18mm + Two 26mm Stations)

Item	Qty.	Part No.	Location
01	1	AAHBS004	
02	1	DX02-651-951M	Station 1
03	1	DX02-651-951M	Station 2
04	1	PS5611510P	Station 1 & 2
05	2	DX01-606-951M	Station 3 & 4
06	1	PS5511510P	Station 3 & 4

**NOTE:** Construct manifold assemblies from left to right while looking at the ports.  
 Valves must be ordered as External Pilot when using Sandwich Regulator.

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

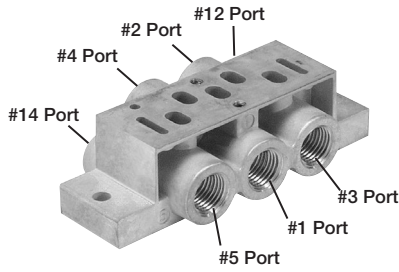
Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**DX02 Series Subbase & Manifolds**

**Single Subbase**

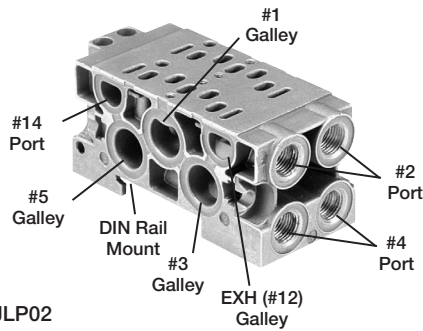


Side Ported Base  
 18mm DX02

1/8" NPT	1/8" BSPP
<b>PL02-01-80</b>	<b>PL02-01-70</b>

**Note:** Can be used for external, single, or double remote pilot.

**2 Station Manifold Bases**



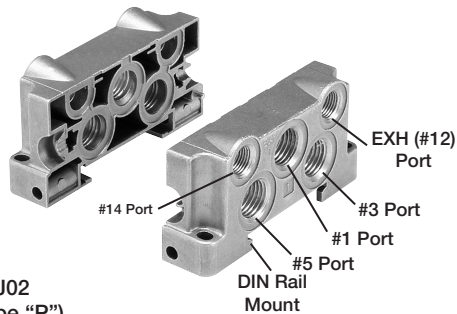
End Ported Bases  
 18mm DX02

1/8" NPT	1/8" BSPP
<b>PJLP02-201-80</b>	<b>PJLP02-201-70</b>

**Note:** Can be used for external pilot, not remote pilot. Gaskets and assembly hardware included.

PJLP02

**End Plate Kit**



Side Ported Two Station  
 Manifold Base  
 18mm DX02

1/4" NPT Port	1/4" BSPP Port
<b>PEJ02-02-80*</b>	<b>PEJ02-02-70</b>

**\*Note:** Put a vent or muffler in "EXH" port when capturing pilot exhaust pressure with a solenoid valve. (See gasket selector page for details.) Gaskets and assembly hardware included.  
 Torque Specifications: 25 to 35 in-lbs (2.82 to 3.95 Nm)

PEJ02  
 (Type "P")

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

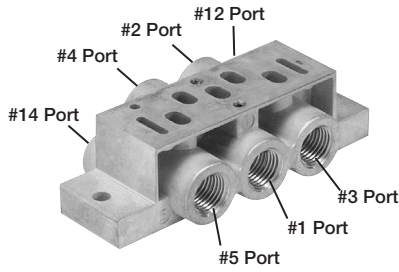
Fieldbus Systems

**DX ISOMAX Series**

Valvair II Series

**DX01 Series Subbase & Manifolds**

**Single Subbase**



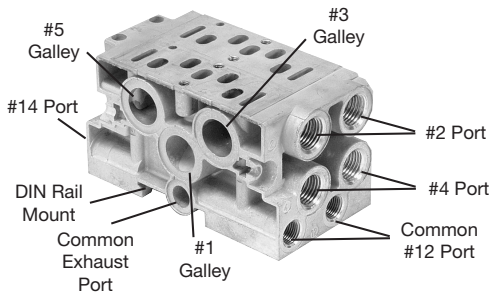
Side ported base  
 26mm DX01

Part number

1/4" NPT	1/4" BSPP
<b>PL01-02-80</b>	<b>PL01-02-70</b>

Note: Can be used for external, single, or double remote pilot.

**2 Station Manifold Bases**



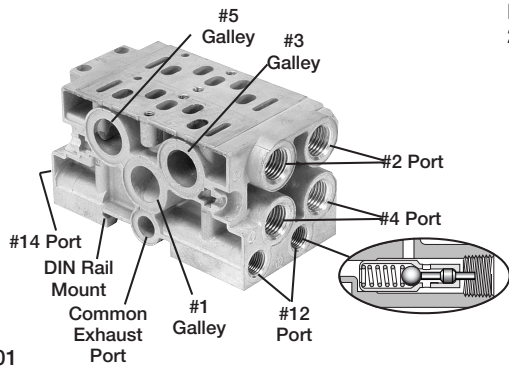
End ported bases  
 26mm DX01

1/4" NPT      1/4" BSPP

<b>PJLP01-202-80</b>	<b>PJLP01-202-70</b>
----------------------	----------------------

Note: Can be used for single remote pilot using the #14 Port and external pilot. Gaskets and assembly hardware included.

PJLP01



End ported bases  
 26mm DX01

1/4" NPT      1/4" BSPP

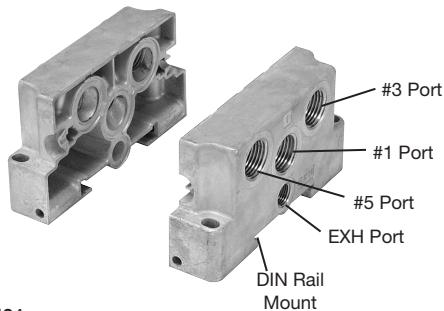
<b>PJL01-202-80</b>	<b>PJL01-202-70</b>
---------------------	---------------------

Notes: #12 ports work independently when plunger is not depressed by a plug. When a plug is inserted in #12 Port along with the captured pilot exhaust gasket selector option, pilot exhaust is sent to the Common Exhaust Port. Do Not plug exhaust, insert a vent of muffler.

Gaskets and assembly hardware included.  
 Can be used for external, single or double remote pilot.

PJL01

**End Plate Kit**



Side ported two station  
 manifold base  
 26mm DX01

3/8 NPT port      3/8 BSPP port

<b>PEJ01-03-80*</b>	<b>PEJ01-03-70</b>
---------------------	--------------------

\* Use with PJLP01 or PJL01

Notes: Put a vent or muffler in "EXH" port when capturing pilot exhaust pressure with a solenoid valve. (See gasket selector page for details.)  
 Gaskets and assembly hardware included.

Torque Specifications: 25 to 35 in-lbs  
 (2.82 to 3.95 Nm)

PEJ01

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

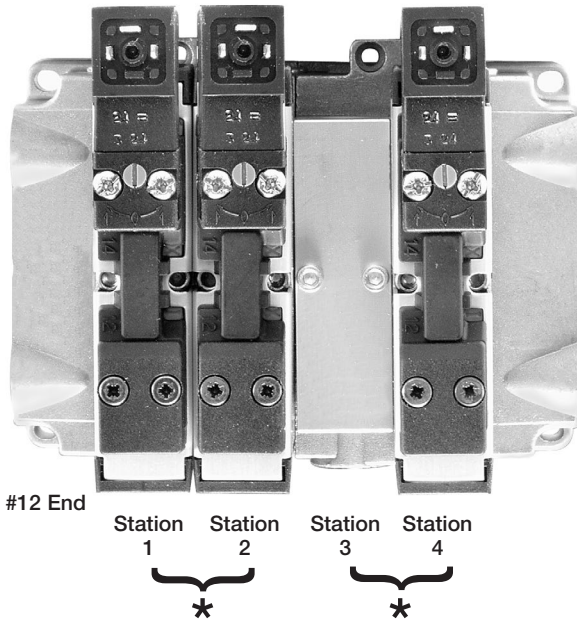
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**D**  
 Subbase & Manual  
 Valves  
 H Series  
 Micro  
 Modulflex  
 Series  
 H Series  
 ISO  
 Fieldbus  
 Systems  
 DX ISOMAX  
 Series  
 Valvair-II  
 Series



#14 End



\* Each Manifold has two (2) Stations  
 (Even number of Stations Required)

**How To Order Add-A-Fold Assemblies**

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete valve/base model number. List left to right, looking at the cylinder ports on the #12 end of the manifold. The left most station is station 1.

(If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)

**Model Number**

**AA 02U 0 04**

Valve Series	
Right & Left End Plate 15407-1, DX01	01U†
Right & Left End Plate 15407-1, DX02	02U**
Right & Left End Plate 15407, DX01 & DX02	HBS*

\* Common End Plates for DX01 & DX02. For use with PS5 Manifolds.  
 \*\* For use with PJLP02 Manifolds.  
 † For use with PJLP01 or PJL01 Manifolds.

Number of Stations*	
02	2 Stations
04	4 Stations
•	
24	24 Stations
•	
32†	32 Stations

\* Must be ordered in multiples of 2.  
 † Maximum Number.

Port Type	
0	NPT
1	BSPP "G"

**Example:** Application requires a 3-Valve manifold.

Qty.	Part No.
1	AA02U004
1	DX02-651-951M ..... Valve Station 1
1	DX02-651-951M ..... Valve Station 2
1	PJLP02-201-80.....Base Station 1 & 2
1	DX02BLK ..... Valve Station 3
1	DX02-651-951M ..... Valve Station 4
1	PJLP02-201-80.....Base Station 3 & 4

Note: DX02 Manifolds cannot be used for remote pilot.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

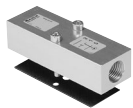
H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

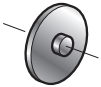
**Intermediate Air Supply Base**



Size	Port size	Part number
18mm DX02	1/8" NPT	<b>D02P-01-80</b>
26mm DX01	1/4" NPT	<b>D01P-02-80</b>

**Notes:** Gasket & Mounting Bolts included.  
 Torque Specifications  
 Size 02: 15 to 25 in-lbs (1.69 to 2.82 Nm)  
 Size 01: 20 to 30 in-lbs (2.26 to 3.39 Nm)

**Manifold Port Isolation Disc**



Size		Part number
18mm DX02	Common Pressure	<b>D02BD0</b>
26mm DX01	Common Pressure	<b>D01BD0</b>

**Notes:** 3 Discs per Kit.  
 Used on PJJ Manifolds.

**Blanking Plate**



Size		Part number
18mm DX02	Common Pressure	<b>PS5634P</b>
26mm DX01	Common Pressure	<b>PS5534P</b>

**Notes:** Gasket & Mounting Bolts included.  
 Torque Specifications  
 Size 02: 15 to 25 in-lbs (1.69 to 2.82 Nm)  
 Size 01: 20 to 30 in-lbs (2.26 to 3.39 Nm)

**Sandwich Flow Control Features**



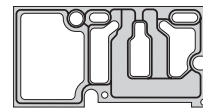
**DX02  
 18mm Shown**

Size	Part number
18mm DX02	<b>PS5642P</b>
26mm DX01	<b>PS5542P</b>

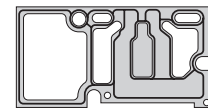
- Both adjustment screws are located on the 12 end of the unit.
- Sandwich Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting.
- Sandwich Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down.

**Subbase & Manifold Valve Products  
 15407-1 DX02 & DX01**

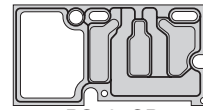
**Manifold to Manifold Gasket Kits**



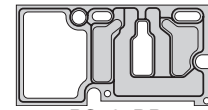
**PS561AP**



**PS561BP**



**PS561CP**



**PS561DP**



**DX02M2MGSKT (PJLP02)**

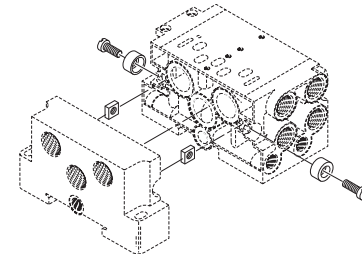


**DX01M2MGSKT (PJLP01)**

Size	Standard	Blocked #1 Port	Blocked #1, 3, 5 Ports	Blocked #3, 5 Ports
DX02* DX01*	<b>PS561AP</b>	<b>PS561BP</b>	<b>PS561CP</b>	<b>PS561DP</b>
DX02	<b>DX02M2MGSKT (PJLP02)</b>			
DX01	<b>DX01M2MGSKT (PJLP01)</b>			

\* Gaskets used with PS5611 & PS5511 Manifolds.

**Manifold Hardware Kits**



Description	Part number
Bolt, Washer & Nut*	<b>DX02M2MB**</b>
Tie Rods for PS5611 Manifold (Qty. 12)	<b>PS5612P</b>
Tie Rods for PS5511 Manifold (Qty. 12)	<b>PS5512P</b>

\* Includes 10 Bolts, 10 Washers, 10 Nuts

\*\* Use this number for both sizes, PJLP02 & PJLP01.

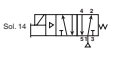
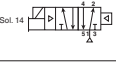
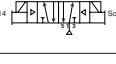

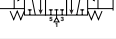
Torque Specifications: 25 to 35 in-lbs (2.82 to 3.95 Nm)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
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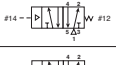
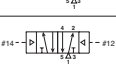
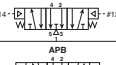
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**DX1 ISO Solenoid Valves**




Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
	4-way, 2-position, spring return	1.15	Single solenoid	Internal	Non-locking	<b>DX1-621-BL49</b>	<b>DX1-621-BL53</b>
					Locking	<b>DX1-621-CL49</b>	<b>DX1-621-CL53</b>
	4-way, 2-position, air return	1.15	Single solenoid	Internal	Non-locking	<b>DX1-651-BL49</b>	<b>DX1-651-BL53</b>
					Locking	<b>DX1-651-CL49</b>	<b>DX1-651-CL53</b>
	4-way, 2-position	1.15	Double solenoid	Internal	Non-locking	<b>DX1-606-BL49</b>	<b>DX1-606-BL53</b>
					Locking	<b>DX1-606-CL49</b>	<b>DX1-606-CL53</b>
	4-way, 3-position, center exhaust	0.75	Double solenoid	Internal	Non-locking	<b>DX1-611-BL49</b>	<b>DX1-611-BL53</b>
					Locking	<b>DX1-611-CL49</b>	<b>DX1-611-CL53</b>
	4-way, 3-position, all ports blocked	0.75	Double solenoid	Internal	Non-locking	<b>DX1-616-BL49</b>	<b>DX1-616-BL53</b>
					Locking	<b>DX1-616-CL49</b>	<b>DX1-616-CL53</b>

30mm 3-Pin Solenoid, NLMOR, Unlighted, Internal Pilot, Valve Less Base


**DX1 ISO Remote Pilot Valves**

Symbol	Type	Cv	Operator	Pilot	Part Number
	4-way, 2-position, spring return	1.15	Single remote pilot	Remote	<b>DX1-421-60</b>
					<b>DX1-451-60</b>
	4-way, 2-position, air return	1.15	Single remote pilot	Remote	<b>DX1-406-60</b>
					<b>DX1-411-60</b>
	4-way, 3-position, center exhaust	0.75	Double remote pilot	Remote	<b>DX1-416-60</b>
					<b>DX1-416-60</b>

**DX1 Series Subbase & Manifolds**

Single subbase	Description	3/8" NPT	3/8" BSPP
	Side ported base	<b>PS4011150DP</b>	<b>PS4011160DP</b>
Manifold bases	Description	3/8" NPT	3/8" BSPP
	End ported bases	<b>PS4011550DP</b>	<b>PS4011560CP</b>
	Bottom / End ported bases	<b>PS4011650CP</b>	<b>PS4011660CP</b>
End plate kits	Description	NPT port	BSPP port
	DX1 non-collective wiring end plates	<b>PS4031010CP</b>	<b>PS4031011DP</b>

**5599-1, DX1 Accessories**

Accessories	Description	Part Number
Sandwich regulator 	Common pressure	5-125 PSIG w/ gauge <b>PS4037166CP</b>
	Independent pressure	5-125 PSIG w/ gauge <b>PS4037266CP</b>
Manifold to manifold gasket kit		<b>PS4013P</b>
Auxiliary access plate kit	1/4" & 3/8"	NPT <b>PS403000CP</b>
		BSPP <b>PS403001CP</b>

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D245

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

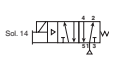

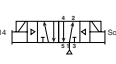
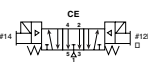
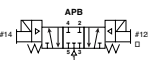
H Series ISO

Fieldbus Systems

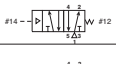
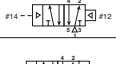
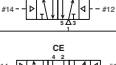
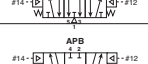

DX ISOMAX Series

Valvair II Series




**DX2 ISO Valves**

Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
	4-way, 2-position, spring return	2.5	Single solenoid	Internal	Non-locking	<b>DX2-621-BL49</b>	<b>DX2-621-BL53</b>
					Locking	<b>DX2-621-CL49</b>	<b>DX2-621-CL53</b>
	4-way, 2-position, air return	2.5	Single solenoid	Internal	Non-locking	<b>DX2-651-BL49</b>	<b>DX2-651-BL53</b>
					Locking	<b>DX2-651-CL49</b>	<b>DX2-651-CL53</b>
	4-way, 2-position	2.5	Double solenoid	Internal	Non-locking	<b>DX2-606-BL49</b>	<b>DX2-606-BL53</b>
					Locking	<b>DX2-606-CL49</b>	<b>DX2-606-CL53</b>
	4-way, 3-position, center exhaust	2.4	Double solenoid	Internal	Non-locking	<b>DX2-611-BL49</b>	<b>DX2-611-BL53</b>
					Locking	<b>DX2-611-CL49</b>	<b>DX2-611-CL53</b>
	4-way, 3-position, all ports blocked	2.4	Double solenoid	Internal	Non-locking	<b>DX2-616-BL49</b>	<b>DX2-616-BL53</b>
					Locking	<b>DX2-616-CL49</b>	<b>DX2-616-CL53</b>

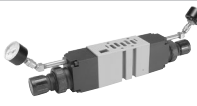
**DX2 ISO Remote Pilot Valves**

Symbol	Type	Cv	Operator	Pilot	Part Number
	4-way, 2-position, spring return	2.5	Single remote pilot	Remote	<b>DX2-421-60</b>
	4-way, 2-position, air return	2.5	Single remote pilot	Remote	<b>DX2-451-60</b>
	4-way, 2-position	2.5	Double remote pilot	Remote	<b>DX2-406-60</b>
	4-way, 3-position, center exhaust	2.4	Double remote pilot	Remote	<b>DX2-411-60</b>
	4-way, 3-position, all ports blocked	2.4	Double remote pilot	Remote	<b>DX2-416-60</b>

**DX2 Series Subbase & Manifolds**

Single subbase	Description	1/2" NPT	1/2" BSPP
	Side ported base	<b>PS4111170CP</b>	<b>PS4111180CP</b>
Manifold bases		1/2" NPT	1/2" BSPP
	Bottom / End ported bases <b>Note:</b> Manifolds include 2 pipe plugs	<b>PS4111670CP</b>	<b>PS4111680CP</b>
End plate kits		NPT port	BSPP port
	H2 Non-collective wiring end plates	<b>PS4131010DP</b>	<b>PS4131011DP</b>

**5599-1, DX2 Accessories**

Accessories	Description	Part Number
	Common pressure 5-125 PSIG w/ gauge	<b>PS4137166CP</b>
	Independent pressure 5-125 PSIG w/ gauge	<b>PS4137266CP</b>
Manifold to manifold gasket kit		<b>PS4113P</b>

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)


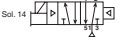


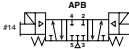
D246

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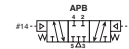
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair-II Series

**Common Part Numbers**




**DX3 ISO Valves**

Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
 Sol. 14	4-way, 2-position, spring return	4.15	Single solenoid	Internal	Non-locking	<b>DX3-621-BL49</b>	<b>DX3-621-BL53</b>
					Locking	<b>DX3-621-CL49</b>	<b>DX3-621-CL53</b>
 Sol. 14	4-way, 2-position, air return	4.15	Single solenoid	Internal	Non-locking	<b>DX3-651-BL49</b>	<b>DX3-651-BL53</b>
					Locking	<b>DX3-651-CL49</b>	<b>DX3-651-CL53</b>
 Sol. 14 Sol. 12	4-way, 2-position	4.15	Double solenoid	Internal	Non-locking	<b>DX3-606-BL49</b>	<b>DX3-606-BL53</b>
					Locking	<b>DX3-606-CL49</b>	<b>DX3-606-CL53</b>
 #14 CE #120	4-way, 3-position, center exhaust	4.0	Double solenoid	Internal	Non-locking	<b>DX3-611-BL49</b>	<b>DX3-611-BL53</b>
					Locking	<b>DX3-611-CL49</b>	<b>DX3-611-CL53</b>
 #14 APB #120	4-way, 3-position, all ports blocked	4.0	Double solenoid	Internal	Non-locking	<b>DX3-616-BL49</b>	<b>DX3-616-BL53</b>
					Locking	<b>DX3-616-CL49</b>	<b>DX3-616-CL53</b>


**DX3 ISO Remote Pilot Valves**

Symbol	Type	Cv	Operator	Pilot	Part Number
 #14 #12	4-way, 2-position, spring return	4.15	Single remote pilot	Remote	<b>DX3-421-60</b>
					<b>DX3-451-60</b>
 #14 #12	4-way, 2-position, air return	4.15	Single remote pilot	Remote	<b>DX3-406-60</b>
					<b>DX3-411-60</b>
 #14 CE #120	4-way, 2-position	4.15	Double remote pilot	Remote	<b>DX3-416-60</b>
					<b>DX3-411-60</b>
 #14 CE #120	4-way, 3-position, center exhaust	4.0	Double remote pilot	Remote	<b>DX3-411-60</b>
					<b>DX3-416-60</b>
 #14 APB #120	4-way, 3-position, all ports blocked	4.0	Double remote pilot	Remote	<b>DX3-416-60</b>
					<b>DX3-411-60</b>

**DX3 Series Subbase & Manifolds**

Single subbase	Description	3/4" NPT	3/4" BSPP
	Side ported base	<b>PS4211190CP</b>	<b>PS4211100CP</b>
Manifold bases	Description	3/4" NPT	3/4" BSPP
	Bottom / End ported bases <b>Note:</b> Manifolds include 2 pipe plugs	<b>PS4211690CP</b>	<b>PS4211600CP</b>
End plate kits	Description	NPT port	BSPP port
	H3 Non-collective wiring end plates	<b>PS4231010DP</b>	<b>PS4231011DP</b>

**5599-1, DX3 Accessories**

Accessories	Description	Part Number
Sandwich regulator 	Common pressure 5-125 PSIG w/ gauge	<b>PS4237166CP</b>
	Independent pressure 5-125 PSIG w/ gauge	<b>PS4237266CP</b>
Manifold to manifold gasket kit		<b>PS4213P</b>

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D247

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

**DX1**

**6 21**

**B L 53**

Basic Series	
ISO 5599-1	DX1 - Size 1
ISO 5599-1	DX2 - Size 2
ISO 5599-1	DX3 - Size 3

Pilot	
Air Operated Remote Pilot	4
Solenoid Operated	6

Voltage & Frequency			
	AC		DC
	60Hz	50Hz	
19*			24
49			24
53	120	110	
Blank	Remote Pilot or Valve Less Coil		

\* LED & Surge Suppression.  
 Only Available with Enclosure "6".

Function	
Internal Pilot Supply	
2-Position, Spring Return, Air Assist	21
2-Position, Diff Return	51
2-Position	06
3-Position, CE	11
3-Position, APB	16
3-Position, PC	13*
External Pilot Supply†	
2-Position, Spring Return, Air Assist	22
2-Position, Diff Return	53
2-Position	08
3-Position, CE	12
3-Position, APB	18
3-Position, PC	24*

\* Not offered with DX3 Valves.  
 † Must be specified when using Sandwich Regulators.

5599-1 Enclosure / Lead Length / Light	
0**	None, Remote Pilot Valve
6*	2-Pin, M12 EURO Connector with CNOMO Operator, Light
L	3-Pin, 30mm DIN 43650A with CNOMO Connector, No Light
P	3-Pin, 22mm Industrial with CNOMO Connector, No Light
N†	None, Valve Less Coil, No Light

\* Only available with Voltage & Frequency "19".  
 \*\*Must use Overrides Option "6".  
 † Must use Overrides Option "B" or "C".

5599-1 Overrides	
6	Remote Pilot / Without Solenoid
B	Non-Locking, Flush, Push
C	Locking, Flush, Push / Turn

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

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Fieldbus Systems

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Valvair II Series



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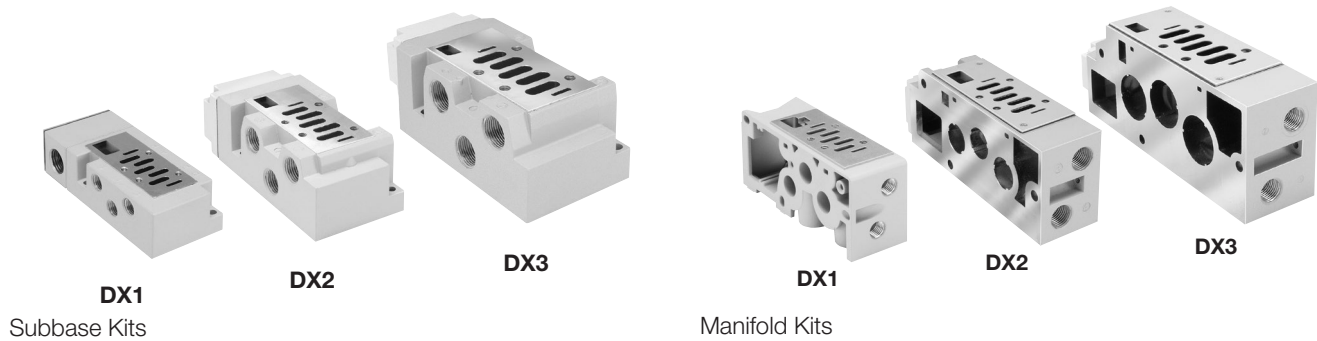
**5599-1, DX1, DX2 & DX3 Hi-Flow Manifold / Subbase Kits**

**PS401155** **0** **C** **P**

**Enclosures / Lead Length**  
**0** None, No Electrical Plug - 5599-1

Mounting Base Style / Port Size		DX2 Series		DX3 Series	
DX1 Series		DX2 Series		DX3 Series	
Subbase: 3/8 NPT Side Ports	<b>PS401115</b>	Subbase: 1/2 NPT Side Ports	<b>PS411117</b>	Subbase: 3/4 NPT Side Ports	<b>PS421119</b>
Subbase: 3/8 BSPP Side Ports	PS401116	Subbase: 1/2 BSPP Side Ports	PS411118*	Subbase: 3/4 BSPP Side Port	PS421110*
<b>Manifold: 3/8 NPT End Ports</b>	<b>PS401155</b>	Subbase: 1/2 NPT Bottom / End Port	PS411127	Subbase: 3/4 NPT Bottom / End Port	PS421129
Manifold: 3/8 BSPP End Ports	PS401156*	Subbase: 1/2 BSPP Bottom / End Port	PS411128*	Subbase: 3/4 BSPP Bottom / End Port	PS421120*
Manifold: 3/8 NPT Bottom / End Port	PS401165†	<b>Manifold: 1/2 NPT End Port</b>	<b>PS411157</b>	<b>Manifold: 3/4 NPT End Port</b>	<b>PS421159</b>
Manifold: 3/8 BSPP Bottom / End Port	PS401166*†	Manifold: 1/2 BSPP End Ports	PS411158*	Manifold: 3/4 BSPP End Port	PS421150*
		Manifold: 1/2 NPT Bottom / End Port	PS411167	Manifold: 3/4 NPT Bottom / End Port	PS421169
		Manifold: 1/2 BSPP Bottom / End Port	PS411168*	Manifold: 3/4 BSPP Bottom / End Port	PS421160*

\* BSPP Conforms to ISO 1179-1 w 228-1 Threads.  
 † #1 Bottom Port - 1/4".



<b>D</b>
Subbase & Manual Valves
H Series Micro
Moduflex Series
H Series ISO
Fieldbus Systems
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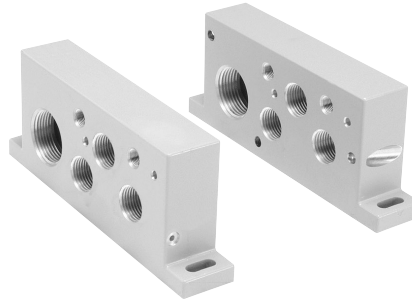
**Non-Plug-in, 5599-1, End Plate Kits**

**PS403101 0 C P**

Basic Series	
ISO 5599, Size 1	PS403101
ISO 5599, Size 2	PS413101
ISO 5599, Size 3	PS423101

Thread Type	
0	NPT
1*	BSP "G"

\* BSP Conforms to ISO 1179-1 w 228-1 Threads.



**H1 Non-Collective Wiring End Plates**

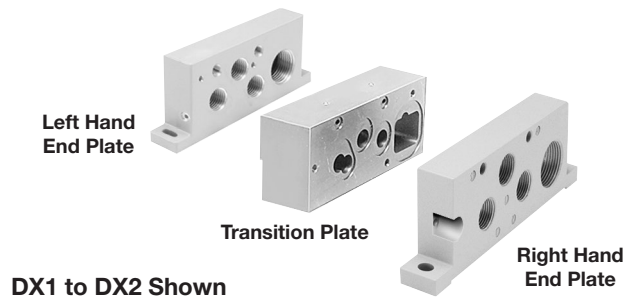
**5599-1, DX1, DX2 & DX3 Transition Plate Kits for PS4 Manifolds**

**PS402701 0 C P**

Transition Plate Type	
DX1 to DX2 to DX3	PS402501
DX1 to DX3	PS402601
DX1 to DX2	PS402701
DX2 to DX3	PS402801

Engineering Level	
C	Current

Thread Type	
0	NPT
1	BSP "G"



**Left Hand End Plate**

**Transition Plate**

**Right Hand End Plate**

**DX1 to DX2 Shown**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D250

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**Sandwich Regulators Features**

- Remote Air Pilot Operated for hard-to-reach pressure control.
- Unregulated Pilot Pressure to valve for consistent valve shifting regardless of pressure adjustment.

**PS4037 1 6 6 C P**

Basic Series		
	DX1	
5599-1		PS4037
	DX2	
5599-1		PS4137
	DX3	
5599-1		PS4237

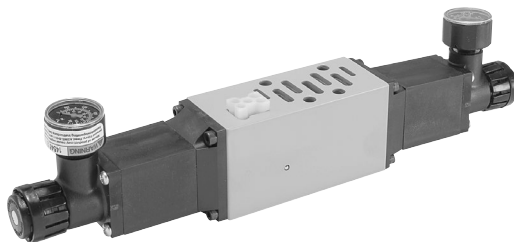
Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2

#2 Port Regulator / Gauge*	
0**	Line By-Pass Plate
4	1-30 PSIG w/Gauge
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge

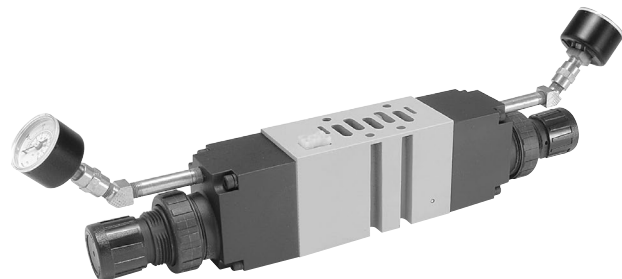
\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)  
 \*\* Pressure Line By-Pass Option can only be used with Independent and Selector Regulators (Option 2 & 3 in Sandwich Block Function).

#4 Port Regulator / Gauge*	
0**	Line By-Pass Plate
4	1-30 PSIG w/Gauge
5	2-60 PSIG w/Gauge
6	5-125 PSIG w/Gauge

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)  
 \*\* Pressure Line By-Pass Option can only be used with Independent and Selector Regulators (Option 2 & 3 in Sandwich Block Function).



**DX1 - Size 1**  
 (Independent Dual Port Regulator Shown)



**DX2 - Size 2**  
 (Independent Dual Port Regulator Shown)

**Ordering Components**

- Manifold or Subbase Kit required.
- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.

**How to Configure Sandwich Regulator / Valve Combinations**

**Internal Pilot Configuration -**

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

**External Pilot Configuration - DX1, DX2, DX3**

An External Pilot pressure in Port 12 or 14 of the base feeds thru the Sandwich Regulator 12 or 14 galley directly to the 12/14 pilot of the valve. This configuration takes an External Pilot from the 12 port of the base and passes it thru the regulator to feed the 12 galley of the valve.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D251

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

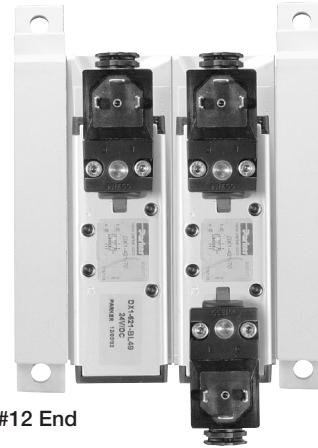
**How To Order Add-A-Fold Assemblies**

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete valve/base model number. List left to right, looking at the cylinder ports on the #12 end of the manifold. The left most segment is segment 1.  
 (If a blank segment is needed, list the blanking plate part number and the individual manifold number in the segment specified.)

**Example:** Application requires a 3-Station manifold.

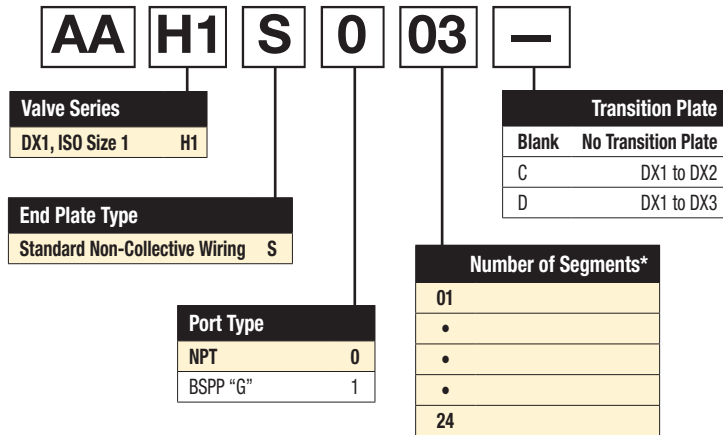
Qty.	Part No.
1	AAH1S003
1	DX1-621-BL49..... Valve Station 1
1	PS4011550CP .....Base Station 1
1	DX1-616-BL49 ..... Valve Station 2
1	PS4011550CP .....Base Station 2
1	DX1-611-BL49 ..... Valve Station 3
1	PS4011550CP .....Base Station 3

#14 End



#12 End

Station 1      Station 2



**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

Most popular.



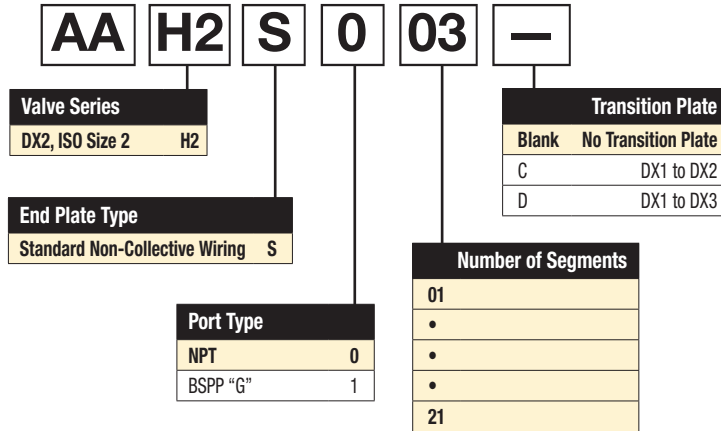
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**How To Order Add-A-Fold Assemblies**

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete valve/base model number. List left to right, looking at the cylinder ports on the #12 end of the manifold. The left most segment is segment 1.  
 (If a blank segment is needed, list the blanking plate part number and the individual manifold number in the segment specified.)

**Example:** Application requires a 3-segment manifold.

Qty.	Part No.
1	AAH2S003
1	DX2-621-BL49..... Valve Station 1
1	PS4111570CP.....Base Station 1
1	DX2-616-BL49 ..... Valve Station 2
1	PS4111570CP.....Base Station 2
1	DX2-611-BL49 ..... Valve Station 3
1	PS4111570CP.....Base Station 3



Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D253

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

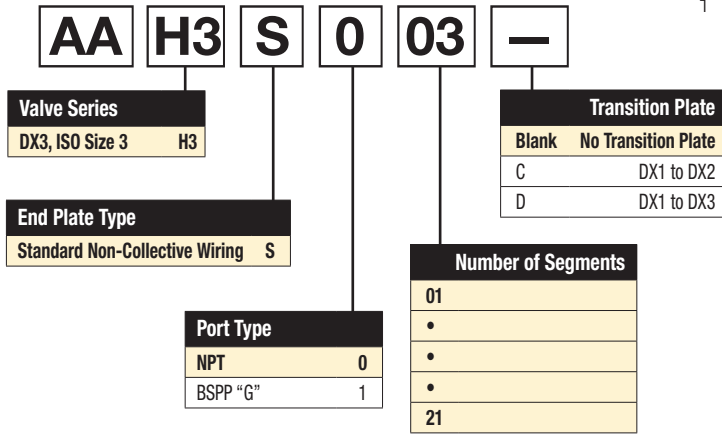
Valvair II Series

**How To Order Add-A-Fold Assemblies**

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete valve/base model number. List left to right, looking at the cylinder ports on the #12 end of the manifold. The left most segment is segment 1.  
 (If a blank segment is needed, list the blanking plate part number and the individual manifold number in the segment specified.)

**Example:** Application requires a 3-segment manifold.

Qty.	Part No.
1	AAH3S003
1	DX3-621-BL49..... Valve Station 1
1	PS4111590CP .....Base Station 1
1	DX3-616-BL49 ..... Valve Station 2
1	PS4111590CP .....Base Station 2
1	DX3-611-BL49 ..... Valve Station 3
1	PS4111590CP .....Base Station 3



<b>D</b>
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Fieldbus Systems
<b>DX ISOMAX Series</b>
Valvair II Series


Most popular.





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**5599-1 Compact Manifolds, Subbases & Accessories**

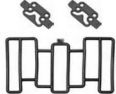
Manifold VDMA – Form C			Part Number
	<b>Bottom Port</b>	<b>Size</b>	<b>Port size</b>
		DX1	1/4"
		DX2	3/8"
		DX3	1/2"
			BSPP G
			<b>P2N-VM512MB</b>
			<b>P2N-WM513MB</b>
			<b>P2N-YM514MB</b>


VDMA End Plates – Form D			Part Number
	<b>Size</b>	<b>Port size</b>	<b>BSPP G</b>
	DX1	3/8"	<b>P2N-VM513ES</b>
	DX2	1/2"	<b>P2N-WM514ES</b>
	DX3	1"	<b>P2N-YM518ES</b>

Subbase – Side Ports (5599-1 & VDMA)	Size	Port Size	5599-1 Part Number		VDMA Part Number
			NPT	BSPP “G”	BSPP “G”
	DX1	1/4"	<b>PL1-1/4-80</b>	<b>PL1-1/4-70</b>	<b>P2N-VS512SD</b>
	DX2	3/8"	<b>PL2-3/8-80</b>	<b>PL2-3/8-70</b>	<b>P2N-WS513SD</b>
	DX3	1/2"	<b>PL3-1/2-80</b>	<b>PL3-1/2-70</b>	<b>P2N-YS514SD</b>

Subbase – Bottom Ports	Size	Port size	5599-1 Part Number	
			NPT	BSPP “G”
	DX1	1/4"	<b>PD1-1/4-80</b>	<b>PD1-1/4-70</b>
	DX2	3/8"	<b>PD2-3/8-80</b>	<b>PD2-3/8-70</b>

VDMA Transition Plate	Part Number
 <small>DX1 (Not Included)</small> <small>Transition Plate</small> <small>DX3 (Not Included)</small>	<b>P2N-VM500AK</b>
	Kit includes: <u>Transition Plate Only</u> . Order P2N-VM513ES and P2N-YM518ES Separately to Assemble Add-A-Fold

External Seal Kit	Size	Part Number
	DX1	<b>JJDX10-A</b>
	DX2	<b>JJDX20-A</b>
	DX3	<b>JJDX30-A</b>

Complete Seal Kit	Size	Part Number
	DX1	<b>JJDX15-A</b>
	DX2	<b>JJDX25-A</b>
	DX3	<b>JJDX35-A</b>

D

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**Blanking Plate Kits**

Size	Part Number
DX1	<b>PS4034CP</b>
DX2	<b>PS4134CP</b>
DX3	<b>PS4234CP</b>

Kit includes:  
Blanking Plate, Gasket, and Mounting Bolts.

**Remote Pilot Access Plate Kits**

Size	Port Size	Part Number	
		NPT	BSPP "G"
DX1	1/8"	<b>PS401500CP</b>	<b>PS401501CP</b>
DX2	1/8"	<b>PS411500CP</b>	<b>PS411501CP</b>
DX3	1/8"	<b>PS421500CP</b>	<b>PS421501CP</b>

Kit includes: Pilot Port Access Plate, Gasket and Mounting Studs.

**Manifold Port Isolation Kits**

Main Galley (1, 3, 5)

Size	Part Number	
	PS4 Manifolds	P2N Manifolds
DX1	<b>PS4032CP</b>	<b>P2N-VK0P</b>
DX2	<b>PS4132CP</b>	<b>P2N-WK0P</b>
DX3	<b>PS4232CP</b>	<b>P2N-YK0P</b>

Kit includes: Plugs with O-rings.

**Pilot Galley**

Size	Part Number
DX1, DX2, DX3	<b>PS4033CP</b>

Kit includes: Plugs with O-rings.  
For use with PS4 Series Manifolds.

**Sandwich Flow Controls Features**

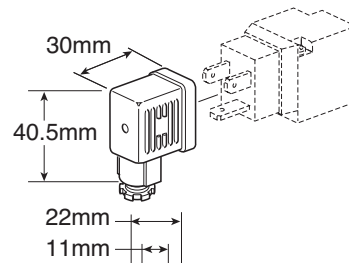
Size	Part Number
DX1	<b>PS4042CP</b>
DX2	<b>PS4142CP</b>
DX3	<b>PS4242CP</b>

**DX2 Shown**

- Both adjustment screws are located on the 12 end of the unit.
- Sandwich Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting.
- Sandwich Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down.

**22mm Rectangular 3-Pin – Type B Industrial**

(Use with Enclosure "B")



Description	Connector	Connector with 6' (2m) Cord
Unlighted	<b>PS2429BP</b>	<b>PS2429JBP</b>
Light – 24V/60Hz, 24VDC	<b>PS243079BP</b>	<b>PS2430J79BP*</b>
Light – 120V/60Hz	<b>PS243083BP</b>	<b>PS2430J83BP*</b>
Light – 240V/60Hz	<b>PS243087BP</b>	N/A

\* LED with surge suppression.

**Note:** Max  $\phi$ 6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

**Engineering Data:**

Conductors: 2 Poles Plus Ground; Cable Range (Connector Only): 6 to 8mm (0.24 to 0.31 Inch); Contact Spacing: 11mm

**CNOMO Operator Adapter**

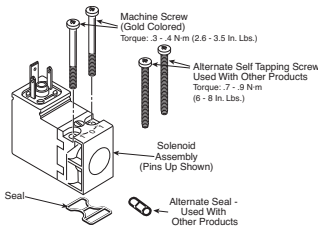
Size	Part Number
DX1, DX2, DX3	<b>PS2855P</b>

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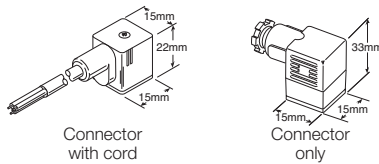
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**15mm 3-Pin DIN 43650C Replacement Solenoid Kits**



Voltage	Non-Locking	Locking
24VDC	<b>PS2982B49P</b>	<b>PS2982C49P</b>
110/50, 120/60	<b>PS2982B53P</b>	<b>PS2982C53P</b>

**15mm 3-Pin DIN 43650C Connectors**



Description	Connector with 6' (2m) Cord	Connector
No circuit board	<b>PS2932JBP</b>	<b>PS2932BP</b>
Light - 24DC	<b>PS2946J79BP*</b>	<b>PS294679BP</b>
Light - 110/120VAC	<b>PS2946J83BP*</b>	<b>PS294683BP</b>

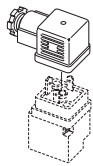
\* LED with surge suppression.

**Note:** Max. ø6.5mm cable size required for connector without 6' (2m) cord. IP65 rated when properly installed.

**Engineering Data:**

Conductors: 2 poles plus ground  
 Cable range (Connector only): 4 to 6mm (0.16 to 0.24 Inch)  
 Contact spacing: 8mm

**Female Electrical Connectors (IP65 Rated) 30mm, 3-Pin ISO 4400, (DIN 43650A)**



Description	Connector with 6' (2m) cord	Connector
Unlighted	<b>PS2028JCP</b>	<b>PS2028BP</b>
Light - 6-48V, 50/60Hz; 6-48VDC	<b>PS2032J79CP*</b>	<b>PS203279BP</b>
Light - 120V/60Hz	<b>PS2032J83CP*</b>	<b>PS203283BP</b>
Light - 240V/60Hz	N/A	<b>PS203283BP</b>

\* With surge suppression.

**Engineering data:**

Conductors: 2 poles plus ground; cable range (connector only): 8 to 10mm (0.31 To 0.39 inch); Contact spacing: 18mm

**5599-1 CNOMO Solenoid Kits**

Voltage Code	3-pin, 30mm 'L' Coil Kit	2-pin, M12 Euro '6' coil Kit
19	—	<b>PS2828619P</b>
42	<b>P2FCA442</b>	—
45	<b>P2FCA445</b>	—
49	<b>P2FCA449</b>	—
53	<b>P2FCA453</b>	—
57	<b>P2FCA457</b>	—

Quantity 1

**Pilot Operator - CNOMO**

Valve size	Kit Number
DX1, DX2 & DX3	Locking <b>PS4052CP</b>
	Non-locking <b>PS4053CP</b>



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**D**

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**Ceramic Technology / Valve Specifications**

- Subbase Mounted Valves Conforming to ISO Standard 5599/1
- High Flow: DX1 (1.15 Cv), DX2 (2.50 Cv), DX3 (4.15 Cv)
- Air or Solenoid Operation Using CNOMO Solenoids
- Can Be Vacuum Operated

**Air Condition:**

Filtered to 40µ

**Dual Pressure Supply from Exhaust Ports:**

Yes - Without additional pressure at 12 and 14

**Dust and Water Protection:**

IP65 (According to EN 60529)

**Mechanical Life:**

> 100 million operations (Dry air filtered 40 µ, 2 Hz, 6 bar, 20°C)

**Media:**

Air or inert gas, filtered 40 µ (Class 5 according to ISO 8573-1), lubricated or non-lubricated

**Operating Temperature Range:**

-10°C to 60°C (14°F to 140°F)

**Flow Rating (Cv)**

Size	Port Size	Mounting Style	Flow Rating (Cv)	
			2-Position	3-Position
DX1	1/4" Ports	Subbase	1.15	0.75
	1/4" Ports	Manifold	0.80	0.60
DX2	3/8" Ports	Subbase	2.50	2.40
	3/8" Ports	Manifold	2.05	1.95
DX3	1/2" Ports	Subbase	4.15	4.00
	1/2" Ports	Manifold	4.10	3.65

Cv tested per ANSI / (NFPA) T3.21.3

**Flow Rating (Cv) with Sandwich Regulator**

Size	Common Pressure				Dual Pressure			
	1-2	1-4	2-3	4-5	1-2	1-4	2-3	4-5
DX1	0.55	0.49	1.06	1.02	0.32	0.42	0.25	0.38
DX2	1.06	1.05	2.33	2.17	0.93	0.66	0.77	1.15

Note: All Cv's calculated with regulator adjusted full open.

**Response Time\*\***

Single Solenoid 2-Position -  
 Air Return / Spring Assist

Size	Port Size	0 Cu. In. Chamber		# Cu. In. Chamber	
		Fill	Exhaust	Fill	Exhaust
DX1	1/4"	.025	.030	.160	.235
DX2	3/8"	.040	.045	.170	.235
DX3	1/2"	.060	.065	.245	.330

## DX1 (50), DX2 (100), DX3 (200)

\*\* With 100 PSIG supply, time required to fill from 0 to 90 PSIG and Exhaust from 100 PSIG to 10 PSIG measured from the instant of energizing or de-energizing 24VDC solenoid.

Tested per ANSI / (NFPA) T3.21.8

**Solenoid Information**

Code	Voltage			Power (W / VA)
	AC			
	60Hz	50Hz	DC	
19	—	—	24	2.8W
49	—	—	24	2.7W
53	120	115	—	3.7VA

Data tested with LED and Surge Suppression.

**Operating Pressure**

Vacuum to 145 PSIG (10 bar)

Function	M.O.P. (PSIG)		
	DX1	DX2	DX3
<b>Internal Pilot</b>			
21 2-Position, Spring Return	36	30	30
51 2-Position, Air Return	30	30	30
06 2-Position	15	15	15
11 3-Position, CE	45	36	36
16 3-Position, APB	45	36	36
13 3-Position, PC	45	36	—
<b>External Pilot</b>			
22 2-Position, Spring Return	36	30	30
53 2-Position, Air Return	30	30	30
08 2-Position	15	15	15
12 3-Position, CE	45	36	36
18 3-Position, APB	45	36	36
24 3-Position, PC	45	36	—

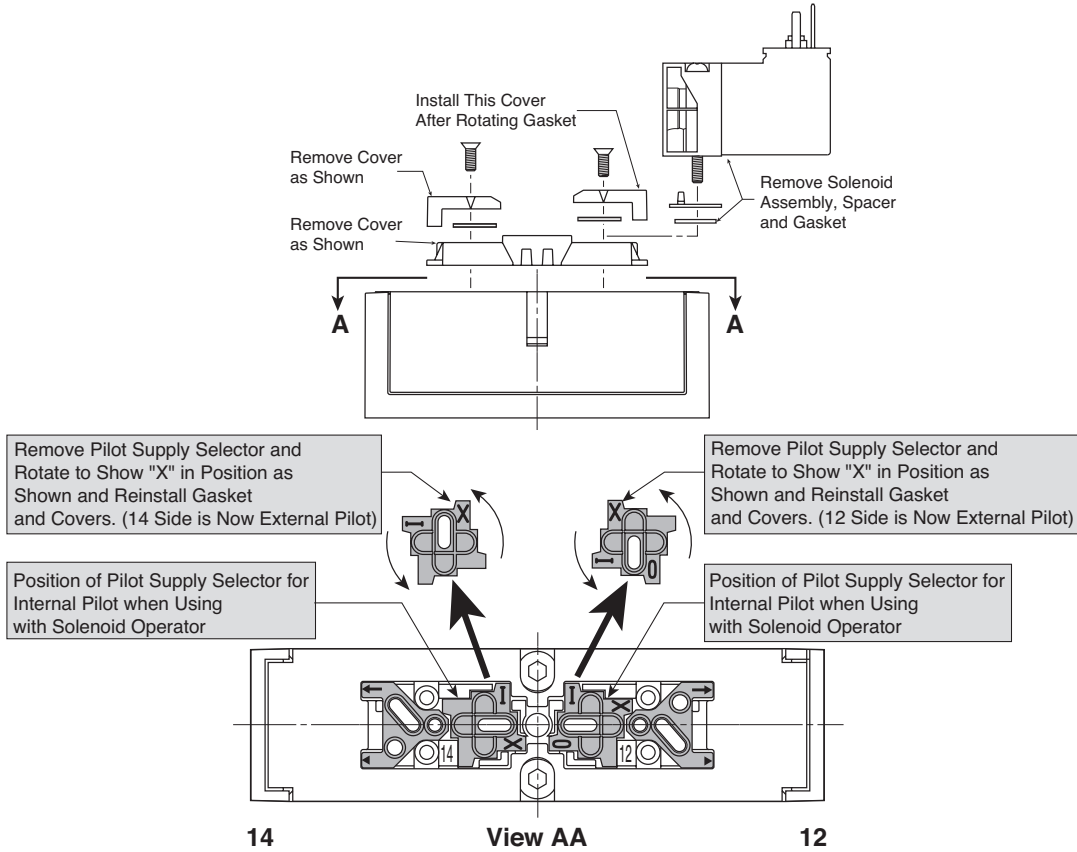
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DX ISOMAX Series	Valvair II Series



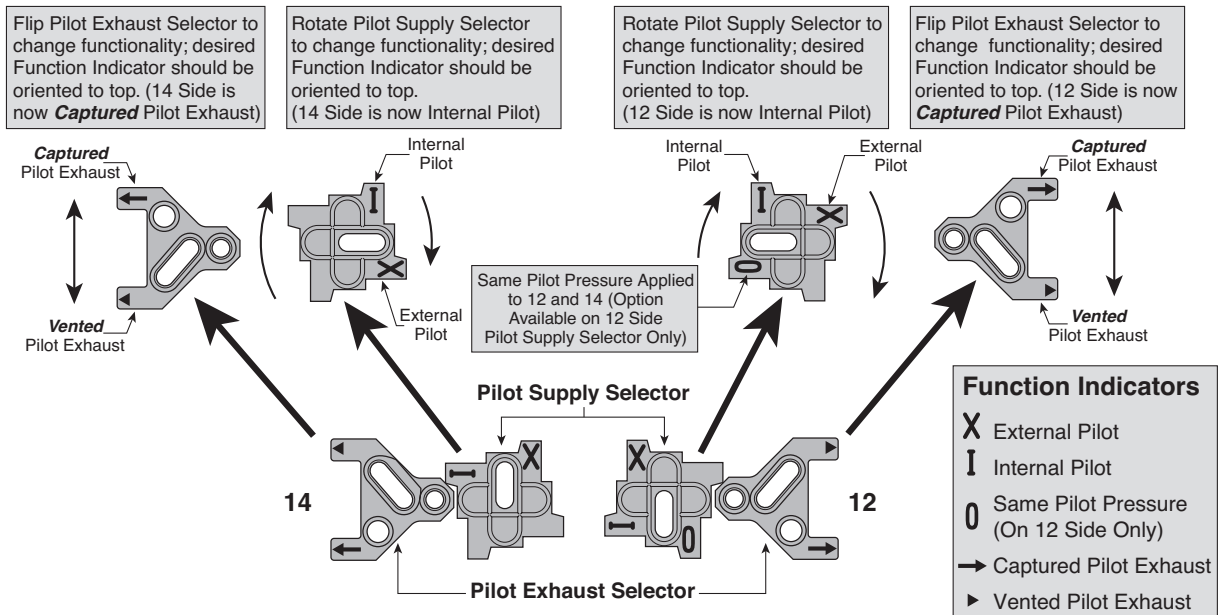
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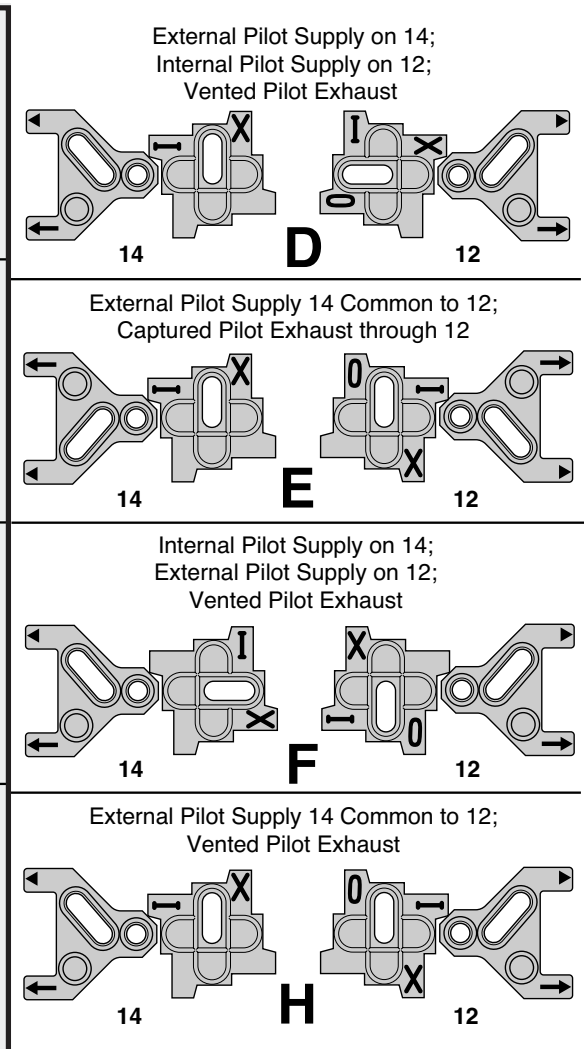
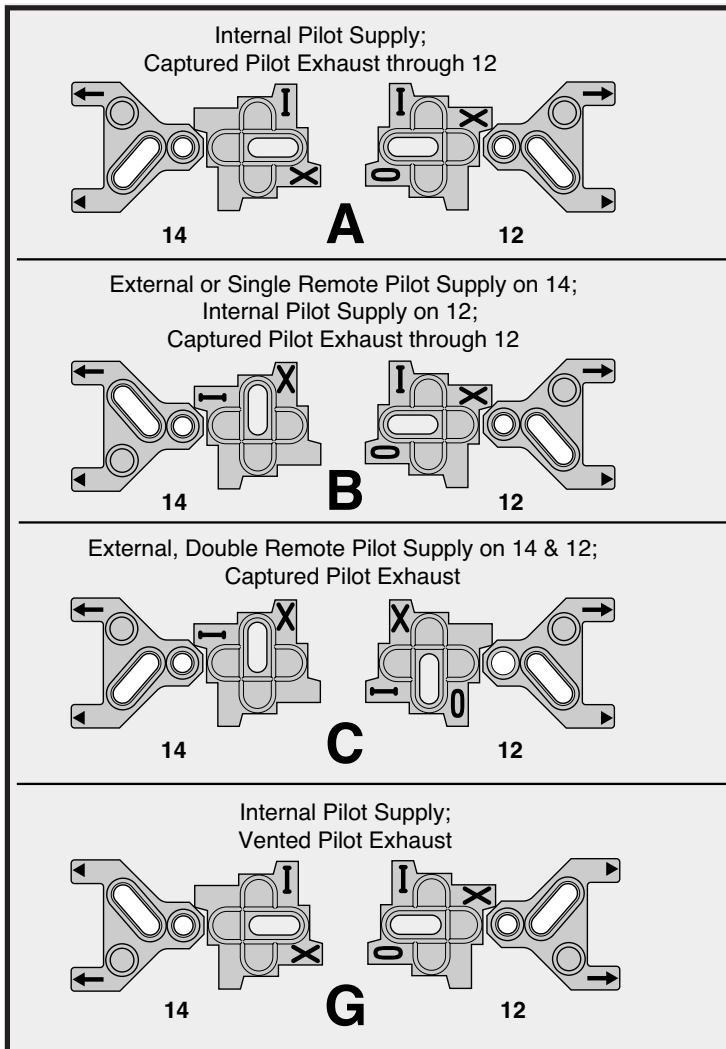
**DX ISOMAX Selector Gasket Conversion Instructions**

**Changing from Internal to External Pilot Supply**



**Changing from External Pilot Supply, Vented Pilot Exhaust to Internal Pilot Supply, Captured Pilot Exhaust**





Base Pilot Port Used	None	14	14 and 12	None	14	14	12
Pilot Air Supply	Internal Pilot Supply	14 External Pilot 12 Internal Pilot	External, Double Remote Pilot for 14 and 12	Internal Pilot Supply	14 External Pilot 12 Internal Pilot	One Common External Pilot Pressure for 14 and 12	14 Internal Pilot 12 External Pilot
Pilot Exhaust	Captured	Captured	Captured	Vented	Vented	Captured	Vented
5/2 Double Solenoid	606 A	—	406 C	604 G	D	E	F
5/2 Single Solenoid	621	421	C	620	D	E	F
5/2 Double Solenoid, on Sandwich Regulator	—	—	—	—	External Pilot Supply 14 Common to 12 Vented Pilot Exhaust – See Diagram 'H'		
Spring Return	A	B	—	G	—	—	—
5/2 Single Solenoid, Differential Return	651 A	451 B	C	65 G	D	E	F
5/3 Pressure Center Exhaust	611 A	—	411 C	627 G	D	E	F
5/3 Pressure All Ports Blocked	616 A	—	416 C	625 G	D	E	F
<b>Part Numbers Available From Factory</b>					<b>See Gasket Configurations Above for These Special Adaptations</b>		

Insert a muffler or vent in the EXH Port of the PEJ02 & PEJ01 Manifold End Plates or #12 of PL02 & PL01 Subbases when using solenoids with a **Captured** Exhaust.

A plug may be inserted in the EXH Port of the PEJ02 & PEJ01 Manifold End Plates #14 or #12 of PL02 & PL01 Subbases when using a **Vented** Exhaust.

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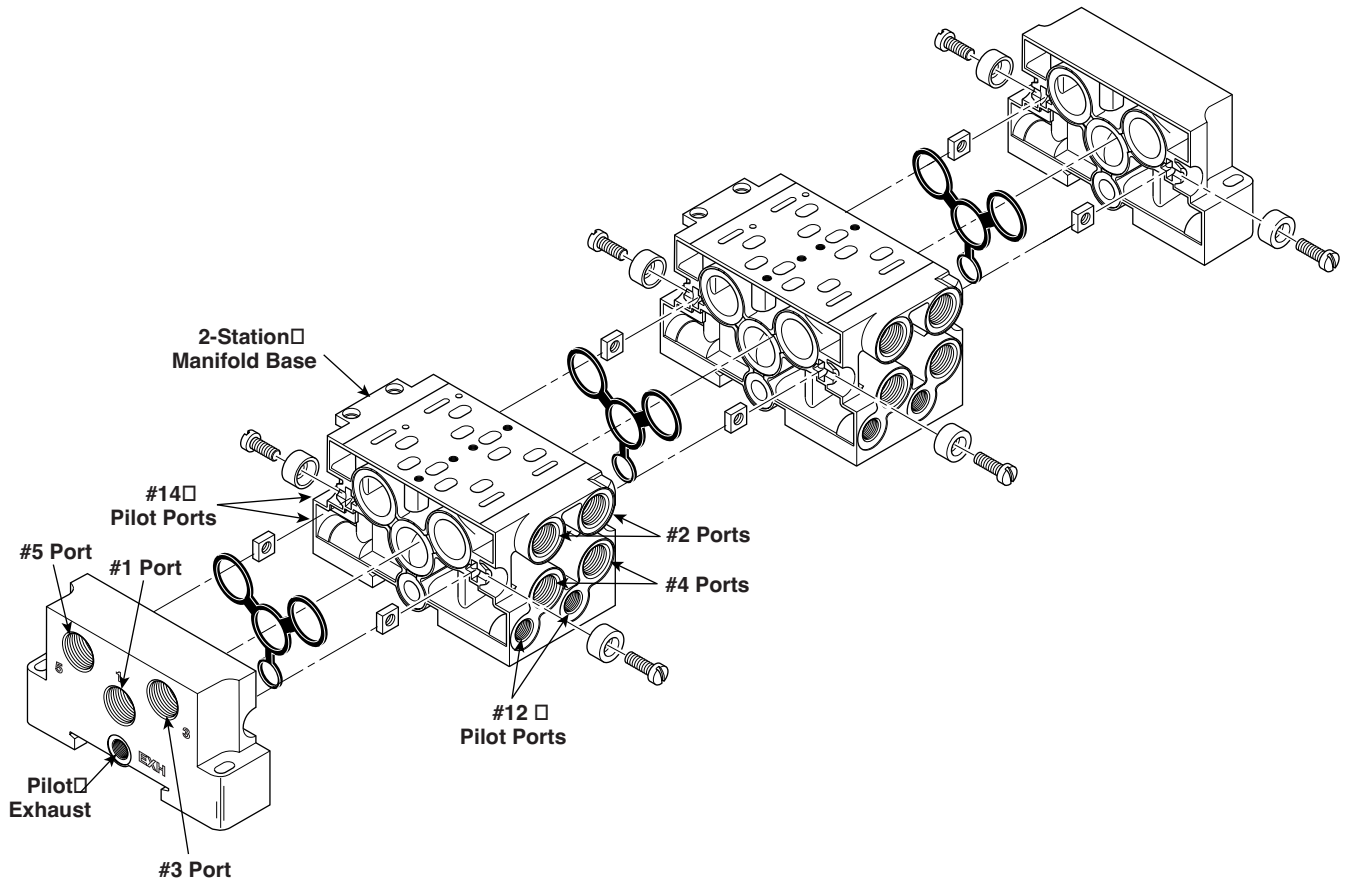


**DX01 Manifold Assembly**

**Ports**

- 1 ..... Pressure
- 2 ..... #2 Cylinder Port, 1 to 2 Flow Path
- 3 ..... Cylinder Exhaust Port, 2 to 3 Flow Path
- 4 ..... #4 Cylinder Port, 1 to 4 Flow Path
- 5 ..... Cylinder Exhaust Port, 4 to 5 Flow Path
- 14 ..... #14 Pilot Port
- 12 ..... #12 Pilot Port

Torque Specifications: 25 to 35 in-lbs (2.82 to 3.95 Nm)



**DX01 Shown**

**D**

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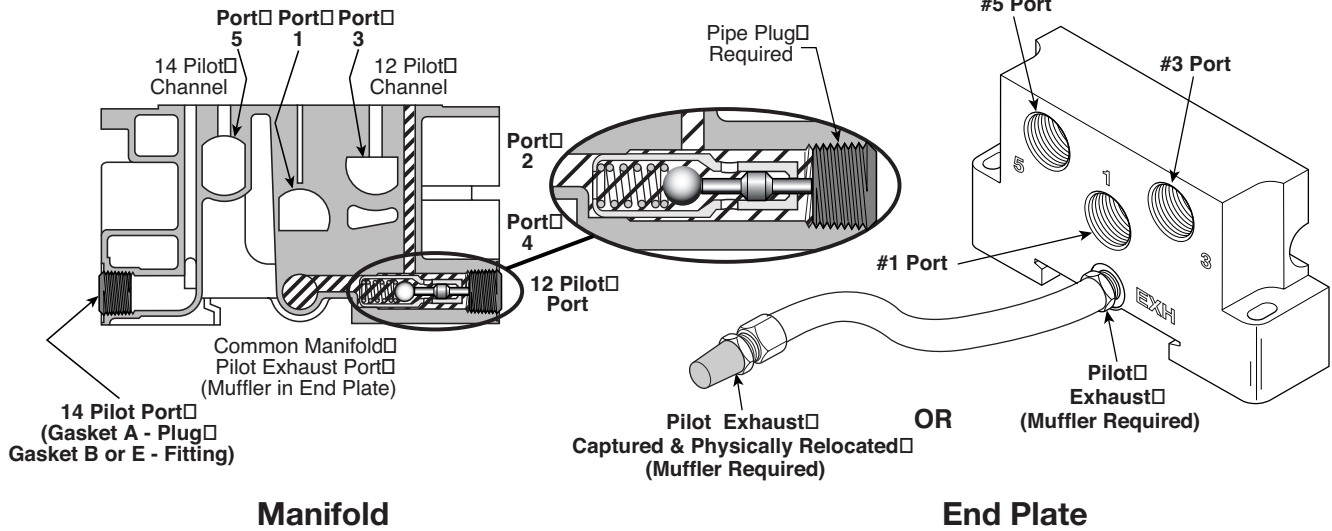
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**DX 15407-1 Size 01, Manifold Conversion Instructions**

***Captured  
Pilot Exhaust***

**PJL01, Size 01**

A Built-in 2-Position Selector converts the External Pilot Channel (12) into a Common Solenoid Pilot Exhaust Channel.



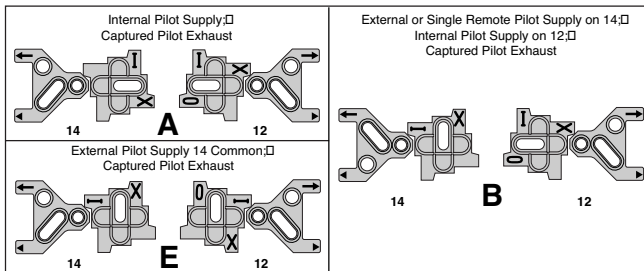
**Built-in Selector**

When using A, B or E **Captured** Selector Gasket Positions, the 12 Pilot Port is plugged. The 14 Pilot Port has a plug when using Gasket A or a fitting when using Gasket B or E. When in place, the Plug in the 12 Pilot Port depresses the Selector to connect the Valve Solenoid Pilot Exhaust to a Common Manifold Exhaust Port. The Plug must make contact with the Pin of the Internal Check Valve.

Insert a Muffler in the EXH Port of the End Plate.

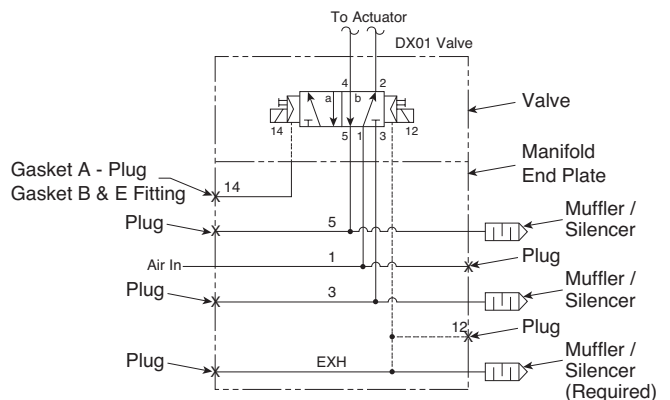
**Captured Selector Gasket Positions**

When using A, B or E Selector Gasket Positions as shown in the schematic at right.



Insert a muffler or vent in the EXH Port of the PEJ02 & PEJ01 Manifold End Plates or #12 of PL02 & PL01 Subbases when using solenoids with **Captured** Pilot Exhaust.

**DX01 Manifold Assembly Schematic for Captured Selector Gasket Positions A, B and E**



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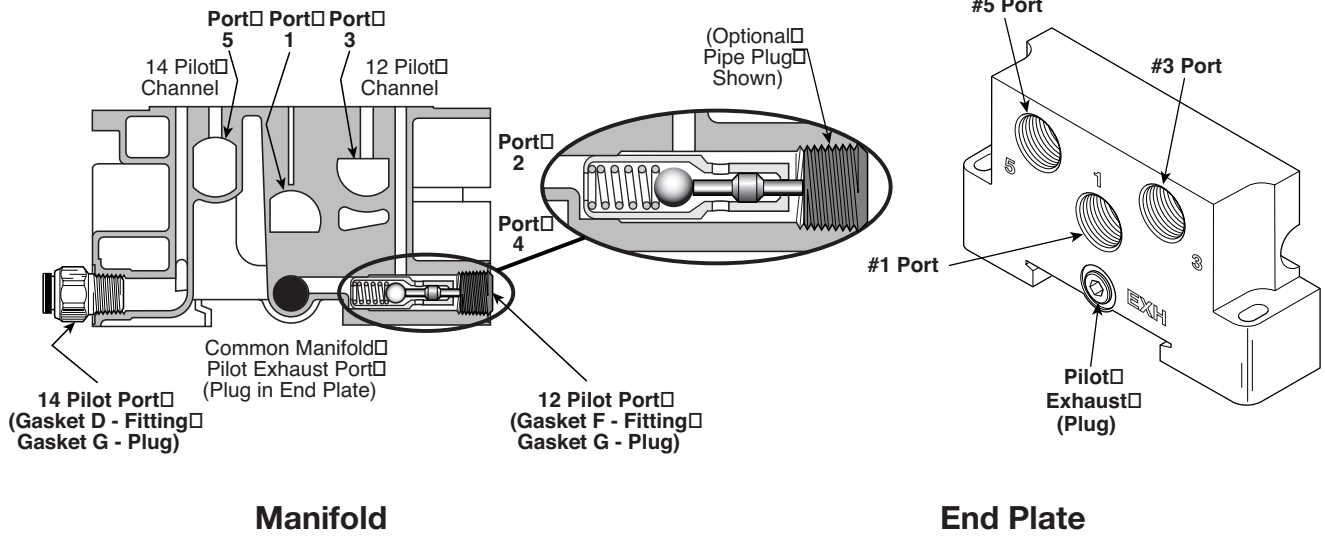
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**DX 15407-1 Size 01, Manifold Conversion Instructions**

**Vented  
 Pilot Exhaust**

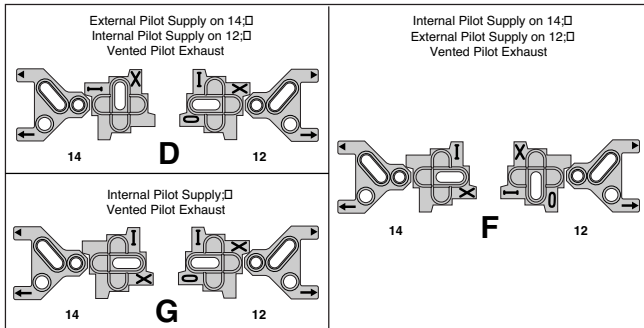


**Built-in Selector**

When using D or G **Vented** Selector Gasket Positions, the 12 Pilot Port may be plugged (Optional). The 14 Pilot Port has a plug when using Gasket G or a fitting when using Gasket D or F. The valve solenoid pilot exhaust vents out the pilot adapter on the G Gasket Selection.

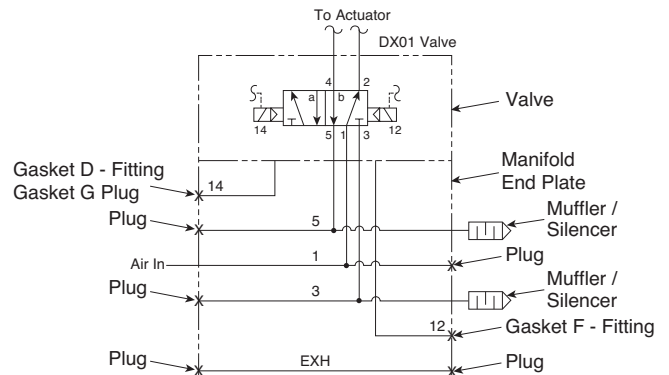
**Vented Selector Gasket Positions**

When using D, F or G Selector Gasket Positions, pilot exhaust air is vented out the valve.



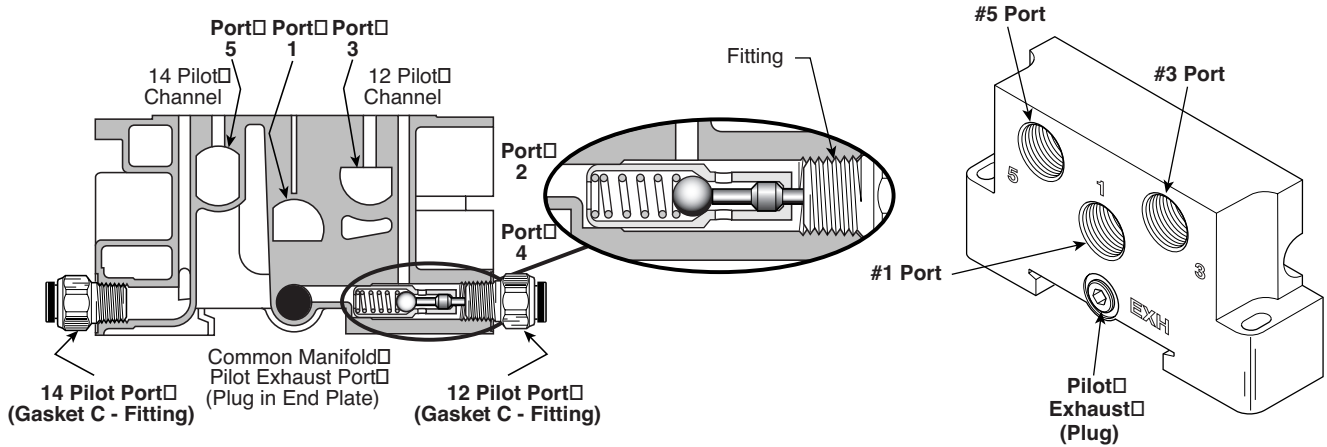
A plug may be inserted in the EXH Port of the PEJ02 & PEJ01 Manifold End Plates, #12 of PL02 & PL01 Subbases.

**DX01 Manifold Assembly  
 Schematic for Vented Selector Gasket Positions D or G**



**DX 15407-1 Size 01, Manifold Conversion Instructions**

**External Double Remote Pilot**

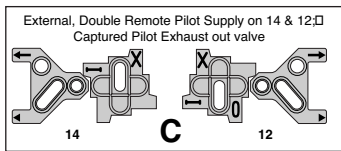


**Built-in Selector**

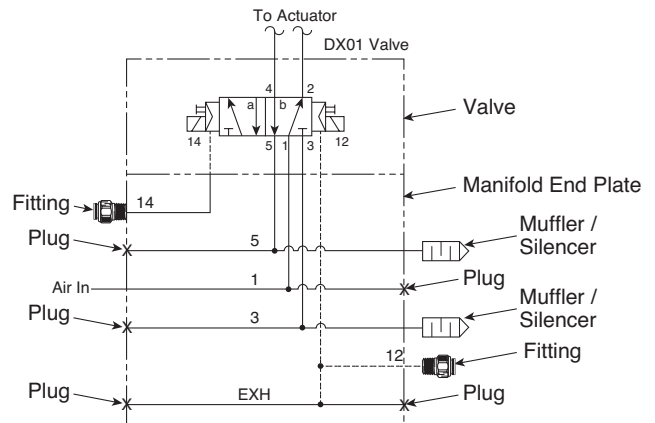
When using C **External Double Remote Pilot** Selector Gasket Position, a fitting is used in Pilot Port 14 & 12. Free flow between Port 14 & 12 and the valve allows Remote Pilot Pressure and an exhaust path for the captured pilot exhaust.

**External Double Remote Pilot Selector Gasket Position**

When using C Selector Gasket Position.



**DX01 Manifold Assembly Schematic for External Double Remote Pilot Selector Gasket Position C**



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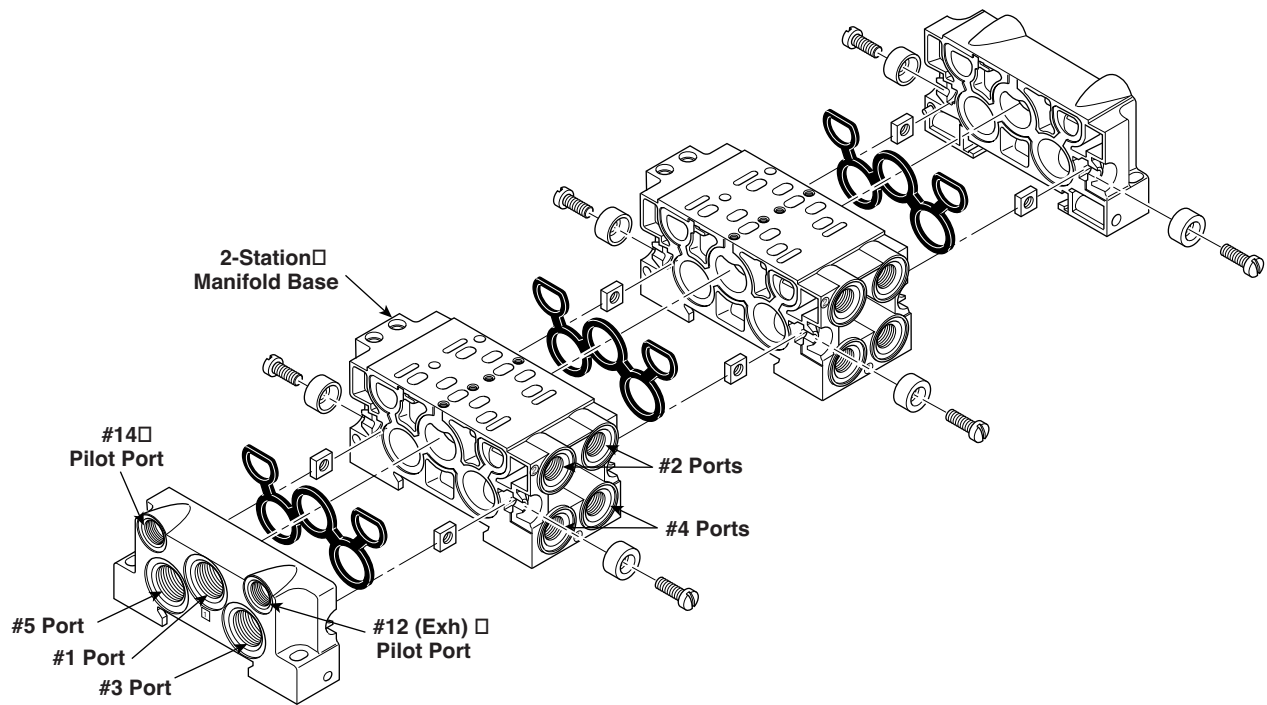
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**DX02 Manifold Assembly**

**Ports**

- 1.....Pressure
- 2.....#2 Cylinder Port, 1 to 2 Flow Path
- 3.....Cylinder Exhaust Port, 2 to 3 Flow Path
- 4.....#4 Cylinder Port, 1 to 4 Flow Path
- 5.....Cylinder Exhaust Port, 4 to 5 Flow Path
- 14.....#14 Pilot Port
- 12.....#12 Pilot Port

Torque Specifications: 25 to 35 in-lbs (2.82 to 3.95 Nm)



**DX02 Shown**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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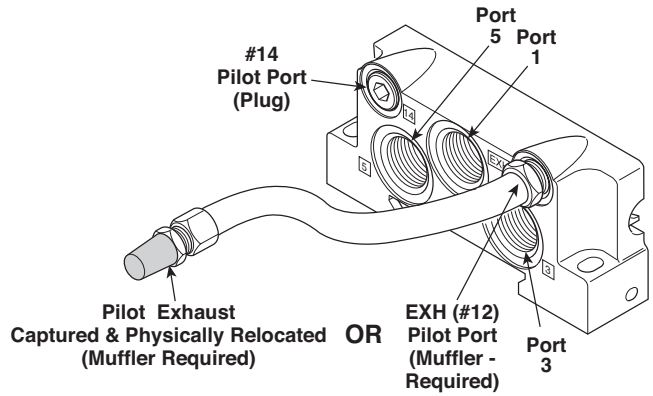
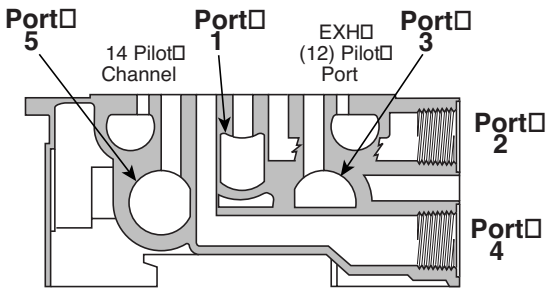
Valvair II Series

**DX 15407-1 Size 02, Manifold Conversion Instructions**

***Captured  
 Pilot Exhaust***

**PJLP02, Size 02\***

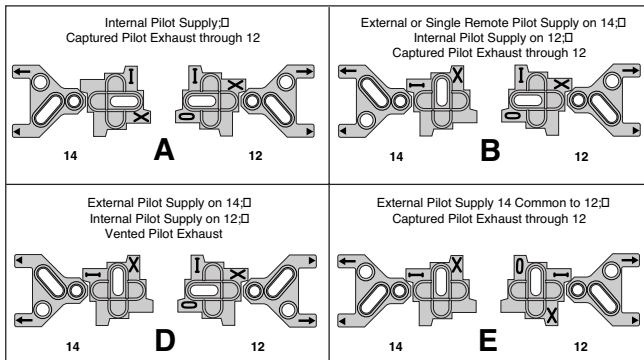
As shown in the illustrations below, the EXH (12) & 14 Pilot Ports are exhausted internally in the valve body into a single chamber labeled EXH on the end plate. When using A, B, D or E Selector Gasket Positions, the EXH (12) Pilot Port is vented with a muffler or micron screen. The 14 Pilot Port is plugged.



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 DX ISOMAX Series  
 Valvair II Series

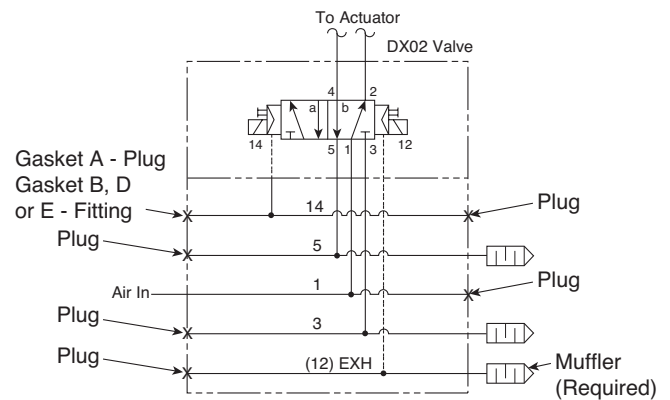
**Captured Selector Gasket Positions**

When using A, B, D or E, Selector Gasket Positions, the ports must be either plugged or vented with a muffler or micron screen as shown in the schematic at right.



\* PJLP02 Manifolds can be used for External Pilot, **NOT** Remote Pilot

**DX02 Manifold Assembly Schematic for Captured Selector Gasket Positions A, B, D and E**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

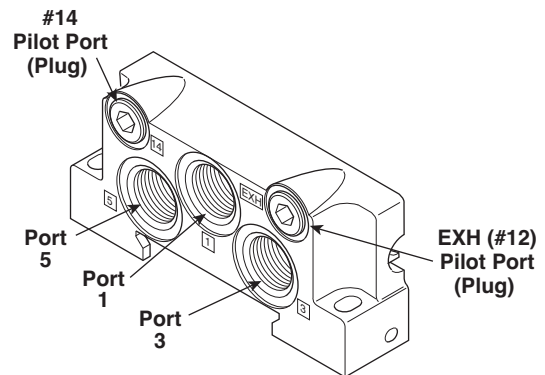
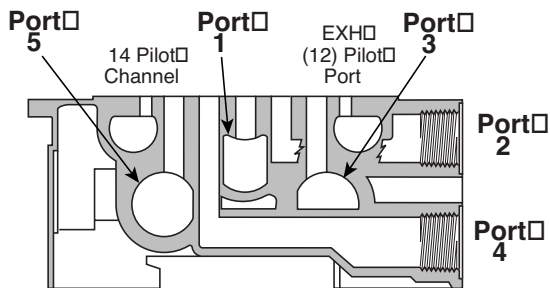


**DX 15407-1 Size 02, Manifold Conversion Instructions**

**Vented  
 Pilot Exhaust**

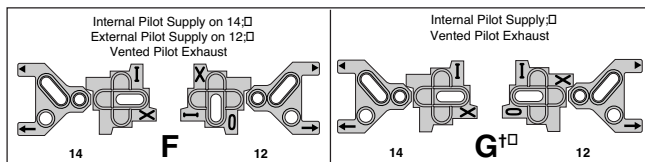
**PJLP02, Size 02**

When using F or G Selector Gasket Positions, the EXH (12) Pilot Port and the 14 Pilot Port are plugged and the Pilot Exhaust is vented through the Pilot Adapter.



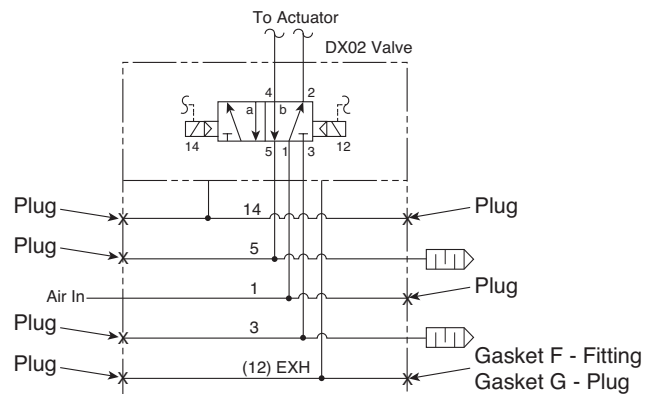
**Vented Selector Gasket Positions**

When using F or G, Selector Gasket Positions, the ports must be either plugged or vented with a muffler or micron screen as shown in the schematic at right.



† A plug may be inserted in the EXH Port of the PEJ02 & PEJ01 Manifold End Plates or #12 of PL02 & PL01 Subbases.

**DX02 Manifold Assembly  
 Schematic for Vented Selector Gasket  
 Positions F and G**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**D**

Subbase & Manual  
 Valves

H Series  
 Micro

Moduflex  
 Series

H Series  
 ISO

Fieldbus  
 Systems

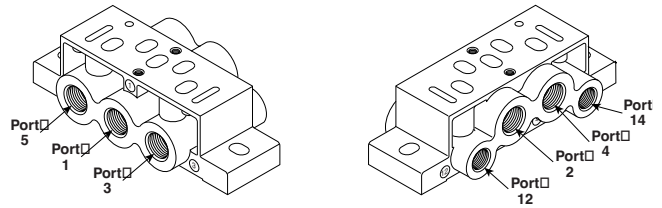
DX ISOMAX  
 Series

Valvair II  
 Series

**Subbase Assembly**

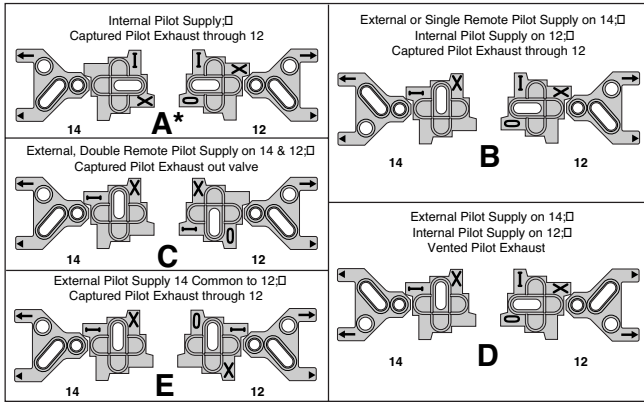
**Ports**

- 1..... Pressure
- 2..... #2 Cylinder Port. 1 to 2 Flow Path.
- 3..... Cylinder Exhaust Port. 2 to 3 Flow Path.
- 4..... #4 Cylinder Port. 1 to 4 Flow Path.
- 5..... #4 Cylinder Port. 1 to 5 Flow Path.
- 14..... #14 Pilot Port
- 12..... #12 Pilot Port

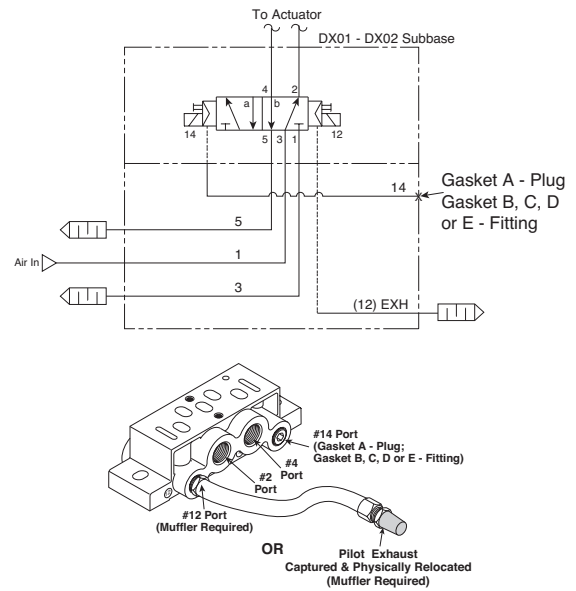


**Captured Selector Gasket Positions**

When using A, B, C, D or E, Selector Gasket Positions, the ports must be either plugged or vented with a muffler or micron screen as shown in the schematic at right.

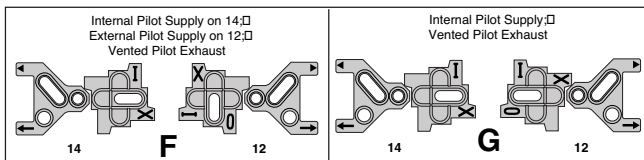


**DX02 & DX01 Subbase Assembly Schematic for Captured Selector Gasket Positions A, B, C, D and E**

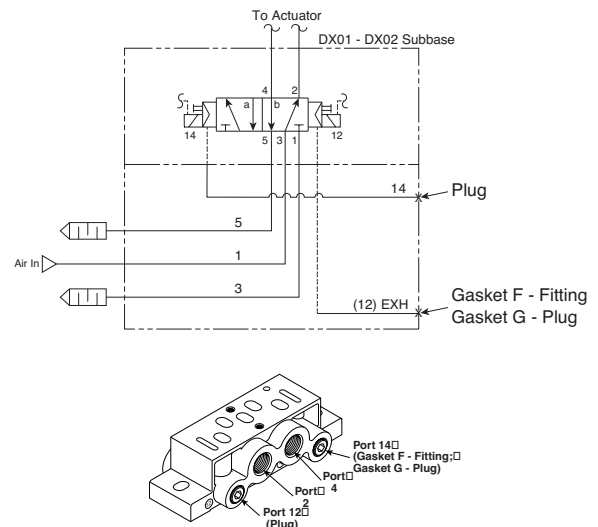


**Vented Selector Gasket Positions**

When using F or G, Selector Gasket Positions, the ports must be either plugged or vented with a muffler or micron screen as shown in the schematic at right.



**DX02 & DX01 Subbase Assembly Schematic for Vented Selector Gasket Positions F and G**



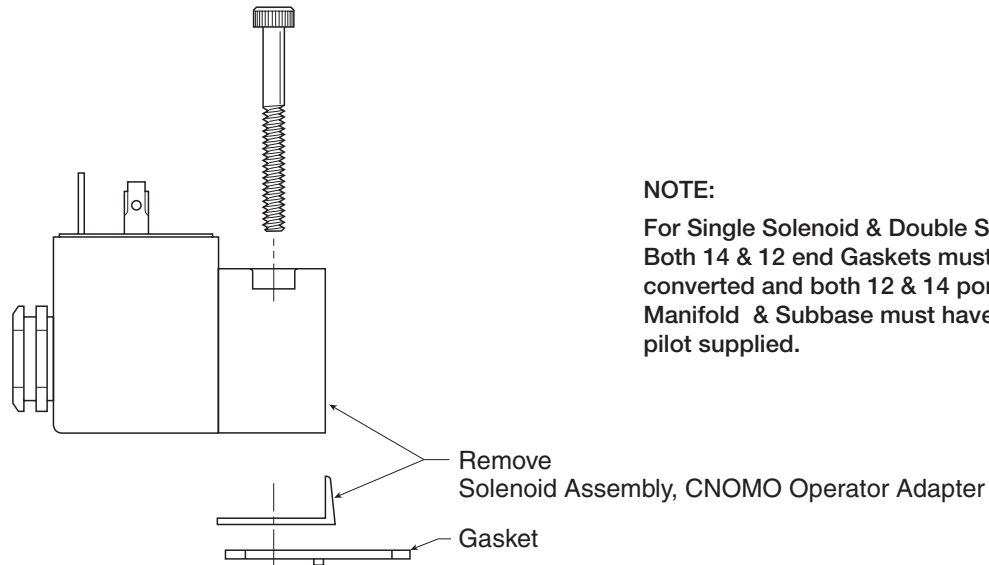
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series



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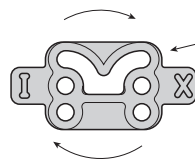
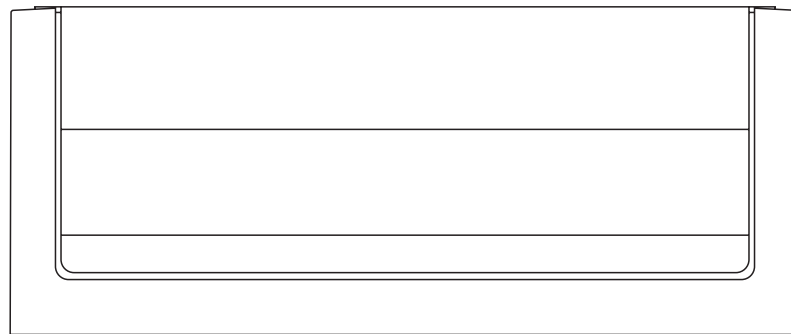
**DX1 / DX2 / DX3**

**Internal / External Pilot Conversion Instructions**



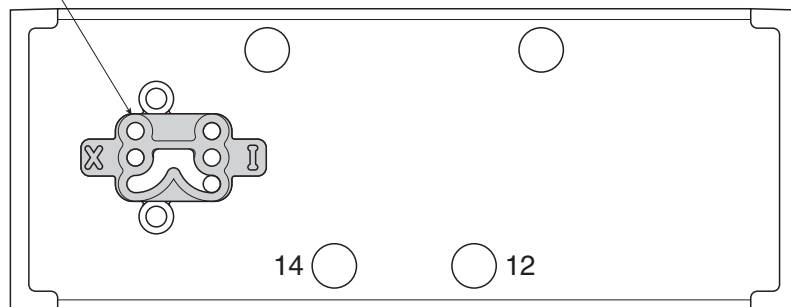
**NOTE:**

For Single Solenoid & Double Solenoid – Both 14 & 12 end Gaskets must be converted and both 12 & 14 ports in the Manifold & Subbase must have external pilot supplied.



Remove Gasket and Rotate to Show "I" in Position as Shown and Reinstall Gasket and Covers. (Valve is Now External Pilot)

Position of Gasket for Internal Pilot when Using with Solenoid Operator



**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

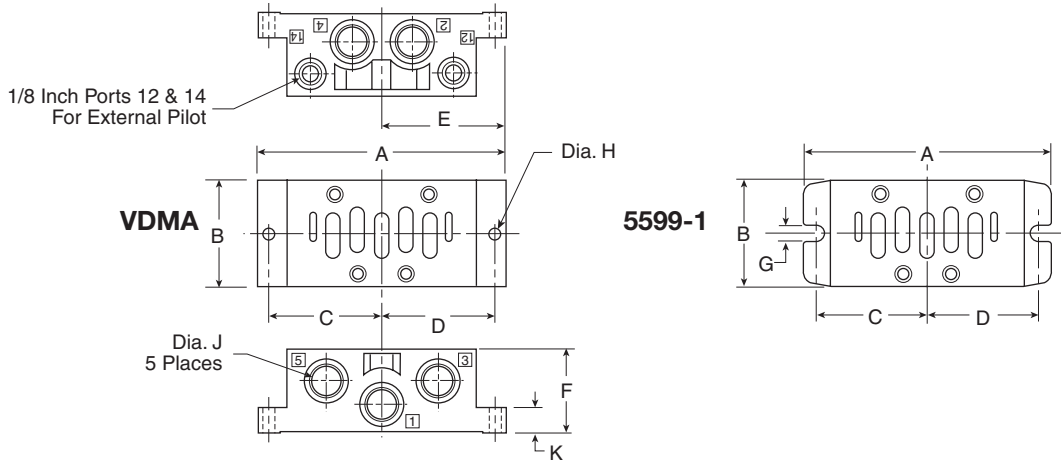
H Series ISO

Fieldbus Systems

**DX ISOMAX Series**

Valvair II Series

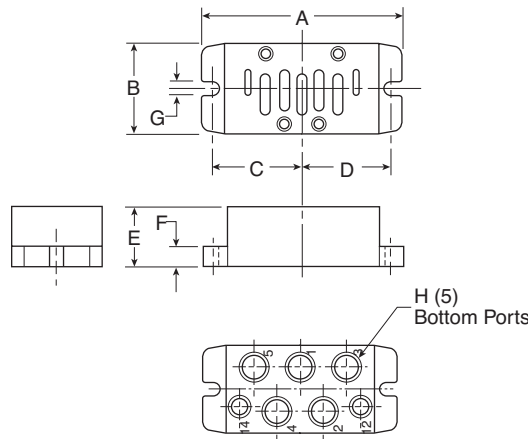
**DX1, DX2, DX3 VDMA & 5599-1 Side Ported Subbase**



Series	Part Number	J	A	B	C	D	E	F	G	H	K
VDMA	DX1 <b>P2N-VS512SD</b>	BSPP G1/4	4.33 (110)	1.89 (48)	1.93 (49)	1.93 (49)	2.17 (55)	1.26 (32)	—	0.22 (5.5)	0.39 (9.9)
	DX2 <b>P2N-WS513SD</b>	BSPP G3/8	4.88 (124)	2.21 (56)	2.21 (56)	2.21 (56)	2.44 (62)	1.57 (40)	—	0.26 (6.6)	0.51 (13)
	DX3 <b>P2N-YS514SD</b>	BSPP G1/2	5.87 (149)	2.80 (71)	2.68 (68)	2.68 (68)	2.93 (74.5)	2.05 (52)	—	0.26 (6.6)	0.71 (18)
5599-1	DX1 <b>PL1-1/4-70</b>	BSPP G1/4	4.33 (110)	1.81 (46)	1.93 (49)	1.93 (49)	2.17 (55)	1.14 (29)	0.22 (5.5)	—	0.24 (6)
	DX1 <b>PL1-1/4-80</b>	NPT 1/4	4.33 (110)	1.81 (46)	1.93 (49)	1.93 (49)	2.17 (55)	1.14 (29)	0.22 (5.5)	—	0.24 (6)
	DX2 <b>PL2-3/8-70</b>	BSPP G3/8	4.88 (124)	2.21 (56)	2.17 (55)	2.17 (55)	2.44 (62)	1.46 (37)	0.22 (5.5)	—	0.24 (6)
	DX2 <b>PL2-3/8-80</b>	NPT 3/8	4.88 (124)	2.21 (56)	2.17 (55)	2.17 (55)	2.44 (62)	1.46 (37)	0.22 (5.5)	—	0.24 (6)
	DX3 <b>PL3-1/2-70</b>	BSPP G1/2	5.87 (149)	2.80 (71)	2.68 (68)	2.68 (68)	2.93 (74.5)	2.36 (60)	0.26 (6.6)	—	0.71 (18)
	DX3 <b>PL3-1/2-80</b>	NPT 1/2	5.87 (149)	2.80 (71)	2.68 (68)	2.68 (68)	2.93 (74.5)	2.36 (60)	0.26 (6.6)	—	0.71 (18)

Inches (mm)

**DX1, DX2 5599-1 Bottom Ported Subbase**



**Bottom Ported Subbase**

Series	Part Number	H	A	B	C	D	E	F	G
DX1	<b>PD1-1/4-70</b>	BSPP G1/4	4.33 (110)	1.81 (46)	1.93 (49)	1.93 (49)	1.14 (29)	0.24 (6)	0.22 (5.5)
	<b>PD1-1/4-80</b>	NPT 1/4	4.33 (110)	1.81 (46)	1.93 (49)	1.93 (49)	1.14 (29)	0.24 (6)	0.22 (5.5)
DX2	<b>PD2-3/8-70</b>	BSPP G13/8	4.88 (124)	2.20 (56)	2.17 (55)	2.17 (55)	1.46 (37)	0.24 (6)	0.22 (5.5)
	<b>PD2-3/8-80</b>	NPT 3/8	4.88 (124)	2.20 (56)	2.17 (55)	2.17 (55)	1.46 (37)	0.24 (6)	0.22 (5.5)

Inches (mm)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series

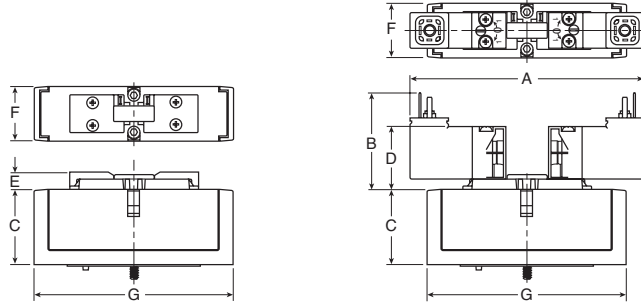


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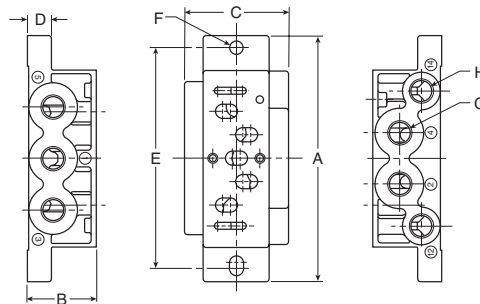
**DX01 & DX02 Valve**



Series	A	B	C	D	E	F	G
<b>DX02</b>	4.06 (103)	1.61 (41)	1.41 (36)	1.06 (27)	.31 (8)	.71 (18)	3.15 (80)
<b>DX01</b>	4.06 (103)	1.61 (41)	1.41 (36)	1.06 (27)	.31 (8)	1.02 (26)	3.94 (100)

Inches (mm)

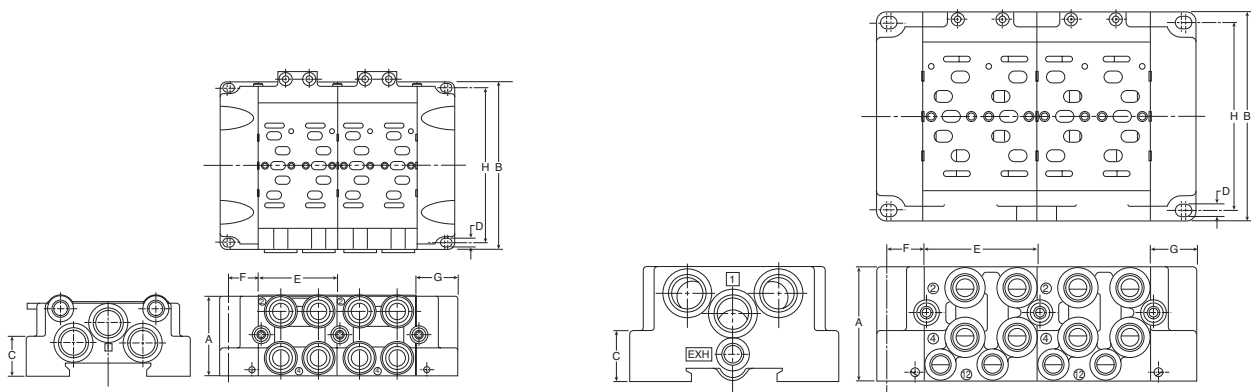
**DX01 & DX02 Individual Subbase**



Series	Part Number	A	B	C	D	E	F	G	H
<b>DX02</b>	<b>PL02</b>	3.15 (80)	.87 (22)	1.06 (27)	.31 (8)	2.76 (70)	.216 Dia. (Ø 5.5)	1/8	M5
<b>DX01</b>	<b>PL01</b>	3.94 (100)	1.10 (28)	1.65 (42)	.39 (10)	3.54 (90)	.216 Dia. (Ø 5.5)	1/4	1/8

Inches (mm)

**DX01 & DX02 2-Station Manifold Base**



Series	Part Number	A	B	C	D	E	F	G	H
<b>DX02</b>	<b>PJLP02 / PEJ02</b>	1.52 (38.5)	3.15 (80)	.47 (12)	.165 Dia. (Ø 4.2)	1.50 (38)	.55 (14)	.71 (18)	2.83 (72)
<b>DX01</b>	<b>PJL01 / PJLP01 / PEJ01</b>	2.17 (55)	3.94 (100)	.94 (24)	.216 Dia. (Ø 5.5)	2.13 (54)	.67 (17)	.87 (22)	3.54 (90)

Inches (mm)



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

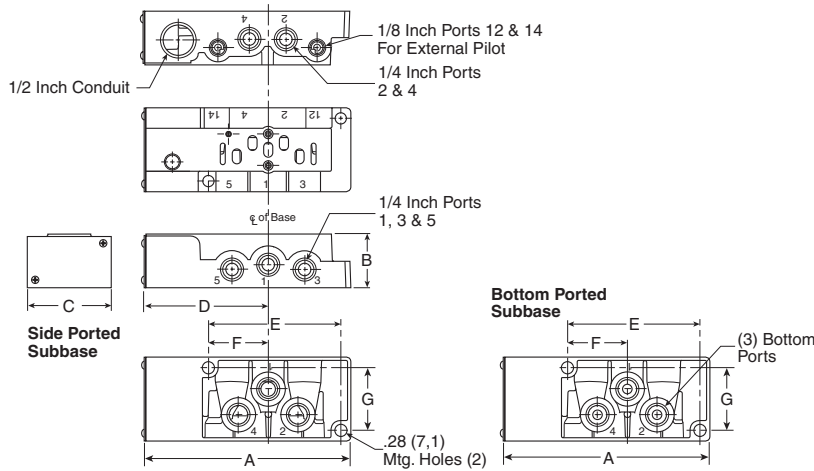
H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

**DX01 15407-1, PS5511 Subbases**

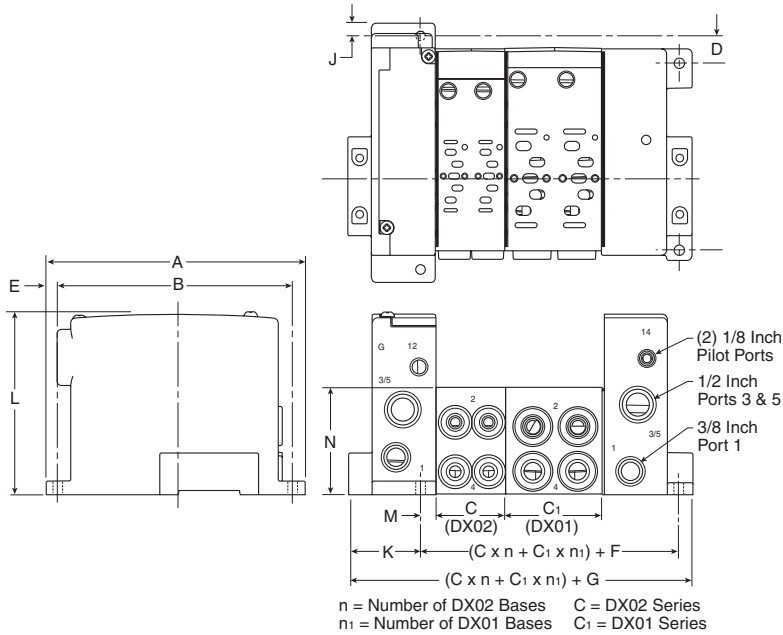


**PS5511 Subbase**

A	B	C	D
4.88 (124)	1.28 (32.5)	2.00 (50.8)	2.91 (74)
E	F	G	
1.43 (36.2)	3.16 (80.2)	1.49 (37.9)	

Inches (mm)

**DX02 & DX01 15407-1, PS5611 & PS5511 Manifolds**



**PS5611 & PS5511 Manifolds**

A	B	C	C <sub>1</sub>
5.98 (152)	5.39 (137)	1.61 (40.8)	2.24 (56.8)
D	E	F	G
.63 (16)	.30 (7.5)	2.14 (54.4)	4.12 (104.6)
H	J	K	L
4.32 (109.8)	.15 (4)	1.68 (42.7)	4.17 (106)
M	N		
.33 (8.4)	2.48 (63)		

Inches (mm)

Series	Part Number	A	B	B <sub>1</sub>	C	D	E
DX02	PS5637	10.28 (261)	6.14 (156)	1.02 (26)	5.13 (130)	2.60 (66)	1.18 (30)
DX01	PS5537	10.00 (254)	6.42 (163)	1.42 (36)	5.00 (127)	2.72 (69)	1.18 (30)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

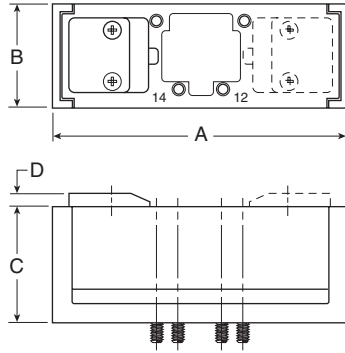
D272

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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series



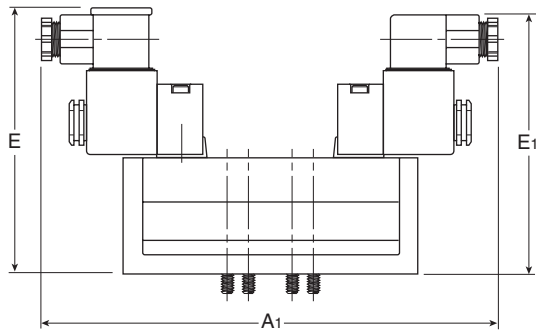
**DX1, DX2 & DX3 Air Operated Valve**



Series	A	B	C	D
<b>DX1</b>	4.72 (120)	1.65 (42)	1.85 (47)	.20 (5)
<b>DX2</b>	5.51 (140)	2.13 (54)	2.30 (58.5)	.20 (5)
<b>DX3</b>	6.69 (170)	2.68 (68)	2.80 (71)	.20 (5)

Inches (mm)

**DX1, DX2 & DX3 Solenoid Operated Valve**



Series	A1	E	E1	E2
<b>DX1</b>	7.97 (202.5)	4.43 (112.5)	4.69 (119)	4.53 (115)
<b>DX2</b>	8.58 (218)	4.86 (123.5)	5.12 (130)	4.98 (126.5)
<b>DX3</b>	9.27 (235.5)	5.35 (136)	5.61 (142.5)	5.47 (139)

Inches (mm)

**D**

Subbase & Manual  
Valves

H Series  
Micro

Moduflex  
Series

H Series  
ISO

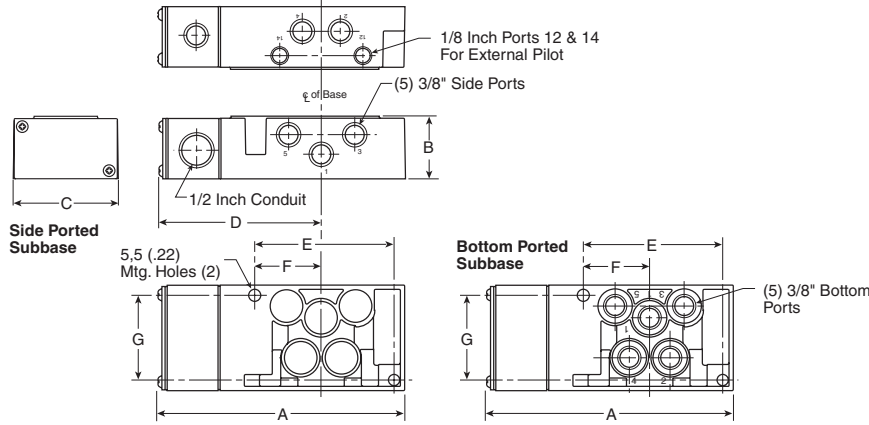
Fieldbus  
Systems

**DX ISOMAX  
Series**

Valvair II  
Series



**DX1 Subbase**

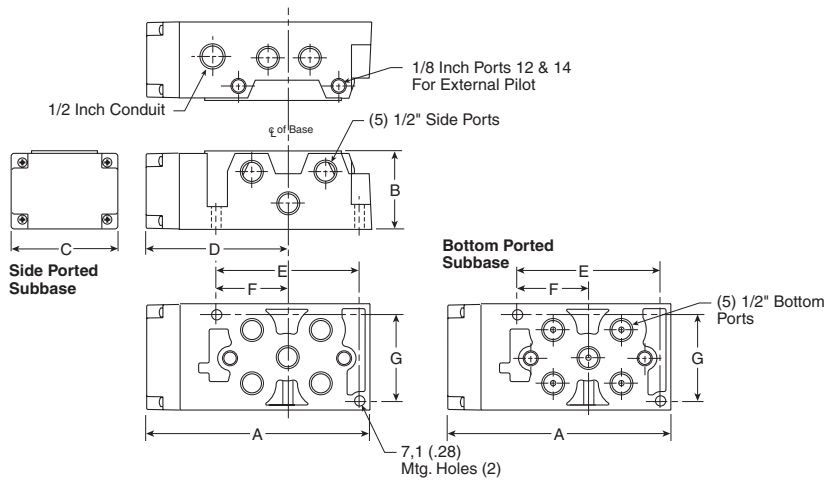


**PS4011 Subbase**

A	B	C	D
5.83 (148)	1.48 (38)	2.50 (64)	3.86 (98)
E	F	G	
3.29 (84)	1.57 (40)	2.00 (51)	

Inches (mm)

**DX2 Subbase**

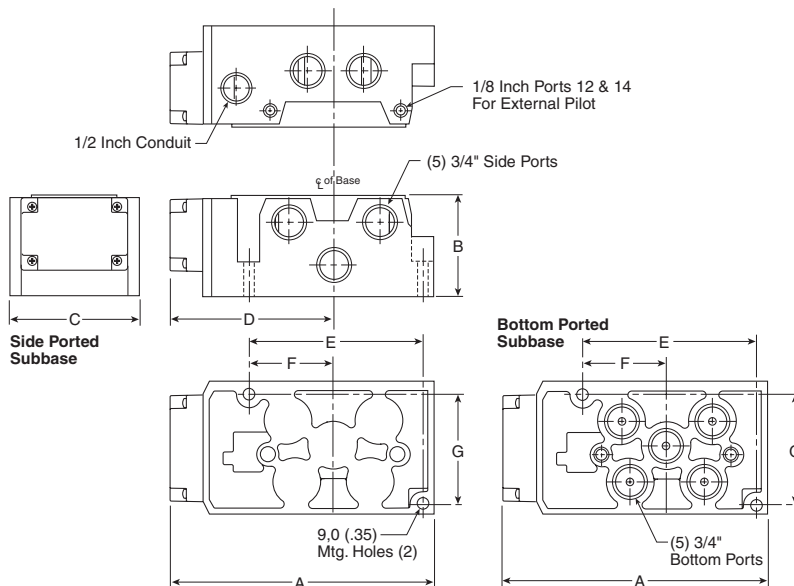


**PS4111 Subbase**

A	B	C	D
6.69 (170)	2.33 (59)	3.15 (80)	4.25 (108)
E	F	G	
4.21 (107)	2.07 (52)	2.56 (65)	

Inches (mm)

**DX3 Subbase**



**PS4211 Subbase**

A	B	C	D
7.90 (201)	2.96 (75)	3.90 (990)	4.92 (125)
E	F	G	
5.14 (131)	2.50 (64)	3.24 (82)	

Inches (mm)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series

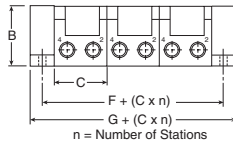
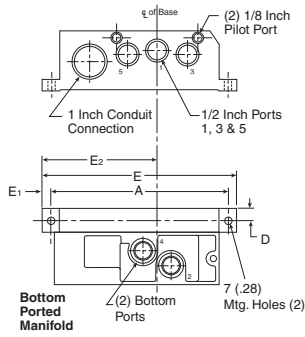


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**DX1 Manifold**

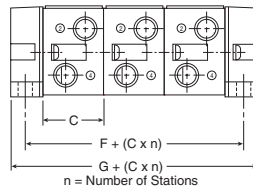
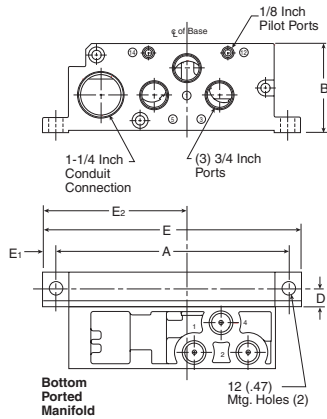


**PS4011 Manifold**

A	B	C	D	E
6.50 (165)	2.20 (56)	1.93 (49)	.44 (11)	7.15 (182)
E1	E2	F	G	
.33 (8)	4.25 (108)	.87 (22)	1.80 (46)	

Inches (mm)

**DX2 Manifold**

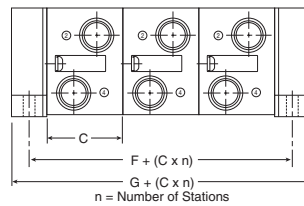
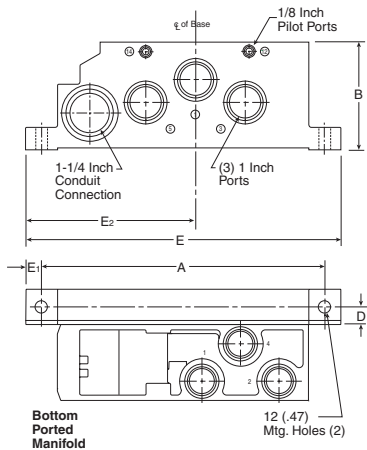


**PS4111 Manifold**

A	B	C	D	E
8.46 (215)	3.35 (85)	2.20 (56)	.59 (15)	9.41 (239)
E1	E2	F	G	
.47 (12)	5.28 (134)	1.18 (30)	2.36 (60)	

Inches (mm)

**DX3 Manifold**



**PS4211 Manifold**

A	B	C	D	E
10.41 (265)	4.13 (105)	2.80 (71)	.65 (175)	11.61 (295)
E1	E2	F	G	
.59 (15)	6.26 (159)	1.30 (33)	2.60 (63)	

Inches (mm)



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**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

**H Series ISO**

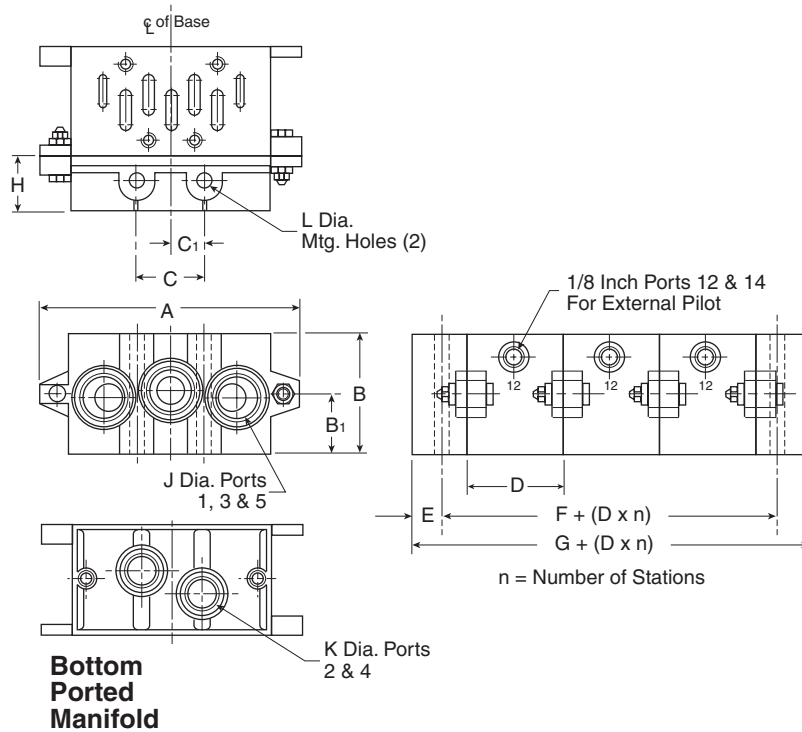
**Fieldbus Systems**

**DX ISOMAX Series**

**Valvair II Series**

**DX1, DX2, DX3 5599-1 VDMA**

Form C Manifold &  
 Form D End Plates



**VDMA Form C Manifold**

Series	Part Number	A	B	B1	D	E	F	G	J	K
DX1	<b>P2N-VM512MB</b>	4.33 (110)	1.81 (46)	0.94 (24)	1.69 (55)	0.43 (22)	0.87 (22)	1.73 (44)	BSPP G3/8	BSPP G1/4
DX2	<b>P2N-WM513MB</b>	5.31 (135)	1.85 (47)	0.94 (24)	2.20 (56)	0.51 (13)	1.02 (26)	2.05 (52)	BSPP G1/2	BSPP G3/8
DX3	<b>P2N-YM514MB</b>	7.48 (190)	2.20 (56)	1.34 (34)	2.80 (71)	0.59 (15)	1.18 (30)	2.36 (60)	BSPP G1/2	BSPP G1/2

**VDMA Form D End Plate**

Series	Part Number	A	B	B1	C	C1	H	L
DX1	<b>P2N-VM513ES</b>	4.33 (110)	1.81 (46)	0.94 (24)	1.10 (28)	0.55 (14)	0.87 (22)	0.28 (7)
DX2	<b>P2N-WM514ES</b>	5.31 (135)	1.85 (47)	0.94 (24)	1.38 (35)	0.69 (18)	1.02 (26)	0.34 (9)
DX3	<b>P2N-YM518ES</b>	7.48 (190)	2.20 (56)	1.34 (34)	2.05 (52)	1.03 (26)	1.18 (30)	0.47 (12)

Inches (mm)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D276

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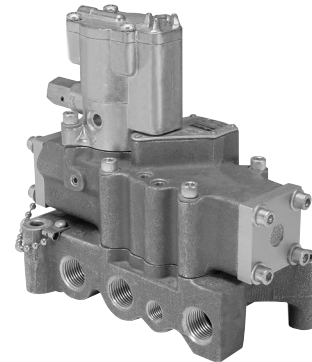
## Valvair II Series

- Full air operation for fastest response
- “Plug-in” option simplifies maintenance and installation  
Reduces downtime. No wiring or plumbing to disturb
- “Direct pipe” design for economy and performance
- Variety of operators available; direct conduit, (JIC) junction box, NEMA 4, hazardous duty, (UL, CSA), and remote air pilot
- Field convertible to external pilot supply for vacuum or other services
- Synthetic rubber o-ring seals are specially compounded for minimum compression and friction for superior wear and abrasion resistance
- Precision ground spool “floats” on o-ring seals. Closed center cross-over design saves air
- General Purpose Approvals
  - CSA - Canadian Standards Association  
File number 42024
- Hazardous Duty Approvals
  - UL - Underwriters Laboratories, Inc.  
File number E42542 Category Y107
  - CSA - Canadian Standards Association  
File number 24349

### Material specifications

Manifolds & subbases	Aluminum alloy	
Other seals	Nitrile	
Resilient seals: in valve body		
Dynamic	Polyurethane base on 3/8" basic valves*	
Static / dynamic	Nitrile base w / 12% Molybdenum Disulphide on 1/4" & 1/2" basic valves	
Shock pads	Polyurethane	
Solenoid bodies	Plated zinc alloy	
Internal components	Corrosion resistant steel	
Resilient seals	Standard service	Nitrile
	Special service (continuous duty)	Fluorocarbon & Silicone
Other seals	Nitrile	
Coil	Class “B” epoxy encapsulated (Class “H” also available on some models, consult supplier)	
Valve bodies	Aluminum alloy	
Valve spacers	Brass	
Valve spool	Aluminum alloy with special coating on 3/8" basic valves*. Hard chrome plated AISI type 416 stainless steel on 1/4" & 1/2" basic valves.	

\* These materials are specially designed for valves used on non-lubricated service



### Operating information

#### Pressure range for solenoid operated valves

Media	Internal pilot supply			External pilot supply			
	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	1"
Air	35-140* PSIG			N.A. Main	0-250 PSIG Pilot		
Vacuum	do not use			N.A. Main	within 1 Hg of perfect Pilot		
Other	Consult supplier						

\* 200 PSIG solenoid is optional (consult supplier).

#### Pressure range for remote pilot operated valves

Media		Valve type	
		Single	Double & 3-position
Air	Main	35-250 PSIG	0-250 PSIG
	Pilot	35-200 PSIG	35-200 PSIG
Vacuum	Main	Do not use	Within 1" Hg of perfect
	Pilot	Do not use	35-200 PSIG
Other	Consult supplier		

#### Ambient temperature – standard service solenoid operator

Minimum	Maximum	
	Intermittent duty	Continuous duty
0°F	125°F	100°F
Special service (continuous duty) solenoid operator		
0°F	125°F	125°F

#### Ambient temperature – remote pilot operated valves

0°F	200°F
-----	-------

As the above chart indicates, Standard Duty Solenoids may be used on continuous duty but ambient temperature is de-rated. In some cases, Special Service Solenoids may be rated for higher ambient temperatures (consult supplier).



#### CAUTION:

If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage and unpredictable behavior.

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

**3/8" Basic plug-in solenoid valve only with light**

Symbol	Type	Cv	Operator	Voltage	Non-Locking	Locking
	4-way, 2-position, spring return	4.8	Single solenoid	24 VDC 110 VAC	<b>L6753810249</b> <b>L6753810253</b>	<b>L6753910249</b> <b>L6753910253</b>
	4-way, 2-position	4.8	Double solenoid	24 VDC 110 VAC	<b>L6553810249</b> <b>L6553810253</b>	<b>L6553910249</b> <b>L6553910253</b>
	4-way, 3-position, all ports blocked	4.8	Double solenoid	24 VDC 110 VAC	<b>L6653821149</b> <b>L6653821153</b>	<b>L6653921149</b> <b>L6653921153</b>
	4-way, 3-position, center exhaust	4.8	Double solenoid	24 VDC 110 VAC	<b>L6653822149</b> <b>L6653822153</b>	<b>L6653922149</b> <b>L6653922153</b>
	4-way, 3-position, pressure center	4.8	Double solenoid	24 VDC 110 VAC	<b>L6653823149</b> <b>L6653823153</b>	<b>L6653923149</b> <b>L6653923153</b>

\* Order subbase or manifold separately.

**3/8" Basic plug-in remote pilot valve only**

Symbol	Type	Cv	Operator	Part Number
	4-way, 2-position, spring return	4.8	Single remote	<b>L67431102</b>
	4-way, 2-position	4.8	Double remote	<b>L65431102</b>
	4-way, 3-position, all ports blocked	4.8	Double remote	<b>L66431211</b>
	4-way, 3-position, center exhaust	4.8	Double remote	<b>L66431221</b>
	4-way, 3-position, pressure center	4.8	Double remote	<b>L66431231</b>

\* Order subbase or manifold separately.

**3/8" Valve Subbase and Manifolds**

	Cv	Port	Subbase † (side ports)	Manifolds † (end & bottom ports)
Subbase	4.8	3/8"	<b>K022090</b>	<b>K142230</b>
Manifold	4.8	1/2"	<b>K022091</b>	<b>K142231</b>
	4.8	3/4"	<b>K022101</b>	<b>K142270</b>

† Manifolds include mounting hardware, except for port adapters. Subbase includes valve mounting hardware.

**Plug-in Subbase, 3/8" Basic**

K022090	.....Inlet & Cylinder Ports 3/8" NPTF
	Exhaust ports ..... 1/2" NPTF
K022091	.....Inlet & Cylinder Ports 1/2" NPTF
	Exhaust ports ..... 1/2" NPTF
K022101	.....Inlet & Cylinder Ports 3/4" NPTF
	Exhaust port ..... 3/4" NPTF
	Conduit port ..... 1/2" NPTF

**Note:** Subbase assemblies include mounting hardware.

Most popular.

**Plug-in Manifold, 3/8" Basic**

K142230	.....Cylinder ports 3/8" NPTF
K142231	.....Cylinder ports 1/2" NPTF
K142270	.....Cylinder ports 3/4" NPTF
	Exhaust port..... 1" NPTF
	Inlet port..... 1" NPTF
	Conduit port..... 1-1/4" NPTF

**Note:** Manifold assemblies include mounting hardware.

**D**  
Subbase & Manual Valves  
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Modulflex Series  
H Series ISO  
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DX ISOMAX Series  
Valvair II Series



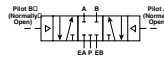

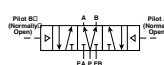


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)








**Common Part Numbers**

**1" Basic plug-in solenoid valve only with light**

Symbol	Type	Cv	Operator	Voltage	Non-Locking	Locking
	4-way, 2-position, spring return	11.3	Single solenoid	24 VDC 110 VAC	<b>L6758810249</b> <b>L6758810253</b>	<b>L6758910249</b> <b>L6758910253</b>
	4-way, 2-position	11.3	Double solenoid	24 VDC 110 VAC	<b>L6558810249</b> <b>L6558810253</b>	<b>L6558910249</b> <b>L6558910253</b>
	4-way, 3-position, all ports blocked	11.3	Double solenoid	24 VDC 110 VAC	<b>L6658821149</b> <b>L6658821153</b>	<b>L6658921149</b> <b>L6658921153</b>
	4-way, 3-position, center exhaust	11.3	Double solenoid	24 VDC 110 VAC	<b>L6658822149</b> <b>L6658822153</b>	<b>L6658922149</b> <b>L6658922153</b>
	4-way, 3-position, pressure center	11.3	Double solenoid	24 VDC 110 VAC	<b>L6658823149</b> <b>L6658823153</b>	<b>L6658923149</b> <b>L6658923153</b>


\* Order subbase separately.

**1" Basic plug-in valve remote pilot valve only**

Symbol	Type	Cv	Operator	Part Number
	4-way, 2-position, spring return	11.3	Single remote	<b>L67481102</b>
	4-way, 2-position	11.3	Double remote	<b>L65481102</b>
	4-way, 3-position, all ports blocked	11.3	Double remote	<b>L66481211</b>
	4-way, 3-position, center exhaust	11.3	Double remote	<b>L66481221</b>
	4-way, 3-position, pressure center	11.3	Double remote	<b>L66481231</b>

\* Order subbase separately.

**1" Valve Subbase**

	Cv	Port	Subbase † (side ports)
	11.3	1"	<b>K022095</b>

Subbase

† Subbase includes valve mounting hardware.

**Plug-in Subbase, 1" Basic**

K022095 ..... Inlet & Cylinder Ports 1" NPTF  
 Exhaust ports ..... 1-1/4" NPTF  
 Conduit port ..... 1/2" NPTF

**Note:** Subbase assemblies include mounting hardware.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

**3/8" Basic direct pipe ported valve only. Solenoid junction box with light, 1/2" NPT ports**

Symbol	Type	Cv	Operator	Voltage	Non-Locking	Locking
	4-way, 2-position, spring return	4.8	Single solenoid	24 VDC 110 VAC	<b>L7054810249</b>	<b>L7054910249</b>
	4-way, 2-position	4.8	Double solenoid	24 VDC 110 VAC	<b>L6854810249</b>	<b>L6854910249</b>
	4-way, 3-position, all ports blocked	4.8	Double solenoid	24 VDC 110 VAC	<b>L6954821149</b>	<b>L6954921149</b>
	4-way, 3-position, center exhaust	4.8	Double solenoid	24 VDC 110 VAC	<b>L6954822149</b>	<b>L6954922149</b>
	4-way, 3-position, pressure center	4.8	Double solenoid	24 VDC 110 VAC	<b>L6954823149</b>	<b>L6954923149</b>

**3/8" Basic direct pipe ported remote pilot valve only, 1/2" NPT ports**

Symbol	Type	Cv	Operator	Part Number
	4-way, 2-position, spring return	4.8	Single remote	<b>L70441102</b>
	4-way, 2-position	4.8	Double remote	<b>L68441102</b>
	4-way, 3-position, all ports blocked	4.8	Double remote	<b>L69441211</b>
	4-way, 3-position, center exhaust	4.8	Double remote	<b>L69441221</b>
	4-way, 3-position, pressure center	4.8	Double remote	<b>L69441231</b>

**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Fieldbus Systems  
DX ISOMAX Series  
Valvair II Series

Most popular.






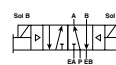

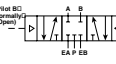

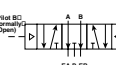

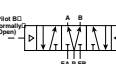
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D280


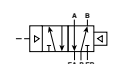



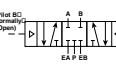



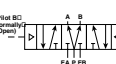
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Common Part Numbers

1" Basic direct pipe ported valve only. Solenoid junction box with light, 1" NPT ports

Symbol	Type	Cv	Operator	Voltage	Non-Locking	Locking
		4-way, 2-position, spring return	11.3	Single solenoid	24 VDC 110 VAC	<b>L7058810249</b> <b>L7058910249</b>
		4-way, 2-position	11.3	Double solenoid	24 VDC 110 VAC	<b>L6858810249</b> <b>L6858910249</b>
		4-way, 3-position, all ports blocked	11.3	Double solenoid	24 VDC 110 VAC	<b>L6958821149</b> <b>L6958921149</b>
		4-way, 3-position, center exhaust	11.3	Double solenoid	24 VDC 110 VAC	<b>L6958822149</b> <b>L6958922149</b>
		4-way, 3-position, pressure center	11.3	Double solenoid	24 VDC 110 VAC	<b>L6958823149</b> <b>L6958923149</b>

1" Basic direct pipe ported remote pilot valve only. 1" NPT ports

Symbol	Type	Cv	Operator	Part Number	
		4-way, 2-position, spring return	11.3	Single remote	<b>L70481102</b>
		4-way, 2-position	11.3	Double remote	<b>L68481102</b>
		4-way, 3-position, all ports blocked	11.3	Double remote	<b>L69481211</b>
		4-way, 3-position, center exhaust	11.3	Double remote	<b>L69481221</b>
		4-way, 3-position, pressure center	11.3	Double remote	<b>L69481231</b>



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D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

Ordering Information

Lubricated Non-Lubricated Service  
2-position, Plug-In, 3/8" & 1" Basic Size

**L 67 5 3 9 10 2 53**

Type	
Double	65
Single	67

Operator	
Remote	4
Solenoid	5

Size	
3/8" Basic	3
1" Basic	8

Operator options	
Solenoid (basic) or Remote	1
Solenoid with Locking Override	3
Solenoid w/Light (120VAC, 24VDC) & Non-Locking Override	8
Solenoid w/Light (120VAC, 24VDC) & Locking Override	9

Voltage & Frequency			
	60Hz	50Hz	DC
45			12
49			24
53	120	110	
57	240	220	
Blank	Remote		

Duty Cycle	
2	Standard Service, Solenoid or Remote
4	Continuous Service Solenoid

Enclosure "Class"	
10	Standard (NEMA 1 & 12) or Remote

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series

Lubricated or Non-Lubricated Service  
3-position, Plug-In, 3/8" & 1" Basic Size

**L 66 5 3 9 21 1 53**

Type	
Double	66

Operator	
Remote	4
Solenoid	5

Size	
3/8" Basic	3
1" Basic	8

Operator options	
Solenoid (basic) or Remote	1
Solenoid with Locking Override	3
Solenoid w/Light (120VAC, 24VDC) & Non-Locking Override	8
Solenoid w/Light (120VAC, 24VDC) & Locking Override	9

Voltage & Frequency			
	60Hz	50Hz	DC
45			12
49			24
53	120	110	
57	240	220	
Blank	Remote		

Duty Cycle	
1	Standard Service, Solenoid or Remote
5	Continuous Service Solenoid

Enclosure "Class"	
21	All Ports Blocked In Neutral (NEMA 1 & 12 enclosure) or Remote
22	Cyl. Ports Open to Exhaust in Neutral (NEMA 1 & 12 enclosure) or Remote
23	Cyl. Ports Open to Inlet in Neutral (NEMA 1 & 12 enclosure) or Remote

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Ordering Information

Lubricated or Non-Lubricated Service  
2-position, Direct Pipe Ported, 3/8" & 1" Basic Size

**L 70 5 3 9 10 2 53 —**

Type	
Double	68
Single	70

Operator	
Remote	4
Solenoid	5

Size	
3/8" NPT Inlet & Cylinder 1/2" NPT Exhaust	3
1/2" NPT Inlet, Cylinder & Exhaust	4
1" NPT Inlet & Cylinder 1-1/4" NPT Exhaust	8
1-1/4" NPT Inlet Cylinder & Exhaust	9*

\* Not available operator option 4 - Remote pilot.

Operator options	
Solenoid (basic) or remote	1
Solenoid with locking override	3
Solenoid w/ junction box & locking override	6
Solenoid w/ junction box & light (120VAC, 24VDC) & non-locking override	8
Solenoid w/ junction box & light (120VAC, 24VDC) & locking override	9

Voltage & Frequency			
	60Hz	50Hz	DC
45			12
49			24
53	120	110	
57	240	220	
Blank	Remote		

Lead Length	
Blank	19" (Standard)

Duty Cycle	
2	Standard Service, Solenoid or Remote
4	Continuous Service Solenoid

Enclosure "Class"	
10	Standard (NEMA 1 & 12) or Remote
60*†	Hazardous Duty (NEMA 7 & 9)
80†	NEMA 4

\* Voltage 49 / 53 only.  
† Use with operator options 1 & 3 only.

Lubricated or Non-Lubricated Service  
3-position, Direct Pipe Ported, 3/8" & 1" Basic Size

**L 69 5 3 9 21 1 53 —**

Type	
Double	69

Operator	
Remote	4
Solenoid	5

Size	
3/8" NPT Inlet & Cylinder 1/2" NPT Exhaust	3
1/2" NPT Inlet, Cylinder & Exhaust	4
1" NPT Inlet & Cylinder 1-1/4" NPT Exhaust	8
1-1/4" NPT Inlet Cylinder & Exhaust	9*

\* Not available operator option 4 - Remote pilot.

Operator Options	
Solenoid (basic) or Remote	1
Solenoid with Locking Override	3
Solenoid w/ Junction Box & Locking Override	6
Solenoid w/ Junction Box & Light (120VAC, 24VDC) & Non-Locking Override	8
Solenoid w/ Junction Box & Light (120VAC, 24VDC) & Locking Override	9

Voltage & Frequency			
	60Hz	50Hz	DC
45			12
49			24
53	120	110	
57	240	220	
Blank	Remote		

Lead Length	
Blank	19" (Standard)

Duty Cycle	
1	Standard Service, Solenoid or Remote
5	Continuous Service Solenoid

Enclosure "Class"	
All Ports Blocked in Neutral	
21	Standard (NEMA 1 & 12) or Remote
71*†	Hazardous Duty (NEMA 7 & 9)
91†	NEMA 4
Cylinder Ports Open to Exhaust in Neutral	
22	Standard (NEMA 1 & 12) or Remote
72*†	Hazardous Duty (NEMA 7 & 9)
92†	NEMA 4
Cylinder Ports Open to Inlet in Neutral	
23	Standard (NEMA 1 & 12) or Remote
73*†	Hazardous Duty (NEMA 7 & 9)
93†	NEMA 4

\* Voltage 49 / 53 only.  
† Use with operator options 1 & 3 only.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series

**Modular Pneumatic Controls Plug-In Sandwich Block Design for Modular Port Regulation**

These modular regulators assemble to any 3/8" basic valve interface pattern.

**Port Regulation Made Easy**

Place the sandwich on the manifold or subbase, tighten the four securing screws, then plug the valve into the sandwich and tighten its securing screws to complete the assembly.

Within minutes, these modular components can be installed in new, or used to improve existing manifold systems, without disturbing wiring or air connections.

**3-Configurations**

1. **Common Port Regulation** - A common regulated pressure is selected to both cylinder ports.
2. **Single Port Regulation** - Line pressure is available to one cylinder port, while a single regulated pressure is selected to the other cylinder port.
3. **Independent Port Regulation** - Two independently regulated pressures selected to the cylinder ports.

**NOTE:** When using single or independent port sandwich regulators, be aware that:

1. Cylinder port outlets are reversed.
2. 3-Position, cylinder ports open to exhaust and cylinder ports open to inlet functions are reversed. To produce a cylinder ports open to exhaust function, order valve with cylinder ports open to inlet. To produce a cylinder ports open to inlet function, order valve with cylinder ports open to exhaust.

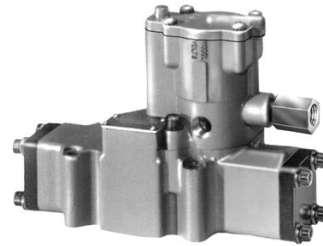
**Manual or Remote** secondary pressure adjustment.

**Three Pressure Ranges** are standard for manual units:

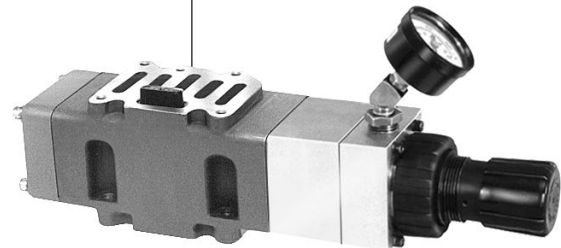
- 1-30 PSIG
- 1-60 PSIG
- 2-125 PSIG

**Range for Remote:** 0-140 PSIG

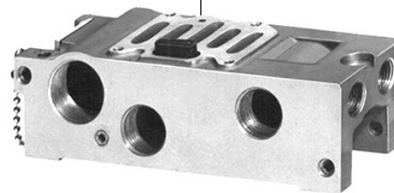
**Gauges** are furnished standard; liquid filled gauges are optional.



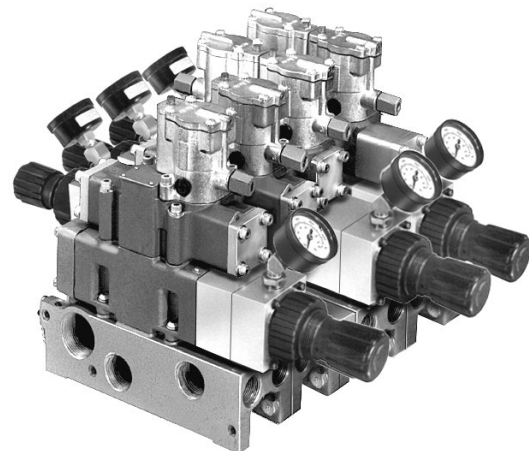
**Solenoid Valve Assembly**



**Regulator Assembly**



**Manifold**



**Typical Assembly**

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series



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**Function - Single Port Regulation**

This modular air pressure regulator assembly, when installed between a 3/8" basic, 4-Way valve and subbase or modular manifold, supplies one or more regulated pressures to one of the valve cylinder ports and supply pressure to the other cylinder port.

On Single Port Cylinder Port Regulation Units controlled by a single solenoid valve, cylinder port "B" is the normally open cylinder port. The solenoid is energized to open cylinder Port "A". On double solenoid operated valves, energizing solenoid "B" opens cylinder port "A" and energizing solenoid "A" opens cylinder port "B".

**Valve must be converted to external pilot supply.**

**Features**

Regulated pressure output from the valve is adjusted by knob on the manually set model or by air pressure signal applied to the regulator pilot port on the remotely set model.

For reduced pressure at "A" cylinder port, the regulator is mounted per assembly "A" on end opposite the electrical junction box. For reduced pressure at "B" cylinder port the regulator is mounted per Assembly "B" which places the regulator over the electrical junction box.

Furnished with pressure gauge as standard.

**Pressure Range Options**

Maximum Supply Pressure .....	140 PSIG
Output Pressure Range .....	1 - 30 PSIG
	1 - 60 PSIG
	2 - 125 PSIG

**Operating Temperature Range**

32°F (0°C) to 175°F (79°C)

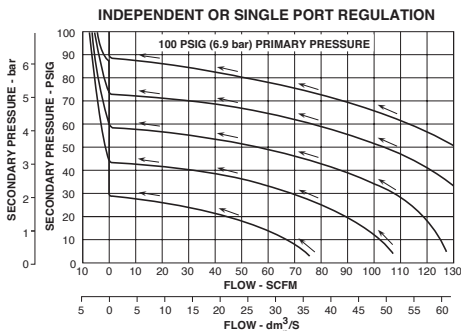
**How To Order**

1. Select type of adjustment.
2. Select pressure range.
3. Select assembly style.

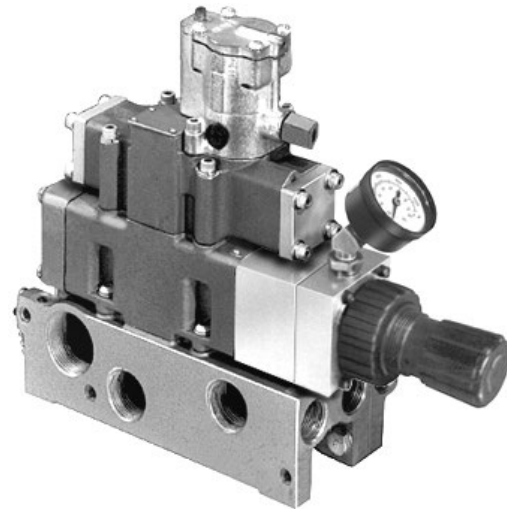
**Example:** Manual adjustment.  
 5-60 PSIG, Port A reduced.

Model No. L55405307C

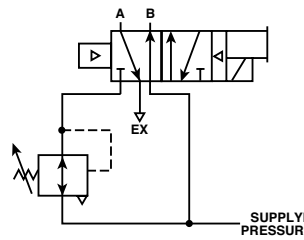
**Relief and Flow Characteristics**



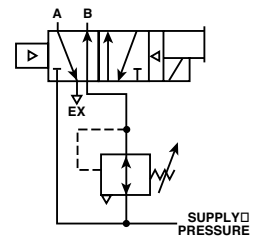
The above curves illustrate flow characteristics through an assembled valve, air regulator, and base (or modular manifold) unit.



Assembly "A"



Supply Pressure at "B" & Regulated at "A"



Supply Pressure at "A" & Regulated at "B"

Pressure Adjustment	Pressure Range PSIG	Model Number	
		Reduced Pressure Cyl. Port "A"	Cyl. Port "B"
Manual	1 - 60	L55405307C	L55407305C
	2 - 125	L55406307C	L55407306C
Remote	0 - 140	L55414307C	L55407314C

**Note:** When using single or independent port sandwich regulators, be aware that:

1. Cylinder port outlets are reversed.
2. 3-Position, cylinder ports open to exhaust and cylinder ports open to inlet functions are reversed. To produce a cylinder ports open to exhaust function, order valve with cylinder ports open to inlet. To produce a cylinder ports open to inlet function, order valve with cylinder ports open to exhaust.

See parts and accessories for gauges.

D

Subbase & Manifold Valves

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H Series ISO

Fieldbus Systems

DX ISOMAX Series

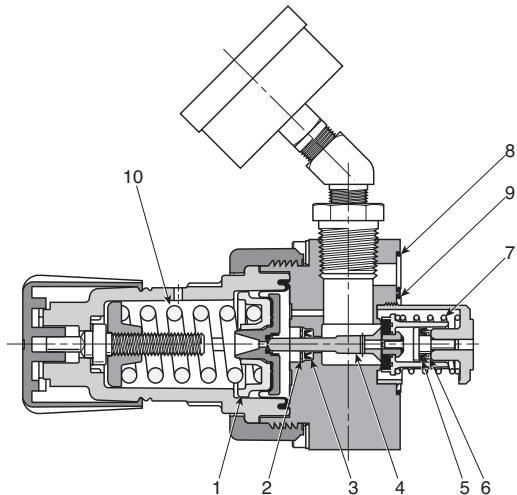
Valvair II Series



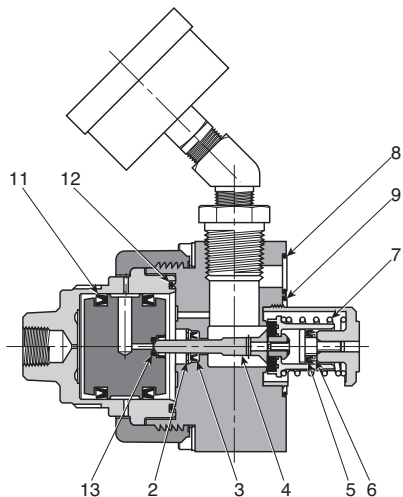
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Manual Adjusting



Remote Operated



Replacement Parts

Item no.	Part Number	Description
1	○	Diaphragm Assembly
2	○ ●	Retaining Ring
3	○ ●	Vee Packing
4	○ ●	Poppet Assembly
5	○ ●	Vee Packing
6	○ ●	Backflow Retainer
7	○ ●	Poppet Spring
8	○ ●	.989 ID x .070 W O-Ring
9	○ ●	1.301 ID x .070 W O-Ring
	<b>P01698</b>	1-30 PSI Spring
10	<b>P04062</b>	1-60 PSI Spring (Blue)
	<b>P04063</b>	2-125 PSI Spring
11	●	Vee Packing
12	●	1.674 ID x .103 W O-Ring
13	●	Vent Seal

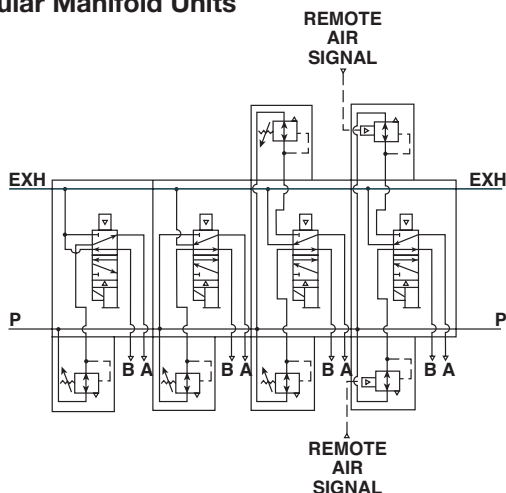
○ Parts included in K352409 service kit for manual operated modular regulators.

● Parts included in K352411 service kit for remote operated modular regulators.

Replacement Gauges

PSIG	Standard
0-60	<b>K4520N14060</b>
0-160	<b>K4520N14160</b>
0-300	<b>K4520N14300</b>

Suggested Schematic of Assembled Valve, Air Regulation and Modular Manifold Units



D

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H Series ISO

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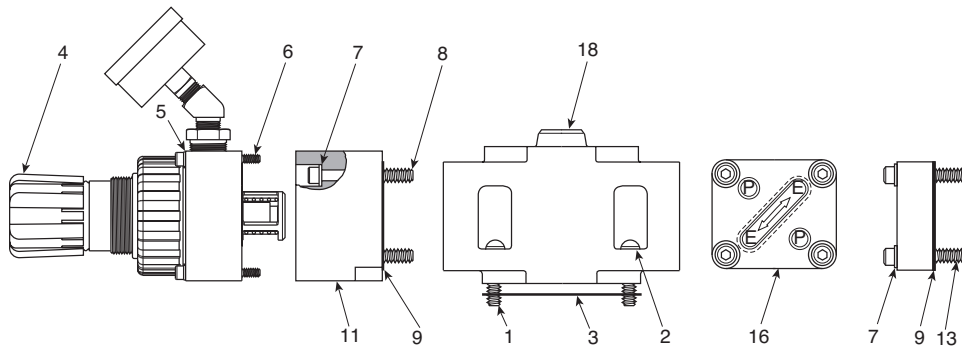
DX ISOMAX Series

Valvair II Series

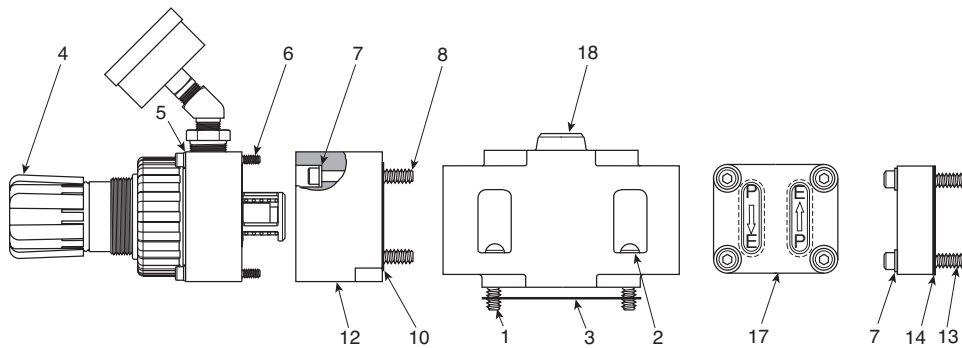


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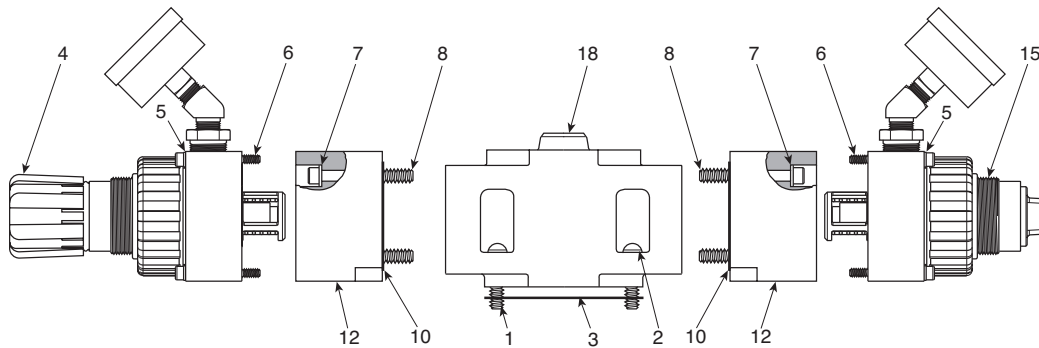
**Common Port Regulation**



**Single Port Regulation**



**Independent Port Regulation**



**Table "E": Parts**

Item No.	Part Number	Description
1	<b>H09815</b>	Screw (4)
2	<b>H17512</b>	Lockwasher (4)
3	<b>K183077</b>	Gasket
4	Standard	Manual Reg. Assy. (w/Gauge)
	<b>K472001C</b>	1-30 PSIG
	<b>K472002C</b>	1-60 PSIG
	<b>K472003C</b>	2-125 PSIG
5	<b>H17509</b>	#10 Lockwasher
6	<b>H10032</b>	#10-32 x 1.75" Lg. SHCS
7	<b>H17511</b>	1/4" Lockwasher
8	<b>H10069</b>	1/4-20 x 2.25" Lg. SHCS

Item No.	Part Number	Description
9	<b>K183082</b>	Gasket
10	<b>K183084</b>	Gasket
11	<b>K043012</b>	Function Block (P to P)
12	<b>K043011</b>	Function Block (P to E)
13	<b>H100107</b>	1/4-20 x 1-1/2" Lg. SHCS
14	<b>K183083</b>	Gasket
15	Standard	Remote Reg. Assy. (w/Gauge)
	<b>K472009C</b>	0-140 PSIG
16	<b>K362308</b>	Function Plate Assy. (Incl. 7, 9, 13)
17	<b>K362307</b>	Function Plate Assy. (Incl. 7, 13, 14)
18	<b>K032270</b>	Body Assy. (Incl. 1, 2, 3)



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

DX ISOMAX Series

Valvair II Series





**Service Kits**

To use this chart you must know the basic valve series, quantity, and type of operators, or the first three characters of the valve model number.

Basic Valve	Solenoid Operated *						
	Series (prefix)	Standard Service (intermittent duty)		Special Service ** (continuous duty)		Remote Pilot Operated	
Size		Single	Double 2 & 3-Position	Single	Double 2 & 3-Position	Single	Double 2 & 3-Position
3/8"	L65	—	<b>K352126</b>	—	<b>K352127</b>	—	<b>K352355</b>
	L66	—	<b>K352126</b>	—	<b>K352127</b>	—	<b>K352355</b>
	L67	<b>K352124</b>	—	<b>K352125</b>	—	<b>K352362</b>	—
	L68	—	<b>K352126</b>	—	<b>K352127</b>	—	<b>K352355</b>
	L69	—	<b>K352126</b>	—	<b>K352127</b>	—	<b>K352355</b>
	L70	<b>K352124</b>	—	<b>K352125</b>	—	<b>K352362</b>	—
	L70	<b>K352128</b>	—	<b>K352129</b>	—	<b>K352359</b>	—
1"	L65	—	<b>K352130</b>	—	<b>K352131</b>	—	<b>K352360</b>
	L66	—	<b>K352130</b>	—	<b>K352131</b>	—	<b>K352360</b>
	L67	<b>K352128</b>	—	<b>K352129</b>	—	<b>K352359</b>	—
	L68	—	<b>K352130</b>	—	<b>K352131</b>	—	<b>K352360</b>
	L69	—	<b>K352130</b>	—	<b>K352131</b>	—	<b>K352360</b>
	L70	<b>K352128</b>	—	<b>K352129</b>	—	<b>K352359</b>	—
	L70	<b>K352128</b>	—	<b>K352129</b>	—	<b>K352359</b>	—

**Notes:**

\* Kits for solenoid operated valves include solenoid service kits.

\*\* Special service (continuous duty) solenoids may be identified as having gold colored solenoid tops.

**Blank Plate Kit - 3/8" Basic**

Manifold Assembly	Port size	Part Number
<b>K142230</b>	3/8"	<b>K06020003</b>
<b>K142231</b>	1/2"	
<b>K142270</b>	3/4"	

Kit includes: Blank plate, gasket, mounting screws.

**Conversion Kits: Lubricated to Non-Lubricated Operation**

Basic Size	Operators (solenoid or remote pilot)	
	Single	Double (2-position)
3/8"	<b>K322012</b>	<b>K322013</b>

**Flush Type Hex Drive Pipe Plugs for Port Isolation**

Size (NPTF)	Part Number
1/8"	<b>K21R02012L</b>
1/4"	<b>K21R02025L</b>
3/8"	<b>K21R02037L</b>
1/2"	<b>K21R02050L</b>
3/4"	<b>K21R02075L</b>

**Electrical Connectors Single or Double Solenoid Valves**

Basic Size	Valve Body		Subbase / Manifold	
	Single Solenoid	Double Solenoid	10" Leads	72" Leads
3/8"	<b>H02723</b>	<b>H02722</b>	<b>H02713</b>	<b>H02789</b>
1"				

**Interchangeable Manual Override Assemblies for Solenoid Operators**



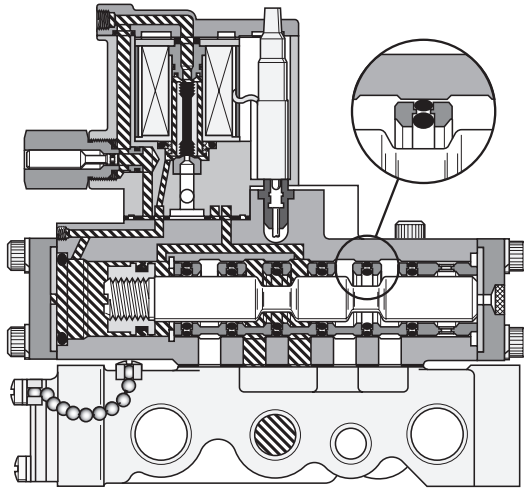
Non-Locking Type	Locking Type
<b>K162001</b>	<b>K152003</b>

To override valve, use a flat head screwdriver to press in and rotate plunger 90° until plunger locks in place. For proper valve operation, override should be in the out position.

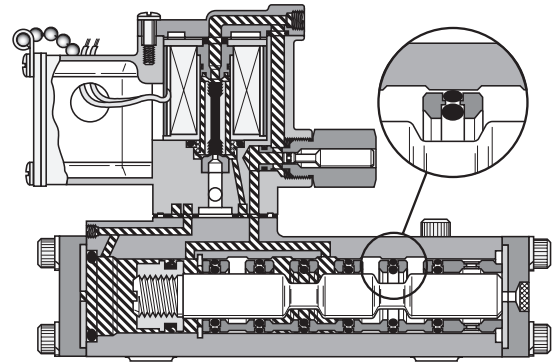


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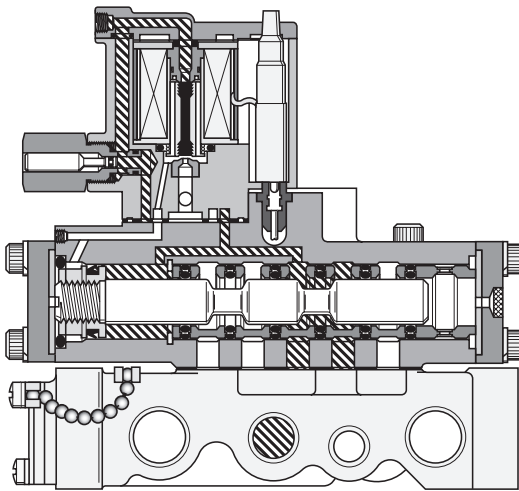
**Plug-In**  
 De-Energized



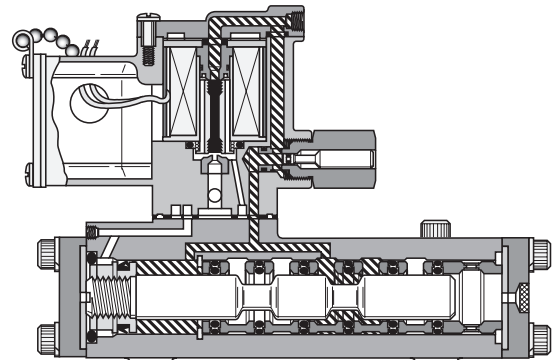
**Direct Pipe Ported**  
 De-Energized



**Energized**



**Energized**



 **Pressure**     **Exhaust**

D	Subbase & Manual Valves
H Series Micro	
Modulflex Series	
H Series ISO	
Fieldbus Systems	
DX ISOMAX Series	
Valvair II Series	



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### Flow Capacities

Valve Type	Cylinder Port Size (NPTF)	Mounting Style	Cv Flow Rating Inlet to Cylinder "A"
3/8" Single	3/8"	Direct Pipe	4.7
	1/2"	Direct Pipe	5.3
3/8" Double	3/8"	Direct Pipe	4.5
	1/2"	Direct Pipe	5.5
	3/4"	Subbase	5.0
	3/4"	Manifold	4.9
3/8" Double 3-Position	3/8"	Direct Pipe	4.1
	1/2"	Direct Pipe	4.5
	3/4"	Subbase	4.5
	3/4"	Manifold	4.1
1" Single & Double	1"	Direct Pipe	12.0
		Subbase	11.3

### Recommended Filtration

Maintained 40 Micron Filtration

### Life Expectancy

Valves designed for non-lubricated service as well as those designed for lubricated service will provide millions of maintenance free cycles. Under laboratory conditions service life exceeds 25,000,000 cycles.

### Factory Pre-Lubrication

Valves are lubricated at assembly with Sunaplex 781 or equivalent. Valves specified for vacuum service are lubricated with Dow Corning Valve Seal A.

### Valves for Non-Lubricated Service

3/8" basic valve sizes are designed to operate in applications where in-service lubrication is not desirable. Valves are factory pre-lubed as noted above. These valves may be used for lubricated service as well.

### Lubrication

Air Line Lubricant (compatible with Nitrile & Polyurethane seals) must readily atomize and be of the medium aniline type. Aniline point range must be between 180° and 220°F. Viscosity @ 100°F: 140-170 SUS.

### Recommended Lubricant

If in-service lubrication is required, use F442 oil, or equivalent. F442 is specially formulated to provide peak performance and maximum service life for air operated equipment.

## Subbase & Manifold Valve Products Valvair II Series

### Listing Agencies

#### General Purpose Approvals

CSA - Canadian Standards Association  
 File Number 42024

#### Hazardous Duty Approvals

UL - Underwriters Laboratories, Inc.  
 File Number E42542  
 Category Y107

CSA - Canadian Standards Association  
 File Number 24349

### Solenoid Enclosure Ratings

Type	Listing Agency	NEMA Rating	Description
Plug-In	CSA	1 & 12	General purpose indoor only dust tight
Conduit / flying lead	CSA	1 & 12	General purpose indoor only dust tight
* Conduit (as specified)	UL & CSA	7 & 9	Hazardous location see chart below)
* Conduit (as specified)	CSA	4	General purpose indoor / outdoor

\* See ordering information on specific valve type. (Direct Pipe Ported Valves Only.)

### Hazardous Duty Solenoid Listing

Valves with solenoid operators designated for hazardous locations are UL & CSA Approved as follows:

National Electric Code	Ambient Conditions	NEMA Classification
Class I Div. 1 Group C	Ethyl, Ether, Etc., Gases & Vapors	VII (7)
Class I Div. 1 Group D	Gasoline, Etc., Gases & Vapors	VII (7)
Class I Div. 2 Group B	Butadiene, Etc., Liquid, Fluid or Vapor Normally Contained, or Atmosphere Ventilated	VII (7)
Class II Div. 1 Group E	Metal Dust	IX (9)
Class II Div. 1 Group F	Coal, Coke, Carbon Black Dust	IX (9)
Class II Div. 1 Group G	Flour, Starch, Grain Dust	IX (9)

See Article 500 - Hazardous (Classified) Locations, National Electric Code.



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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

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Fieldbus Systems

DX ISOMAX Series

Valvair II Series

**Installation**

Valves should be installed with reasonable accessibility for service. Exercise care in keeping piping lengths to a minimum. Piping should be free of dirt, chips & scale. Pipe joint compound should be used sparingly applied only to the thread, never to the valve body. Avoid undue strain at piping joints. Protect the valve from exposure to extreme temperatures, dirt and moisture to maximize life.

**Note:** Valves equipped with locking manual overrides. Override(s) must be in the fully extended position for proper valve operation.

**Double Solenoid / Remote Caution**

**Note:** It is recommended that double solenoid and double remote 2-Position valves be mounted with the main spool in the horizontal plane.

**Wiring Instructions for Base Mounted Valves**

**Single Solenoid:**

Use wires marked "2" & "3" for connection. Units with DC Solenoids and indicator lights are polarity sensitive. Wire marked "3" is positive (+).

**Double Solenoid:**

Use wires marked "1" & "2" for Solenoid "A". Use wires marked "3" & "4" for Solenoid "B". Units with DC Solenoids and indicator lights are polarity sensitive. Wires marked "1" and "3" are positive.

**CAUTION:**  
 DC Solenoids are polarity sensitive.  
 Observe polarities indicated above.

**Units with Flying Leads**

Wires are not polarity sensitive.

**CAUTION:**  
 DC solenoids with indicator lights and / or arc suppression coils are polarity sensitive. Use red wire as positive.

**"Special Service" Solenoid (Continuous Duty)**

Special Service Solenoids are designed for use when the solenoid duty cycle is greater than 70% or when energization times are for 10 minutes or longer.

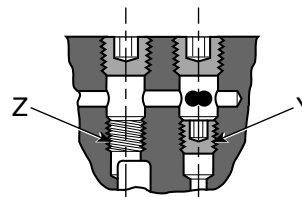
These solenoids should be used when valves are to be held energized for hours, days or weeks... or when extended ambient temperature operation is required. Apply the duty cycle formula to determine if this type of solenoid is required.

**Duty Cycle Formula**

$$\frac{\text{Time Energized}}{\text{Time Energized} + \text{Time Off}} \times 100 = \% \text{ Duty Cycle}$$

If Duty Cycle is 70% or greater, then Special Service (Continuous Duty) Solenoid should be used.

**Pilot Supply Conversion**



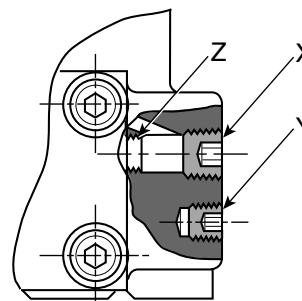
**Base Mounted**

For field conversion to external pilot supply, remove two 1/8" NPTF plugs from top of valve body and move bottom plug from "Y" to "Z".

Replace 1/8" NPTF plugs and connect pilot pressure to the 1/4" NPTF external pilot supply port "X" in subbase.

**Direct Pipe Ported**

For field conversion to external pilot supply, remove and discard 1/4" NPTF plug in external pilot supply port "X". Move stored plug "Y" to location "Z" in bottom of pilot supply port "X". Then connect pilot pressure to port "X" in valve body.

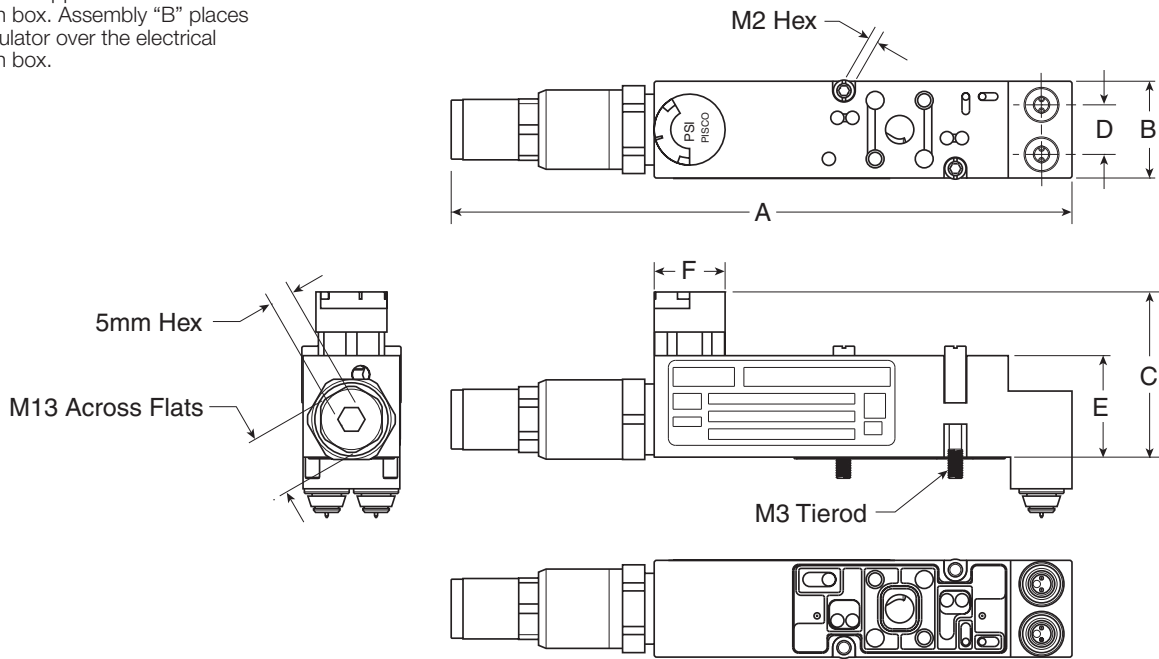


**D**  
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\* Assembly "A" places the regulator on the end opposite the electrical junction box. Assembly "B" places the regulator over the electrical junction box.



**Dimensions - 3/8" Basic Valve**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>
2.56 (65.0)	.75 (19.1)	1.50 (38.1)	2.09 (53.1)	11.28 (286.5)	2.06 (52.3)	1.41 (35.8)	.75 (19.1)	.34 (8.64)	5.00 (127.0)	8.44 (214.4)	9.09 (230.9)	3.19 (81.0)	.61 (15.5)
<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>	<b>U</b>	<b>V</b>	<b>W</b>	<b>X</b>	<b>Y</b>	<b>Z</b>	<b>AA</b>	<b>BB</b>	<b>CC</b>
1.19 (30.2)	1.91 (48.5)	1.09 (27.7)	1.81 (46.0)	3.32 (84.3)	6.64 (168.7)	7.56 (192.0)	3/8", 1/2" or 3/4" NPTF		.39 (9.9)	1" NPTF	1" NPTF	1-1/4" NPTF	3.00 (76.2)
<b>DD</b>	<b>EE</b>	<b>FF</b>	<b>GG</b>	<b>HH</b>	<b>JJ</b>	<b>KK</b>	<b>LL</b>	<b>MM</b>					
1.50 (38.1)	1.24 (31.5)	7.97 (202.4)	4.34 (110.2)	.40 (10.2)	8.53 (216.6)	10.15 (257.8)	5.46 (138.6)	8.80 (223.5)					

Inches (mm)



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**D**

**Subbase & Manual Valves**

**H Series Micro**

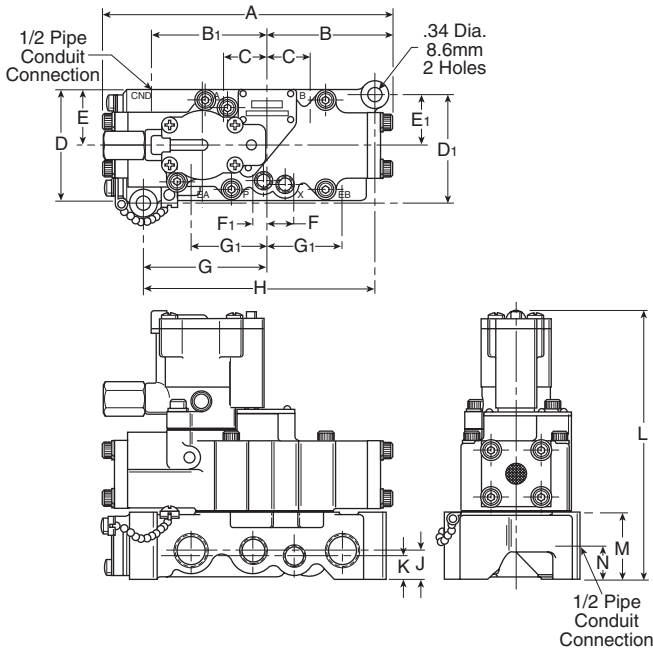
**Moduflex Series**

**H Series ISO**

**Fieldbus Systems**

**DX ISOMAX Series**

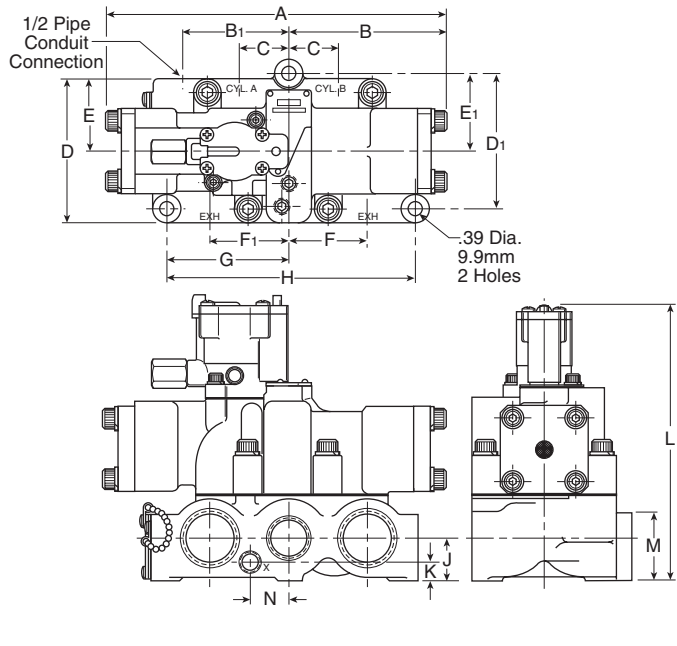
**Valvair II Series**



**L6753 3/8" Dimensions, Single Solenoid**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
7.56 (192)	3.32 (84.3)	2.94 (74.7)	1.12 (28.4)	2.88 (73.2)	2.84 (72.1)	1.44 (36.6)	1.34 (34)	.75 (19.1)
F <sub>1</sub>	G	G <sub>1</sub>	H	J	K	L	M	N
.38 (9.7)	3.16 (80.3)	2.00 (50.8)	6.03 (153.2)	.75 (19.1)	.62 (15.7)	6.93 (176)	1.75 (44.5)	1.00 (25.4)

Inches (mm)

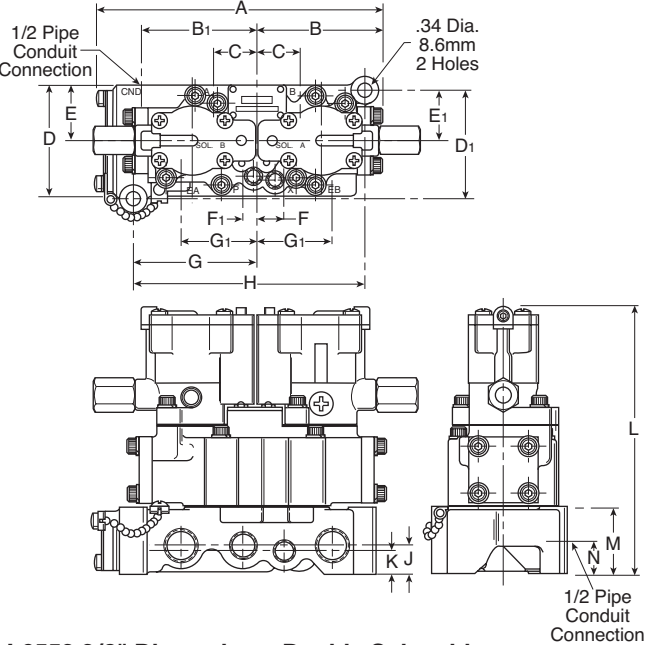


**L6758 1" Dimensions, Single Solenoid**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
10.46 (265.7)	4.75 (120.6)	2.94 (74.7)	3.38 (85.8)	4.56 (115.8)	4.28 (108.7)	2.28 (57.9)	2.44 (62)	2.45 (62.2)
F <sub>1</sub>	G	H	J	K	L	M	N	
2.46 (62.5)	3.81 (96.8)	7.62 (193.5)	1.31 (33.3)	.59 (15)	8.74 (222)	2.09 (53.1)	1.22 (31)	

Inches (mm)

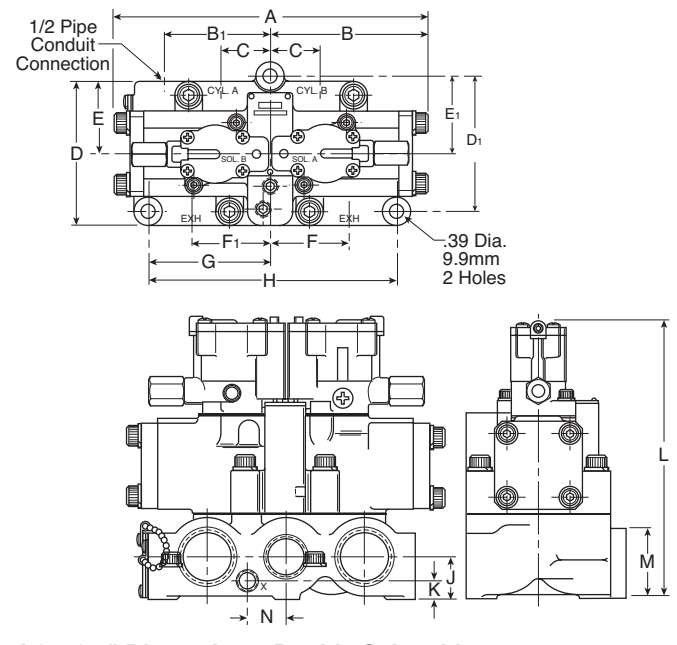
**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Fieldbus Systems  
DX ISOMAX Series  
Valvair II Series



**L6553 3/8" Dimensions, Double Solenoid**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
7.38 (187.5)	3.32 (84.3)	2.94 (74.7)	1.12 (28.4)	2.88 (73.2)	2.84 (72.1)	1.44 (36.6)	1.34 (34)	.75 (19.1)
F <sub>1</sub>	G	G <sub>1</sub>	H	J	K	L	M	N
.38 (9.7)	3.16 (80.3)	2.00 (50.8)	6.03 (153.2)	.75 (19.1)	.62 (15.7)	6.93 (176)	1.75 (44.5)	1.00 (25.4)

Inches (mm)



**L6558 1" Dimensions, Double Solenoid**

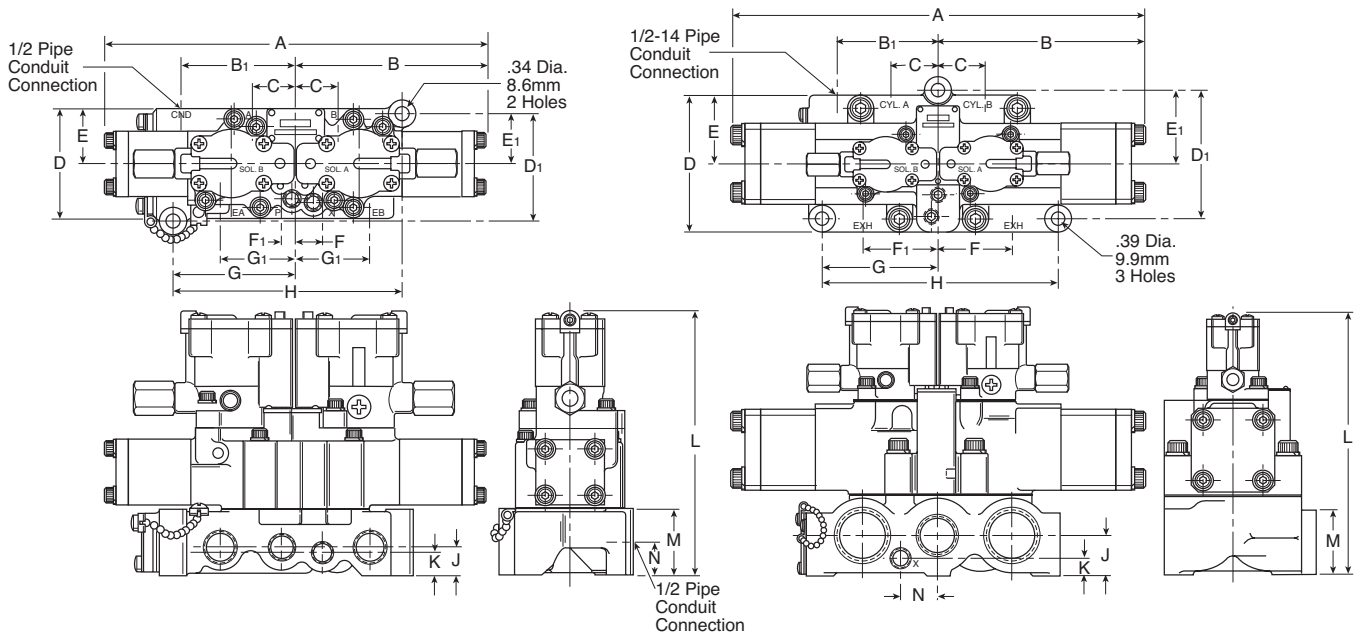
A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
9.50 (241.3)	4.75 (120.6)	3.38 (85.8)	1.53 (38.9)	4.56 (115.8)	4.28 (108.7)	2.28 (57.9)	2.44 (62)	2.45 (62.2)
F <sub>1</sub>	G	H	J	K	L	M	N	
2.46 (62.5)	3.81 (96.8)	7.62 (193.5)	1.31 (33.3)	.59 (15)	8.74 (222)	2.09 (53.1)	1.22 (31)	

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)





**L6653 3/8" Dimensions, 3-Position, Double Solenoid**

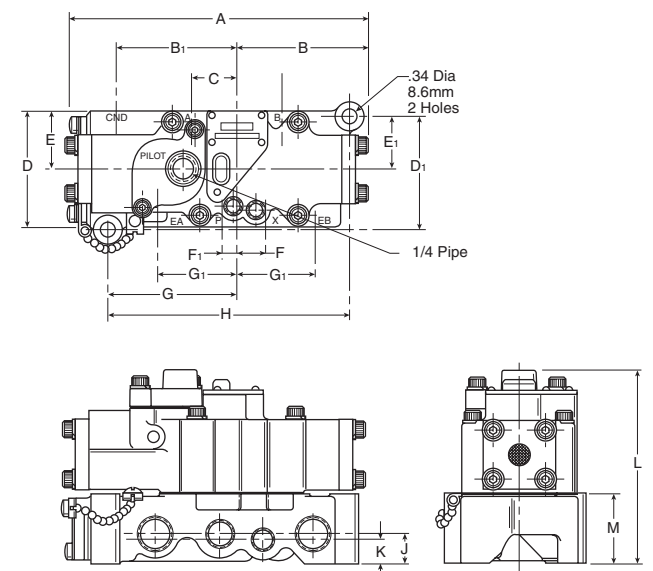
A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
9.64 (244.8)	4.82 (122.4)	2.94 (74.7)	1.12 (28.4)	2.88 (73.2)	2.84 (72.1)	1.44 (36.6)	1.34 (34)	.75 (19.1)
F <sub>1</sub>	G	G <sub>1</sub>	H	J	K	L	M	
.38 (9.7)	3.16 (80.3)	2.00 (50.8)	6.03 (153.2)	.75 (19.1)	.62 (15.7)	6.93 (176)	1.00 (25.4)	

Inches (mm)

**L6658 1" Dimensions, 3-Position, Double Solenoid**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
13.62 (345.9)	6.81 (173)	3.38 (85.8)	1.53 (38.9)	4.56 (115.8)	4.28 (108.7)	2.28 (57.9)	2.44 (62)	2.45 (62.2)
F <sub>1</sub>	G	H	J	K	L	M	N	
2.46 (62.5)	3.81 (96.8)	7.62 (193.5)	1.31 (33.3)	.59 (15)	8.74 (222)	2.09 (53.1)	1.22 (31)	

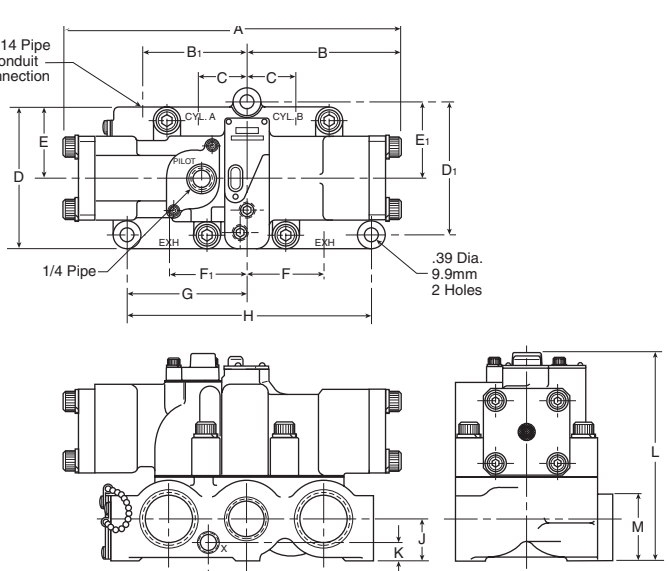
Inches (mm)



**L6743 3/8" Dimensions, Single Remote Pilot**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
7.56 (192)	3.32 (84.3)	2.94 (74.7)	1.12 (28.4)	2.88 (73.2)	2.84 (72.1)	1.44 (36.6)	1.34 (34)	.75 (19.1)
F <sub>1</sub>	G	G <sub>1</sub>	H	J	K	L	M	
.38 (9.7)	3.16 (80.3)	2.00 (50.8)	6.03 (153.2)	.75 (19.1)	.62 (15.7)	4.76 (120.9)	1.75 (44.5)	

Inches (mm)



**L6748 1" Dimensions, Single Remote Pilot**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
10.46 (265.7)	4.75 (120.6)	3.38 (85.8)	1.53 (38.9)	4.56 (115.8)	4.28 (108.7)	2.28 (57.9)	2.44 (62)	2.45 (62.2)
F <sub>1</sub>	G	H	J	K	L	M	N	
2.46 (62.5)	3.81 (96.8)	7.62 (193.5)	1.31 (33.3)	.59 (15)	6.57 (166.9)	2.09 (53.1)	1.22 (31)	

Inches (mm)

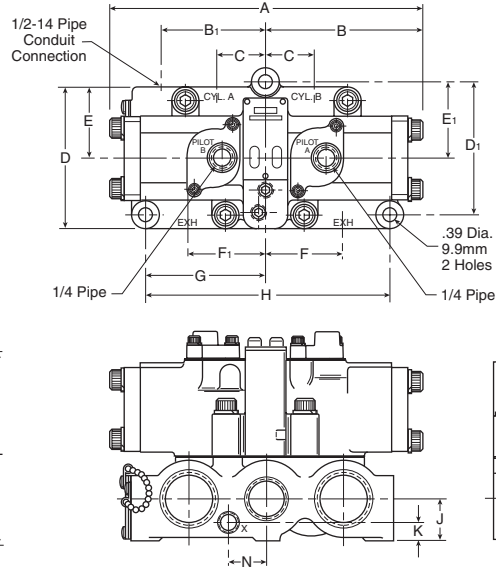
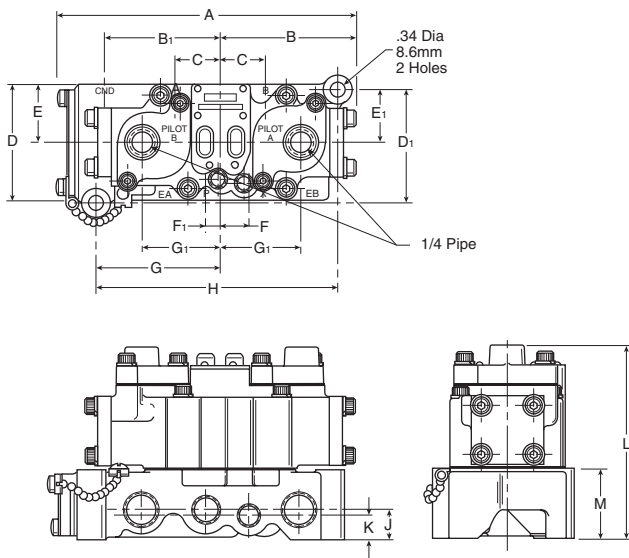


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**D**  
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 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series



**L6543 3/8" Dimensions, Double Remote Pilot**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
7.56 (192)	3.32 (84.3)	2.94 (74.7)	1.12 (28.4)	2.88 (73.2)	2.84 (72.1)	1.44 (36.6)	1.34 (34)	.75 (19.1)
F <sub>1</sub>	G	G <sub>1</sub>	H	J	K	L	M	
.38 (9.7)	3.16 (80.3)	2.00 (50.8)	6.03 (153.2)	.75 (19.1)	.62 (15.7)	4.76 (120.9)	1.75 (44.5)	

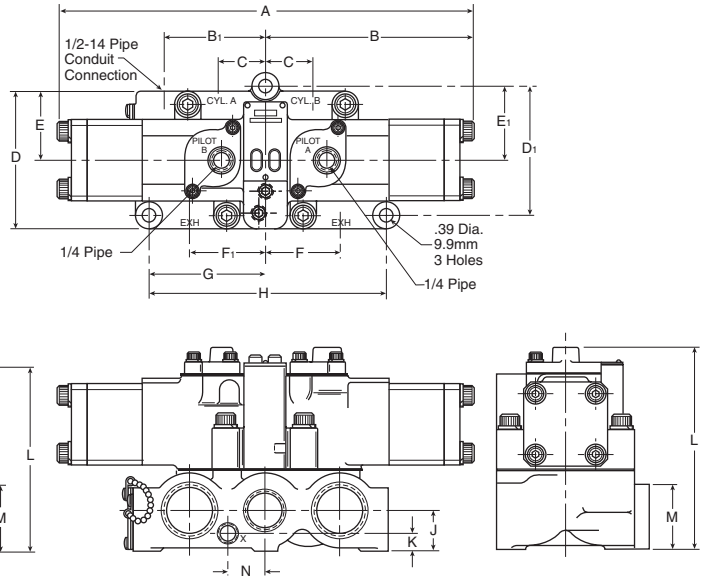
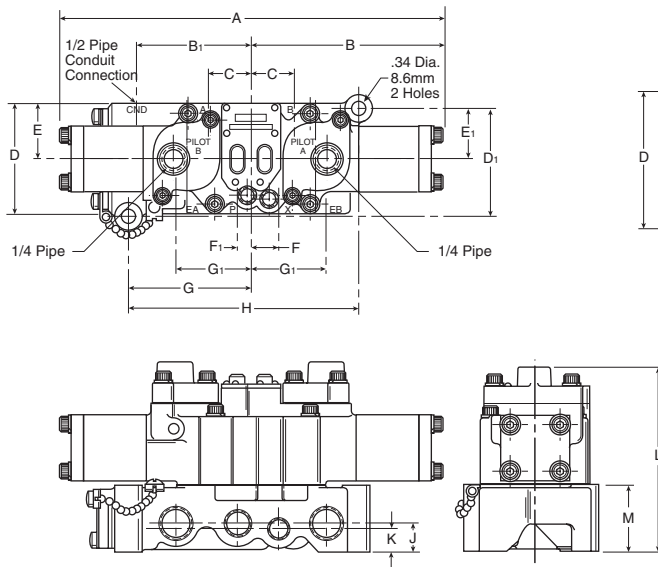
Inches (mm)

**L6548 1" Dimensions, Double Remote Pilot**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
9.50 (241.3)	4.75 (120.6)	3.38 (85.8)	1.53 (38.9)	4.56 (115.8)	4.28 (108.7)	2.28 (57.9)	2.44 (62)	2.45 (62.2)
F <sub>1</sub>	G	H	J	K	L	M	N	
2.46 (62.5)	3.81 (96.8)	7.62 (193.5)	1.31 (33.3)	.59 (15)	6.57 (166.9)	2.09 (53.1)	1.22 (31)	

Inches (mm)

**D**  
**Subbase & Manual Valves**  
**H Series Micro**  
**Modulflex Series**  
**H Series ISO**  
**Fieldbus Systems**  
**DX ISOMAX Series**  
**Valvair II Series**



**L6643 3/8" Dimensions, 3-Position, Remote Pilot**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
9.64 (244.8)	4.82 (122.4)	2.94 (74.7)	1.12 (28.4)	2.88 (73.2)	2.84 (72.1)	1.44 (36.6)	1.34 (34)	.75 (19.1)
F <sub>1</sub>	G	G <sub>1</sub>	H	J	K	L	M	
.38 (9.7)	3.16 (80.3)	2.00 (50.8)	6.03 (153.2)	.75 (19.1)	.62 (15.7)	4.76 (120.9)	1.75 (44.5)	

Inches (mm)

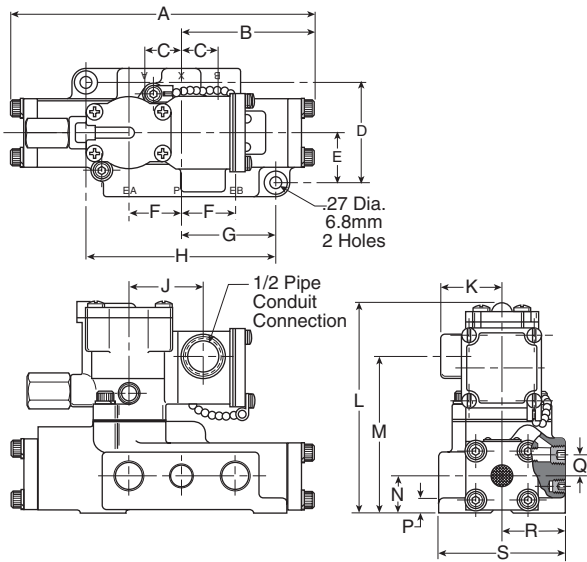
**L6648 1" Dimensions, 3-Position, Remote Pilot**

A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
13.62 (345.9)	6.81 (173)	3.38 (85.8)	1.53 (38.9)	4.56 (115.8)	4.28 (108.7)	2.28 (57.9)	2.44 (62)	2.45 (62.2)
F <sub>1</sub>	G	H	J	K	L	M	N	
2.46 (62.5)	3.81 (96.8)	7.62 (193.5)	1.31 (33.3)	.59 (15)	6.57 (166.8)	2.09 (53.1)	1.22 (31)	

Inches (mm)



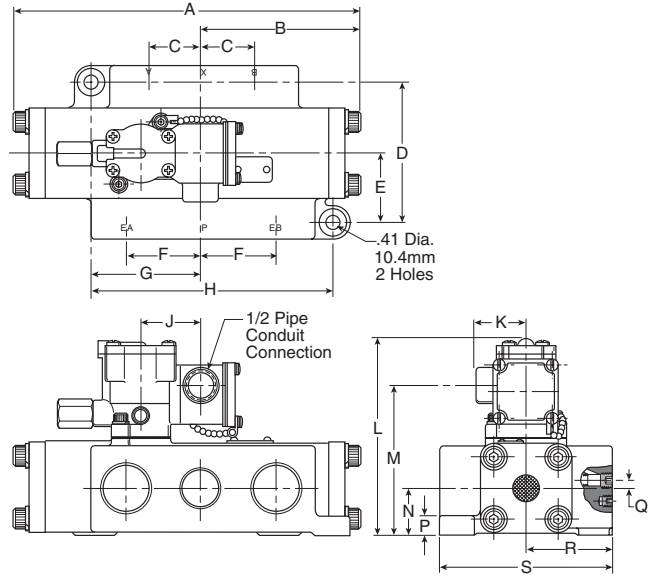
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**L705 3/8" Dimensions, Single Solenoid**

A	B	C	D	E	F	G	H	J
7.56	3.32	.90	2.56	1.28	1.33	2.34	4.69	1.82
(192)	(84.3)	(22.9)	(65)	(32.5)	(33.8)	(59.4)	(119.1)	(46.2)
K	L	M	N	P	Q	R	S	
1.50	5.35	3.91	.94	.38	.53	1.62	3.25	
(38.1)	(135.9)	(99.3)	(23.9)	(9.7)	(13.5)	(41.1)	(82.6)	

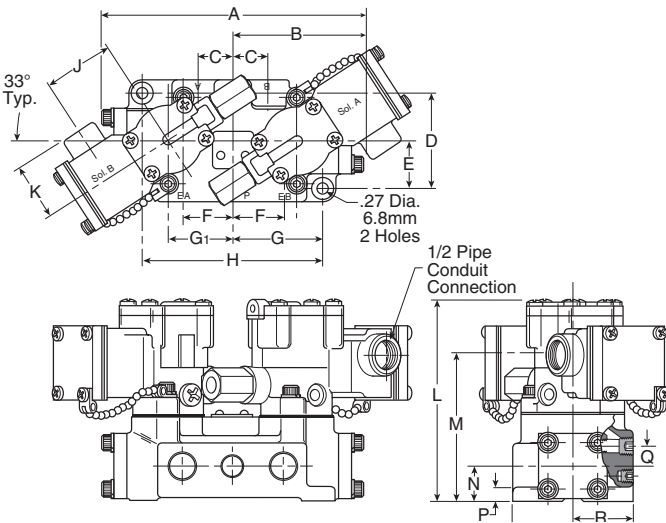
Inches (mm)



**L705 1" Dimensions, Single Solenoid**

A	B	C	D	E	F	G	H	J
10.46	4.75	1.62	4.25	2.12	2.19	3.44	7.44	1.82
(265.7)	(120.6)	(41.1)	(108)	(53.8)	(55.6)	(87.4)	(189)	(46.2)
K	L	M	N	P	Q	R	S	
1.50	6.44	4.95	1.50	.69	.20	2.62	5.25	
(38.1)	(163.6)	(125.7)	(38.1)	(17.5)	(5.1)	(66.5)	(133.4)	

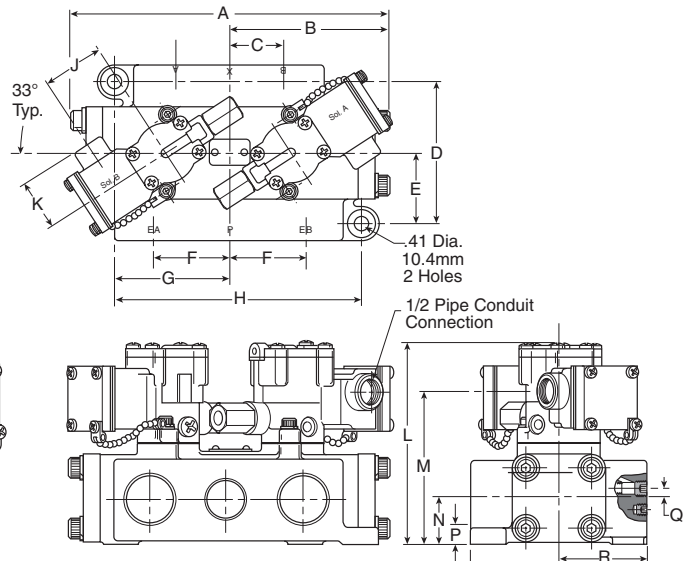
Inches (mm)



**L685 3/8" Dimensions, Double Solenoid**

A	B	C	D	E	F	G	G <sub>1</sub>	H
7.56	3.32	.90	2.56	1.28	1.33	2.34	1.66	4.69
(192)	(84.3)	(22.9)	(65)	(32.5)	(33.8)	(59.4)	(42.4)	(119.1)
J	K	L	M	N	P	Q	R	S
1.82	1.50	5.35	3.91	.94	.38	.53	1.62	3.25
(46.2)	(38.1)	(135.9)	(99.3)	(23.9)	(9.7)	(13.5)	(41.1)	(82.6)

Inches (mm)



**L685 1" Dimensions, Double Solenoid**

A	B	C	D	E	F	G	H	J
9.50	4.75	1.62	4.25	2.12	2.19	3.44	7.44	1.82
(241.3)	(120.6)	(41.1)	(108)	(53.8)	(55.6)	(87.4)	(189)	(46.2)
K	L	M	N	P	Q	R	S	
1.50	6.44	4.95	1.50	.69	.20	2.62	5.25	
(38.1)	(163.6)	(125.7)	(38.1)	(17.5)	(5.1)	(66.5)	(133.4)	

Inches (mm)



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**D**

**Subbase & Manual Valves**

**H Series Micro**

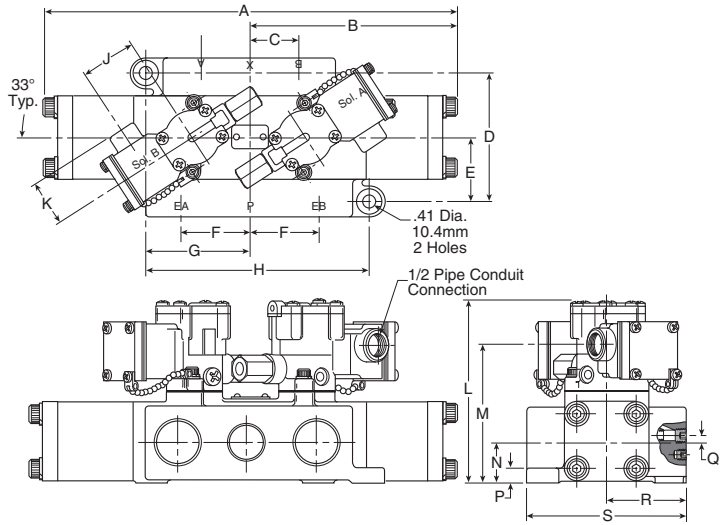
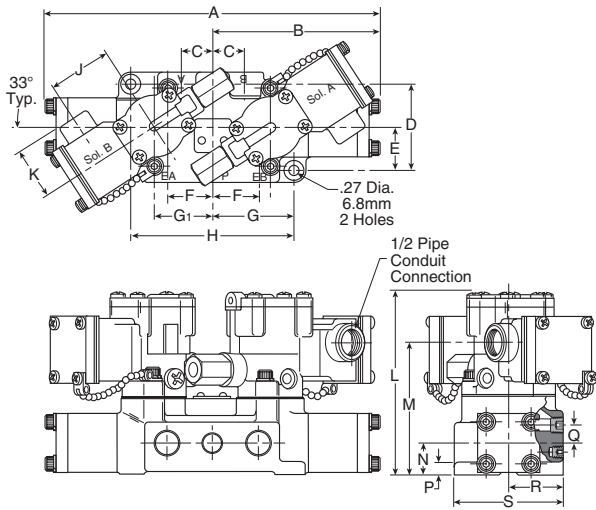
**Modulflex Series**

**H Series ISO**

**Fieldbus Systems**

**DX ISOMAX Series**

**Valvair II Series**



**L695 3/8" Dimensions, 3-Position Double Solenoid**

A	B	C	D	E	F	G	G <sub>1</sub>	H
9.64 (244.8)	4.82 (122.4)	.90 (22.9)	2.56 (65)	1.28 (32.5)	1.33 (33.8)	2.34 (59.4)	1.66 (42.4)	4.69 (119.1)
J	K	L	M	N	P	Q	R	S
1.82 (46.2)	1.50 (38.1)	5.35 (135.9)	3.91 (99.3)	.94 (23.9)	.38 (9.7)	.53 (13.5)	1.62 (41.1)	3.25 (82.6)

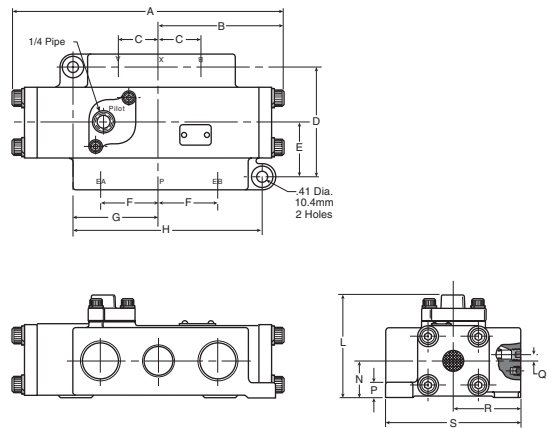
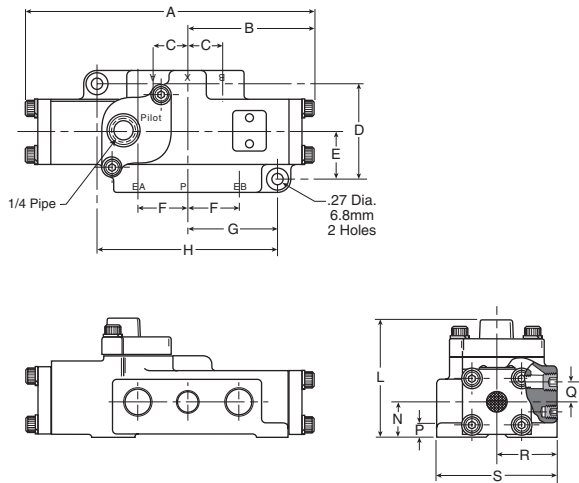
Inches (mm)

**L695 1" Dimensions, 3-Position, Double Solenoid**

A	B	C	D	E	F	G	H	J
13.63 (346.2)	6.81 (173)	1.62 (41.1)	4.25 (108)	2.12 (53.8)	2.19 (55.6)	3.44 (87.4)	7.44 (189)	1.82 (46.2)
K	L	M	N	P	Q	R	S	
1.50 (38.1)	6.44 (163.6)	4.95 (125.7)	1.50 (38.1)	.69 (17.5)	.20 (5.1)	2.62 (66.5)	5.25 (133.4)	

Inches (mm)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Fieldbus Systems  
 DX ISOMAX Series  
 Valvair II Series



**L704 3/8" Dimensions, Single Remote Pilot**

A	B	C	D	E	F	G	H	L
7.56 (192)	3.32 (84.3)	.90 (22.9)	2.56 (65)	1.28 (32.5)	1.33 (33.8)	2.34 (59.4)	4.69 (119.1)	3.18 (80.8)
N	P	Q	R	S				
.94 (23.9)	.38 (9.7)	.53 (13.5)	1.62 (41.1)	3.25 (82.6)				

Inches (mm)

**L704 1" Dimensions, Single Remote Pilot**

A	B	C	D	E	F	G	H	L
10.46 (265.7)	4.75 (120.6)	1.62 (41.1)	4.25 (108)	2.12 (53.8)	2.19 (55.6)	3.44 (87.4)	7.44 (189)	4.09 (103.9)
N	P	Q	R	S				
1.50 (38.1)	.69 (17.5)	.20 (5.1)	2.62 (66.5)	5.25 (133.4)				

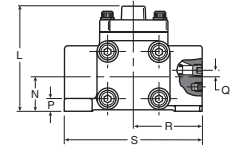
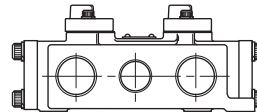
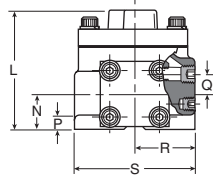
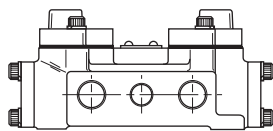
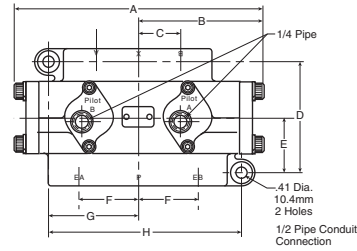
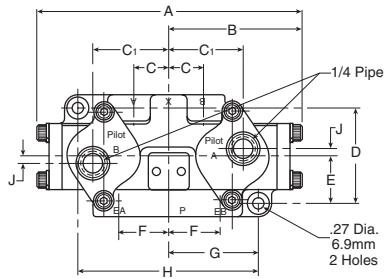
Inches (mm)



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**L684 3/8" Dimensions, Double Remote Pilot**

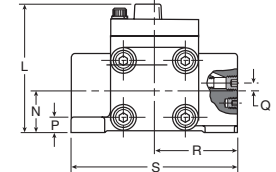
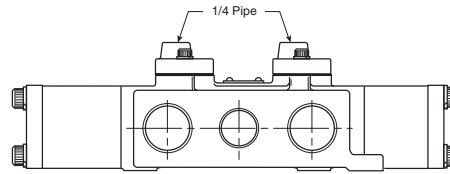
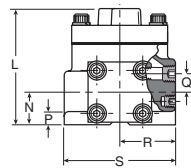
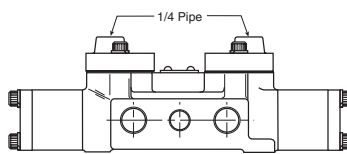
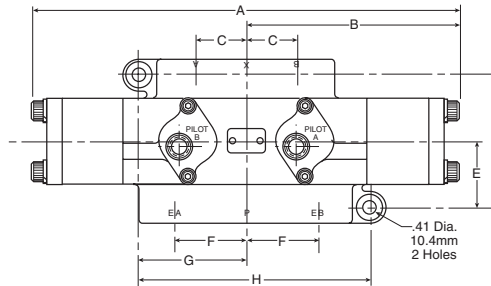
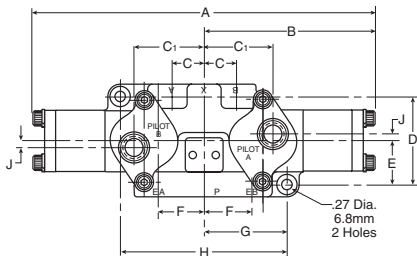
A	B	C	C <sub>1</sub>	D	E	F	G	H
6.64	3.32	.90	1.98	2.56	1.28	1.33	2.34	4.69
(168.7)	(84.3)	(22.9)	(50.3)	(65)	(32.5)	(33.8)	(59.4)	(119.1)
J	L	N	P	Q	R	S		
.22	3.05	.94	.38	.53	1.62	3.25		
(5.6)	(77.5)	(23.9)	(9.7)	(13.5)	(41.1)	(82.6)		

Inches (mm)

**L684 1" Dimensions, Double Remote Pilot**

A	B	C	D	E	F	G	H	L
9.50	4.75	1.62	4.25	2.12	2.19	3.44	7.44	4.09
(241.3)	(120.6)	(41.1)	(108)	(53.8)	(55.6)	(87.4)	(189)	(103.9)
N	P	Q	R	S				
1.50	.69	.20	2.62	5.25				
(38.1)	(17.5)	(5.1)	(66.5)	(133.4)				

Inches (mm)



**L694 3/8" Dimensions, 3-Position, Double Remote Pilot**

A	B	C	C <sub>1</sub>	D	E	F	G	H
9.64	4.82	.90	1.98	2.56	1.28	1.33	2.34	4.69
(244.8)	(122.4)	(22.9)	(50.3)	(65)	(32.5)	(33.8)	(59.4)	(119.1)
J	L	N	P	Q	R	S		
.22	3.05	.94	.38	.53	1.62	3.25		
(5.6)	(77.5)	(23.9)	(9.7)	(13.5)	(41.1)	(82.6)		

Inches (mm)

**L694 1" Dimensions, 3-Position, Double Remote Pilot**

A	B	C	D	E	F	G	H	L
13.63	6.81	1.62	4.25	2.12	2.19	3.44	7.44	6.44
(346.2)	(173)	(41.1)	(108)	(53.8)	(55.6)	(87.4)	(189)	(163.6)
N	P	Q	R	S				
1.50	.69	.20	2.62	5.25				
(38.1)	(17.5)	(5.1)	(66.5)	(133.4)				

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D301

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Fieldbus Systems

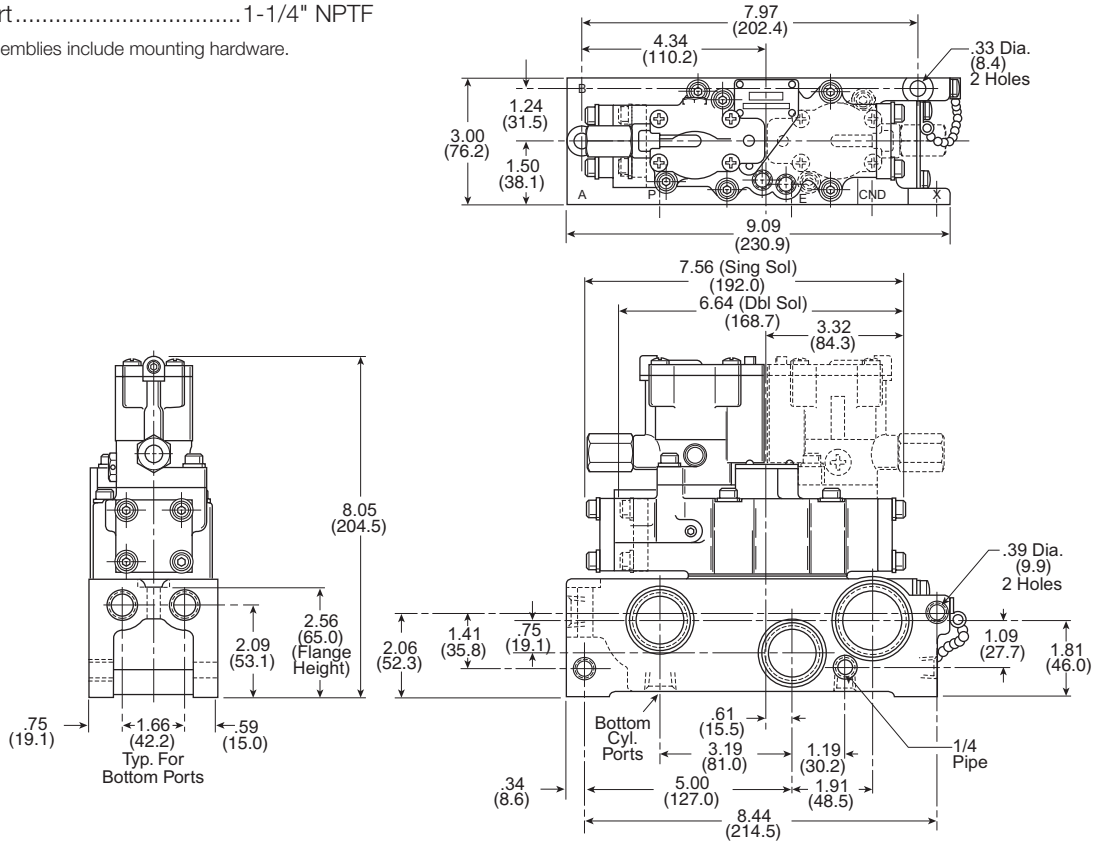
DX ISOMAX Series

Valvair II Series

**Plug-in Manifold, 3/8" Basic**

- K142230 .....Cylinder ports 3/8" NPTF
- K142231 .....Cylinder ports 1/2" NPTF
- K142270 .....Cylinder ports 3/4" NPTF
- Exhaust port..... 1" NPTF
- Inlet port..... 1" NPTF
- Conduit port..... 1-1/4" NPTF

**Note:** Manifold assemblies include mounting hardware.



**D**

Subbase & Manual  
Valves

H Series  
Micro

Modulflex  
Series

H Series  
ISO

Fieldbus  
Systems

DX ISOMAX  
Series

Valvair II  
Series



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D302

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)



**Pneumatic Valve Products**  
**Manual / Mechanical Series**



**Directair 2 / Directair 4 Series**

Features	E2
Common Part Numbers / Ordering Information	E3-E6
Technical Data	E7-E8
Dimensional Data	E9-E13



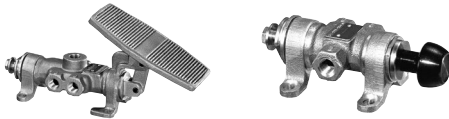
**Viking Xtreme Lever Series**

Features	E14
Common Part Numbers / Ordering Information	E15-E16
Accessories	E17
Dimensional Data	E17a-E20



**42 Lever / Pedal Series**

Features	E19
Common Part Numbers / Ordering Information	E20
Dimensional Data	E21



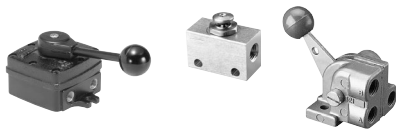
**MO Series**

Features	E22
Common Part Numbers / Ordering Information	E23-E25
Accessories	E26
Technical Data	E27-E34
Dimensional Data	E35-E49



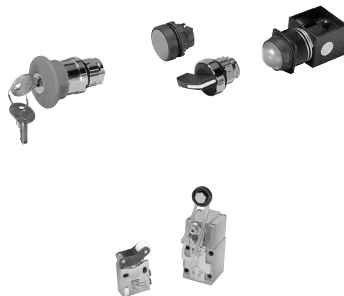
**Safety**

Lockout Valves	E50-E57
Two Hand Control	E58-E59



**Brass Poppet / Sliding Seal**

PL / VL Series	E60-E61
HV Series	E62
Sliding Seal Valves	E63
Button Operated Valves	E64
Hand / Cam Operated Valves	E65
Bleed Valves	E66



**Control Panel Products**

Features	E67
Accessories	E68-E71
Technical / Dimensional Data	E72-E74

**Sensing Products, Limit Switches**

Features	E75
Technical / Dimensional Data	E79-E83

Features

**Directair 2 & 4 Series**

**Directair 2, 1/8" valves**  
Poppet style – .17 Cv

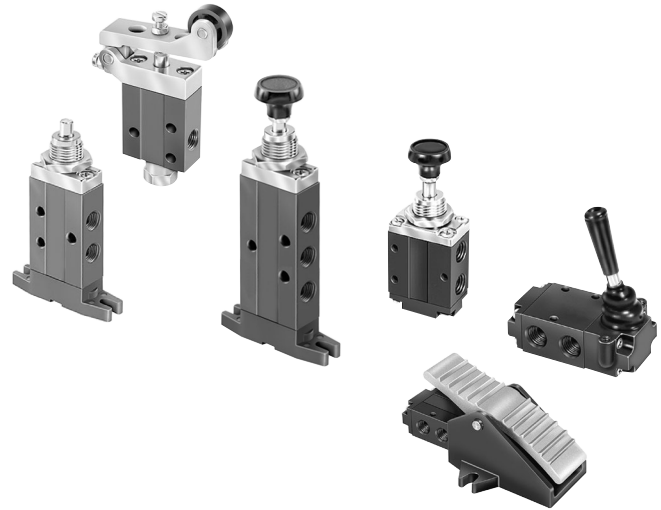
- Economical
- 3-way normally closed function

**Directair 2, 1/8" valves**  
Packed bore style – .20 Cv

- Stainless steel spool
- Fluorocarbon o-rings
- 3-way & 4-way

**Directair 4, 1/4" valves**  
Packed bore style – .83 Cv

- Stainless steel spool
- Fluorocarbon o-rings
- 3-way & 4-way



**Material specifications**

Body and operator housings	Aluminum extrusion
Bushings and pilot piston	Brass
Dynamic seals	Fluorocarbon
Operator o-rings, u-cups	Buna (nitrile)
Poppet ball	Nylon
Spacers - Directair 2	Aluminum
Spacers - Directair 4	Zinc die cast
Spool	Stainless steel

**Flow Rating (Cv)**

Flow Path	Direct Pipe Spool, 1/8" Ports	Direct Pipe Poppet, 1/8" Ports
<b>Directair 2</b>		
1 → 2	.199	.125
1 → 4	.191	—
2 → 3	.192	.215
4 → 5	.212	—
Avg.	.199	N/A
<b>Directair 4</b>		
1 → 2	.82	.64
1 → 4	.84	.66
2 → 3	.84	.63
4 → 5	.83	.63
Avg.	.83	.64

**Operating information**

Operating pressure	Vacuum to 150 PSI (28 inHg to 1035 kPa)*
Temperature range	32°F to 175°F (0°C to 80°C)
* Poppet valves cannot be used for vacuum. Minimum operating pressure = 0 PSIG.	

**CAUTION:**  
If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.

**Lubrication**

For maximum service life use clean, lubricated air. Valves are shipped pre-lubricated and can be operated without additional lubrication with reduced service life.

**Suggested Lubricant**

F442 Oil

**Mechanically operated actuating forces in lbs. 1/4" Directair 4 valves**

	2-Position Spring Return	2-Position Manual Return	3-Position Spring Return	3-Position Manual Return
Button Actuator	13.0	2.0	13.0	N/A
Roller Actuator	13.0	N/A	N/A	N/A
Lever Actuator	4.0	2.0	4.0	2.5

Notes: N/A = Not Applicable  
All valves are at 100 PSIG inlet pressure to the valve.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

M0 Series

Safety




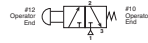
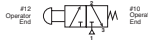

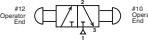
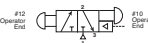
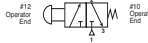

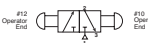

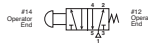






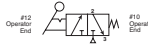
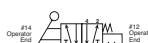
Manual / Mechanical Valves

Brass Poppet / Sliding Seal

Control Panel Products

Sensing

**3-Way & 4-Way Valves**

	Symbol	Port Size	Cv	Description	Valve Type	Part Number	
		1/8"	.17	3-Way, Spring Return	Poppet	<b>404411000</b>	
		1/8"	.20	3-Way, Spring Return	Spool	<b>414411000</b>	
		1/8"	.20	3-Way, Spring Return, Foot Mounted	Spool	<b>414421000</b>	
		1/8"	.20	3-Way, Pilot Return	Spool	<b>414451000</b>	
		1/8"	.20	3-Way, Manual Return	Spool	<b>414931000</b>	
		1/8"	.20	3-Way, Manual Return, Foot Mounted	Spool	<b>414941000</b>	
		1/8"	.20	3-Way, Manual Or Pilot Return	Spool	<b>414951000</b>	
		1/4"	.83	3-Way, Spring Return	Spool	<b>524411000</b>	
		1/4"	.83	3-Way, Pilot Return	Spool	<b>524451000</b>	
		1/4"	.83	3-Way, Manual Return	Spool	<b>524431000</b>	
			1/8"	.20	4-Way, Spring Return	Spool	<b>410411000</b>
			1/8"	.20	4-Way, Spring Return, Foot Mounted	Spool	<b>410421000</b>
		1/8"	.20	4-Way, Pilot Return	Spool	<b>410451000</b>	
		1/8"	.20	4-Way, Manual Return	Spool	<b>410931000</b>	
		1/8"	.20	4-Way, Manual Return, Foot Mounted	Spool	<b>410941000</b>	
		1/8"	.20	4-Way, Manual Or Pilot Return	Spool	<b>410951000</b>	
		1/4"	.83	4-Way, Spring Return	Spool	<b>520411000</b>	
		1/4"	.83	4-Way, Pilot Return	Spool	<b>520451000</b>	
		1/4"	.83	4-Way, Manual Return	Spool	<b>520431000</b>	
			1/8"	.17	3-Way, Spring Return	Poppet	<b>404811000</b>
			1/8"	.20	3-Way, Spring Return	Spool	<b>414811000</b>
			1/8"	.20	3-Way, Spring Return, Foot Mounted	Spool	<b>414821000</b>
		1/8"	.20	4-Way, Spring Return	Spool	<b>410811000</b>	
		1/8"	.20	4-Way, Spring Return, Foot Mounted	Spool	<b>410821000</b>	

Directair 2 & 4 Series
Viking Xtreme Lever Series
42 Lever / Pedal Series
M0 Series
Safety
<b>E</b>
Manual / Mechanical Valves
Brass Poppet / Sliding Seal
Control Panel Products
Sensing


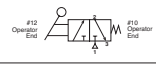
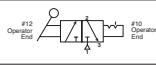
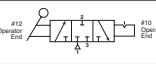
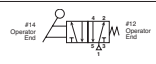
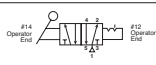
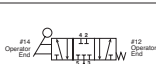
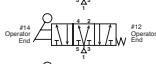
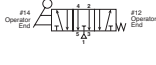


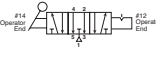

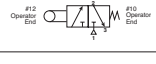

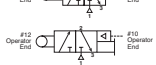
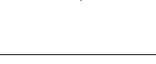
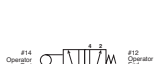
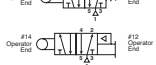
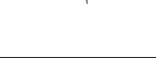

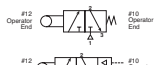
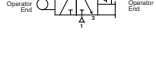


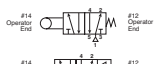

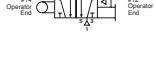



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**Common Part Numbers**

**Directair Valve Series**


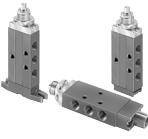
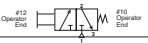
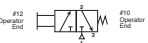
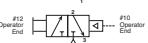
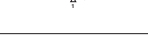
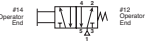




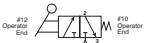
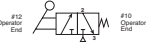
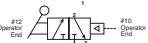


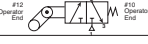
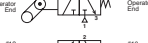


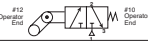

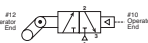





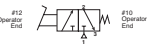
**3-Way & 4-Way Valves**

	Symbol	Port Size	Cv	Description	Valve Type	Part Number	
<b>Lever Operated</b> 		1/4"	.83	3-Way, Spring Return	Spool	<b>524811000</b>	
		1/4"	.83	3-Way, Manual Return	Spool	<b>524831000</b>	
		1/4"	.83	3-Way, 3-Position Detented, All Ports Blocked	Spool	<b>523831000</b>	
		1/4"	.83	4-Way, Spring Return	Spool	<b>520811000</b>	
		1/4"	.83	4-Way, Manual Return	Spool	<b>520831000</b>	
		1/4"	.83	4-Way, Spring Centered, Closed Center	Spool	<b>521811000</b>	
		1/4"	.83	4-Way, Spring Centered, Pressure Center	Spool	<b>522811000</b>	
		1/4"	.83	4-Way, Spring Centered, Exhaust Center	Spool	<b>529811000</b>	
		1/4"	.83	4-Way, Detented, Closed Center	Spool	<b>521831000</b>	
		1/4"	.83	4-Way, Detented, Pressure Center	Spool	<b>522831000</b>	
		1/4"	.83	4-Way, Detented, Exhaust Center	Spool	<b>529831000</b>	
	<b>Roller Operated</b> 		1/8"	.20	3-Way, Spring Return	Poppet	<b>404211000</b>
		1/8"	.20	3-Way, Spring Return	Spool	<b>414211000</b>	
		1/8"	.20	3-Way, Spring Return, Foot Mounted	Spool	<b>414221000</b>	
		1/8"	.20	3-Way, Pilot Return	Spool	<b>414251000</b>	
		1/8"	.20	4-Way, Spring Return	Spool	<b>410211000</b>	
		1/8"	.20	4-Way, Spring Return, Foot Mounted	Spool	<b>410221000</b>	
		1/8"	.20	4-Way, Pilot Return	Spool	<b>410251000</b>	
<b>Roller Operated</b> 			1/4"	.83	3-Way, Spring Return, Delrin Roller	Spool	<b>524211000</b>
			1/4"	.83	3-Way, Pilot Return, Delrin Roller	Spool	<b>524251000</b>
			1/4"	.83	3-Way, Spring Return, Steel Roller	Spool	<b>524A11000</b>
			1/4"	.83	3-Way, Pilot Return, Steel Roller	Spool	<b>524A51000</b>
			1/4"	.83	4-Way, Spring Return, Delrin Roller	Spool	<b>520211000</b>
		1/4"	.83	4-Way Pilot Return, Delrin Roller	Spool	<b>520251000</b>	
<b>Brass Poppet / Sliding Seal</b> 		1/4"	.83	4-Way, Spring Return, Steel Roller	Spool	<b>520A11000</b>	
		1/4"	.83	4-Way, Pilot Return, Steel Roller	Spool	<b>520A51000</b>	



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**3-Way & 4-Way Valves**

	Symbol	Port Size	Cv	Description	Valve Type	Part Number	
<b>Plunger Operated</b>  		1/8"	.17	3-Way, Spring Return	Poppet	<b>404111000</b>	
		1/8"	.20	3-Way, Spring Return	Spool	<b>414111000</b>	
		1/8"	.20	3-Way, Spring Return, Foot Mounted	Spool	<b>414121000</b>	
		1/8"	.20	3-Way, Pilot Return	Spool	<b>414151000</b>	
		1/8"	.17	4-Way, Spring Return	Spool	<b>410111000</b>	
		1/8"	.20	4-Way, Spring Return, Foot Mounted	Spool	<b>410121000</b>	
		1/8"	.20	4-Way, Pilot Return	Spool	<b>410151000</b>	
	<b>Hand Lever Operated</b>  		1/8"	.17	3-Way, Spring Return	Poppet	<b>404711000</b>
			1/8"	.20	3-Way, Spring Return	Spool	<b>414711000</b>
		1/8"	.20	3-Way, Spring Return, Foot Mounted	Spool	<b>414721000</b>	
		1/8"	.20	3-Way, Pilot Return	Spool	<b>414751000</b>	
		1/8"	.20	4-Way, Spring Return	Spool	<b>410711000</b>	
		1/8"	.20	4-Way, Spring Return, Foot Mounted	Spool	<b>410721000</b>	
		1/8"	.20	4-Way, Pilot Return	Spool	<b>410751000</b>	
<b>One Way Tripper Operated</b>  			1/8"	.17	3-Way, Spring Return	Poppet	<b>404311000</b>
			1/8"	.20	3-Way, Spring Return	Spool	<b>414311000</b>
		1/8"	.20	3-Way, Spring Return, Foot Mounted	Spool	<b>414321000</b>	
		1/8"	.20	3-Way, Pilot Return	Spool	<b>414351000</b>	
		1/8"	.20	4-Way, Spring Return	Spool	<b>414311000</b>	
		1/8"	.20	4-Way, Spring Return, Foot Mounted	Spool	<b>414321000</b>	
		1/8"	.20	4-Way, Pilot Return	Spool	<b>414351000</b>	
	<b>Pedal Operated</b> 		1/4"	.83	3-Way, Spring Return	Spool	<b>524711000</b>
			1/4"	.83	3-Way, Pilot Return	Spool	<b>524751000</b>
		1/4"	.83	4-Way, Spring Return	Spool	<b>520711000</b>	
		1/4"	.83	4-Way, Pilot Return	Spool	<b>520751000</b>	
<b>Treadle Operated</b> 		1/4"	.83	3-Way, Treadle Operated, Detented	Spool	<b>524931000</b>	
		1/4"	.83	4-Way, Treadle Operated, Detented	Spool	<b>520931000</b>	

**CAUTION:**  
 This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.

**CAUTION:**  
 This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series
Viking Xtreme Lever Series
42 Lever / Pedal Series
M0 Series
Safety
<b>E</b>
Manual / Mechanical Valves
Brass Poppet / Sliding Seal
Control Panel Products
Sensing

Directair 2

41 0 1 1 1 000

Basic Series	
1/8" Port Poppet Valve	40*
1/8" Port Spool Valve	41

\* Only available in Spring Return.

Manual / Mechanical	
000	Standard

Type	
4-Way, 2-Position Valve	0*
3-Way, 2-Position	4

\* N/A with Basic Series 40.

Mounting	
1	Direct Pipe Ported, NPT
K	Direct Pipe Ported, BSPP

Actuation	
Plunger	1
Roller - Delrin	2
One-Way Tripper	3
Button - Spring Return	4
Hand Lever	7
Toggle	8
Button - Push-Pull	9*

\* N/A with Basic Series 40.

Return	
1 <sup>†</sup>	Spring
2 <sup>†</sup>	Spring w/ Foot Mount
3 <sup>†</sup>	None (Manual Return)
4 <sup>†</sup>	None (Manual Return w/ Foot Mount)
5 <sup>†</sup>	Remote Pilot Return

\* Available only with Actuation 9.

<sup>†</sup> N/A with Actuation 8.

Directair 4

52 0 8 1 1 000

Basic Series	
1/4" Port Spool Valve	52

Manual / Mechanical	
000	Standard

Type	
4-Way, 2-Position Valve	0
4-Way, 3-Position, Closed Center	1*
4-Way, 3-Position, Pressure Center	2*
3-Way, 3-Position, Closed Center	3*
3-Way, 2-Position, Normally Closed	4
3-Way, 2-Position, Normally Open	6
4-Way, 3-Position, Exhaust Center	9*

\* Only Available with Actuation 8 Lever.

Mounting	
1	Direct Pipe Ported, NPT
L	Direct Pipe Ported, BSPP

Return	
1 <sup>††</sup>	Spring
3 <sup>†</sup>	None (Manual Return)
5 <sup>†</sup>	Remote Pilot Return

\* N/A with Actuation 8 & 9.

<sup>†</sup> N/A with Actuation 2, 7 or A.

<sup>††</sup> N/A with Actuation 9.

Actuation	
Roller - Delrin	2
Button	4
Pedal	7
Lever	8
Treadle	9
Roller - Metal	A

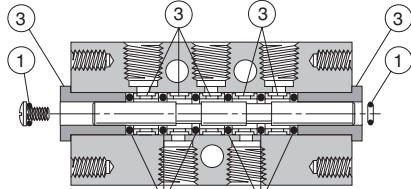


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

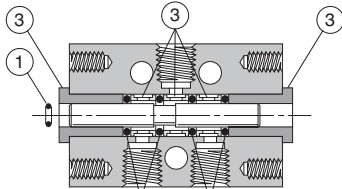


**Service Kits – 1/8 Port Size Valves (DA2)**

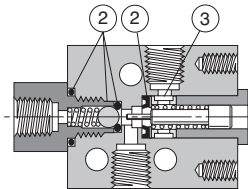
①	Spool Valve Seal Kit (3 & 4-way, direct pipe ported)	<b>410008000</b>
②	Poppet Valve Seal Kit	<b>404118000</b>
③	Body Service Kit	<b>410008005</b>



4-Way Spool



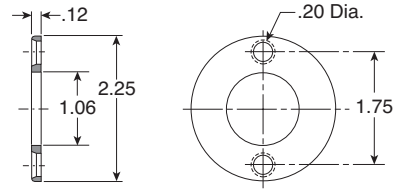
3-Way Spool



3-Way Poppet

**Panel Mounting Kit – No. 520838004**

Available for panel mounting direct pipe ported, lever operated 1/4" Directair 4 Series valves only. Kit includes a flange and two screws.



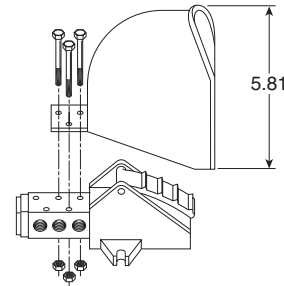
**Pedal Guard Kit – No. 520718001**

Pedal guard meets safety requirements for foot operated valves by protecting pedal from accidental tripping from all angles. Guard is constructed of lightweight aluminum casting for strength and durability. Bolts quickly into place with only three screws without special valve mounting. One model fits any pedal (not treadle) operated 1/4" Directair 4 Series valve.



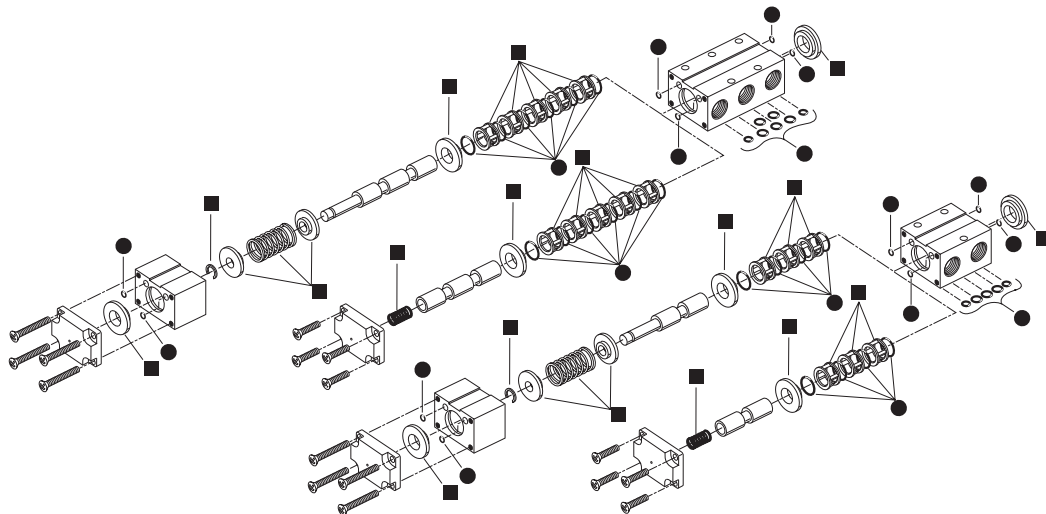
**CAUTION:**

*This valve shall not be used to actuate a punch press.  
 Do not use this valve on punch presses or press brakes.  
 See OSHA 1910.217.*

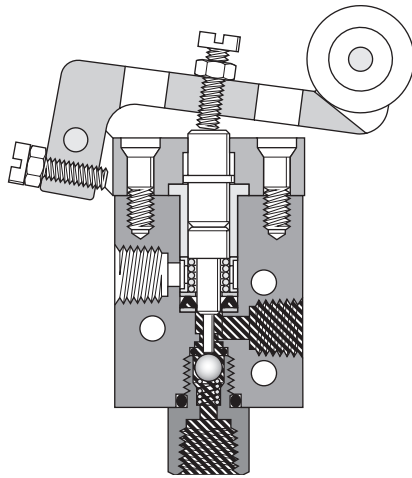


**Service Kits – 1/4 Port Size Valves (DA4)**

●	<b>Valve Seal Kit</b> (Contains all soft seals found in 3 & 4-way bodies and all actuator styles.)	<b>520008050</b>
	All fluorocarbon	<b>520008500</b>
■	<b>Body Service Kit</b> (Contains bushing, springs, retainers and shell from 2 & 3-position, 3 & 4-way bodies.)	<b>520018005</b>



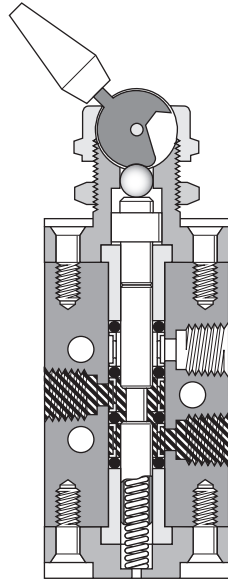
Directair 2 & 4 Series	Viking Xtreme Lever Series	42 Lever / Pedal Series	MO Series	Safety		Manual / Mechanical Valves	Brass Poppet / Sliding Seal	Control Panel Products	Sensing
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**Roller Operated Poppet**



**Button Operated**



**Toggle Operated Spool**



**Lever Operated**



**Treadle Operated**

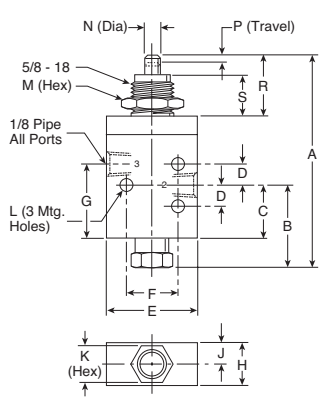
 Pressure     Exhaust



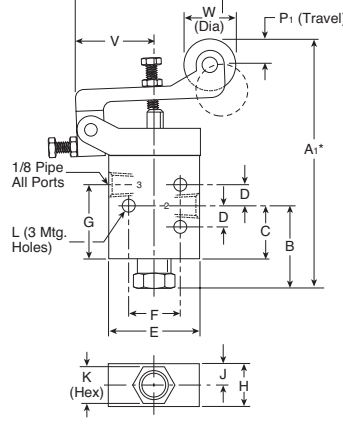
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Plunger, Roller, One-way Tripper & Toggle Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports**

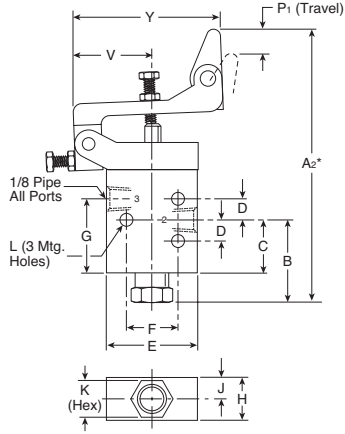
**Plunger Operated**



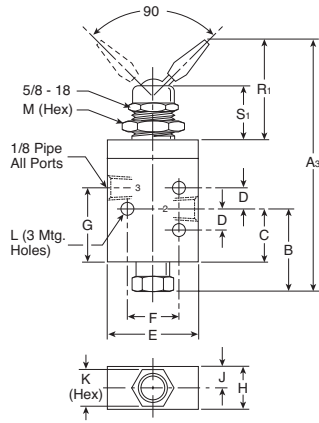
**Roller Operated**



**One-Way Tripper Operated**



**Toggle Operated**



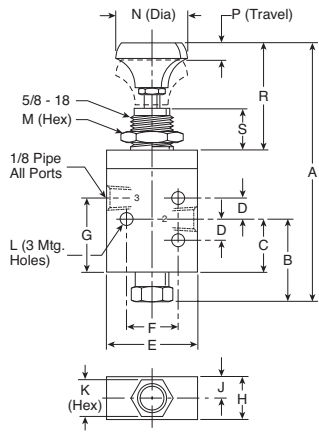
**3-Way, 3-Port, 2-Position**

<b>A</b>	<b>A1*</b>	<b>A2*</b>	<b>A3</b>	<b>B</b>
3.37 (86)	4.21 (107)	4.46 (113)	3.99 (101)	1.03 (26)
<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
.55 (14)	.31 (8)	1.31 (33)	.75 (19)	.90 (23)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>
.62 (16)	.31 (8)	.56 (14)	.19 (5)	.88 (22)
<b>N</b>	<b>P</b>	<b>P1</b>	<b>R</b>	<b>R1</b>
.25 (6)	.17 (4)	.38 (10)	.91 (23)	1.53 (39)
<b>S</b>	<b>S1</b>	<b>U</b>	<b>V</b>	<b>W</b>
.62 (16)	.78 (20)	2.28 (58)	1.19 (30)	.75 (19)
<b>X</b>	<b>Y</b>			
.19 (5)	2.19 (56)			

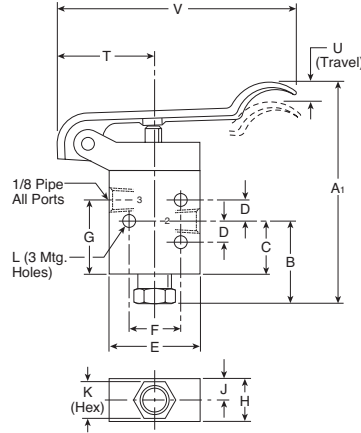
\* Dimensions may be reduced .44" using adjusting screw.  
 Inches (mm)

**Button & Hand Lever Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports**

**Button Operated**



**Hand Lever Operated**



**3-Way, 3-Port, 2-Position**

<b>A</b>	<b>A1</b>	<b>B</b>	<b>C</b>	<b>D</b>
4.13 (105)	3.34 (85)	1.03 (26)	.55 (14)	.31 (8)
<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>
1.31 (33)	.75 (19)	.90 (23)	.62 (16)	.31 (8)
<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>
.56 (14)	.19 (5)	.88 (22)	1.06 (27)	.17 (4)
<b>R</b>	<b>S</b>	<b>T</b>	<b>U</b>	<b>V</b>
1.67 (42)	.63 (16)	1.19 (30)	.53 (13)	3.38 (86)

Inches (mm)



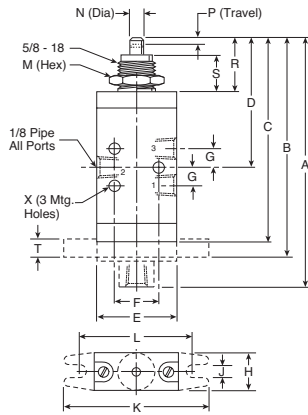
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 M0 Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing

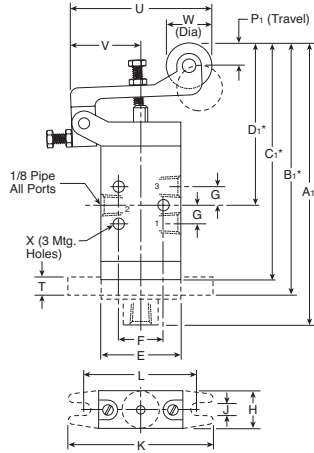
**Dimensional Data**

**Plunger, Roller, One-way Tripper & Toggle Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports**

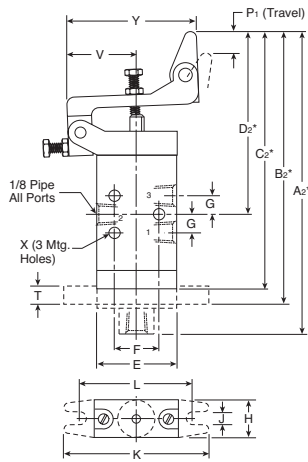
**Plunger Operated**



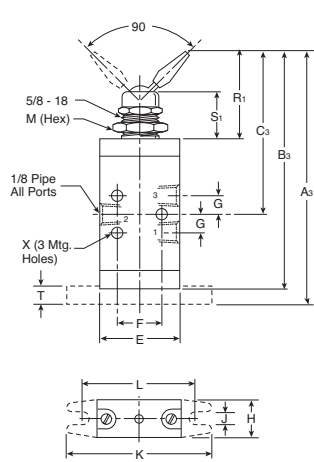
**Roller Operated**



**One-Way Tripper Operated**



**Toggle Operated**



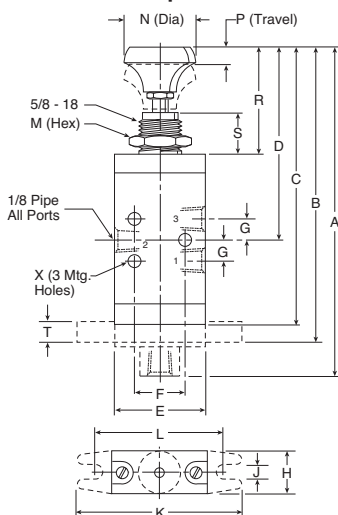
**3-Way, 3-Port, 2-Position**

<b>A</b> 4.14 (105)	<b>A1*</b> 4.98 (126)	<b>A2*</b> 5.23 (133)	<b>A3</b> 4.23 (107)	<b>B</b> 3.61 (92)
<b>B1</b> 4.45 (113)	<b>B2</b> 4.70 (119)	<b>B3</b> 4.00 (102)	<b>C</b> 3.38 (86)	<b>C1</b> 4.22 (107)
<b>C2</b> 4.47 (113)	<b>C3</b> 2.75 (70)	<b>D</b> 2.05 (52)	<b>D1</b> 2.98 (76)	<b>D2</b> 3.22 (82)
<b>E</b> 1.31 (33)	<b>F</b> .75 (19)	<b>G</b> .31 (8)	<b>H</b> .62 (16)	<b>J</b> .20 (5)
<b>K</b> 2.38 (60)	<b>L</b> 1.88 (48)	<b>M</b> .88 (22)	<b>N</b> .25 (6)	<b>P</b> .17 (4)
<b>P1</b> .38 (10)	<b>R</b> .91 (23)	<b>R1</b> 1.53 (39)	<b>S</b> .62 (16)	<b>S1</b> .78 (20)
<b>T</b> .25 (6)	<b>U</b> 2.28 (58)	<b>V</b> 1.19 (30)	<b>W</b> .75 (19)	<b>X</b> .19 (5)
<b>Y</b> 2.19 (56)				

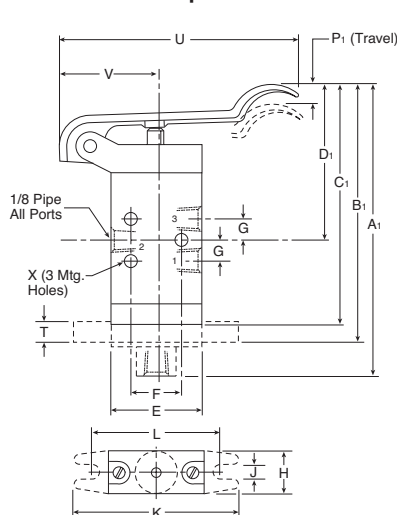
\* Dimensions may be reduced .44" using adjusting screw.  
 Inches (mm)

**Button, Hand Lever Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports**

**Button Operated**



**Hand Lever Operated**



**3-Way, 3-Port, 2-Position**

<b>A</b> 5.08 (129)	<b>A1</b> 4.29 (109)	<b>B</b> 4.55 (115)	<b>B1</b> 3.77 (96)	<b>C</b> 4.31 (109)
<b>C1</b> 3.53 (90)	<b>D</b> 3.08 (78)	<b>D1</b> 2.29 (58)	<b>E</b> 1.31 (33)	<b>F</b> .75 (19)
<b>G</b> .31 (8)	<b>H</b> .62 (16)	<b>J</b> .20 (5)	<b>K</b> 2.38 (60)	<b>L</b> 1.88 (48)
<b>M</b> .88 (22)	<b>N</b> 1.06 (27)	<b>P</b> .17 (4)	<b>P1</b> .53 (13)	<b>R</b> 1.67 (42)
<b>S</b> .63 (16)	<b>T</b> .25 (6)	<b>U</b> 3.38 (86)	<b>V</b> 1.19 (30)	<b>X</b> .19 (5)
<b>Y</b> .59 (15)				

Inches (mm)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4:2 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

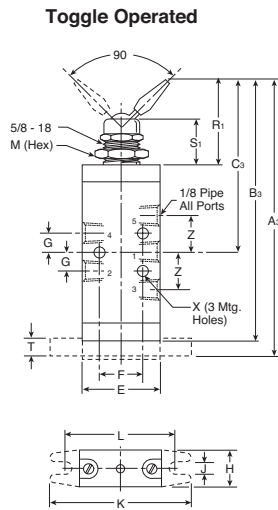
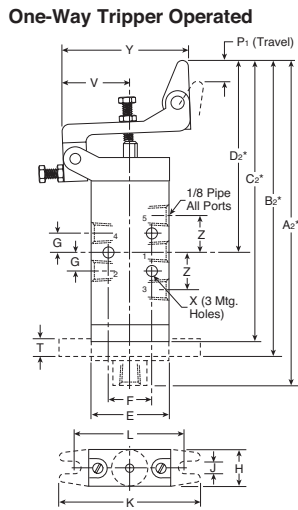
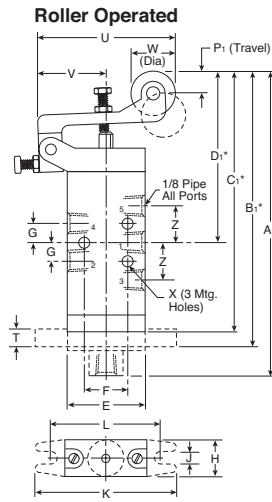
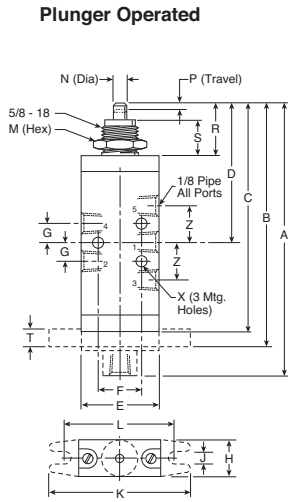
Control Panel Products

Sensing



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Plunger, Roller, One-way Tripper & Toggle Operated — 4-Way, 5-Port, 2-Position – 1/8" Ports**

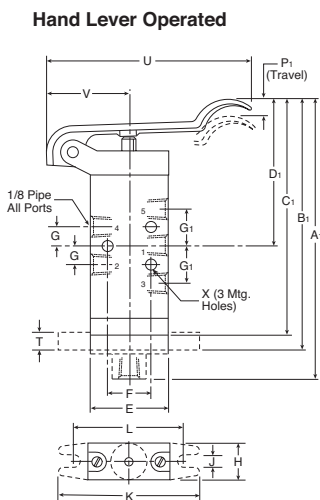
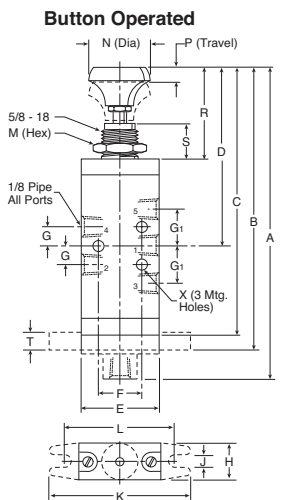


**4-Way, 5-Port, 2-Position**

<b>A</b> 4.75 (121)	<b>A1*</b> 5.59 (142)	<b>A2*</b> 5.84 (148)	<b>A3</b> 4.84 (123)	<b>B</b> 4.22 (107)
<b>B1*</b> 5.06 (128)	<b>B2*</b> 5.31 (135)	<b>B3</b> 4.61 (117)	<b>C</b> 3.99 (102)	<b>C1*</b> 4.83 (123)
<b>C2*</b> 5.08 (129)	<b>C3</b> 3.06 (78)	<b>D</b> 2.44 (62)	<b>D1*</b> 3.28 (83)	<b>D2*</b> 3.53 (90)
<b>E</b> 1.31 (33)	<b>F</b> .75 (19)	<b>G</b> .31 (8)	<b>H</b> .62 (16)	<b>J</b> .20 (5)
<b>K</b> 2.38 (60)	<b>L</b> 1.88 (48)	<b>M</b> .88 (22)	<b>N</b> .25 (6)	<b>P</b> .17 (4)
<b>P1</b> .38 (10)	<b>R</b> .91 (23)	<b>R1</b> 1.53 (39)	<b>S</b> .62 (16)	<b>S1</b> .78 (20)
<b>T</b> .25 (6)	<b>U</b> 2.28 (58)	<b>V</b> 1.19 (30)	<b>W</b> .75 (19)	<b>X</b> .19 (5)
<b>Y</b> 2.19 (56)	<b>Z</b> .62 (16)			

\* Dimensions may be reduced .44" using adjusting screw.  
 Inches (mm)

**Button & Hand Lever Operated — 4-Way, 5-Port, 2-Position – 1/8" Ports**



**4-Way, 5-Port, 2-Position**

<b>A</b> 5.69 (144)	<b>A1</b> 4.90 (124)	<b>B</b> 5.16 (131)	<b>B1</b> 4.38 (111)	<b>C</b> 4.92 (125)
<b>C1</b> 4.14 (105)	<b>D</b> 3.67 (93)	<b>D1</b> 2.90 (74)	<b>E</b> 1.31 (33)	<b>F</b> .75 (19)
<b>G</b> .31 (8)	<b>G1</b> .63 (16)	<b>H</b> .62 (16)	<b>J</b> .20 (5)	<b>K</b> 2.38 (60)
<b>L</b> 1.88 (48)	<b>M</b> .88 (22)	<b>N</b> 1.06 (27)	<b>P</b> .17 (4)	<b>P1</b> .53 (13)
<b>R</b> 1.67 (42)	<b>S</b> .63 (16)	<b>T</b> .25 (6)	<b>U</b> 3.38 (86)	<b>V</b> 1.19 (30)
<b>X</b> .19 (5)	<b>Y</b> .59 (15)			

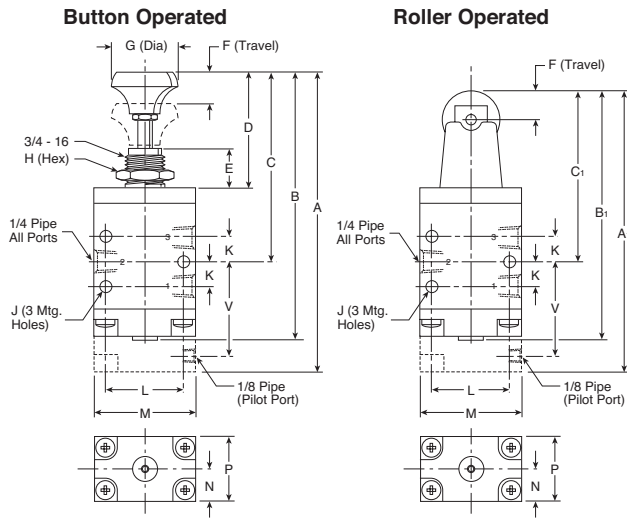
Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Dimensional Data**

**Button & Roller Operated — 3-Way, 3-Port, 2-Position**

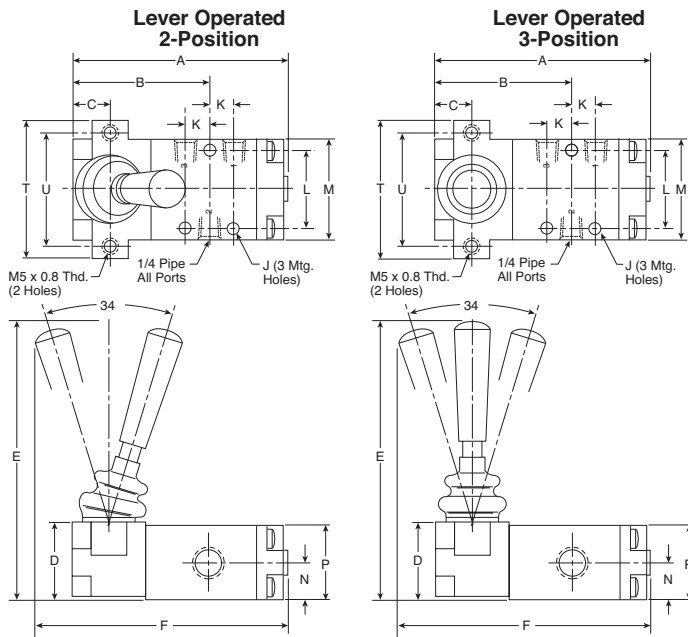


**3-Way, 3-Port, 2-Position**

A	A <sub>1</sub>	B	B <sub>1</sub>	C
4.91 (125)	4.25 (108)	4.44 (113)	3.78 (96)	3.10 (79)
C <sub>1</sub>	D	E	F	G
2.44 (62)	2.00 (51)	.63 (16)	.32 (8)	1.05 (27)
H	J	K	L	M
1.00 (25)	.19 (5)	.41 (10)	1.25 (32)	1.63 (42)
N	P	V		
.53 (14)	1.06 (27)	1.52 (39)		

Inches (mm)

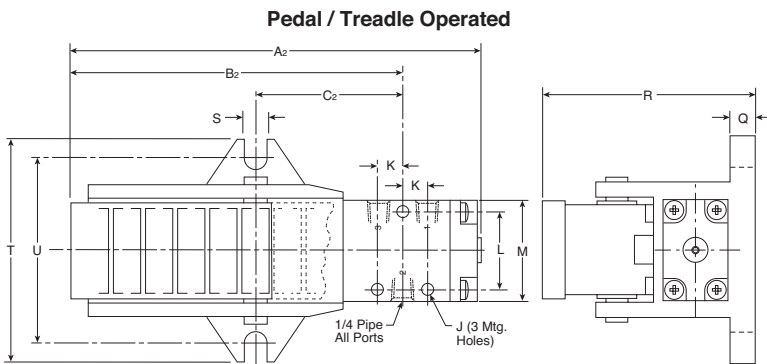
**Lever & Pedal Operated — 3-Way, 3-Port, 2 & 3-Position**



**3-Way, 3-Port, 2 & 3-Position**

A	A <sub>1</sub>	B	B <sub>1</sub>	C
3.31 (84)	6.55 (166)	1.97 (50)	5.20 (132)	.53 (14)
C <sub>1</sub>	D	E	F	J
2.19 (56)	1.12 (28)	4.06 (103)	3.90 (99)	.19 (5)
K	L	M	N	P
.41 (10)	1.25 (32)	1.63 (42)	.53 (14)	1.06 (27)
Q	R	S	T	T <sub>1</sub>
.37 (10)	2.40 (61)	.34 (9)	2.13 (54)	3.50 (89)
U	U <sub>1</sub>			
1.75 (44)	3.00 (76)			

Inches (mm)



**CAUTION:**

*This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.*

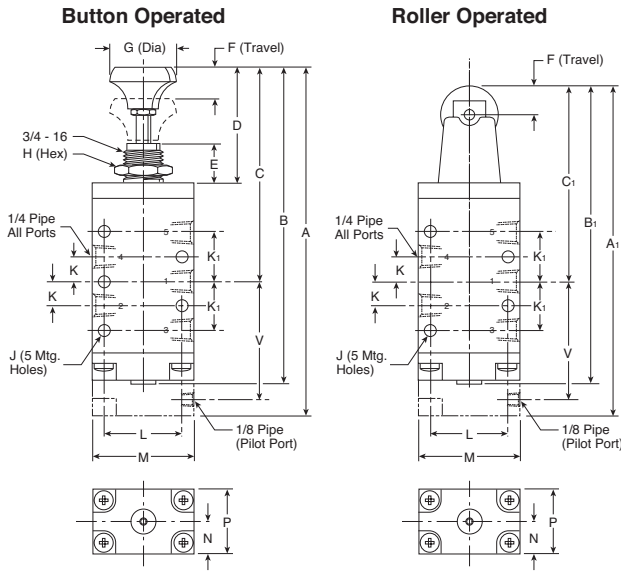


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 4/2 Lever / Pedal Series  
 M0 Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing



**Button, Roller, Pedal & Treadle, Lever Operated — 4-Way, 5-Port, 2-Position**

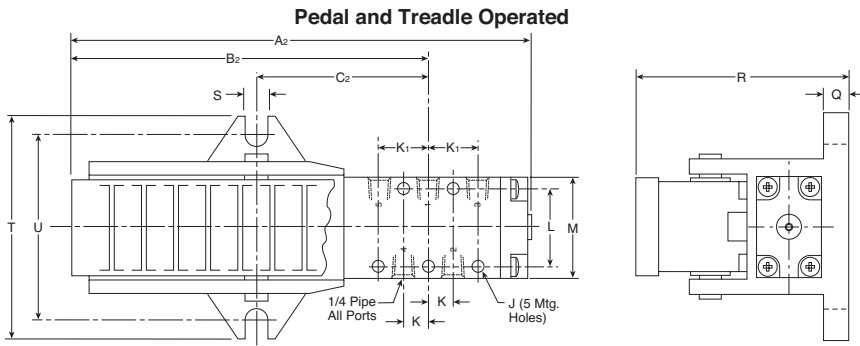


**4-Way, 5-Port, 2-Position**

<b>A</b>	<b>A<sub>1</sub></b>	<b>A<sub>2</sub></b>	<b>B</b>	<b>B<sub>1</sub></b>
5.75 (146)	5.13 (130)	7.41 (189)	5.28 (134)	4.66 (118)
<b>B<sub>2</sub></b>	<b>C</b>	<b>C<sub>1</sub></b>	<b>C<sub>2</sub></b>	<b>D</b>
5.63 (143)	3.50 (89)	2.88 (73)	2.64 (67)	2.00 (51)
<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>
.63 (16)	.32 (8)	1.05 (27)	1.00 (25)	.19 (5)
<b>K</b>	<b>K<sub>1</sub></b>	<b>L</b>	<b>M</b>	<b>N</b>
.44 (11)	.84 (21)	1.25 (32)	1.63 (41)	.53 (14)
<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>
1.06 (27)	.37 (10)	2.40 (61)	.34 (9)	3.50 (89)

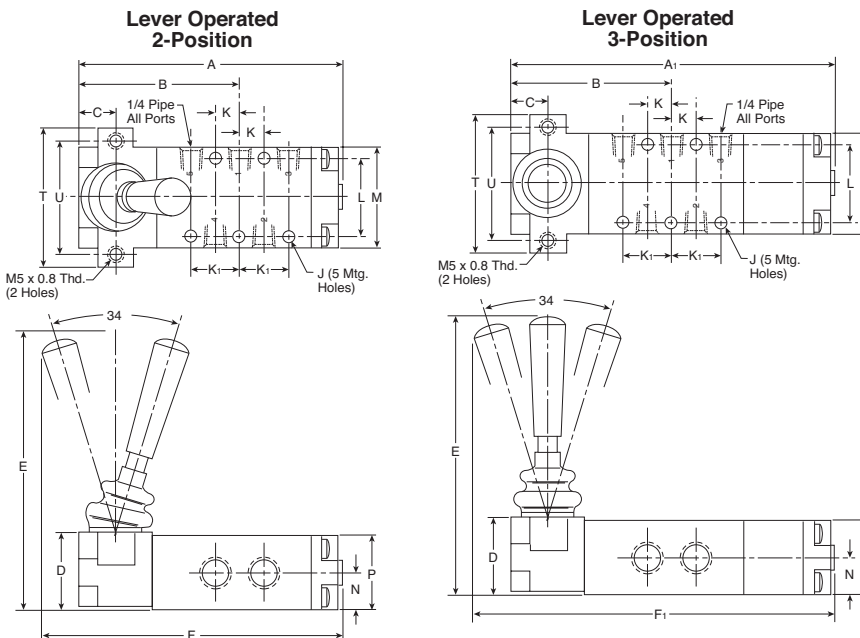
<b>U</b>	<b>V</b>
3.00 (76)	1.96 (50)

Inches (mm)



**⚠ CAUTION:**  
 This valve shall not be used to actuate a punch press.  
 Do not use this valve on punch presses or press brakes.  
 See OSHA 1910.217.

**Lever Operated — 4-Way, 5-Port, 2 & 3-Position**



**4-Way, 5-Port, 2 & 3-Position**

<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>	<b>C</b>	<b>D</b>
4.19 (106)	5.09 (129)	2.41 (61)	.53 (14)	1.12 (28)
<b>E</b>	<b>F</b>	<b>F<sub>1</sub></b>	<b>J</b>	<b>K</b>
4.06 (103)	4.78 (121)	5.78 (147)	.19 (5)	.44 (11)
<b>K<sub>1</sub></b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>
.84 (21)	1.25 (32)	1.63 (42)	.53 (14)	1.06 (27)

<b>T</b>	<b>U</b>
2.13 (54)	1.75 (44)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

**Features**

**Viking Xtreme Manual Series**

The Viking Xtreme Manual valve range is robust, versatile and combines high performance with compact installation dimensions. The valves rugged lever actuator has been specifically designed for gloved hands to suit mobile applications in the most arduous of environments. Available in 3/2, 5/2 and 5/3 functions with either spring return or detented lever. The lever actuated versions are available across the entire range from 1/8 to 1/2 port sizes.

- **Heavy duty lever**
- **Inline valve**
  - 1/8", 1/4", 3/8", 1/2" NPT & BSPP
- **2-position models**
  - 4-way & 3-way
- **3-position models**
  - all ports blocked
  - pressure center
  - center exhaust
- **Approval**
  - Canada Registration Number available (CRN)
- **Over-moulded single piece aluminium spool**
  - Reduced product complexity
  - Increased flow
  - Wide operating temperature range
  - Stable seal performance even with high flow / pressure drop across spool.



**Operating information**

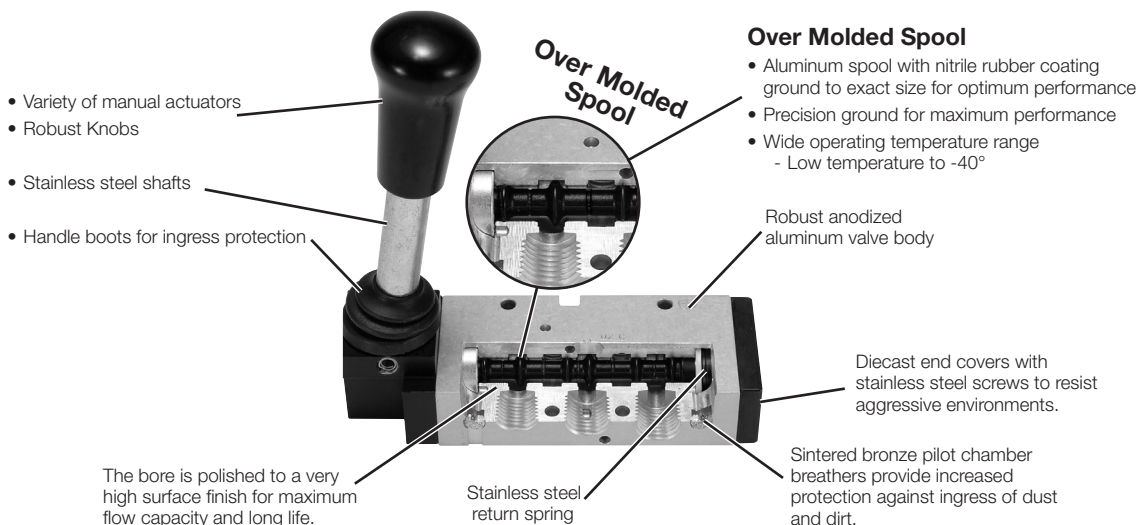
Operating pressure: Type A & B: Vacuum to 232 PSIG (Vacuum to 16 bar Max.)  
 Type C & D: Vacuum to 174 PSIG (Vacuum to 12 bar Max.)  
 Temperature range: Xtreme: -40°F to 140°F (-40°C to 60°C)

**Material specifications**

End covers	Anodized aluminum
Lever	Reinforced polyamide plastic
Lever housing	Acetal plastic
Piston	Acetal plastic / anodized aluminum
Seals	Nitrile rubber
Screws	Stainless steel
Spool	Aluminum & nitrile rubber
Springs	Stainless steel
Valve body	Anodized aluminum

Lever Handle – 1/8" valve size, 5/2 & 5/3 only	Twist Handle – 1/4" valve sizes	Lever Handle – All other valve sizes

**Features**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

MO Series

Safety


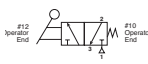

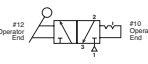



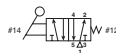


Manual / Mechanical Valves

Brass Poppet / Sliding Seal


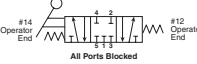

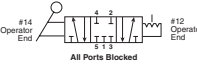
Control Panel Products

Sensing


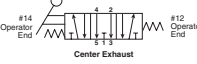


3/2 - 2-Position *	Symbol	Valve Type	Port Size	Cv	Weight lb (kg)	Part Number NPT	Part Number BSPP
		Lever Spring Return	1/8	0.6	0.73 (0.33)	<b>P2LAX391VS</b>	<b>P2LAX311VS</b>
			1/4	1.5	0.73 (0.33)	<b>P2L BX392VS</b>	<b>P2L BX312VS</b>
			3/8	2.5	0.88 (0.40)	<b>P2L CX393VS</b>	<b>P2L CX313VS</b>
			1/2	2.7	1.32 (0.60)	<b>P2L DX394VS</b>	<b>P2L DX314VS</b>
		Lever Detent	1/8	0.7	0.73 (0.33)	<b>P2LAX391VV</b>	<b>P2LAX311VV</b>
			1/4	1.3	0.73 (0.33)	<b>P2L BX392VV</b>	<b>P2L BX312VV</b>
			3/8	2.5	0.88 (0.40)	<b>P2L CX393VV</b>	<b>P2L CX313VV</b>
			1/2	2.7	1.32 (0.60)	<b>P2L DX394VV</b>	<b>P2L DX314VV</b>

5/2 - 2-Position *	Symbol	Valve Type	Port Size	Cv	Weight lb (kg)	Part Number NPT	Part Number BSPP
		Lever Spring Return	1/8	0.6	0.40 (0.18)	<b>P2LAX591VS</b>	<b>P2LAX511VS</b>
			1/4	1.5	0.73 (0.33)	<b>P2L BX592VS</b>	<b>P2L BX512VS</b>
			3/8	2.5	0.88 (0.40)	<b>P2L CX593VS</b>	<b>P2L CX513VS</b>
			1/2	2.7	1.32 (0.60)	<b>P2L DX594VS</b>	<b>P2L DX514VS</b>
		Lever Detent	1/8	0.7	0.40 (0.18)	<b>P2LAX591VV</b>	<b>P2LAX511VV</b>
			1/4	1.3	0.73 (0.33)	<b>P2L BX592VV</b>	<b>P2L BX512VV</b>
			3/8	2.5	0.88 (0.40)	<b>P2L CX593VV</b>	<b>P2L CX513VV</b>
			1/2	2.7	1.32 (0.60)	<b>P2L DX594VV</b>	<b>P2L DX514VV</b>

Size P2LAX Shown

5/3 - 3-Position,* All Ports Blocked	Symbol	Valve Type	Port Size	Cv	Weight lb (kg)	Part Number NPT	Part Number BSPP
		Lever Spring Center	1/8	0.6	0.40 (0.18)	<b>P2LAX69111</b>	<b>P2LAX61111</b>
			1/4	1.5	0.73 (0.33)	<b>P2L BX69211</b>	<b>P2L BX61211</b>
			3/8	2.5	1.56 (0.71)	<b>P2L CX69311</b>	<b>P2L CX61311</b>
			1/2	2.7	1.61 (0.73)	<b>P2L DX69411</b>	<b>P2L DX61411</b>
		Lever Detent	1/8	0.7	0.40 (0.18)	<b>P2LAX69122</b>	<b>P2LAX61122</b>
			1/4	1.3	0.73 (0.33)	<b>P2L BX69222</b>	<b>P2L BX61222</b>
			3/8	2.5	1.56 (0.71)	<b>P2L CX69322</b>	<b>P2L CX61322</b>
			1/2	2.7	1.61 (0.73)	<b>P2L DX69422</b>	<b>P2L DX61422</b>

Size P2LAX Shown

5/3 - 3-Position,* Center Exhaust	Symbol	Valve Type	Port Size	Cv	Weight lb (kg)	Part Number NPT	Part Number BSPP
		Lever Spring Center	1/8	0.6	0.40 (0.18)	<b>P2LAX89111</b>	<b>P2LAX81111</b>
			1/4	1.5	0.73 (0.33)	<b>P2L BX89211</b>	<b>P2L BX81211</b>
			3/8	2.5	1.56 (0.71)	<b>P2L CX89311</b>	<b>P2L CX81311</b>
			1/2	2.7	1.61 (0.73)	<b>P2L DX89411</b>	<b>P2L DX81411</b>
		Lever Detent	1/8	0.7	0.40 (0.18)	<b>P2LAX89122</b>	<b>P2LAX81122</b>
			1/4	1.3	0.73 (0.33)	<b>P2L BX89222</b>	<b>P2L BX81222</b>
			3/8	2.5	1.56 (0.71)	<b>P2L CX89322</b>	<b>P2L CX81322</b>
			1/2	2.7	1.61 (0.73)	<b>P2L DX89422</b>	<b>P2L DX81422</b>

\* Valve lever movement 90° to ports.


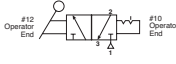

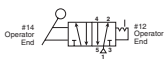

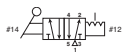

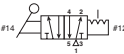
 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
Viking Xtreme Lever Series  
42 Lever / Pedal Series  
M0 Series  
Safety  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing

**Common Part Numbers**

3/2 - 2-Position	Symbol	Valve Type	Port Size	Cv	Part Number NPT	Part Number BSPP
		Twist Handle Detent	1/4	1.3 0.73 (0.33)	<b>P2LBX392JJ</b>	<b>P2LBX312JJ</b>
<b>5/2 - 2-Position</b>	<b>Symbol</b>	<b>Valve Type</b>	<b>Port Size</b>	<b>Cv</b>	<b>Part Number NPT</b>	<b>Part Number BSPP</b>
		Twist Handle Detent	1/4	1.3 0.73 (0.33)	<b>P2LBX592JJ</b>	<b>P2LBX512JJ</b>
<b>5/2 - 2-Position *</b>	<b>Symbol</b>	<b>Valve Type</b>	<b>Port size</b>	<b>Cv</b>	<b>Part Number NPT</b>	<b>Part Number BSPP</b>
		Lever Spring Return	1/4	1.3 0.73 (0.33)	<b>P2LBX592ZS</b>	<b>P2LBX512ZS</b>
		Lever Detent	1/4	1.3 0.73 (0.33)	<b>P2LBX592ZZ</b>	<b>P2LBX512ZZ</b>

\* Valve lever movement inline to ports.

**Viking Xtreme Manual Operated Valves**

Vacuum to 232 PSIG (Vacuum to 16 bar) -40°F to 140°F (-40°C to 60°C)

**P2L A X 5 91 VS**

Valve Size	
1/8"	A
1/4"	<b>B</b>
3/8"	C
1/2"	D

Valve Type / Function	
3/2 NC - 2-Position	3
5/2 2-Position	<b>5</b>
5/3 3-Position, APB	6
5/3 3-Position, PC	7
5/3 3-Position, CE	8

Actuator / Position / Lever	
<b>JJ*</b>	<b>Twist Handle Detent, 2-Position</b>
<b>VS</b>	<b>Spring Return Lever, 2-Position, 90° to Ports</b>
<b>VV</b>	<b>Lever, Detent, 2-Position, 90° to Ports</b>
ZS**	Spring Return Lever, 2-Position, Inline to Ports
ZZ**	Lever Detent, 2-Position, Inline to Ports
11	Spring Centered Lever, 3-Position, 90° to Ports
22	Lever, Detent, 3-Position, 90° to Ports
55**	Spring Return Lever, 3-Position, Inline to Ports
66**	Lever Detent, 3-Position, Inline to Ports

\* Not available with 3-position valves or main port thread 1N or 9N, valve size B only.  
 \*\* Size B valve only.

Main Port Thread	
11	G1/8 (P2LA)
12	G1/4 (P2LB)
1N*	G1/4 (P2LB) NAMUR Mount
13	G3/8 (P2LC)
14	G1/2 (P2LD)
<b>91</b>	<b>1/8" NPT (P2LA)</b>
<b>92</b>	<b>1/4" NPT (P2LB)</b>
<b>9N*</b>	<b>1/4 NPT (P2LB) NAMUR Mount</b>
<b>93</b>	<b>3/8" NPT (P2LC)</b>
94	1/2" NPT (P2LD)

\* 5/2, 2-position valve only.

 Most popular.

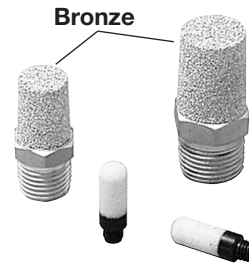


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Exhaust Mufflers**

Pipe Thread	Part Number
M5	<b>P6M-PAC5</b>
1/8" NPT	<b>EM12</b>
1/4" NPT	<b>EM25</b>
3/8" NPT	<b>EM37</b>
1/2" NPT	<b>EM50</b>

P6M - Plastic; EM - Sintered bronze

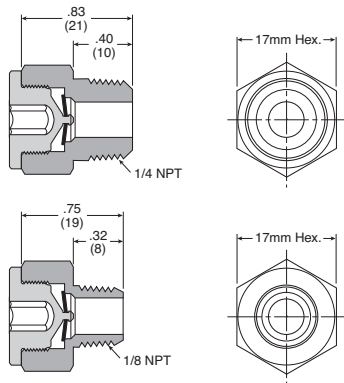


**Plastic Silencers**

Thread Size	Part Number			A (mm)	B (mm)
	NPT	BSPT	Metric		
M5			<b>AS-5</b>	.43 (11)	.32 (8)
1/8"	<b>ASN-6</b>	<b>AS-6</b>		1.57 (40)	.63 (16)
1/4"	<b>ASN-8</b>	<b>AS-8</b>		2.56 (65)	.83 (21)
3/8"	<b>ASN-10</b>	<b>AS-10</b>		3.35 (85)	.98 (25)
1/2"	<b>ASN-15</b>	<b>AS-15</b>		3.74 (95)	1.18 (30)



**Exhaust Protector**



**Specifications**

**Operating pressure** ..... 0 – 150 PSIG  
 (0 to 10 bar, 0 to 1034 kPa)

**Operating temperature** ..... -40°F to 158°F (-40°C to 70°C)

**Material:**

Body and pipe adapter ..... Brass  
 Membrane ..... Fluorocarbon

**Flow Data (SCFM)**

Part Number	Size	60 PSIG Inlet	90 PSIG Inlet	125 PSIG Inlet
<b>E90016</b>	1/8"	40.1	56.5	75.5
<b>E90017</b>	1/4"	44.6	62.7	83.5

**Features**

- 1/8 and 1/4 NPT male sizes
- Fitted with a brass pipe adapter and a fluorocarbon membrane
- Resistant to rust, clog, wash down and contamination

**Applications**

These protectors are intended for mobile applications, quick venting applications and alternative exhaust port breathers that require protection against clogging.

Ideal for valves exposed to harsh environmental conditions (which can cause a “caking up” in the exhaust pipe ports where the bronze mufflers or breather vents are installed).

Particularly suitable for time-sensitive applications such as axle-lift suspensions or pushers or tag axles.

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

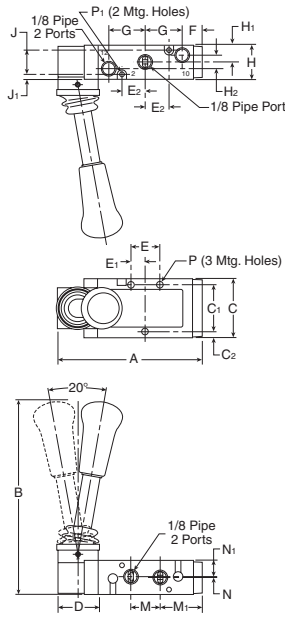


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Dimensional Data**

**P2LAX 3/2 Hand Lever Operated**  
 Lever operation 90° to ports movement

**P2LAX 3/2**

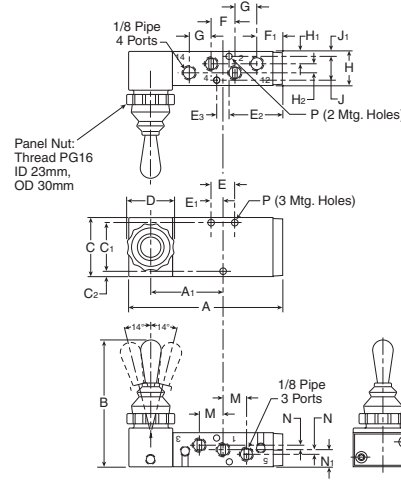


A	B	C
3.88 (99)	5.23 (133)	1.57 (40)
C <sub>1</sub>	C <sub>2</sub>	D
1.26 (32)	.16 (4)	1.06 (27)
E	E <sub>1</sub>	E <sub>2</sub>
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22)
H <sub>1</sub>	H <sub>2</sub>	J
.42 (10.6)	.02 (0.5)	.65 (16.5)
J <sub>1</sub>	M	M <sub>1</sub>
.11 (2.9)	.79 (20)	1.14 (29)
N	N <sub>1</sub>	P
.18 (4.5)	.26 (6.6)	Ø .17 (Ø 4.3)
P <sub>1</sub>	Ø .12 (Ø 3.1)	

Inches (mm)

**P2LAX 5/2 & 5/3 Hand Lever Operated**  
 Lever operation 90° to ports movement

**P2LAX 5/2 & 5/3**

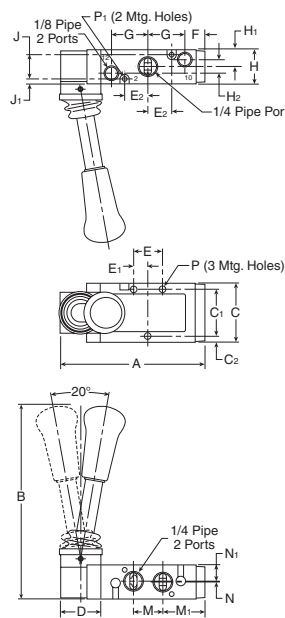


A	A <sub>1</sub>	B
4.02 (102)	1.89 (48)	3.23 (82)
C	C <sub>1</sub>	C <sub>2</sub>
1.57 (40)	1.30 (33)	.14 (3.5)
D	E <sub>2</sub>	E <sub>3</sub>
1.18 (30)	1.42 (36)	.33 (8.5)
F	F <sub>1</sub>	G
.63 (16)	.67 (17)	.59 (15)
H	H <sub>1</sub>	H <sub>2</sub>
.87 (22)	.31 (8)	.24 (6)
J	J <sub>1</sub>	M
.63 (16)	.12 (3)	.63 (16)
N	N <sub>1</sub>	P
.12 (3)	.43 (11)	Ø .16 (Ø 4.1)

Inches (mm)

**P2LBX 3/2 Hand Lever Operated**  
 Lever operation 90° to ports movement

**P2LBX 3/2**

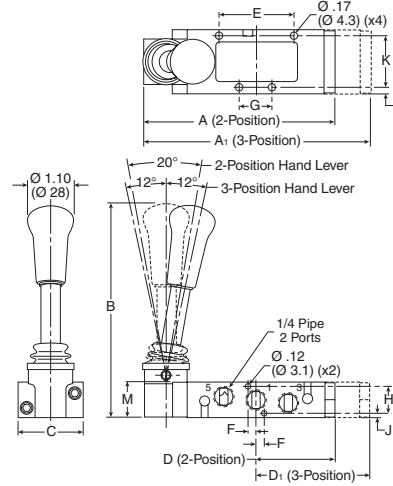


A	B	C
3.88 (99)	5.23 (133)	1.57 (40)
C <sub>1</sub>	C <sub>2</sub>	D
1.26 (32)	.16 (4)	1.06 (27)
E	E <sub>1</sub>	E <sub>2</sub>
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22)
H <sub>1</sub>	H <sub>2</sub>	J
.42 (10.6)	.02 (0.5)	.65 (16.5)
J <sub>1</sub>	M	M <sub>1</sub>
.11 (2.9)	.79 (20)	1.14 (29)
N	N <sub>1</sub>	P
.18 (4.5)	.26 (6.6)	Ø .17 (Ø 4.3)
P <sub>1</sub>	Ø .12 (Ø 3.1)	

Inches (mm)

**P2LBX 5/2 & 5/3 Hand Lever Operated**  
 Lever operation 90° to ports movement

**P2LBX 5/2 & 5/3**



A	A <sub>1</sub>	B	
4.67 (118.5)	5.51 (140)	5.19 (131.8)	
C	D	D <sub>1</sub>	
1.57 (40)	1.93 (49)	2.35 (59.8)	
E	F	G	
1.81 (46)	.20 (5)	.79 (20)	
H	J	K	
.65 (16.5)	.11 (2.85)	1.26 (32)	
L	M		
.16 (4)	.87 (22.2)		

Inches (mm)

Manual / Mechanical

Brass Poppet / Sliding Seal

Control Panel Products

Sensing



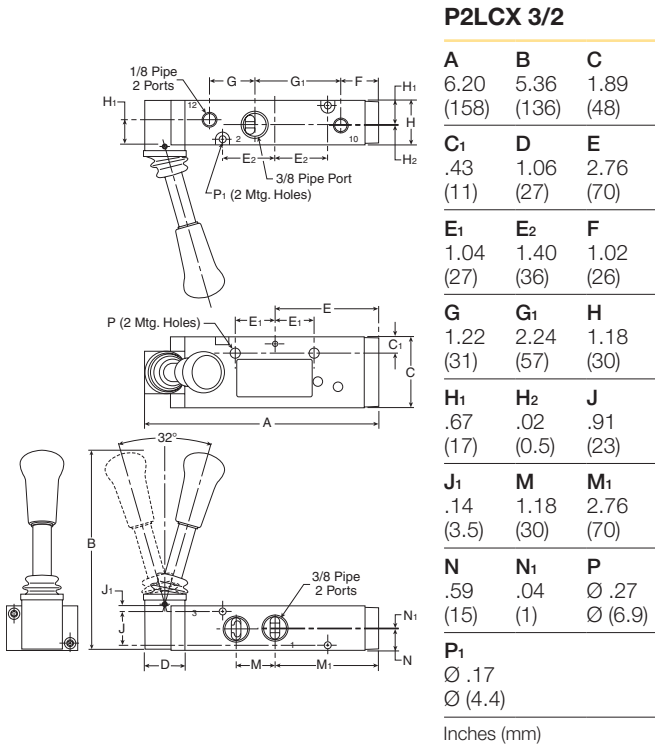
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

E17-a

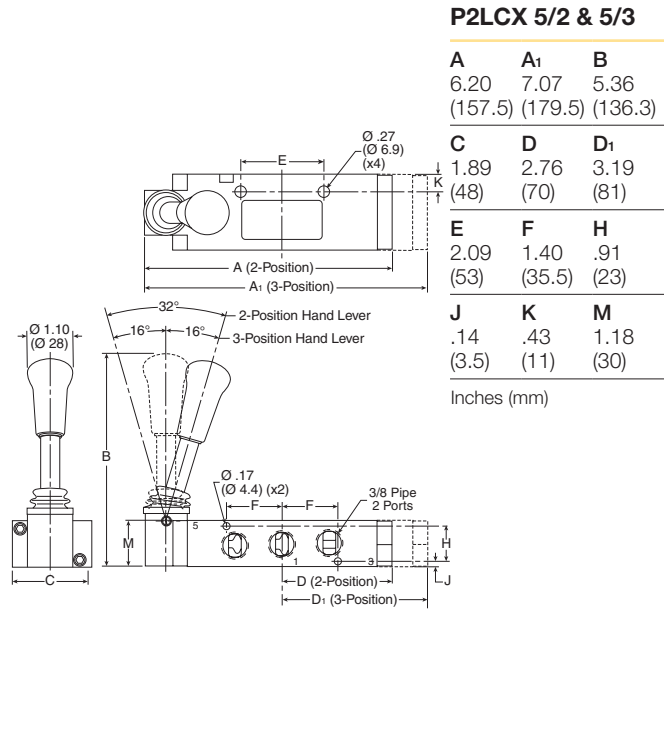
**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)



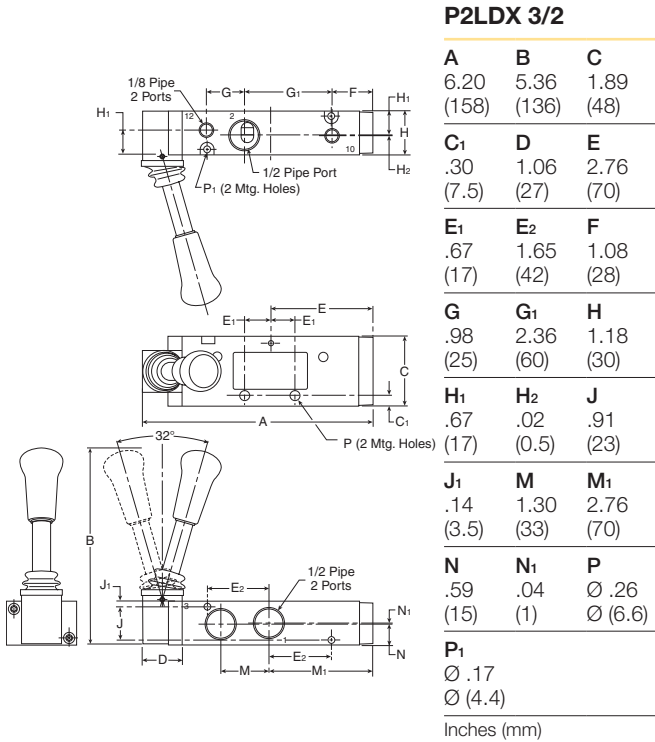
**P2LCX 3/2 Hand Lever Operated**  
 Lever operation 90° to ports movement



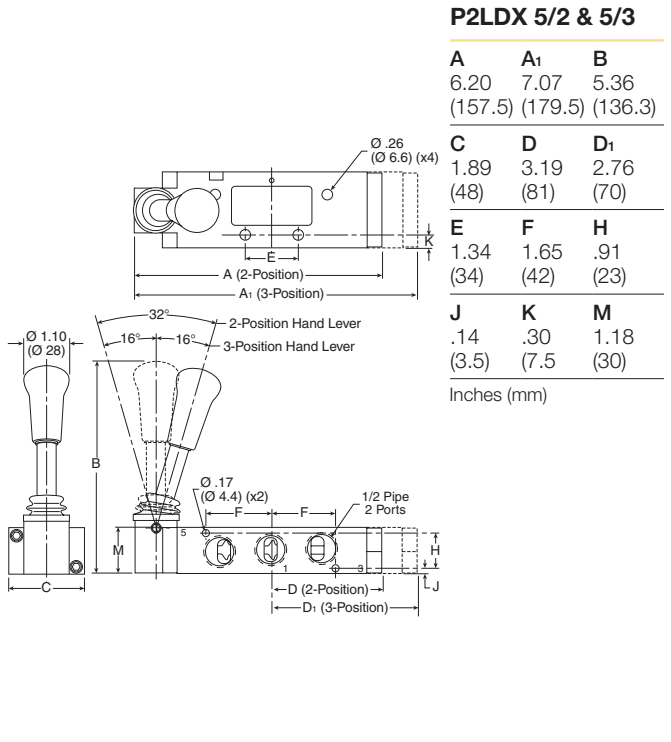
**P2LCX 5/2 & 5/3 Hand Lever Operated**  
 Lever operation 90° to ports movement



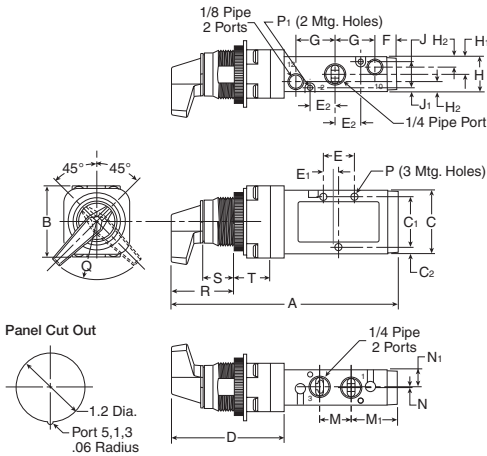
**P2LDX 3/2 Hand Lever Operated**  
 Lever operation 90° to ports movement



**P2LDX 5/2 & 5/3 Hand Lever Operated**  
 Lever operation 90° to ports movement



**P2LBX 3/2 Twist Lever Operated**

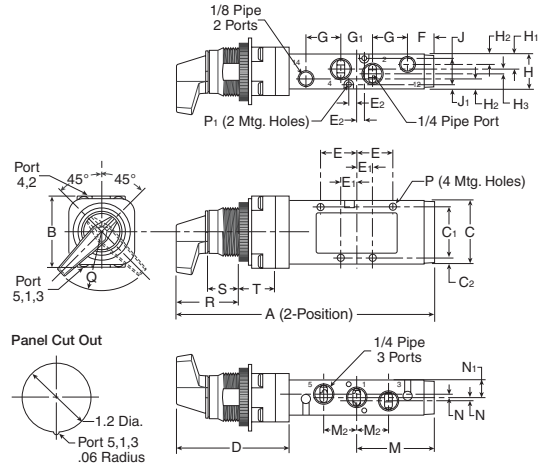


**P2LBX 3/2**

A	B	C	C <sub>1</sub>	C <sub>2</sub>	D	E	E <sub>1</sub>	E <sub>2</sub>
5.67 (144)	1.79 (45.5)	1.57 (40)	1.26 (32)	.16 (4)	2.87 (73)	.79 (20)	.39 (10)	.63 (16)
F	G	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	M	M <sub>1</sub>
.55 (14)	.98 (25)	.87 (22.2)	.44 (11.1)	.26 (6.6)	.65 (16.5)	.11 (2.9)	.79 (20)	1.14 (29)
N	N <sub>1</sub>	P	P <sub>1</sub>	Q	R	S	T	
.02 (0.5)	.42 (10.6)	∅ .17 (4.3)	∅ .12 (3.1)	1.5R (38.1)R	1.85 (47)	1.10 (28)	.67 (17)	

Inches (mm)

**P2LBX 5/2 Twist Lever Operated**

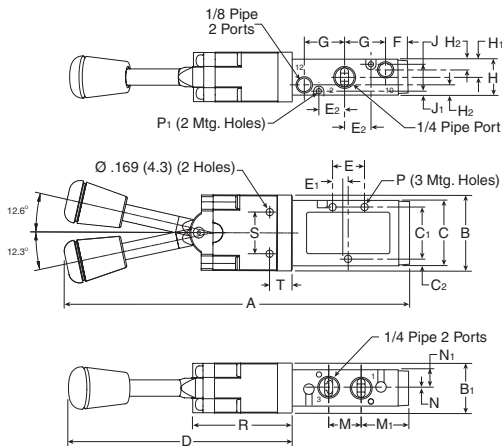


**P2LBX 5/2**

A	B	C	C <sub>1</sub>	C <sub>2</sub>	D	E	E <sub>1</sub>	E <sub>2</sub>	F
6.46 (164)	1.79 (45.5)	1.57 (40)	1.26 (32)	.15 (4)	2.87 (73)	.91 (23)	.39 (10)	.20 (5)	.67 (17)
G	G <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	J	J <sub>1</sub>	M	M <sub>2</sub>
.87 (22)	.79 (20)	.87 (22.2)	.44 (11.1)	.26 (6.6)	.12 (3)	.65 (16.5)	.11 (2.9)	1.93 (49)	.79 (20)
N	N <sub>1</sub>	P	P <sub>1</sub>	Q	R	S	T		
.08 (0.2)	.44 (11.1)	∅ .17 (4.3)	∅ .12 (3.1)	1.5R (38.1)R	1.85 (47)	1.10 (28)	.67 (17)		

Inches (mm)

**P2LBX 3/2 Knob Lever Operated**  
 Lever operation inline with ports

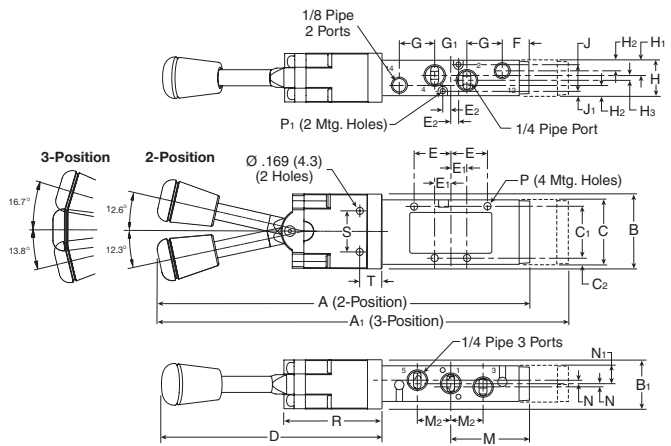


**P2LBX 3/2**

A	B	B <sub>1</sub>	C	C <sub>1</sub>	C <sub>2</sub>	D	E	E <sub>1</sub>
8.19 (208)	1.79 (45.5)	1.2 (30.5)	1.57 (40)	1.26 (32)	.16 (4)	5.39 (137)	.79 (20)	.39 (10)
E <sub>2</sub>	F	G	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	M
.63 (16)	.55 (14)	.98 (25)	.87 (22.2)	.44 (11.1)	.26 (6.6)	.65 (16.5)	.11 (2.9)	.79 (20)
M <sub>1</sub>	N	N <sub>1</sub>	P	P <sub>1</sub>	R	S	T	
1.14 (29)	.02 (0.5)	.42 (10.6)	∅ .17 (4.3)	∅ .12 (3.1)	2.38 (60.5)	.98 (25.0)	.52 (13.2)	

Inches (mm)

**P2LBX 5/2 & 5/3 Knob Lever Operated**  
 Lever operation inline with ports



**P2LBX 5/2 & 5/3**

A	A <sub>1</sub>	B	B <sub>1</sub>	C	C <sub>1</sub>	C <sub>2</sub>	D	E	E <sub>1</sub>
8.97 (228)	9.84 (250)	1.79 (45.5)	1.2 (30.5)	1.57 (40)	1.26 (32)	.15 (4)	5.39 (137)	.91 (23)	.39 (10)
E <sub>2</sub>	F	G	G <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	J	J <sub>1</sub>
.20 (5)	.67 (17)	.87 (22)	.79 (20)	.87 (22.2)	.44 (11.1)	.26 (6.6)	.12 (3)	.65 (16.5)	.11 (2.9)
M	M <sub>2</sub>	N	N <sub>1</sub>	P	P <sub>1</sub>	R	S	T	
1.93 (49)	.79 (20)	.08 (0.2)	.44 (11.1)	∅ .17 (4.3)	∅ .12 (3.1)	2.38 (60.5)	.98 (25.0)	.52 (13.2)	

Inches (mm)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

4:2 Lever /  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Features

42 Lever / Pedal Series

Heavy duty lever

- Parallel mount handle
- Perpendicular mount handle

Heavy duty foot pedal

1 port size

- 3/8" port – 1.3 to 2.9 Cv

2-position

- 4-way

3-position valves

- All ports blocked
- Center exhaust



Operating information

Operating pressure: Vacuum to 150 PSI (710 mmHg to 1035 kPa)  
Temperature range: 0°F to 140°F (-18°C to 60°C)

Lever Valve - 2-Position

	Symbol	Port Size	Cv	Description	Valve Type	Part Number
		3/8"	2.9	Inline, parallel	2-position, spring return	422CS021K
		3/8"	2.9	Inline, parallel	2-position, detent	422CS021W
		3/8"	2.9	Inline, perpendicular	2-position, spring return	422CR021K
		3/8"	2.9	Inline, perpendicular	2-position, detent	422CR021W

Lever Valve - 3-Position

	Symbol	Port Size	Cv	Description	Valve Type	Part Number
		3/8"	1.3	Inline, parallel	3-position, APB	422CS023W
		3/8"	1.3	Inline, parallel	3-position, CE	422CS024W
		3/8"	1.3	Inline, perpendicular	3-position, APB	422CR023W
		3/8"	1.3	Inline, perpendicular	3-position, CE	422CR024W

Foot Pedal Valve - 2-Position

	Symbol	Port Size	Cv	Description	Valve Type	Part Number
		3/8"	2.9	Foot pedal	2-position, spring return	422CT021K
				Foot pedal guard*		PS2043P

\* This kit contains the valve mounting hardware.

**CAUTION:**

*This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.*

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever /  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

42 Lever / Pedal Series

**422 C R 0 1 1 K**

Operator #14 End	
Lever Perpendicular (Inline Only)	R
Lever Parallel	S
Foot Pedal (2-Position, Spring Return, Inline Only)	T

Operator #12 End	
K	Spring Return (2-Position Only)
W	Detented

Style	
NPT	0

Function (4-Way)	
2-Position	
1	Single Pressure
3-Position*	
3	Single Pressure - All Ports Blocked
4	Single Pressure - Cyl. Ports to Exhaust

\* Available Detented Only.

Port Size	
2	3/8"

Valve body service kits

2-position valve	Single pressure	<b>PS2038P</b>
	Dual pressure	<b>PS2039P</b>
3-position valve	Single pressure	<b>PS2041P</b>

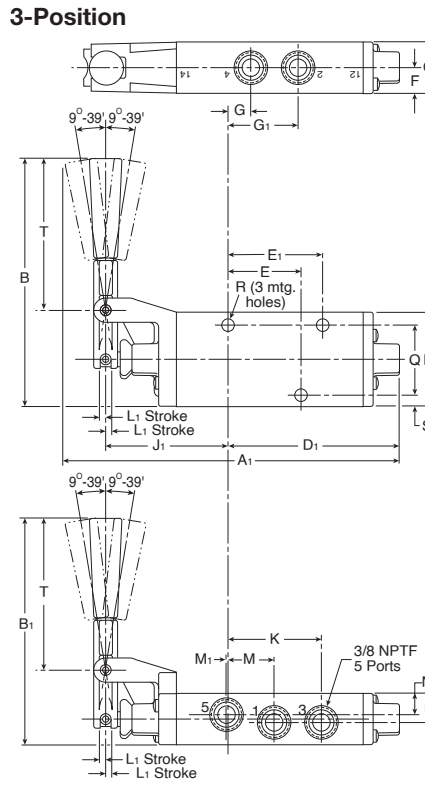
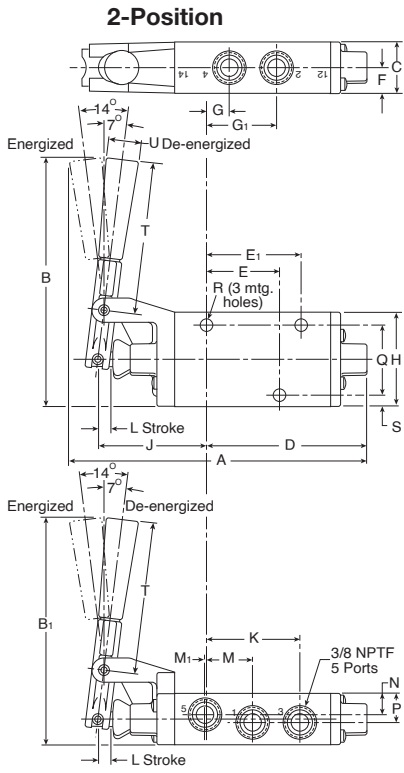
Kit includes: all soft seals and spool.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

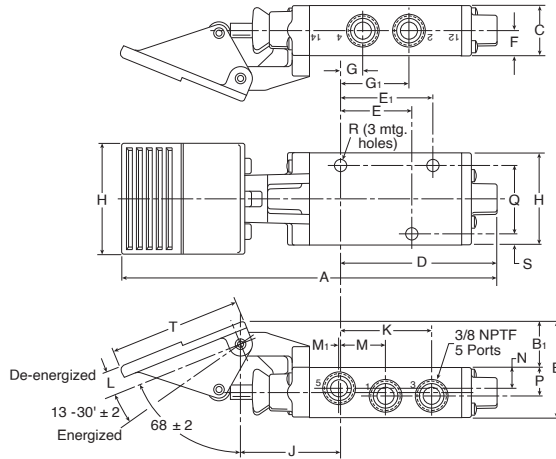
Directair 2 & 4 Series  
Viking Xtreme Lever Series  
42 Lever / Pedal Series  
MO Series  
Safety  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing



**Lever Valve**

A	A <sub>1</sub>	B	B <sub>1</sub>	C
6.70 (170)	7.58 (193)	5.55 (141)	5.05 (128)	1.15 (29)
D	D <sub>1</sub>	E	E <sub>1</sub>	F
3.59 (91)	3.83 (97)	1.58 (40)	2.06 (52)	.57 (14)
G	G <sub>1</sub>	H	J	J <sub>1</sub>
.55 (14)	1.51 (38)	2.13 (54)	2.44 (62)	2.80 (71)
K NPT	L	L <sub>1</sub>	M	L
2.13 (54)	.25 (6)	.18 (5)	1.03 (36)	.25 (6)
L <sub>1</sub>	M	M <sub>1</sub> NPT	N	P
.18 (5)	1.03 (36)	.06 (2)	.50 (13)	.65 (17)
Q	R	S	T	U Dia
1.58 (40)	.33 (8)	.27 (7)	3.42 (87)	.75 (19)

Inches (mm)



**Foot Pedal Valve**

A	B	B <sub>1</sub>	C	D
8.64 (220)	2.18 (55)	1.03 (26)	1.15 (29)	3.59 (91)
E	E <sub>1</sub>	F	G NPT	G <sub>1</sub> NPT
1.58 (40)	2.06 (52)	.57 (14)	.55 (14)	1.51 (38)
H	H <sub>1</sub>	J	K NPT	L
2.13 (54)	2.50 (64)	2.32 (59)	2.13 (54)	.60 (15)
M	M <sub>1</sub> NPT	N	P	Q
1.03 (26)	.06 (2)	.50 (13)	.65 (17)	1.58 (40)
R	S	T	U	
.33 (8)	.27 (7)	3.00 (76)	.48 (11)	

Inches (mm)

**Foot Valve Guard: PS2043P\***

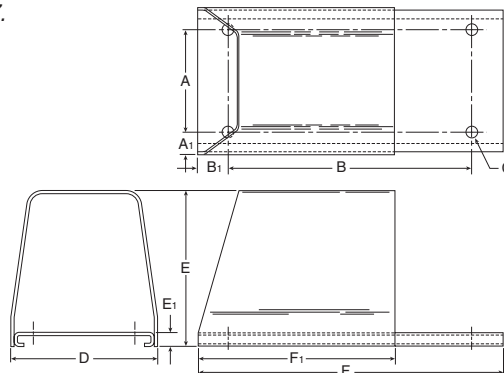
A	A <sub>1</sub>	B	B <sub>1</sub>	C
4.50 (114)	.75 (19)	10.50 (267)	1.25 (32)	.48 (11)
D	E	E <sub>1</sub>	F	F <sub>1</sub>
6.00 (152)	7.13 (181)	.50 (13)	13.00 (330)	8.38 (213)

Inches (mm)

\* This kit contains the valve mounting hardware.

**CAUTION:**

*This valve shall not be used to actuate a punch press.  
 Do not use this valve on punch presses or press brakes.  
 See OSHA 1910.217.*



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

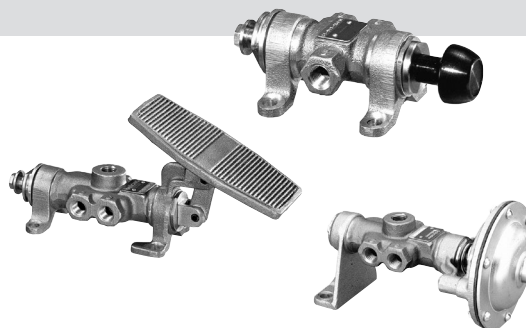
Control Panel  
Products

Sensing

Features

MO Series

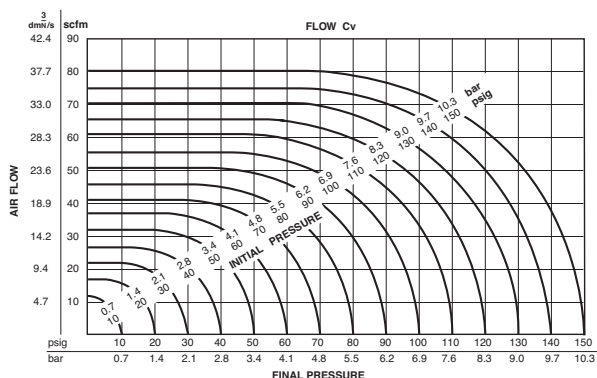
- 1/4" to 3/4" NPTF ports
- Standard operators listed. Consult factor for variations in orientation
- Standard 2 position 3-way and 4-way valves listed. Consult factory for 2-way and 3 position valves
- Corrosion resistant bronze body
- High flow brass spacers position o-ring, permit reverse piping and vacuum service
- Specially compounded o-rings suitable for non-lube air service and low pressure oil service
- Floating stem of hard chrome plated stainless steel; no metal to metal contact
- Closed at crossover design for air savings
- Piped exhaust convenient for muffling
- Interchangeable operators
- Interchangeable end sections
- Service without disturbing plumbing
- Dual mounting brackets on most models



Flow Cv ratings

Valve Type	Port Size	Port 1 to 2	Port 1 to 3	Port 2 to 3	Port 2 to 4	Port 3 to 4
3-Way 2-Position	1/4	2.4	—	2.4	—	—
	3/8	3.2	—	3.4	—	—
	1/2	5.0	—	5.1	—	—
4-Way 2-Position	1/4	2.4	2.4	—	2.0	2.2
	3/8	3.4	3.2	—	3.0	3.1
	1/2	5.2	5.3	—	4.7	4.7
	3/4	8.7	9.2	—	7.9	8.0

Flow Cv



Flow capacities

The capacity curves shown in the chart are for a theoretical valve having a Cv = 1.0 for air at standard conditions.

Flow rating determined in accordance with NFPA recommended standard NFPA/T3.21.3 - 1974.

Operating information

Pressure limitations  
Knob (manual and spring return) and palm operators (manual and spring return)

Media	Port size	PSI (kPa)	
		3-way	4-way
Air and Hydraulic	1/4	200 (1380)	180 (1240)
	3/8	175 (1210)	170 (1170)
	1/2	160 (1100)	150 (1030)
	3/4	150 (1030)	150 (1030)
Vacuum	All	Within 1" Hg of perfect	
Other	Consult factory		

Pressure limitations  
Knob (detent), lever, pedal, treadle, clevis, cam air operated diaphragm and cylinder

Media	Port size	PSI (kPa)	
		3-way	4-way
Air and Hydraulic	1/4	225 (1550)	225 (1550)
	3/8	225 (1550)	225 (1550)
	1/2	215 (1480)	215 (1480)
	3/4	200 (1380)	200 (1380)
Vacuum	All	Within 1" Hg of perfect	
Other	Consult factory		

Temperature range: -15°F to 200°F (-26° to 93°C)

Lubrication: For best results and service life use clean, moisture free lubricated air.

Material specifications

Body	High pressure valve bronze
Knobs and palm buttons	Anodized aluminum
Operators	Iron castings; steel rod, bar and tube, and plated for corrosion resistance
O-rings	Buna-N and impregnated with Molybdenum Disulfide
Spacers and end bearings	Brass bar stock
Springs	high quality steel and plated for corrosion resistance
Stem	Stainless steel and hard chrome plated

Warnings

- ⚠ Install guards on all hand operated valves if accidental operation can cause personal injury.
- ⚠ Foot operated valves must be protected against inadvertent operation that can cause serious bodily injury. Use of a guard is strongly recommended as it will reduce the likelihood of inadvertent operation.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

MO Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal





































Control Panel Products

Sensing



Common Part Numbers

MO Series Air Pilot, Manual & Mechanically Actuated Valves

3-Way And 4-Way Knob Operated	Description	Part Number 1/4 NPT	Part Number 3/8 NPT	Part Number 1/2 NPT	Part Number 3/4 NPT
	 3-way, detent ball, foot bracket	M05422448	M05432448	M05442448	M05462448
	 3-way, detent ball, panel mount with nut	M05822451	M05832451	M05842451	M05862451
	 3-way, N.C., manual, foot bracket	M08521848	M08531848	M08541848	M08561848
	 3-way, N.C., manual, panel nut	M08521851	M08531851	M08541851	M08561851
	 3-way, N.C., pull to operate, spring return, foot bracket	M09721848	M09731848	M09741848	M09761848
	 3-way, N.C., pull to operate, spring return, panel mount with nut	M06421851	M06431851	M06441851	M06461851
	 3-way, N.C., push to operate, spring return, foot bracket	M09821848	M09831848	M09841848	M09861848
	 3-way, N.C., push to operate, spring return, panel mount with nut	M06521851	M06531851	M06541851	M06561851
	 4-way, detent ball, foot bracket	M05425448	M05435448	M05445448	M05465448
	 4-way, detent ball, panel mount with nut	M05825451	M05835451	M05845451	M05865451
	 4-way, manual, foot bracket	M08524648	M08534648	M08544648	M08564648
	 4-way, manual, panel nut	M08524651	M08534651	M08544651	M08564651
	 4-way, pull to operate, spring return, foot bracket	M09724648	M09734648	M09744648	M09764648
	 4-way, pull to operate, spring return, panel mount with nut	M06424651	M06434651	M06444651	M06464651
	 4-way, push to operate, spring return, foot bracket	M09824648	M09834648	M09844648	M09864648
	 4-way, push to operate, spring return, panel mount with nut	M06524651	M06534651	M06544651	M06564651
	<b>3-Way and 4-Way Palm Button Operated</b>				
	 3-way, N.C., pull palm button to operate, spring return, panel mount with nut	M06421859	M06431859	M06441859	M06461859
	 3-way, N.C., push palm button to operate, spring return, panel mount with nut	M06521859	M06531859	M06541859	M06561859
	 4-way, pull palm button to operate, spring return panel mount with nut	M06424659	M06434659	M06444659	M06464659
	 4-way, push palm button to operate, spring return, panel mount with nut	M06524659	M06534659	M06544659	M06564659
<b>3-Way and 4-Way Lever Operated</b>					
	 3-way, detent ball, foot bracket	M05422443	M05432443	M05442443	M05462443
	 3-way, manual, foot bracket	M08521843	M08531843	M08541843	M08561843
	 3-way, N.C., pull lever to operate, spring return, foot bracket	M09621843	M09631843	M09641843	M09661843
	 3-way, N.C., push lever to operate, spring return, foot bracket	M09521843	M09531843	M09541843	M09561843
	 4-way, detent ball, foot bracket	M05425443	M05435443	M05445443	M05465443
	 4-way, manual, foot bracket	M08524643	M08534643	M08544643	M08564643
	 4-way, pull lever to operate, spring return, foot bracket	M09624643	M09634643	M09644643	M09664643
	 4-way, push lever to operate, spring return, foot bracket	M09524643	M09534643	M09544643	M09564643

Red Square = Discontinued

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
Viking Xtreme Lever Series  
42 Lever / Pedal Series  
MO Series  
Safety  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing

Common Part Numbers

MO Series Air Pilot, Manual & Mechanically Actuated Valves

3-Way and 4-Way, Foot Operated: Treadle / Pedal Type		Part Number 1/4 NPT	Part Number 3/8 NPT	Part Number 1/2 NPT	Part Number 3/4 NPT
	3-way, treadle operated, detent ball, foot bracket	M05422488	M05432488	M05442488	—
	3-way, treadle operated, manual return, foot bracket	M08521888	M08531888	M08541888	—
	3-way, N.C., spring return, pedal operated, foot bracket	M06221840	M06231840	M06241840	—
	4-way, treadle operated, detent ball, foot bracket	M05425488	M05435488	M05445488	—
	4-way, treadle operated, manual return, foot bracket	M08524688	M08534688	M08544688	—
	4-way, spring return, pedal operated, foot bracket	M06224640	M06234640	M06244640	—

**CAUTION:** This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.

3-Way and 4-Way Air Operated : Diaphragm or Cylinder

	3-way, N.C., single air diaphragm, air signal to actuate, spring return foot bracket	M08421830	M08431830	M08441830	—
	3-way, single air cylinder signal to actuate, spring return foot bracket	M08521826	M08531826	M08541826	M08561826
	3-way, double air diaphragm	M03321833	M03331833	M03341833	—
	3-way, double air cylinder foot bracket	M01921819	M01931819	M01941819	M01961819
	4-way, single air diaphragm, air signal to actuate, spring return foot bracket	M08424630	M08434630	M08444630	—
	4-way, single air cylinder signal to actuate, spring return foot bracket	M08524626	M08534626	M08544626	M08564626
	4-way, double air diaphragm	M03324633	M03334633	M03344633	—
	4-way, double air cylinder foot bracket	M01924619	M01934619	M01944619	M01964619

Note: diaphragm operators : pilot signal pressures from 20 to 60 psi. Cylinder operators : pilot signal pressures from 20 to 250 psi.

3-Way and 4-Way Clevis Operated

	3-way, manual, foot bracket	M08521805	M08531805	M08541805	M08561805
	3-way, N.C., pull to operate, spring return foot bracket	M09621805	M09631805	M09641805	M09661805
	3-way, N.C., push to operate, spring return, foot bracket	M09521805	M09531805	M09541805	M09561805
	4-way, manual, foot bracket	M08524605	M08534605	M08544605	M08564605
	4-way, pull clevis to operate, spring return, foot bracket	M09624605	M09634605	M09644605	M09664605
	4-way, push clevis to operate, spring return, foot bracket	M09524605	M09534605	M09544605	M09564605

3-Way and 4-Way Cam Operated

	3-way, N.C., spring return, cam operated, foot bracket	M09521803	M09531803	M09541803	M09561803
	4-way, spring return, cam operated, foot bracket	M09524603	M09534603	M09544603	M09564603

Red Square = Discontinued

Most popular.



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Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

MO Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

Control Panel Products

Sensing

MO Valve: 1/4", 3/8", 1/2" Port Size

**MO 85 3 18 48**

Valve Series	
Basic Series	MO

Left End Section	
Double Cylinder	19
Double Air Diaphragm	33
Ball Detent, Small Bracket	54
Ball Detent, Panel Mounted	58
Direct Acting Spring Return, Less Bracket (Push Lever)	62
Reverse Acting Spring Return, Less Bracket (Pull Lever)	63
Light Spring Return Direct Acting, Less Bracket (Pull Knob)	64
Light Spring Return Reverse Acting, Less Bracket (Push Knob)	65
Stem Stop, Large Bracket	84
Stem Stop, Small Bracket	85
Direct Acting Spring Return, Small Bracket (Push Lever)	95
Reverse Acting Spring Return, Small Bracket (Pull Lever)	96
Light Spring Return Direct Acting, Small Bracket (Pull Knob)	97
Light Spring Return Reverse Acting, Small Bracket (Push Knob)	98

Operating End Section: Right End	
03	Cam Follower
05	Clevis, Small Bracket
19	Double Cylinder
26	Single Cylinder
30	Single Diaphragm, Std. Spring
33	Double Diaphragm
40	Pedal
43	Lever, Mounting Feet
48	Knob, Small Bracket
51	Knob, Panel Mounted
59	Palm Button, Panel Mounted
88	Treadle
99	Palm Button

Body / Function	
18	3-Way
24*	3-Way, 2-Position Detent
46	4-Way
54*	4-Way, 2-Position Detent

Pipe Size	
NPT	Port Size
1/4	2
3/8	3
1/2	4

\* At least one end section must be coded 54.

MO Valve: 3/4" Port Size

**MO 85 6 18 48**

Valve Series	
Basic Series	MO

Left End Section	
Double Cylinder	19
Ball Detent, Small Bracket	54
Ball Detent, Panel Mounted	58
Direct Acting Spring Return, Less Bracket (Push Lever)	62
Reverse Acting Spring Return, Less Bracket (Pull Lever)	63
Light Spring Return Direct Acting, Less Bracket (Pull Knob)	64
Light Spring Return Reverse Acting, Less Bracket (Push Knob)	65
Stem Stop, Small Bracket	85
Direct Acting Spring Return, Small Bracket (Push Lever)	95
Reverse Acting Spring Return, Small Bracket (Pull Lever)	96
Light Spring Return Direct Acting, Small Bracket (Pull Knob)	97
Light Spring Return Reverse Acting, Small Bracket (Push Knob)	98

Operating End Section: Right End	
03	Cam Follower
05	Clevis, Small Bracket
19	Double Cylinder
26	Single Cylinder
43	Lever, Mounting Feet
48	Knob, Small Bracket
51	Knob, Panel Mounted
59	Palm Button, Panel Mounted
99	Palm Button

Body / Function	
18	3-Way
24*	3-Way, 2-Position Detent
46	4-Way
54*	4-Way, 2-Position Detent

Pipe Size	
NPT	Port Size
3/4	6

\* At least one end section must be coded 54.



**CAUTION:**

Be sure to order end sections that are functionally effective with each other and with the body section selected. Model number combinations are possible which may not operate.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
**M**  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing

**Accessories**

**MO Series**

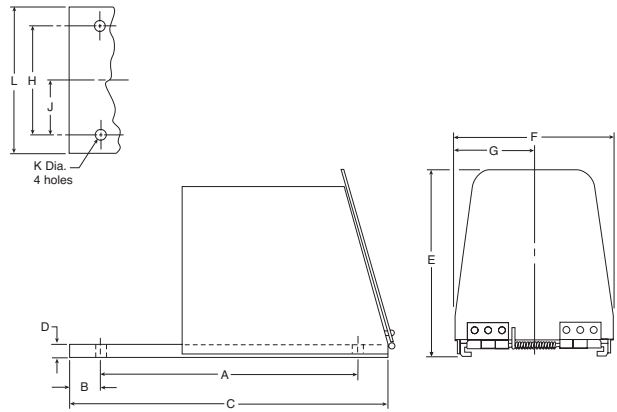
**Pedal Guard  
(Fits All Pedal Operated Valves)**

Description	Model number
Guard with door	<b>M232001</b>
Guard without door	<b>M232002</b>
Guard with door for 1/4 and 3/8 valve	<b>M232003*</b>
Guard without door for 1/4 and 3/8 valve	<b>M232004*</b>
Guard with door for 1/2 and 3/4	<b>M232005*</b>
Guard without door for 1/2 and 3/4	<b>M232006*</b>

\* Includes mounting hardware.

**CAUTION:**

Foot valves utilizing this guard shall not be used to actuate a punch press.  
Do not use this valve on punch presses or press brakes.  
See OSHA 1910.217.



**Dimensions**

A	B	C	D	E	F	G
10.50	1.25	13.00	.50	7.38	6.36	3.18
266.7	31.8	330.2	12.7	187.4	161.5	80.8
H	J	K	L			
4.50	2.25	.44	6.00			
114.3	57.2	11.2	152.4			

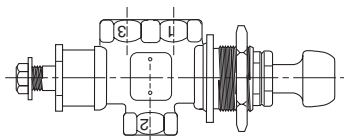
**MO valve 9 digit part number dissection**

The MO Valve Series has with wide variety of operating and return ends which can be ordered either on the left or right hand side of the valve body. Common part numbers on the previous pages can be ordered with the left and right hand ends swapped. Swapping operator and return end sections does not change the spool function, but can reverse the

expected function of the valve. For example, a 3-way, normally closed, "NC", spring return valve will become a 3-way normally open, "NO", valve when the operator and return section is swapped. There are other non-cataloged options available and this part number dissection will enable you to discuss your valve part number with the factory for options.

**3-way**

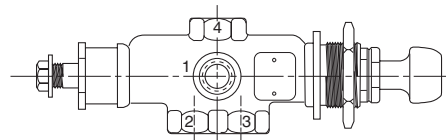
Series name	Left end	Port size	Body function	Right end
<b>MO</b>	<b>XX</b>	<b>X</b>	<b>XX</b>	<b>XX</b>



Left End Section in relation to port #2 ← → Right End Section in relation to port #2

**4-way**

Series name	Left end	Port size	Body function	Right end
<b>MO</b>	<b>XX</b>	<b>X</b>	<b>XX</b>	<b>XX</b>



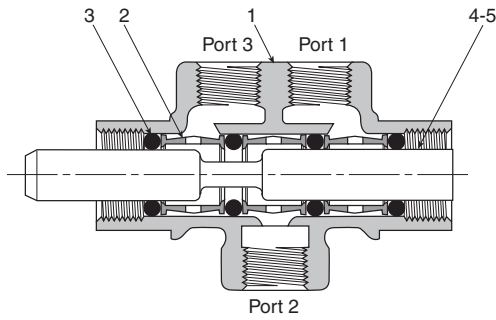
Left End Section in relation to port #2 ← → Right End Section in relation to port #3

Most popular.

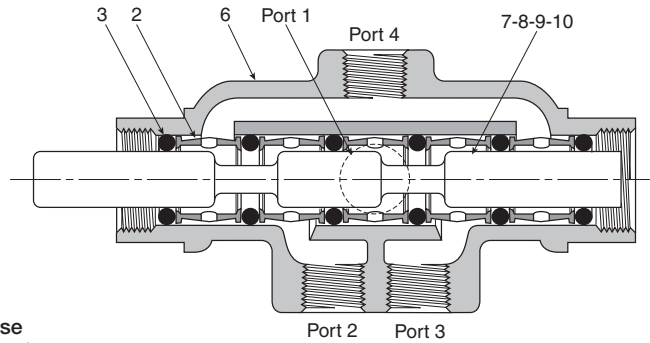


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Body Sections**



**M032\*18**  
**Standard 3-Way**  
**M032\*24**  
**2-Position Detent 3-Way**



**M032\*46**  
**Standard 4-Way**  
**M032\*54**  
**2-Position Detent 4-Way**

Port Size	Use No. *
1/4	2
3/8	3
1/2	4
3/4	6

Item No.	Part Number				Description
	1/4"	3/8"	1/2"	3/4"	
1	M053007	M053019	M053030	M053038	Body – 3-Way
2	M313004	M313011	M313013	M313017	Spacer (2-3-5)
3	H13466	H13588	H13580	H13584	O-Ring (3-4-6)
4	M373014	M373060	M373102	M373142	Stem – 3-Way
5	M373020	M373064	M373103	M373146	Stem – 3-Way 2-Pos. Detent
6	M053003	M053020	M053033	M053039	Body – 4-Way
7	M373033	M373074	M373116	M373156	Stem – 4-Way
8	M373039	M373076	M373118	—	Stem – 4-Way 2-Pos. Detent

NOTE: ( ) denotes quantity required when more than one.

**Service Kits**

(Field service instructions)

Description (For all 3 & 4-way valves)	1/4	3/8	1/2	3/4
Manual & mechanical operators	M242001	M242002	M242003	M242004
Cylinder (single, double & double-acting)	M242006	M242007	M242008	M242009
Diaphragm (single & double)	M242011	M242012	M242013	M242014

**Replacement Knobs & Palm Buttons**



Knob & Adapter Kit      Palm Button & Adapter Kit

Description	1/4" & 3/8"	1/2"	3/4"
Knob & Adapter Kit	M122001	M122002	M122003
Palm Button & Adapter Kit	M122004	M122005	M122006

**Hex Drive Pipe Plugs**

Port Size	1/4"	3/8"	1/2"	3/4"
Part Number	K21R02025L	K21R02037L	K21R02050L	K21R02075L

Red Square = Discontinued



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

MO Series

Safety



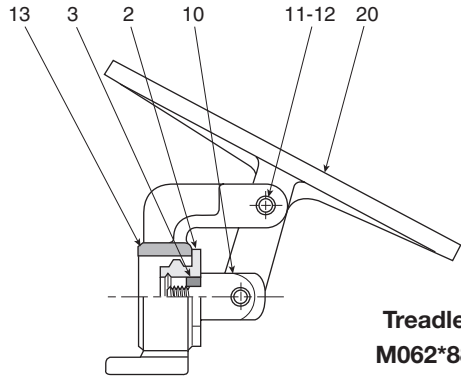
Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

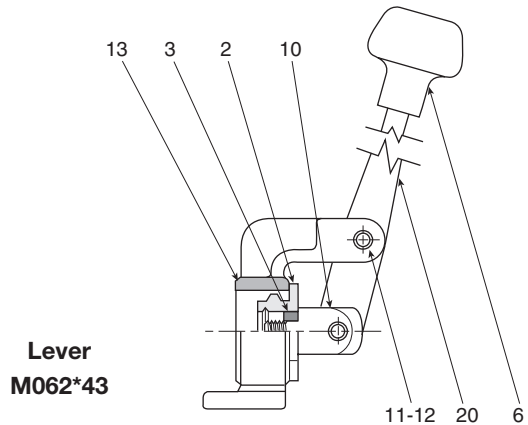
Control Panel  
Products

Sensing

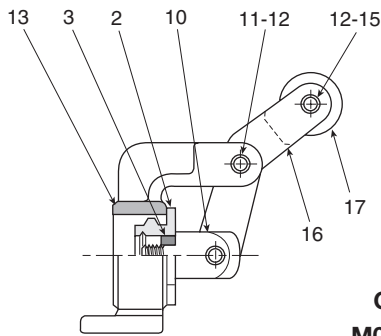
**Manual & Mechanical Operators**



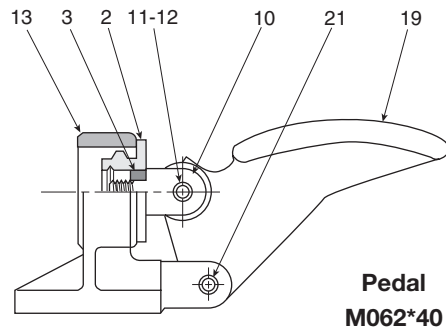
**Treadle  
M062\*88**



**Lever  
M062\*43**



**Cam  
M062\*03**



**Pedal  
M062\*40**

Port Size	Use No. *
1/4	2
3/8	3
1/2	4
3/4	6

Item No.	Part Number				Description
	1/4"	3/8"	1/2"	3/4"	
2	M103012	M103047	M103066	M103108	End Bearing
3	H17705	H17705	H17706	H17408	Lockwasher
6	H05028	H05028	H05028	H05028	Knob
10	M133003	M133003	M133012	M133018	Clevis
11	H07229	H07229	M333013	M333013	Pivot Pin (2)
12	—	—	H08903	H08903	Retaining Ring (4)
13	M073009	M073022	M073033	M073042	Bracket
14	M273022	M273022	M273023	M273024	Lever
15	—	H07230	M333016	M333016	Roller Trunnion
16	M273002	M273002	M273006	M273007	Cam Arm
17	M443003	M443003	M443002	M443002	Roller
19	M323005	M323005	M323006	M323007	Pedal
20	M553004	M553004	M553005	—	Treadle
21	H07229	H07229	M333013	M333014	Pivot Pin

NOTE: ( ) denotes quantity required when more than one.

Red Square = Discontinued

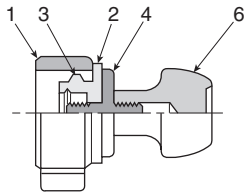


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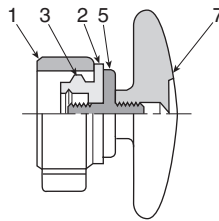
Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing



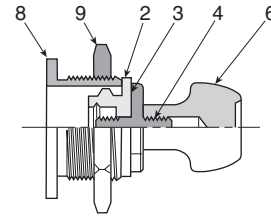
**Manual & Mechanical Operators**



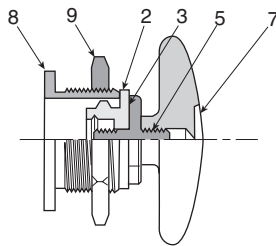
**Knob**  
**M062\*48**



**Palm Button**  
**M062\*99**

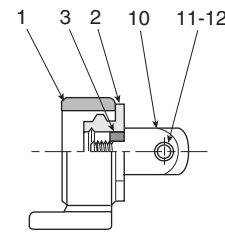


**Panel Mounted Knob**  
**M062\*51**



**Panel Mounted Palm Button**  
**M062\*59**

Port Size	Use No. *
1/4	2
3/8	3
1/2	4
3/4	6



**Clevis**  
**M062\*05**

Item No.	Part Number				Description
	1/4"	3/8"	1/2"	3/4"	
1	<b>M073016</b>	<b>M073026</b>	<b>M073037</b>	<b>M073046</b>	Bracket
2	<b>M103012</b>	<b>M103047</b>	<b>M103066</b>	<b>M103108</b>	End Bearing
3	<b>H17705</b>	<b>H17705</b>	<b>H17706</b>	<b>H17408</b>	Lockwasher
4	<b>M013011</b>	<b>M013011</b>	<b>M013012</b>	<b>M013013</b>	Knob Adapter
5	<b>M013011</b>	<b>M013011</b>	<b>M013012</b>	<b>M013013</b>	Palm Knob Adapter
6	<b>H05028</b>	<b>H05028</b>	<b>H05028</b>	<b>H05028</b>	Knob
7	<b>H05029</b>	<b>H05029</b>	<b>H05029</b>	<b>H05029</b>	Palm Button
8	<b>M013014</b>	<b>M013015</b>	<b>M013016</b>	<b>M013017</b>	Panel Adapter
9	<b>M303005</b>	<b>M303006</b>	<b>M303007</b>	<b>M303008</b>	Jam Nut
10	<b>M133003</b>	<b>M133003</b>	<b>M133012</b>	<b>M133018</b>	Clevis
11	<b>H07229</b>	<b>H07229</b>	<b>M333013</b>	<b>M333013</b>	Pivot Pin (2)
12	—	—	<b>H08903</b>	<b>H08903</b>	Retaining Ring (4)

NOTE: ( ) denotes quantity required when more than one.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing

**Pneumatic Operators**

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever /  
Pedal Series

MO Series

Safety

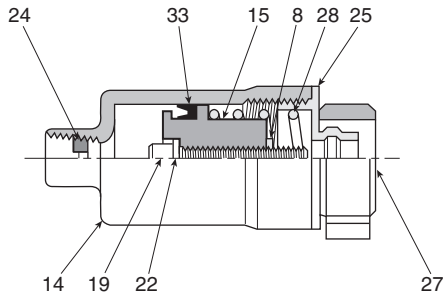


Manual / Mechanical  
Valves

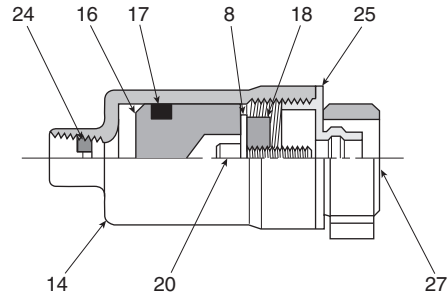
Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing



**Single Cylinder**  
**M062\*26**



**Double Cylinder**  
**M062\*19**

Port Size	Use No. *
1/4	2
3/8	3
1/2	4
3/4	6

Item No.	Part Number				Description
	1/4"	3/8"	1/2"	3/4"	
8	H17705	H17705	H17706	H17408	Lockwasher
14	M243028	M243028	M243028	M243036	Housing
15	M343019	M343019	M343018	M343027	Piston – Single Act.
16	M343022	M343022	M343022	M343028	Piston – Double Cyl.
17	H14515	H14515	H14515	H14520	Packer
18	M013005	M013005	M013007	M013009	Adapter
19	H10121	H10121	H10147	H10219	Screw – Single Act.
20	H10117	H10117	H10145	H10215	Screw – Double Act.
22	H17514	H17514	H17519	H17524	Lockwasher
24	M363002	M363002	M363002	M363002	Restrictor
25	M383007	M383011	M383018	M383029	Retainer
27	M073016	M073026	M073037	M073046	Bracket
28	M493015	M493015	M493015	M493020	Spring
33	H22232	H22232	H22232	H14520	Packer

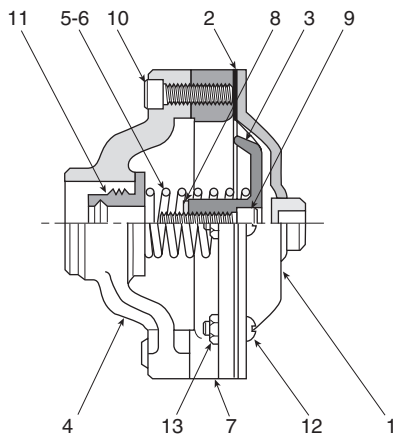
NOTE: ( ) denotes quantity required when more than one.

**Red Square = Discontinued**

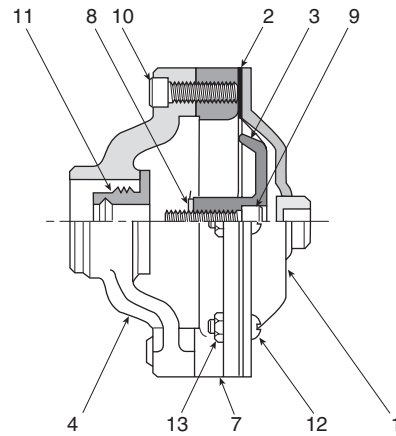


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Pneumatic Operators**



**Single Diaphragm  
M062\*30**



**Double Diaphragm  
M062\*33**

Port Size	Use No. *
1/4	2
3/8	3
1/2	4
3/4	6

Item No.	Part Number				Description
	1/4"	3/8"	1/2"	3/4"	
1	M163005	M163005	M163005	M163012	Cover
2	M193002	M193002	M193002	M193005	Diaphragm
3	M343038	M343038	M343032	M343039	Piston
4	M573004	M573003	M573001	M573011	Yoke
5	M493024	M493024	M493010	M493023	Spring
6	M493022	M493022	M493009	—	Spring (Inst. Air)
7	M423002	M423002	M423002	M423004	Ring
8	H17705	H17705	H17706	H17408	Lockwasher
9	H10119	H10119	H10145	H10217	Screw
10	H10115	H10115	H10115	H10115	Screw (2)
11	M103012	M103047	M103066	M103108	End Bearing
12	H11333	H11333	H11333	H11333	Screw (6)
13	H06416	H06416	H06416	H06416	Nut (6)

NOTE: ( ) denotes quantity required when more than one.

**Red Square = Discontinued**



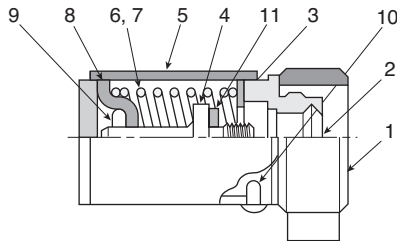
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
Viking Xtreme Lever Series  
42 Lever / Pedal Series  
MO Series  
Safety  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing

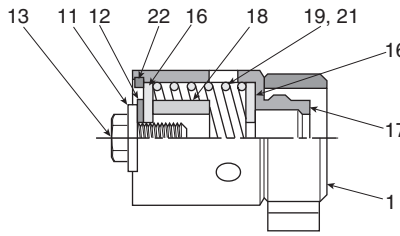
**Technical Data**

**MO Series**

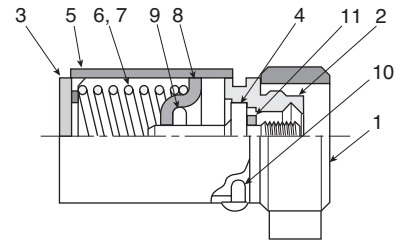
**End Sections**



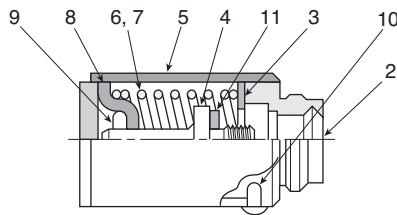
**Direct Acting Spring Return with Bracket**  
**M062\*95 Push Lever**  
**M062\*97 Pull Knob**



**Spring Centered Neutral**  
**M062\*74 Standard Spring**  
**M062\*78 Heavy Spring**

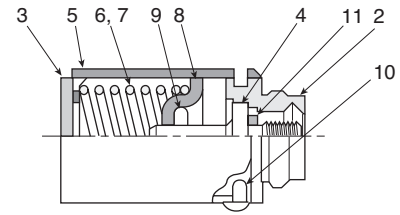


**Reverse Acting Spring Return with Bracket**  
**M062\*96 Pull Lever**  
**M062\*98 Push Knob**



**Direct Acting Spring Return Less Bracket**  
**M062\*62 Push Lever**  
**M062\*64 Pull Knob**

Port Size	Use No. *
1/4	2
3/8	3
1/2	4
3/4	6



**Reverse Acting Spring Return Less Bracket**  
**M062\*63 Pull Lever**  
**M062\*65 Push Knob**

Item No.	Part Number				Description
	1/4"	3/8"	1/2"	3/4"	
1	M073016	M073026	M073037	M073046	Bracket
2	M103111	M103112	M103113	M103114	End Bearing
3	M413015	M413015	M413016	M413017	Spring Retainer Washer
4	M523009	M523009	M523010	M523011	Stem Stop – Guide
5	M243043	M243043	M243044	M243045	Spring Housing
6	M493037	M493037	M493027	M493026	Spring – Knob Oper.
7	M493038	M493038	M493011	M493012	Spring – Other Oper.
8	M383032	M383032	M383033	M383034	Spring Retainer
9	H07254	H07254	H07270	H07271	Roll Pin
10	H11215	H11215	H11216	H11217	Screw
11	H17705	H17705	H17706	H17408	Lockwasher
12	M563002	M563002	M563006	M563014	Stem Stop
13	H09626	H09626	H09645	H09706	Stem Stop Screw
16	M563007	M563009	M563008	M563016	Washer
17	M243008	M243019	M243027	M243032	Spring Housing
18	M083003	M083004	M083005	M083008	Spacer
19	M493008	M493008	M493008	M493014	Spring
21	M493006	M493006	M493006	M493007	Spring – Dbl. Act. Cyl.
22	H09025	H09025	H09025	H09012	Retainer Ring

**Red Square = Discontinued**

NOTE: ( ) denotes quantity required when more than one.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

MO Series

Safety



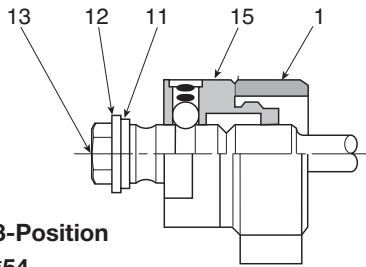
Manual / Mechanical Valves

Brass Poppet / Sliding Seal

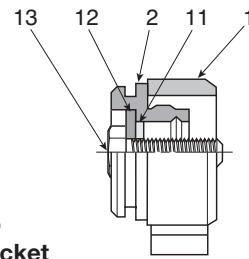
Control Panel Products

Sensing

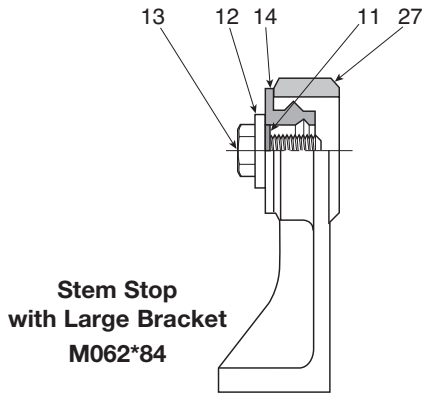
**End Sections**



**Ball Detent, 3-Position  
M062\*54**



**Stem Stop  
with Small Bracket  
M062\*85**



**Stem Stop  
with Large Bracket  
M062\*84**

Port Size	Use No. *
1/4	2
3/8	3
1/2	4
3/4	6

Item No.	Part Number				Description
	1/4"	3/8"	1/2"	3/4"	
1	M073016	M073026	M073037	M073046	Bracket
2	M103111	M103112	M103113	M103114	End Bearing
11	H17705	H17705	H17706	H17408	Lockwasher
12	M563002	M563002	M563006	M563014	Stem Stop
13	H09626	H09626	H09645	H09706	Stem Stop Screw
14	M103012	M103047	M103066	M103108	End Bearing – Plain
15	M012001	M012002	M012003	M012005	Ball Detent Assembly
27	M073006	M073017	M073028	—	Large Bracket

NOTE: ( ) denotes quantity required when more than one.

Directair 2 & 4 Series  
Viking Xtreme Lever Series  
42 Lever / Pedal Series  
MO Series  
Safety  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing

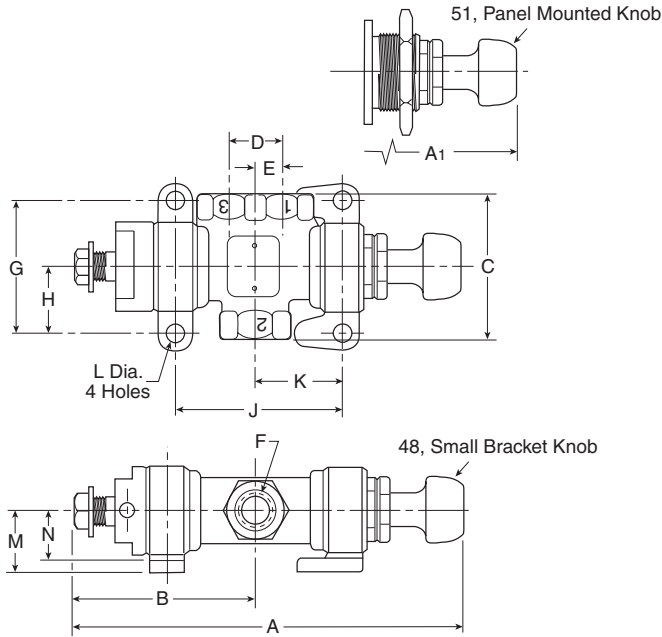


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Knob Operated, 2-Position Detent, Ball Detent**

**M054 Ball Detent, Small Bracket & M058 Ball Detent, Panel Mounted**

**3-Way**

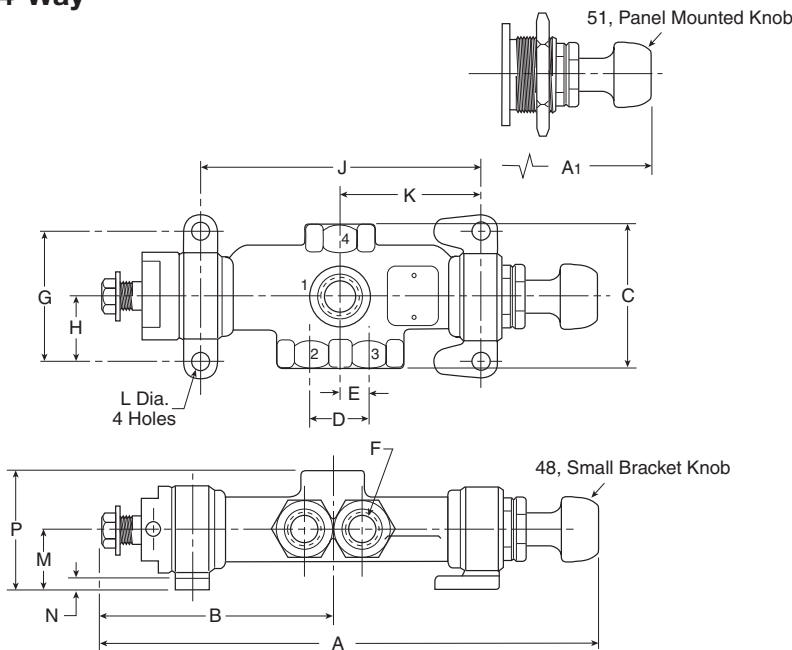


	1/4	3/8	1/2	3/4
A	6.57 (166.9)	7.30 (185.4)	8.56 (217.4)	10.40 (264.2)
A1	6.57 (166.9)	7.30 (185.4)	8.56 (217.4)	10.40 (264.2)
B	3.25 (82.6)	3.66 (93.0)	4.39 (111.5)	5.41 (137.4)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.63 (66.8)	3.13 (79.5)	3.72 (94.5)	4.56 (115.8)
K	1.31 (33.3)	1.56 (39.6)	1.86 (47.2)	2.28 (57.9)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)

Inches (mm)

**M054 Ball Detent, Small Bracket & M058 Ball Detent, Panel Mounted**

**4-Way**



	1/4	3/8	1/2	3/4
A	8.02 (203.7)	9.13 (231.9)	11.17 (283.7)	13.10 (332.7)
A1	8.02 (203.7)	9.13 (231.9)	11.17 (283.7)	13.10 (332.7)
B	4.00 (101.6)	4.57 (116.1)	5.44 (138.2)	6.76 (171.7)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)	3.69 (93.7)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)

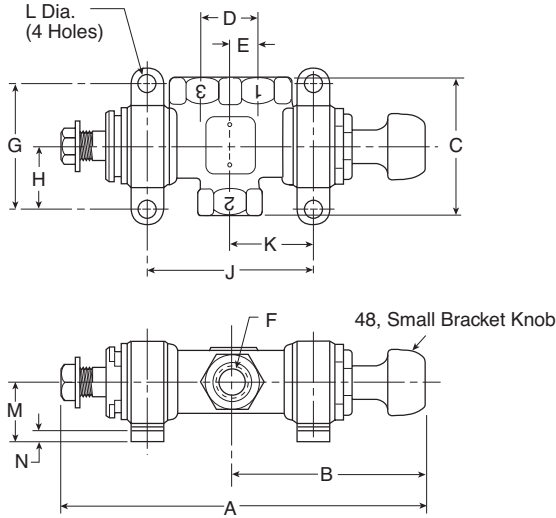
Inches (mm)



**Knob Operated, Manual Return, Stem Stop**

**M085 Stem Stop, Small Bracket**

**3-Way**

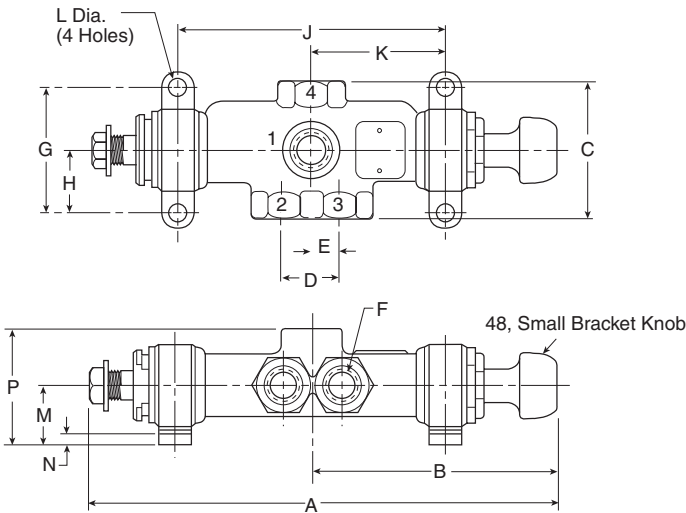


	1/4	3/8	1/2	3/4
<b>A</b>	5.99 (152.2)	6.69 (169.9)	7.90 (200.7)	9.60 (243.8)
<b>B</b>	3.32 (84.3)	3.64 (92.5)	4.17 (105.9)	4.99 (126.8)
<b>C</b>	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
<b>D</b>	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
<b>E</b>	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
<b>F</b>	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
<b>G</b>	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
<b>H</b>	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
<b>J</b>	2.64 (67.1)	3.14 (79.8)	3.73 (94.7)	4.67 (118.6)
<b>K</b>	1.32 (33.5)	1.57 (39.9)	1.87 (47.5)	2.33 (59.2)
<b>L</b>	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
<b>M</b>	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
<b>N</b>	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
<b>Travel</b>	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)

**M085 Stem Stop, Small Bracket**

**4-Way**



	1/4	3/8	1/2	3/4
<b>A</b>	7.49 (190.2)	8.53 (216.7)	10.01 (254.2)	12.31 (312.7)
<b>B</b>	4.02 (102.1)	4.56 (115.8)	5.73 (145.5)	6.34 (161.0)
<b>C</b>	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
<b>D</b>	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
<b>E</b>	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
<b>F</b>	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
<b>G</b>	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
<b>H</b>	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
<b>J</b>	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
<b>K</b>	2.07 (52.6)	2.49 (63.2)	2.93 (74.4)	3.69 (93.7)
<b>L</b>	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
<b>M</b>	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
<b>N</b>	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
<b>P</b>	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
<b>Travel</b>	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

MO Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

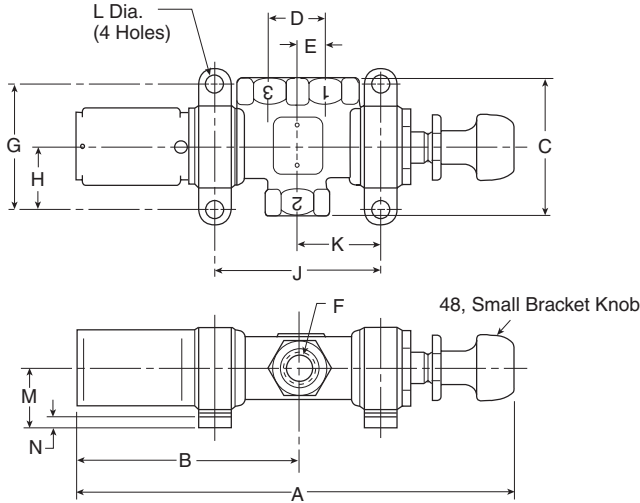
**Dimensional Data**

**MO Series**

**Knob & Palm Button Operated, Light Spring Return**

**M097 Light Spring Return Direct Acting, Small Bracket (Pull Knob)**

**3-Way**

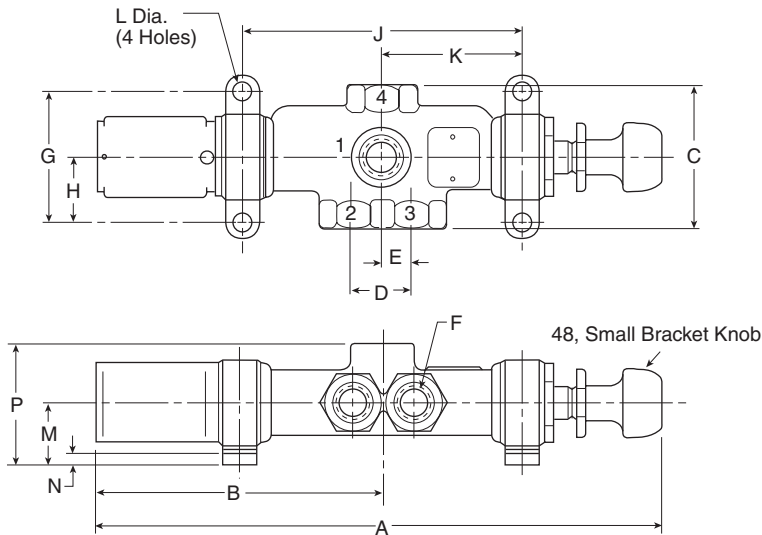


	1/4	3/8	1/2	3/4
A	7.86 (199.8)	8.55 (217.2)	10.36 (263.1)	13.01 (330.4)
B	3.92 (99.6)	4.24 (107.7)	5.32 (135.2)	6.92 (175.8)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.64 (67.1)	3.14 (79.8)	3.73 (94.7)	4.67 (118.6)
K	1.32 (33.5)	1.57 (39.9)	1.87 (47.5)	2.33 (59.2)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
Travel	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)

**M097 Light Spring Return Direct Acting, Small Bracket (Pull Knob)**

**4-Way**



	1/4	3/8	1/2	3/4
A	9.36 (237.9)	10.39 (263.9)	12.48 (317.0)	15.73 (399.5)
B	4.67 (118.5)	5.15 (130.8)	6.37 (161.8)	8.27 (210.1)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.93 (74.4)	3.69 (93.7)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
Travel	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)

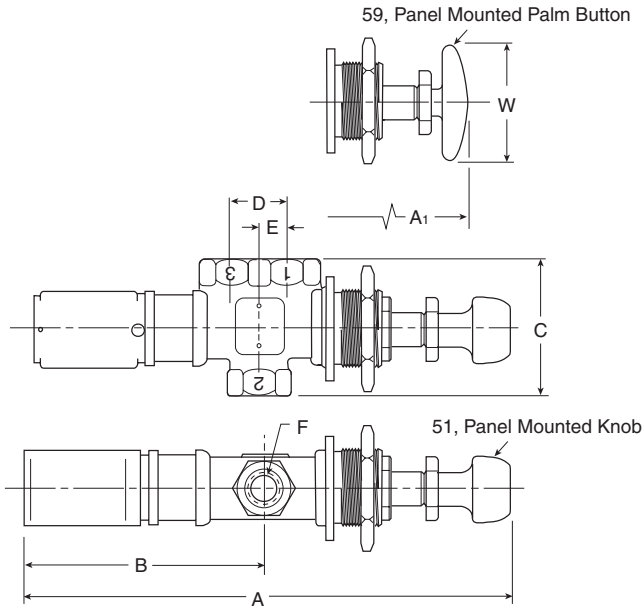


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Panel Mounted, Knob & Button Operated,  
 Light Spring Return**

**M064 Direct Acting, Less Bracket (Pull Knob) &  
 M065 Reverse Acting, Less Bracket (Push Knob)**

**3-Way**

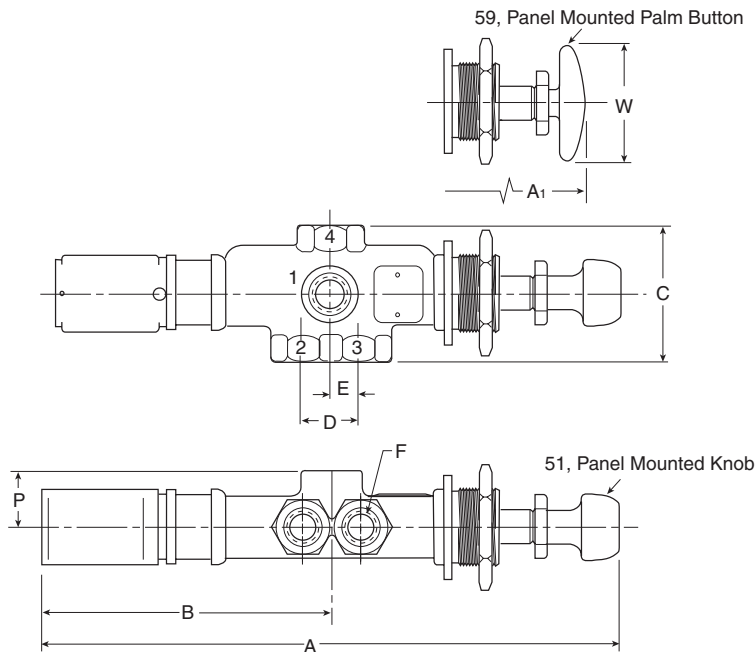


	1/4	3/8	1/2	3/4
A	7.86 (199.6)	8.55 (217.1)	10.36 (263.1)	13.01 (330.4)
A1	7.55 (191.8)	8.24 (209.3)	10.05 (255.3)	12.70 (322.6)
B	3.96 (99.5)	4.23 (107.4)	5.31 (134.9)	6.91 (175.5)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
W	2.25 (57.2)	2.25 (57.2)	2.25 (57.2)	2.25 (57.2)
Travel	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)

**M064 Direct Acting, Less Bracket (Pull Knob) &  
 M065 Reverse Acting, Less Bracket (Push Knob)**

**4-Way**



	1/4	3/8	1/2	3/4
A	9.36 (237.7)	10.39 (263.9)	12.48 (317.0)	15.73 (399.5)
A1	9.05 (229.9)	10.08 (256.0)	12.17 (309.1)	15.42 (391.7)
B	4.67 (118.5)	5.15 (130.8)	6.37 (161.8)	8.27 (210.1)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
W	2.25 (57.2)	2.25 (57.2)	2.25 (57.2)	2.25 (57.2)
Travel	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

MO Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

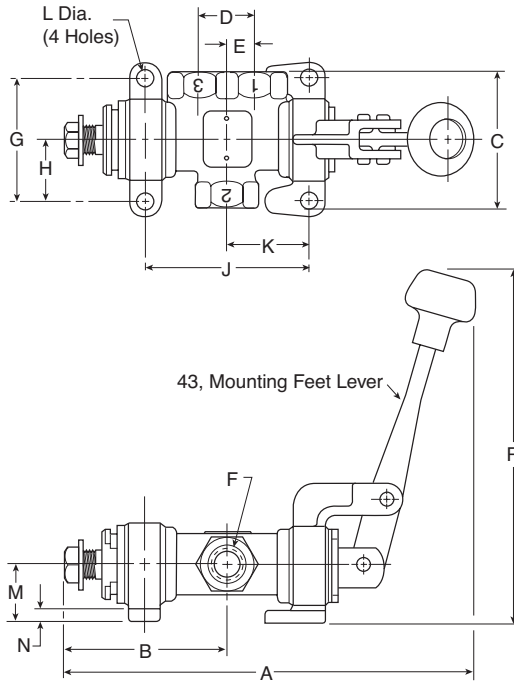
Sensing

Dimensional Data

Lever Operated, Manual Return, Stem Stop

M085 Stem Stop, Small Bracket

3-Way

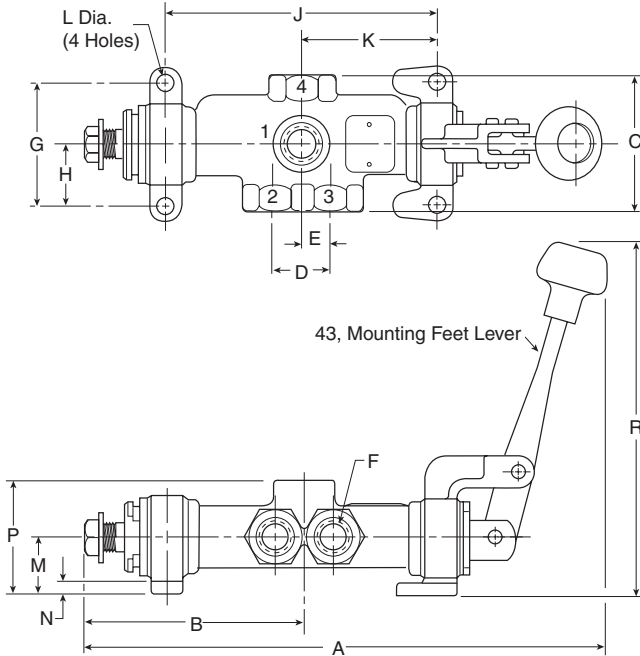


	1/4	3/8	1/2	3/4
A	6.77 (172.0)	7.76 (197.1)	9.29 (236.0)	11.46 (291.1)
B	2.67 (67.8)	3.05 (77.5)	3.72 (94.5)	4.61 (117.1)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.63 (66.8)	3.13 (79.5)	3.72 (94.5)	4.56 (115.8)
K	1.31 (33.3)	1.56 (39.6)	1.86 (47.2)	2.28 (57.9)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
R	6.78 (172.2)	6.78 (172.2)	8.10 (205.7)	10.73 (272.5)
Travel	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)

M085 Stem Stop, Small Bracket

4-Way



	1/4	3/8	1/2	3/4
A	8.28 (210.3)	9.60 (243.8)	11.08 (281.4)	14.17 (359.9)
B	3.42 (86.9)	3.97 (100.8)	4.78 (121.4)	5.97 (151.6)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)	3.69 (93.7)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
R	6.78 (172.2)	6.78 (172.2)	8.10 (205.7)	10.73 (272.5)
Travel	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)



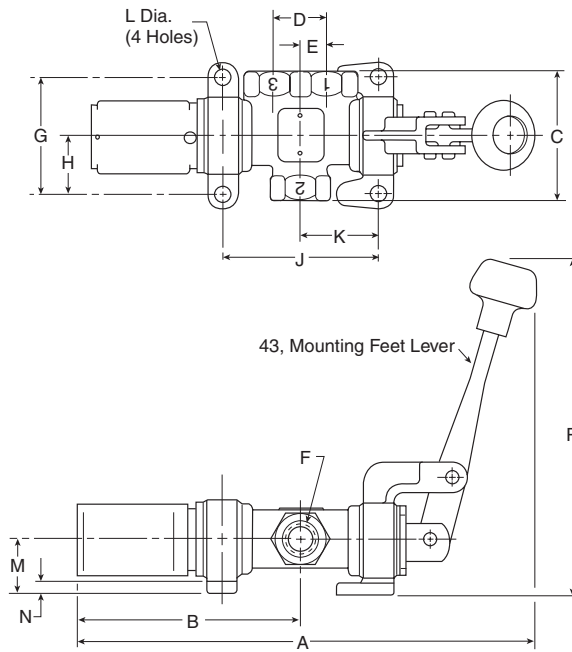
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
Viking Xtreme Lever Series  
42 Lever / Pedal Series  
MO Series  
Safety  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing

**Lever Operated, Spring Return**

**M095 Direct Acting, Small Bracket (Push Lever) & M096 Reverse Acting, Small Bracket (Pull Lever)**

**3-Way**

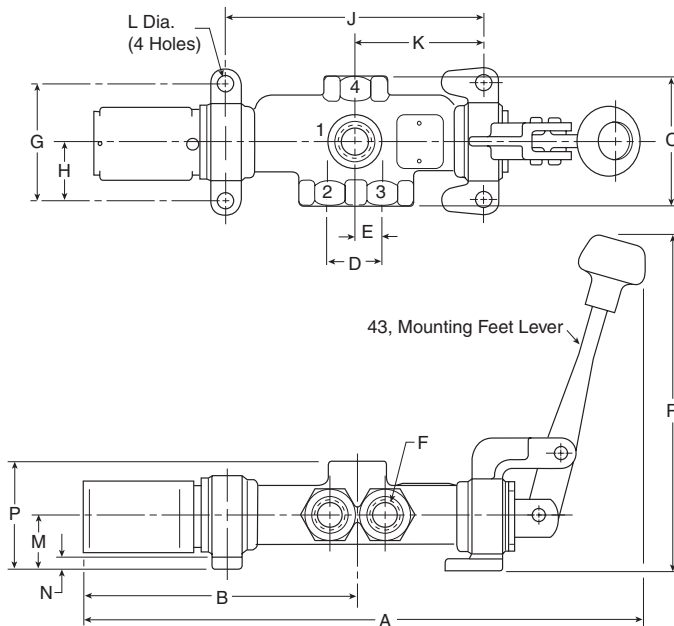


	1/4	3/8	1/2	3/4
A	7.99 (202.8)	8.94 (227.0)	10.88 (276.4)	13.76 (349.5)
B	3.92 (99.5)	4.24 (107.6)	5.31 (134.9)	6.92 (175.8)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.63 (66.8)	3.13 (79.5)	3.72 (94.5)	4.56 (115.8)
K	1.31 (33.3)	1.56 (39.6)	1.86 (47.2)	2.28 (57.9)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
R	6.78 (172.2)	6.78 (172.2)	8.10 (205.7)	10.73 (272.5)
Travel	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)

**M095 Direct Acting, Small Bracket (Push Lever) & M096 Reverse Acting, Small Bracket (Pull Lever)**

**3-Way**



	1/4	3/8	1/2	3/4
A	9.53 (242.1)	10.78 (273.8)	12.67 (321.8)	16.47 (418.3)
B	4.67 (118.6)	5.15 (130.8)	5.68 (144.3)	8.27 (210.1)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)	3.69 (93.7)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
R	6.78 (172.2)	6.78 (172.2)	8.10 (205.7)	10.73 (272.5)
Travel	0.62 (15.7)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

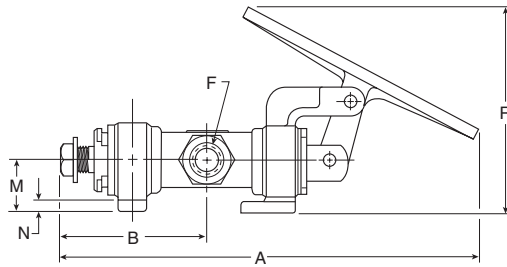
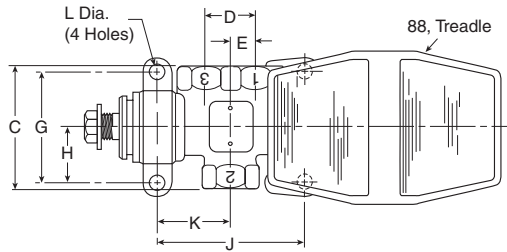
Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing

**Dimensional Data**

**Treadle Operated, Manual Return, Stem Stop**

**M085 Stem Stop, Small Bracket**

**3-Way**

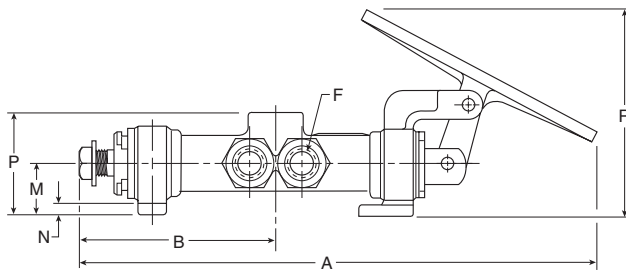
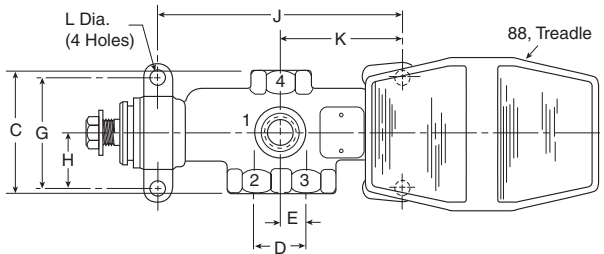


	1/4	3/8	1/2
A	8.01 (203.4)	8.73 (221.7)	10.32 (262.1)
B	2.67 (68.8)	3.06 (77.7)	4.06 (103.1)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)
J	2.63 (66.8)	3.13 (79.5)	3.72 (94.5)
K	1.31 (33.3)	1.56 (39.6)	1.86 (47.2)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)
R	4.51 (114.6)	4.65 (118.1)	4.85 (123.2)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)

Inches (mm)

**M085 Stem Stop, Small Bracket**

**4-Way**



	1/4	3/8	1/2
A	9.52 (241.8)	10.57 (268.5)	12.11 (307.6)
B	3.42 (86.9)	3.97 (100.8)	4.78 (121.4)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)
R	4.51 (114.6)	4.65 (118.1)	4.85 (123.2)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)

Inches (mm)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

4/2 Lever /  
Pedal Series

MO Series

Safety



**M085 Stem Stop, Small Bracket**

**4-Way**

Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

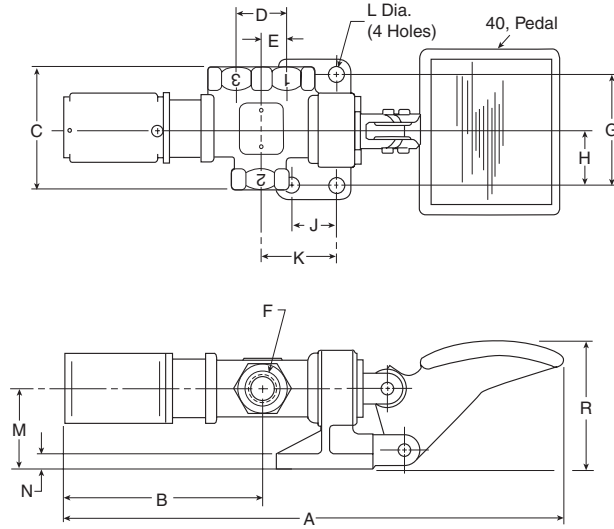
E40

**Parker Hannifin Corporation**  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)



**Pedal Operated, Spring Return**

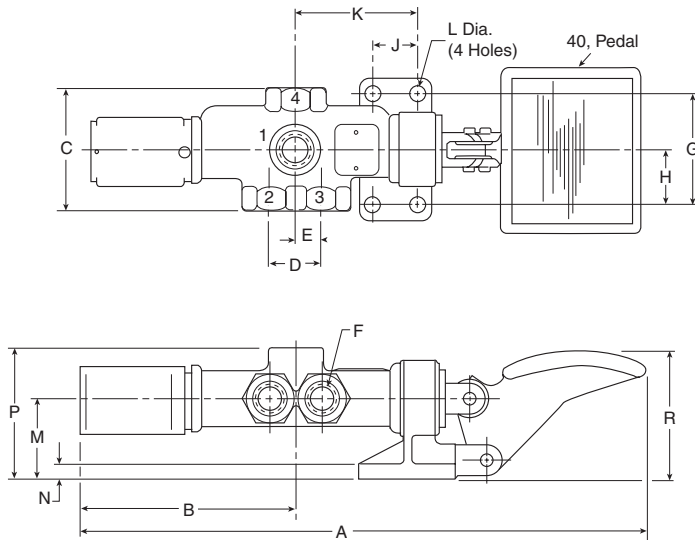
**M062 Direct Acting Spring Return, Less Bracket (Push Lever)**  
**3-Way**



	1/4	3/8	1/2
A	9.99 (253.8)	10.50 (269.2)	12.66 (321.6)
B	3.92 (99.5)	4.23 (107.4)	5.31 (134.9)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)
J	0.97 (24.6)	0.97 (24.6)	1.12 (28.4)
K	1.44 (36.6)	1.56 (39.6)	1.83 (46.5)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)
M	1.72 (43.7)	1.72 (43.7)	2.00 (50.8)
N	0.31 (7.9)	0.31 (7.9)	0.38 (9.6)
R	2.66 (67.6)	2.71 (68.8)	2.74 (69.6)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)

Inches (mm)

**M062 Direct Acting Spring Return, Less Bracket (Push Lever)**  
**4-Way**



	1/4	3/8	1/2
A	11.50 (292.1)	12.44 (315.9)	14.45 (367.0)
B	4.67 (118.5)	5.15 (130.8)	5.68 (144.3)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)
J	0.97 (24.6)	0.97 (24.6)	1.12 (28.4)
K	2.19 (55.6)	2.48 (63.0)	2.89 (73.4)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)
M	1.72 (43.7)	1.72 (43.7)	2.00 (50.8)
N	0.31 (7.9)	0.31 (7.9)	0.38 (9.6)
P	2.72 (69.1)	2.78 (70.6)	3.38 (85.8)
R	2.66 (67.6)	2.71 (68.8)	2.74 (69.6)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)

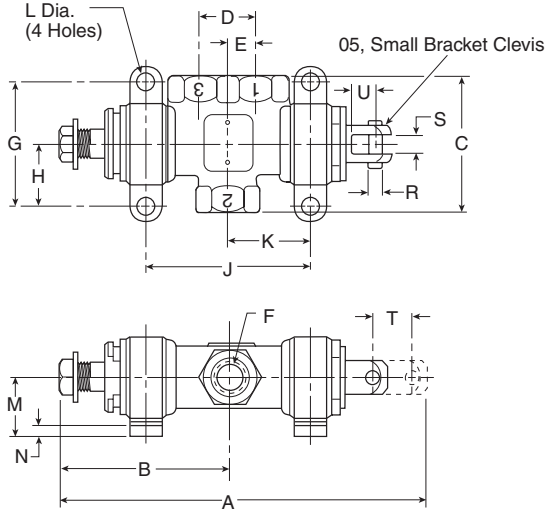
Inches (mm)

**Dimensional Data**

**Clevis Operated, Mechanical Return, Stem Stop**

**M085 Stem Stop, Small Bracket**

**3-Way**

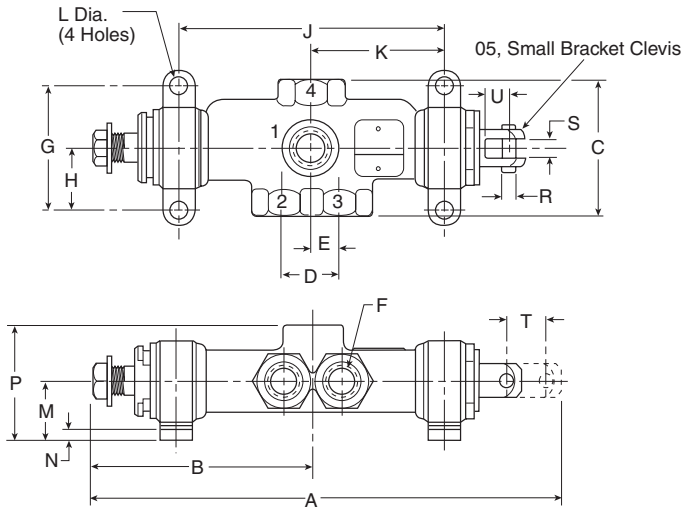


Inches (mm)

	1/4	3/8	1/2	3/4
A	5.31 (134.9)	6.01 (152.6)	7.36 (186.9)	8.92 (226.6)
B	2.68 (68.1)	3.06 (77.7)	4.85 (123.2)	4.62 (117.3)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.64 (67.1)	3.14 (79.8)	3.73 (94.7)	4.67 (118.6)
K	1.32 (33.5)	1.57 (39.9)	1.87 (47.5)	2.33 (59.2)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
R	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
S	0.38 (9.6)	0.38 (9.6)	0.44 (11.2)	0.44 (11.2)
U	0.47 (11.9)	0.47 (11.9)	0.56 (14.2)	0.62 (15.8)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

**M085 Stem Stop, Small Bracket**

**4-Way**



Inches (mm)

	1/4	3/8	1/2	3/4
A	6.81 (173.0)	7.85 (199.4)	9.48 (240.8)	11.64 (295.7)
B	3.42 (86.9)	3.97 (100.8)	5.91 (150.1)	5.97 (151.6)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)	3.69 (93.7)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
R	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
S	0.38 (9.6)	0.38 (9.6)	0.44 (11.2)	0.44 (11.2)
U	0.47 (11.9)	0.47 (11.9)	0.56 (14.2)	0.62 (15.8)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Directair 2 & 4 Series  
Viking Xtreme Lever Series  
4/2 Lever / Pedal Series  
MO Series  
Safety  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing

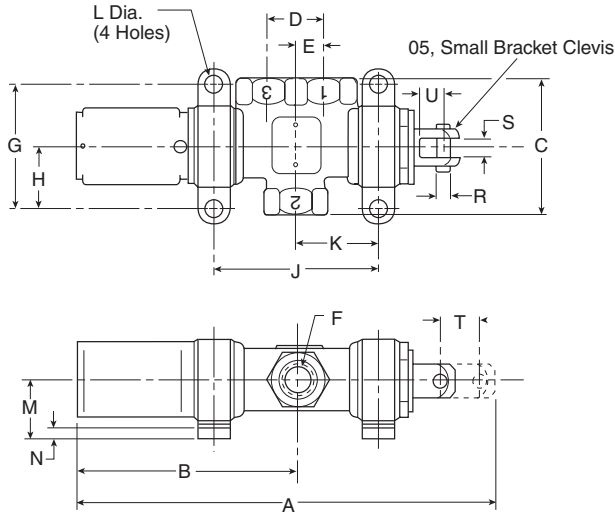


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Clevis Operated, Spring Return, Small Bracket**

**M095 Direct Acting (Push Lever) & M096 Reverse Acting (Pull Lever)**

**3-Way**

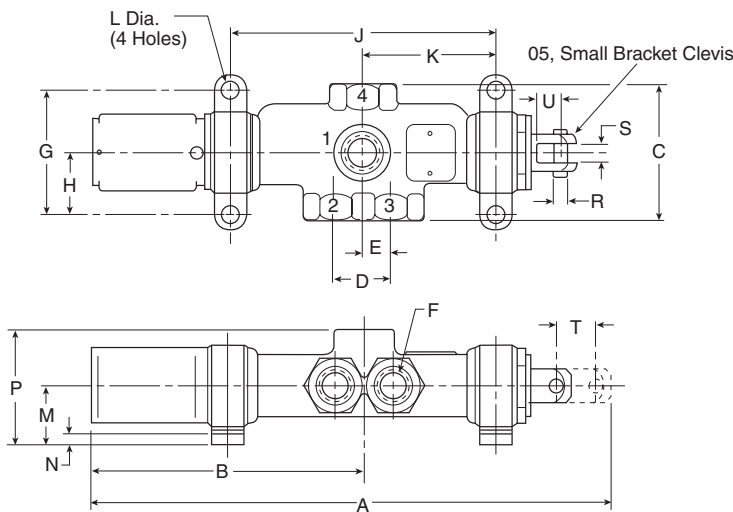


Inches (mm)

	1/4	3/8	1/2	3/4
A	6.56 (166.5)	7.19 (182.6)	8.95 (227.3)	11.22 (285.0)
B	3.92 (99.5)	4.24 (107.6)	5.31 (134.9)	6.92 (175.8)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.63 (66.8)	3.13 (79.5)	3.72 (94.5)	4.56 (115.8)
K	1.31 (33.3)	1.56 (39.6)	1.86 (47.2)	2.28 (57.9)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
R	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
S	0.38 (9.6)	0.38 (9.6)	0.44 (11.2)	0.44 (11.2)
U	0.47 (11.9)	0.47 (11.9)	0.56 (14.2)	0.62 (15.8)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

**M095 Direct Acting (Push Lever) & M096 Reverse Acting (Pull Lever)**

**4-Way**



Inches (mm)

	1/4	3/8	1/2	3/4
A	8.06 (204.6)	9.03 (229.3)	11.07 (281.2)	13.94 (354.1)
B	4.67 (118.6)	5.15 (130.8)	5.68 (144.3)	8.27 (210.1)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.9 (74.2)	3.69 (93.7)
L	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
R	0.25 (6.4)	0.25 (6.4)	0.31 (7.9)	0.31 (7.9)
S	0.38 (9.6)	0.38 (9.6)	0.44 (11.2)	0.44 (11.2)
U	0.47 (11.9)	0.47 (11.9)	0.56 (14.2)	0.62 (15.8)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

MO Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

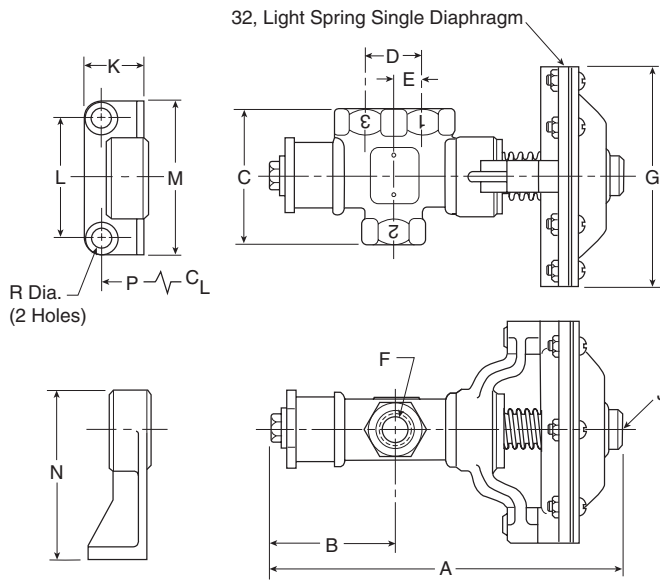
Sensing

Dimensional Data

Single Diaphragm Operated, Spring Return Stem Stop

M084 Stem Stop, Large Bracket

3-Way

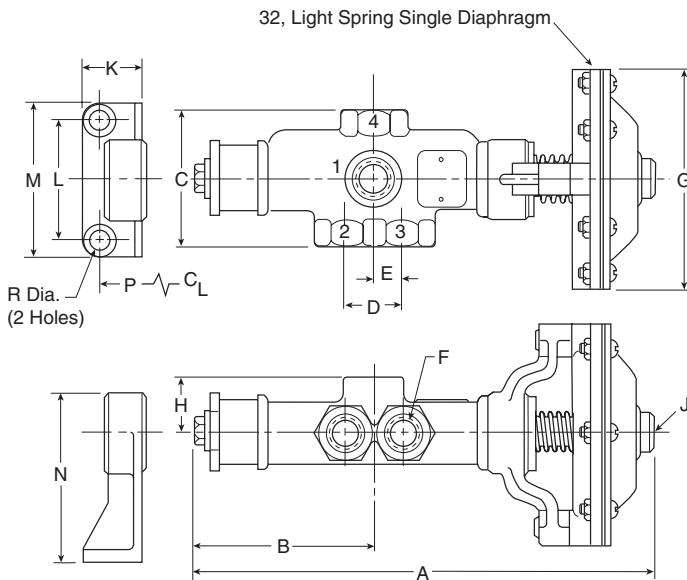


	1/4	3/8	1/2	3/4
A	6.14 (156.0)	6.85 (174.0)	8.03 (204.0)	9.89 (251.2)
B	2.03 (51.6)	2.36 (59.9)	2.83 (71.9)	3.48 (88.4)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	4.34 (110.2)	4.34 (110.2)	4.34 (110.2)	5.27 (133.9)
J	1/8" Pipe	1/8" Pipe	1/8" Pipe	1/8" Pipe
K	1.12 (28.4)	1.12 (28.4)	1.75 (44.4)	2.00 (50.8)
L	2.00 (50.8)	2.38 (60.4)	2.00 (50.8)	3.25 (82.6)
M	2.75 (69.8)	3.00 (76.2)	3.00 (76.2)	4.19 (106.4)
N	3.22 (81.8)	3.28 (83.3)	3.40 (86.4)	4.00 (101.6)
P	1.81 (46.0)	2.03 (51.6)	2.74 (69.6)	3.18 (80.8)
R	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)

M084 Stem Stop, Large Bracket

4-Way



	1/4	3/8	1/2	3/4
A	7.65 (194.3)	8.69 (220.7)	9.82 (249.4)	12.60 (320.0)
B	2.79 (70.9)	3.28 (83.3)	3.89 (98.8)	4.84 (122.9)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	4.34 (110.2)	4.34 (110.2)	4.34 (110.2)	5.27 (133.9)
H	1.00 (25.4)	1.06 (26.9)	1.38 (30.0)	1.50 (38.1)
J	1/8" Pipe	1/8" Pipe	1/8" Pipe	1/8" Pipe
K	1.12 (28.4)	1.12 (28.4)	1.75 (44.4)	2.00 (50.8)
L	2.00 (50.8)	2.38 (60.4)	2.00 (50.8)	3.25 (82.6)
M	2.75 (69.8)	3.00 (76.2)	3.00 (76.2)	4.19 (106.4)
N	3.22 (81.8)	3.28 (83.3)	3.40 (86.4)	4.00 (101.6)
P	2.57 (65.3)	2.95 (74.9)	3.80 (96.5)	4.54 (115.3)
R	0.34 (8.6)	0.34 (8.6)	0.41 (10.4)	0.41 (10.4)
Travel	0.62 (15.8)	0.69 (17.5)	0.88 (22.4)	1.12 (28.4)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

MO Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

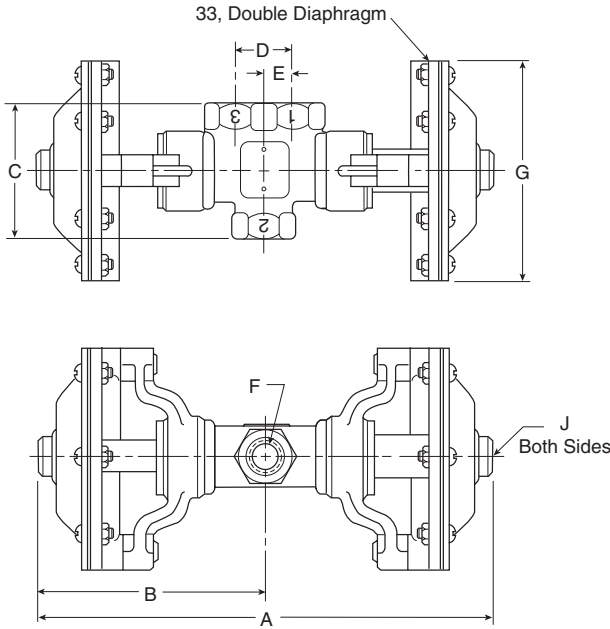
Control Panel Products

Sensing

**Double Diaphragm Operated**

**M033 Double Diaphragm**

**3-Way**

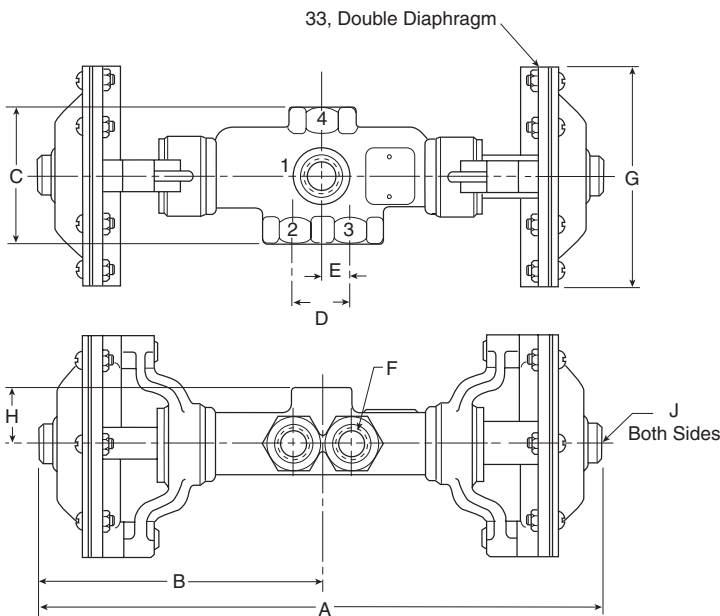


	1/4	3/8	1/2	3/4
<b>A</b>	8.22 (208.8)	8.98 (228.1)	10.40 (264.2)	12.82 (325.6)
<b>B</b>	4.11 (104.4)	4.49 (114.0)	5.20 (132.1)	6.41 (162.8)
<b>C</b>	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
<b>D</b>	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
<b>E</b>	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
<b>F</b>	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
<b>G</b>	4.34 (110.2)	4.34 (110.2)	4.34 (110.2)	5.27 (133.9)
<b>J</b>	1/8" Pipe	1/8" Pipe	1/8" Pipe	1/8" Pipe

Inches (mm)

**M033 Double Diaphragm**

**4-Way**



	1/4	3/8	1/2	3/4
<b>A</b>	9.72 (246.9)	10.82 (274.8)	11.86 (301.2)	15.52 (394.2)
<b>B</b>	4.86 (123.4)	5.41 (137.4)	5.93 (150.6)	7.76 (197.1)
<b>C</b>	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
<b>D</b>	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
<b>E</b>	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
<b>F</b>	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
<b>G</b>	4.34 (110.2)	4.34 (110.2)	4.34 (110.2)	5.27 (133.9)
<b>H</b>	1.00 (25.4)	1.06 (26.9)	1.38 (30.0)	1.50 (38.1)
<b>J</b>	1/8" Pipe	1/8" Pipe	1/8" Pipe	1/8" Pipe

Inches (mm)

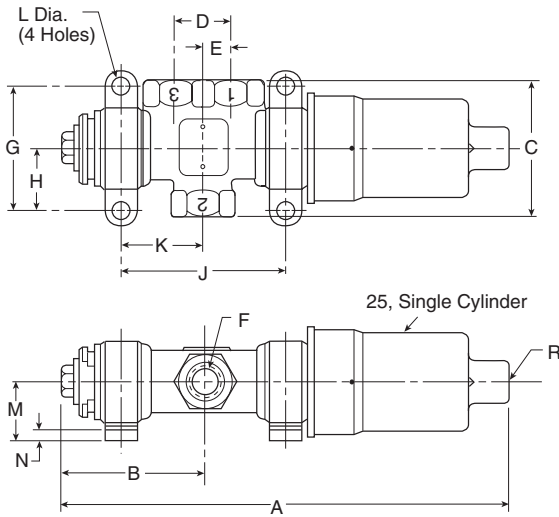
**Dimensional Data**

**MO Series**

**Single Cylinder Operated, Spring Return, Stem Stop**

**M085 Stem Stop, Small Bracket**

**3-Way**

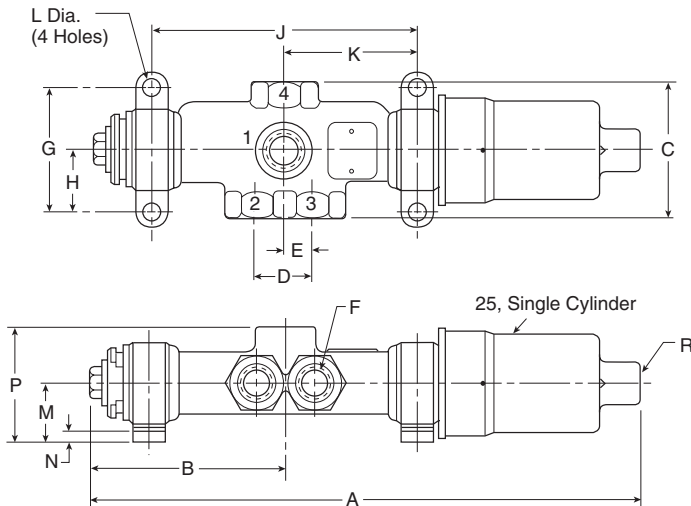


	1/4	3/8	1/2	3/4
A	7.50 (190.5)	8.14 (206.8)	9.03 (229.4)	11.18 (284.0)
B	2.03 (51.6)	2.36 (59.9)	2.83 (71.9)	3.48 (88.4)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.64 (67.1)	3.14 (79.8)	3.73 (94.7)	4.67 (118.6)
K	1.32 (33.5)	1.57 (39.9)	1.87 (47.5)	2.33 (59.2)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
R	1/4" Pipe	1/4" Pipe	1/4" Pipe	1/4" Pipe
Travel	.62 (15.7)	.69 (17.5)	.88 (22.4)	1.12 (28.4)

Inches (mm)

**M085 Stem Stop, Small Bracket**

**4-Way**



	1/4	3/8	1/2	3/4
A	9.00 (228.6)	9.98 (253.5)	11.15 (283.2)	13.90 (353.1)
B	2.79 (70.9)	3.28 (83.3)	3.89 (98.8)	4.84 (122.9)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)	3.69 (93.7)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
R	1/4" Pipe	1/4" Pipe	1/4" Pipe	1/4" Pipe
Travel	.62 (15.8)	.69 (17.5)	.88 (22.4)	1.12 (28.4)

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

MO Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

Control Panel Products

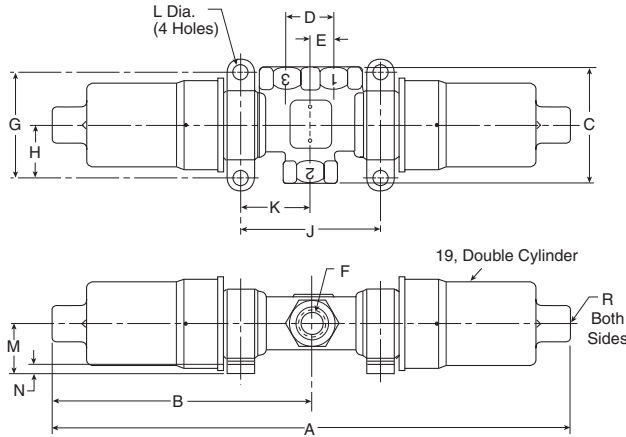
Sensing



**Double Cylinder Operated**

**M019 Double Cylinder**

**3-Way**

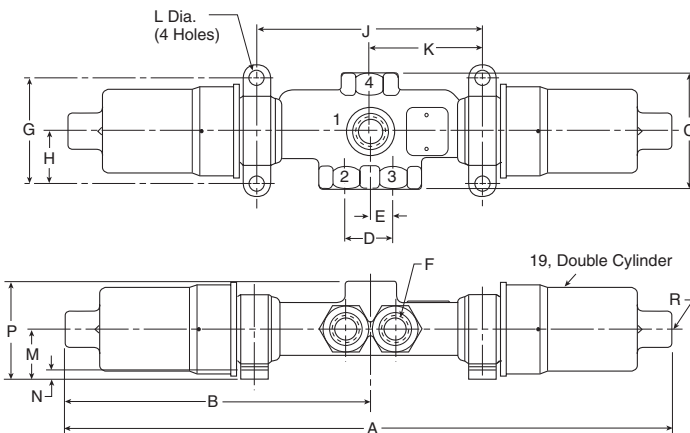


	1/4	3/8	1/2	3/4
A	10.94 (277.9)	11.56 (293.6)	12.40 (315.0)	15.40 (391.2)
B	5.47 (138.9)	5.78 (146.8)	6.20 (157.5)	7.70 (195.6)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.64 (67.1)	3.14 (79.8)	3.73 (94.7)	4.67 (118.6)
K	1.32 (33.5)	1.57 (39.9)	1.87 (47.5)	2.33 (59.2)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
R	1/4" Pipe	1/4" Pipe	1/4" Pipe	1/4" Pipe

Inches (mm)

**M019 Double Cylinder**

**4-Way**



	1/4	3/8	1/2	3/4
A	12.42 (315.5)	13.40 (340.4)	14.52 (368.8)	18.12 (460.2)
B	6.21 (157.7)	6.70 (170.2)	7.26 (184.4)	9.06 (230.1)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)	3.69 (93.7)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
R	1/4" Pipe	1/4" Pipe	1/4" Pipe	1/4" Pipe

Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

MO Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

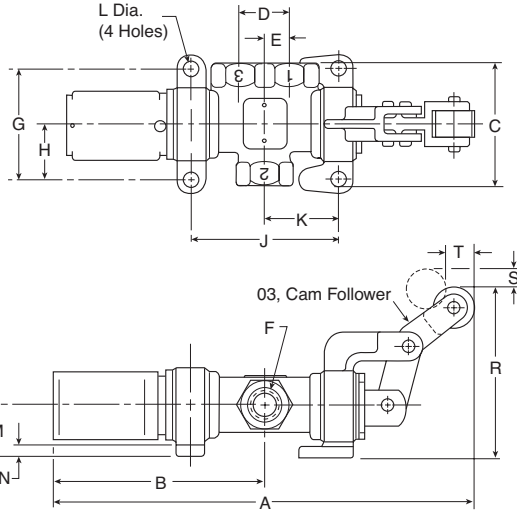
Sensing

Dimensional Data

Cam Operated, Spring Return

M095 Direct Acting, Small Bracket (Push Lever)

3-Way

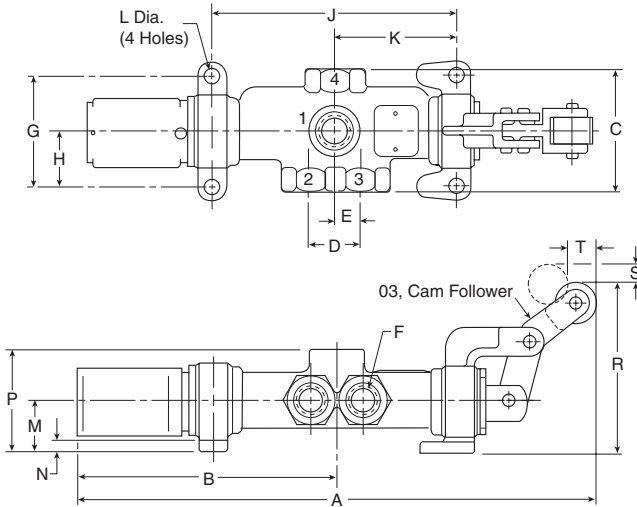


Inches (mm)

	1/4	3/8	1/2	3/4
A	7.98 (202.6)	8.72 (221.5)	10.77 (273.6)	13.54 (343.9)
B	3.92 (99.6)	4.24 (107.7)	5.31 (134.9)	6.92 (175.8)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.63 (66.8)	3.13 (79.5)	3.72 (94.5)	4.56 (115.8)
K	1.31 (33.3)	1.56 (39.6)	1.86 (47.2)	2.28 (57.9)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (38.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
R	3.88 (98.6)	3.88 (98.6)	4.23 (107.4)	4.88 (124.0)
S	.43 (10.9)	.47 (11.9)	.70 (17.8)	.67 (17.0)
Travel	.53 (13.5)	.59 (15.0)	.75 (19.0)	.81 (20.6)

M095 Direct Acting, Small Bracket (Push Lever)

4-Way



Inches (mm)

	1/4	3/8	1/2	3/4
A	9.48 (204.7)	10.56 (268.2)	12.89 (327.4)	16.26 (413.0)
B	4.67 (118.6)	5.15 (130.8)	5.68 (144.3)	8.27 (210.1)
C	2.38 (60.4)	2.62 (66.6)	3.12 (79.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)	3.69 (93.7)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
R	3.88 (98.6)	3.88 (98.6)	4.23 (107.4)	4.88 (124.0)
S	.43 (10.9)	.47 (11.9)	.70 (17.8)	.67 (17.0)
Travel	.53 (13.5)	.59 (15.0)	.75 (19.0)	.81 (20.6)

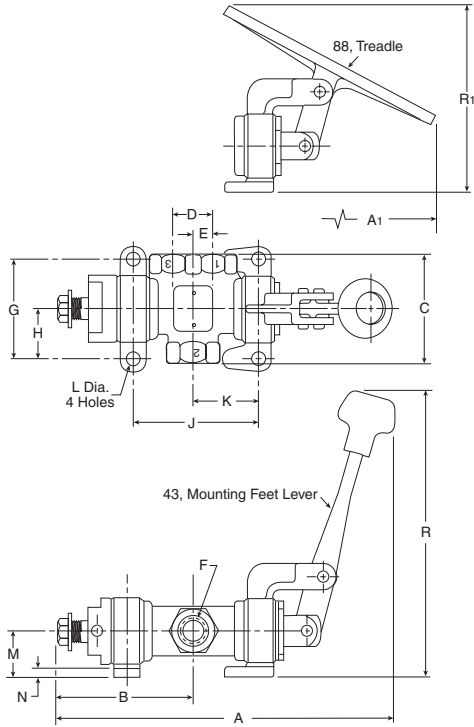


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Lever & Treadle Operated, 2-Position Ball Detent**

**M054 Ball Detent, Small Bracket**

**3-Way**

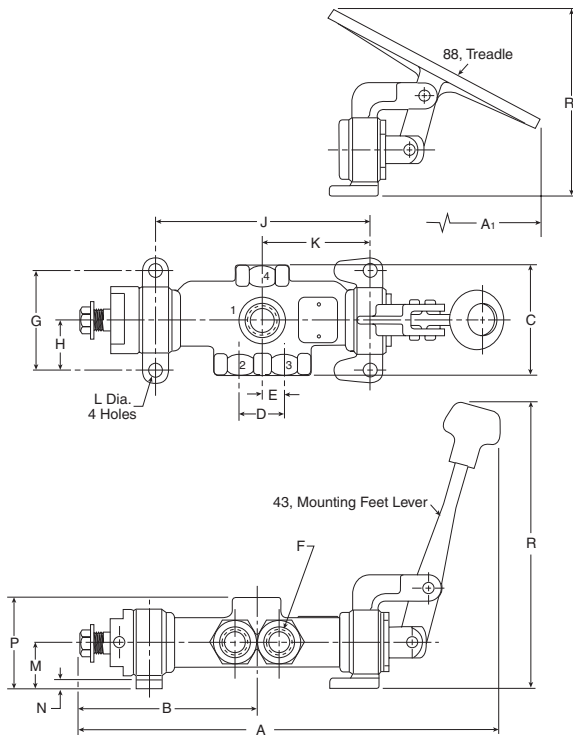


Inches (mm)

	1/4	3/8	1/2	3/4
A	7.35 (186.7)	8.36 (212.3)	9.95 (252.7)	12.25 (311.2)
A1	8.59 (218.2)	9.33 (237.0)	10.65 (270.5)	12.90 (327.7)
B	3.25 (82.6)	3.66 (93.0)	4.39 (11.5)	5.41 (137.4)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	2.63 (66.8)	3.13 (79.5)	3.72 (94.5)	4.56 (115.8)
K	1.31 (33.3)	1.56 (39.6)	1.86 (47.2)	2.28 (57.9)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
R1	6.78 (172.2)	6.78 (172.2)	8.10 (205.7)	10.73 (272.5)
R2	4.51 (114.6)	4.65 (18.1)	4.85 (123.2)	6.03 (153.2)

**M054 Ball Detent, Small Bracket**

**4-Way**



Inches (mm)

	1/4	3/8	1/2	3/4
A	8.86 (225.0)	10.20 (259.1)	11.74 (298.2)	14.96 (380.0)
A1	10.01 (254.2)	11.17 (283.7)	12.77 (324.4)	15.62 (396.8)
B	4.00 (101.6)	4.57 (116.1)	5.44 (138.2)	6.76 (171.7)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)	3.25 (82.6)
H	1.12 (28.4)	1.19 (30.2)	1.31 (33.3)	1.62 (41.2)
J	4.14 (105.2)	4.98 (126.5)	5.85 (148.6)	7.39 (187.7)
K	2.07 (52.6)	2.49 (63.2)	2.92 (74.2)	3.69 (93.7)
L	.34 (8.6)	.34 (8.6)	.41 (10.4)	.41 (10.4)
M	1.12 (28.4)	1.12 (28.4)	1.25 (31.8)	1.56 (39.6)
N	.25 (6.4)	.25 (6.4)	.31 (7.9)	.31 (7.9)
P	2.12 (53.8)	2.18 (55.4)	2.63 (66.8)	3.06 (77.7)
R1	6.78 (172.2)	6.78 (172.2)	8.10 (205.7)	10.73 (272.5)
R2	4.51 (114.6)	4.65 (18.1)	4.85 (123.2)	6.03 (153.2)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing

**Features**

**Parker is protecting your most valuable assets...**



Standard 190.147

- This applies to the servicing and maintenance of a machine or equipment.
- Any new, replacement, repair, or renovation to a machine must include an energy isolation device that can accept a lock out device.
- Lock out devices should not be used for any other purposes
- Verification of energy isolation is required



Standard Z244

- This applies to all machines
- Lockout / tagout is the primary method of hazardous energy control
- Machines shall be designed, manufactured, supplied, and installed with energy isolating devices



- B11.0 applies to a broad range of machines, B11.TR6 is specific to machine tools, and B155.1 is specific to packaging and converting machines
- Energy isolating device shall:
  - Be capable of being locked in the OFF position only
  - Be easy to operate
  - Have an exhaust port equal or greater than its supply port
  - Have a pressure indicator that is visible to an operator to verify line is relieved of pressure

**...By offering the best in pneumatic safety for machine maintenance:**



**Traditional Ball Valve**

- Not a dedicated energy isolation device** ✘
- Not a full exhaust port** ✘
- No verification of line exhaust** ✘
- Can be locked ON** ✘
- Not easily identifiable** ✘



**Parker Solution**

- ✓ Dedicated energy isolation device**
- ✓ Full exhaust port**
- ✓ Verification of line exhaust**
- ✓ Only lockable in OFF position**
- ✓ Easily identifiable**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

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Features / Part Numbers

LV / LVSS Series

Lockout valves are installed in pneumatic drop legs, or individual pneumatic control lines. In accordance with OSHA procedures, lockout valves are used during maintenance and service procedures of pneumatically (air) operated equipment.

- Used for compliance with OSHA 29 CFR part 1910
- 1/4" to 2" pipe sizes. NPT or BSPP
- Yellow cast aluminum body with red handle or stainless steel (NACE MR0175 / ISO 15156)
- Inline or surface mountable
- Built in port for pressure verification to meet ANSI B11 and PMMI B155 requirements
- Fluorocarbon slipper seals for easy shifting, even after long periods of inactivity



Material specifications



Description	LV	LVSS
Body:	Cast aluminum alloy	Stainless steel
Handle:	Plastic	Stainless steel
Spool:	Aluminum	Stainless steel
Seals:	Carboxylated nitrile	Fluorocarbon
Detent spring:	Stainless steel	Stainless steel
Grease:	Magnalube G <sup>†</sup>	Magnalube G <sup>†</sup>

<sup>†</sup> Trademark Magnalube


Operating information

Operating pressure:	LV	LVSS
Compact	15 to 145 PSIG	-
Standard	15 to 300 PSIG	15 to 300 PSIG
High flow	15 to 300 PSIG	-
Operating temperature:	40°F to 175°F	30°F to 175°F
Operating media:	Clean, dry, compressed air (5 micron)	


Compact

	Port In/Out	Port Exhaust	SCFM In/Out	SCFM Exhaust	Wt (lb)	Part Number *
	1/4	3/8	41.8	40.7	0.9	LV2N3B
	3/8	3/8	60.7	60.7	0.9	LV3N3B


Standard

	Port In/Out	Port Exhaust	SCFM In/Out	SCFM Exhaust	Wt (lb)	Part Number *
	3/8	3/4	107.7	81.1	2.0	LV3N6B
	1/2	3/4	161.4	90.9	2.0	LV4N6B
	3/4	3/4	187.7	93.2	2.0	LV6N6B
	3/4	1-1/4	297.7	204	3.2	LV6NAB
	1	1-1/4	375	216	3.2	LV8NAB
	1-1/4	1-1/4	436.4	221	3.2	LVANAB

High Flow

	Port In/Out	Port Exhaust	SCFM in/out	SCFM Exhaust	Wt (lb)	Part Number *
	1-1/2	2	761.4	1156	8.2	LVBNCB
	2	2	918.2	1186	8.2	LVCNCB

Stainless Steel

	Port In/Out	Port Exhaust	SCFM In/Out	SCFM Exhaust	Wt (lb)	Part Number *
	1/4	1/4	48.6	47.2	3.8	LV2N2BSS
	3/8	1/2	131.6	142	6.0	LV3N4BSS
	1/2	1/2	131.6	142	6.0	LV4N4BSS
	3/4	1	325	386	13	LV6N8BSS
	1	1	325	386	13	LV8N8BSS
	1-1/2	2	889	1023	35	LVBNCBSS
	2	2	889	1023	35	LVCNCBSS

NOTE: Exhaust flow rates calculated using inlet pressure 100 psig (6.7 bar), pressure drop 5 psi (0.34 bar), air temp 68°F (20°C), and 36% relative humidity.

\* For BSPP ports, change 4th digit from "N" to "B"

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

**Features / Part Numbers**

- Directair 2 & 4 Series
- Viking Xtreme Lever Series
- 4/2 Lever / Pedal Series
- MO Series
- Safety
- Manual / Mechanical Valves
- Brass Poppet / Sliding Seal
- Control Panel Products
- Sensing

**EZ Series**

The EZ series meets all the same standards as the LV series with the added feature of a soft start when opened. There are still 2 detented positions for the handle (push close, pull to open), but when pulled open, an adjustable needle valve controls the rate of pressure build-up. This can protect equipment during start up after maintenance. The EZ is distinguishable from the LV series by the blue dot on the label.

**Features**

- Combines lockout and soft-start functions in a single unit
- Used in systems for compliance with OSHA standard 29 CFR part 1910
- 3/8 Inch to 1-1/4 inch pipe sizes
- Cv's from 3.7 to 13.7
- 3/4 and 1-1/4 inch: exhaust ports available
- Exhaust port threaded for installation of silencer or line for remote exhausting
- Inline or surface mountable
- Yellow cast aluminum body with red handle. Blue dot on body indicates EZ Series valve
- Fluorocarbon slipper seals for easy shifting, even after long periods of inactivity



**3/4" Exhaust Shown**

**Operating information**

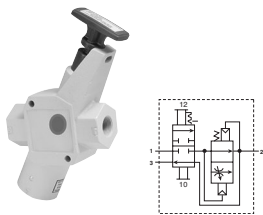
Operating pressure:	15 to 300 PSIG
Standard	
Operating temperature:	40°F to 175°F
Operating media:	Clean, dry, compressed air (5 micron)

**Material specifications**

**Description**

Body:	Cast aluminum alloy
Handle:	Plastic
Spool:	Aluminum
Seals:	Carboxylated nitrile
Detent spring:	Stainless steel
Grease:	Magnalube G †

† Trademark Magnalube



NOTE: Exhaust flow rates calculated using inlet pressure 100 psig (6.7 bar), pressure drop 5 psi (0.34 bar), air temp 68°F (20°C), and 36% relative humidity.

\* For BSPP ports, change 5th digit from "N" to "B"

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



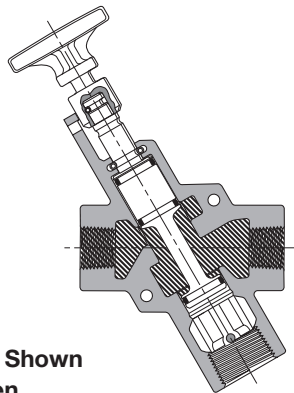
**Applications**

Lockout valves are installed in pneumatic drop legs, or individual pneumatic control lines (see Figure 1). In accordance with OSHA procedures, EZ valves are used during maintenance and service procedures of pneumatically (air) operated equipment. Prior to servicing, the red handle is pressed inward, blocking pressure and relieving all downstream air pressure. A padlock is installed through the locking hasp, preventing accidental actuation during the maintenance procedure. Following maintenance, the padlock is removed and the red handle is pulled outward, gradually returning air pressure to the system. (For complete Lockout / Tagout procedures, consult OSHA Standard 29 CFR Part 1910 in U.S. Federal Register/Vol. 54 No. 169, Friday, September 1, 1989 / Page 36644.)

**LV / LVSS Operation**

**Normal Machine Operation – Valve Open**

With the handle pulled outward. Inlet Port 1 is open to outlet Port 2. Exhaust Port 3 is blocked.

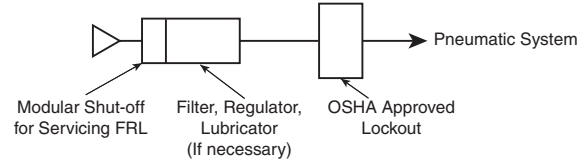


**LV Series Shown Open**

**Mounting**

Valves can be inline mounted or surface mounted using the two mounting holes provided in the valve body. Mount valves in plain view with the handle oriented for accessibility.

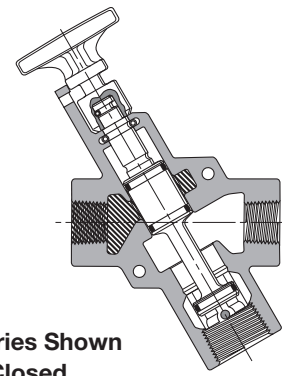
**Placement of Lockout Device**



**Figure 1.**

**Lockout Operation – Valve Closed**

With the handle pushed inward. Inlet Port 1 is blocked. Outlet Port 2 is open to Exhaust Port 3.

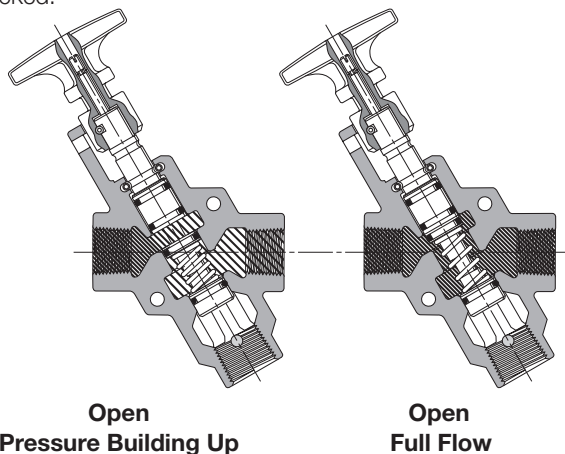


**LV Series Shown Closed**

**EZ Operation**

**Normal Machine Operation – Valve Open**

When the red handle is pulled outward, the adjustable needle valve (accessed through the top of the handle) setting determines the rate of pressure buildup. When downstream pressure reaches the full flow described in the specifications below, Inlet Port 1 is open to outlet Port 2. Exhaust Port 3 is blocked.

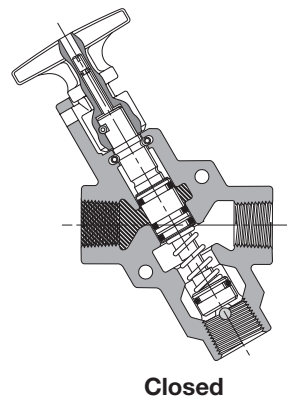


**Open Pressure Building Up**

**Open Full Flow**

**Lockout Operation – Valve Closed**

When the red handle is pushed inward, the Inlet Port 1 is blocked. Downstream air is exhausted through Exhaust Port 3.



**Closed**



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series
Viking Xtreme Lever Series
42 Lever / Pedal Series
M0 Series
Safety
<b>M</b>
Manual / Mechanical Valves
Brass Poppet / Sliding Seal
Control Panel Products
Sensing

**Accessories**

**Corrosion resistant mufflers for harsh environments**



Port Size	Construction	Threads	Dimensions In. (mm)		Part Number
			Width	Length	
1/4	Stainless steel	Male, NPT	0.56 (14.2)	1.75 (44.5)	<b>5500A2004</b>
1/2	Stainless steel	Male, NPT	0.87 (22.1)	2.75 (69.7)	<b>5500A4004</b>
1	Stainless steel	Male, NPT	1.31 (33.3)	3.87 (98.3)	<b>5500B6004</b>
2	Nickel plated	Male, NPT	2.37 (60.2)	5.50 (139.7)	<b>5500A9004*</b>

\* Nickel plated



\* NPT ports standard, for BSPT ports, add a "B" after the "S"

**Pop-up Pressure Indicator**



**Brass** – Part # **988A30** – Can be used on all LV or EZ series to provide visual verification of line exhaust



**Stainless** – Part# **1155H30** – Can be used on SS LV series to provide visual verification of line exhaust

**Pressure Switch**



- Part # **PPS1-2C3-RHM** (DIN 9.4mm connector)
- Part # **PPS1-2C3-RWL** (18" leads)
- Signal verification of line exhaust
- Field adjustable set point

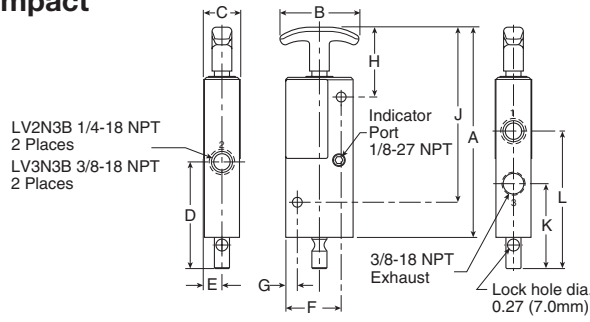
Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**LZ Series, Exhaust Port - Compact, Standard, High Flow**

**Compact**



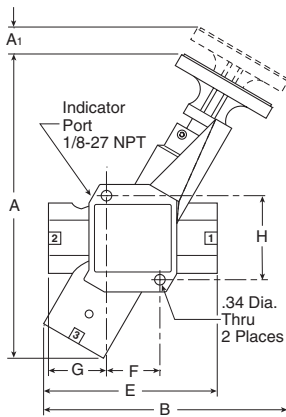
**Compact LV Series, 3/8" Exhaust Port Dimensions**

A	B	C	D	E	F
6.50 (165)	2.25 (57)	1.05 (27)	3.04 (77)	.51 (13)	1.58 (40)

G	H	J	K	L
.33 (8)	1.99 (51)	4.99 (127)	2.42 (62)	3.92 (100)

Inches (mm)

**Standard**



**Compact LV Series, 3/4" Exhaust Port Dimensions**

A	A <sub>1</sub>	B	C	D	E
8.32 (211)	0.64 (16)	6.60 (168)	2.00 (51)	3.06 (78)	4.24 (108)

F	G	H
1.32 (111)	1.56 (40)	2.21 (56)

Inches (mm)

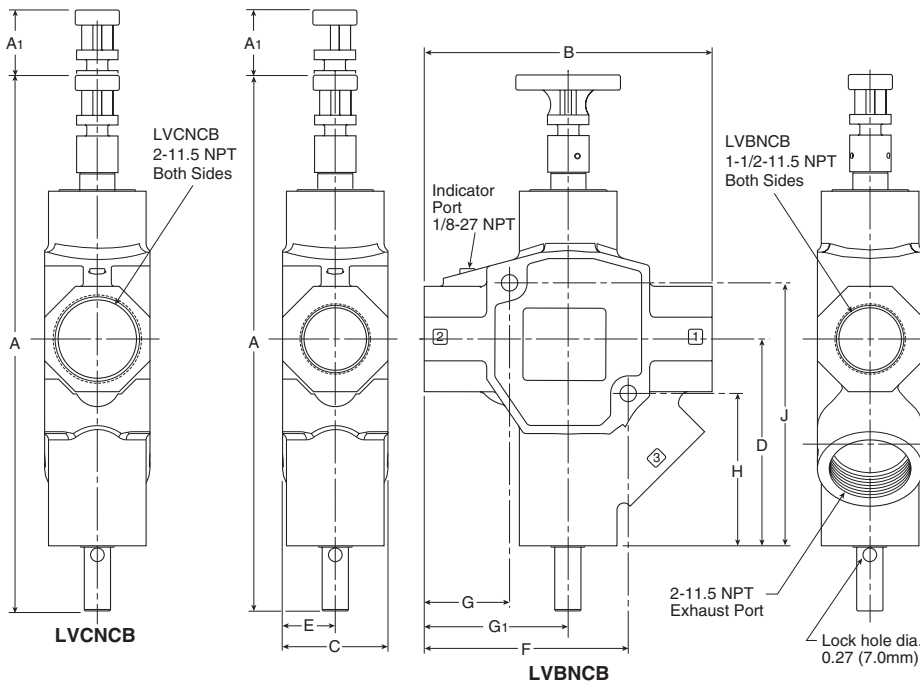
**Compact LV Series, 1-1/4" Exhaust Port Dimensions**

A	A <sub>1</sub>	B	C	D	E
9.91 (252)	0.85 (22)	7.95 (202)	2.25 (57)	3.91 (99)	5.65 (144)

F	G	H
1.74 (44)	1.89 (48)	2.74 (70)

Inches (mm)

**High Flow**



**High Flow LV Series, 2" Exhaust Port Dimensions**

A	A <sub>1</sub>	B
14.82 (376)	1.87 (47)	8.20 (208)

C	D	E
3.00 (76)	5.89 (150)	1.50 (38)

F	G	G <sub>1</sub>
5.81 (148)	2.43 (62)	4.10 (104)

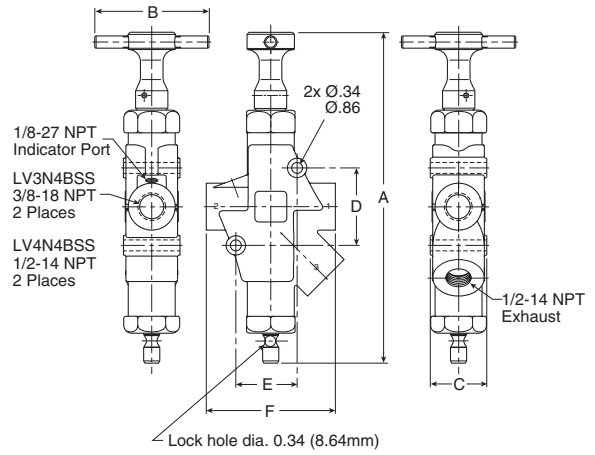
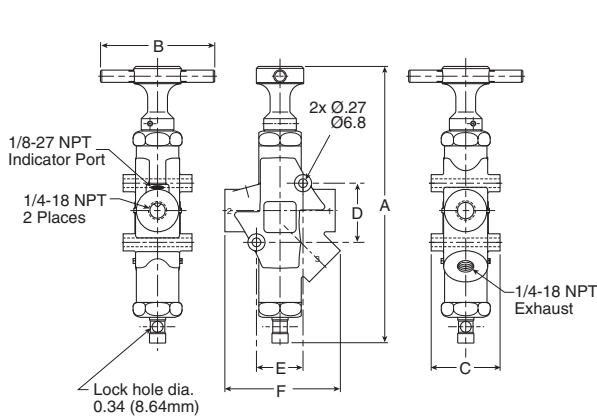
H	J
4.34 (110)	7.49 (190)

Inches (mm)

**Dimensional Data**

**LZ Series, Exhaust Port - Compact, Standard, High Flow**

**Stainless Steel**



**Stainless Steel LV Series, 1/4" Exhaust Port Dimensions**

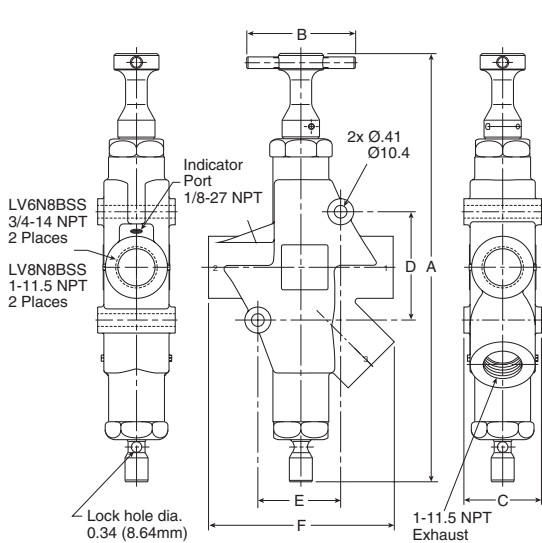
A	B	C	D	E	F
8.47 (215)	3.50 (89)	2.11 (54)	1.81 (46)	1.43 (36)	3.54 (90)

Inches (mm)

**Stainless Steel LV Series, 1/2" Exhaust Port Dimensions**

A	B	C	D	E	F
10.24 (260)	3.50 (89)	1.75 (45)	2.40 (61)	1.90 (48)	4.00 (102)

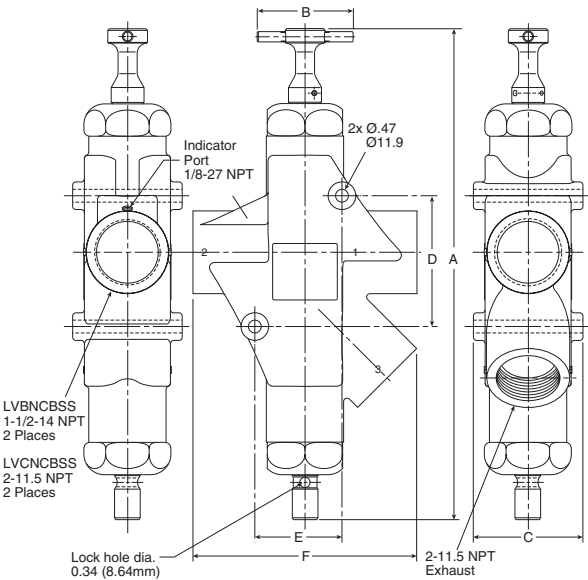
Inches (mm)



**Stainless Steel LV Series, 1" Exhaust Port Dimensions**

A	B	C	D	E	F
13.80 (351)	3.50 (89)	2.50 (64)	3.49 (89)	2.67 (68)	5.99 (152)

Inches (mm)



**Stainless Steel LV Series, 2" Exhaust Port Dimensions**

A	B	C	D	E	F
17.92 (455)	3.50 (89)	4.00 (102)	4.77 (121)	3.18 (81)	8.16 (207)

Inches (mm)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever /  
Pedal Series

MO Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

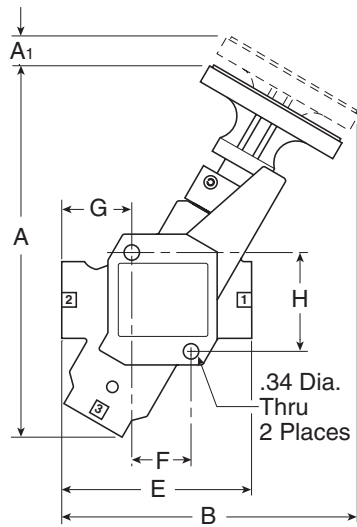
Control Panel  
Products

Sensing



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**EZ Series, Exhaust Port - Standard Flow**



**EZ 3/4" Exhaust Port Dimensions**

A	A1	B	C	D
8.32	0.64	6.60	2.00	3.06
(211)	(16)	(168)	(51)	(78)

E	F	G	H
4.24	1.32	1.56	2.21
(108)	(111)	(40)	(56)

Inches (mm)

**EZ 1-1/4" Exhaust Port Dimensions**

A	A1	B	C	D
9.91	0.85	7.95	2.25	3.91
(252)	(22)	(202)	(57)	(99)

E	F	G	H
5.65	1.74	1.89	2.74
(144)	(44)	(48)	(70)

Inches (mm)



Features

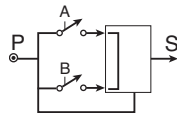
Two-Hand Controls

Two-Hand Controls

- The pre-assembled two-hand control enclosure occupies both hands of an operator by requiring nearly simultaneous operation of two pushbuttons
- Poppet – snap-acting (no spools)
- Same air as in cylinders – Filtration: 40 micron
- No lubrication required



Part number	Connection
PXP-C111-A	5/32" Instant



General Characteristics

Operating Pressure	40 to 120 PSI (3 to 8 bar)
Permissible Fluids –	Air or neutral gas 40 micron filtration, lubricated or dry
Flow at 90 PSI (6 bar)	7 SCFM (200 l/mn ANR)
Operating Temperature	-5°F to 140°F (-15°C to 60°C)
	Below 40°F (5°C), an air dryer is required
Storage Temperature	-40°F to 160°F (-40°C to 70°C)
Number of operations with dry air at 90 PSI (6 bar), 68°F (20°C), frequency 1 Hz	1 Million Operations
Vibration resistance –	Conforms to section 19-2 of bureau Véritas regulations (November 1987)
Materials –	Body Glass Filled Nylon
	Operating Head Zinc Alloy and Plastic
Connections:	5/32" instant

Mounting

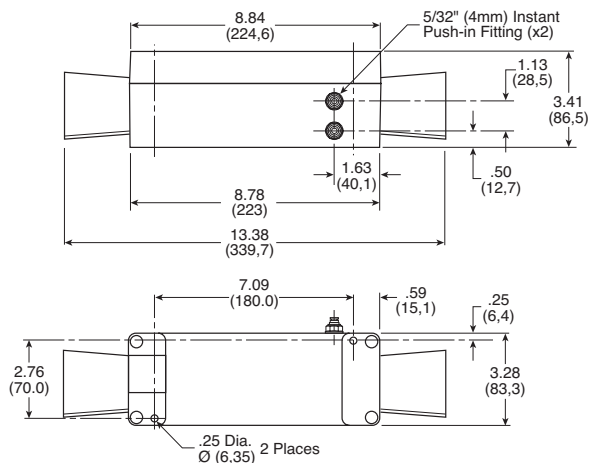
Approvals:

- In accordance with European Standard EN 574 - September 1996
- Conforms to the model that has obtained CE Type Test Certificate No. 02526 520 4631 0397

**WARNING**

These devices should **NOT** be used in any application involving rotary clutch presses. Two hand control modules do not of themselves insure the safety of any machine. Users and original equipment manufacturers are responsible for making sure that installations meet all relevant safety regulations.

**Notes:** These two-hand control modules provide an output signal upon nearly concurrent operation of two pushbuttons.



Inches (mm)



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

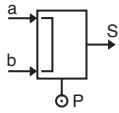
Brass Poppet / Sliding Seal

Control Panel Products

Sensing



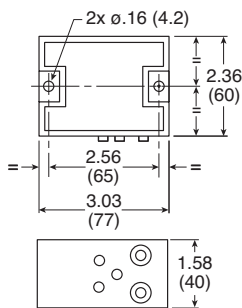
Two-Hand Control Module



PXPA11

S = Output  
AdB = Momentary input  
P = Pressure supply

Part number	Connection
PXPA11	5/32" Instant



Specifications

Air Quality –	Standard Shop Air, Lubricated or Dry	40 µm Filtration
Materials –	Body	Polyamide
	Operating Head	Zinc Alloy & Plastic
Flow at 90 PSI (6 bar) in SCFM (l/mn ANR)		7 (200)
Number of Operations with Dry Air at 90 PSI (6 bar) and 68°F (20°C) - Frequency 1 Hz		1 million Operations
Operating Positions		All Positions
Operating Pressure –		15 to 115 PSIG (1 to 8 bar)
Ports	5/32" Instant for Semi-Rigid Nylon or Polyurethane Tube	
Operating Temperature –	Operating	32°F to 122°F (0°C to 50°C)
	Storage	-22°F to 140°F (-30°C to 60°C)
Vibration resistance:	Conforms to section 19-2 of bureau Véritas regulations (November 1987)	

**WARNING**

These devices should **NOT** be used in any application involving rotary clutch presses. Two hand control modules do not of themselves insure the safety of any machine. Users and original equipment manufacturers are responsible for making sure that installations meet all relevant safety regulations.

**Notes:** These two-hand control modules provide an output signal upon nearly concurrent operation of two pushbuttons.

Two-Hand Control Module Guard



PPRL15

Part number	Base component
PPRL15	PXPC111

Two Hand Repair Parts

Part number	Quantity required	Description
PXPA11	1	Control Module
PXBB4931	2	Valve Body & Mounting Ring
ZB4BR*	2	Push Button
PPRL15	2	Control Module Guard

\* 2 = Black, 3 = Green, 4 = Red



**Features / Part Numbers**

**PL-VL Series Valves**

**PL / VL Series**

These are 4-Way, 3-Position, rotary disc, direct-operated air valves. Two different types of control are offered. The forged bronze disc and the cast iron surface upon which the disc works are ground and lapped to provide a leak-proof seal. Air pressure from the inlet port is confined beneath the disc, making the seal tighter as the pressure increases, yet friction between the lapped surfaces is so low that only 15 pounds of force is required to move the lever at 100 PSI line pressure. The need for packing to seal around the stem is eliminated.

Valve can be furnished for gasketing to a manifold on customer's machine or with an adaptor for tapped bottom porting.

Valves are detented.

Operating handles may be installed in any of four positions.



**Operating information**

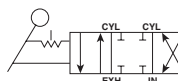
Operating pressure: 0 to 150 PSI (0 to 1035 kPa)

Temperature range: 18°F to 200°F (-8°C to 93°C)

Lubrication: Filtered and lubricated air recommended for maximum valve life and minimum maintenance.

**PL Series Valves**

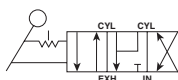
This type has a 90° lever movement. In neutral position, inlet is closed to pressure – outlets closed to exhaust. With clockwise (CW), inlet is connected to cylinder port directly opposite. Other cylinder port is connected to exhaust. With counterclockwise (CCW), inlet is connected to cylinder port diagonally opposite. Other cylinder port is connected to exhaust. Recommended for stationary air cylinders, arbor presses, and as a throttling valve for positioning air cylinders.



Port Size	Description	Cv	Part Number
3/8" NPT	4-Way, 3-Position, Detent, Closed Center	3.0	<b>PL37</b>
1/2" NPT	4-Way, 3-Position, Detent, Closed Center	6.2	<b>PL50</b>

**VL Series Valves**

This type has a 90° lever movement. In neutral position, inlet is closed to pressure – outlets open to exhaust. With clockwise (CW), inlet is connected to cylinder port directly opposite. Other cylinder port is connected to exhaust. With counterclockwise (CCW), inlet is connected to cylinder port diagonally opposite. Other cylinder port is connected to exhaust. This valve is particularly suited for pneumatic chuck operation.



Port Size	Description	Cv	Part Number
3/8" NPT	4-Way, 3-Position, Detent, Exhaust Center	3.0	<b>VL37</b>
1/2" NPT	4-Way, 3-Position, Detent, Exhaust Center	6.2	<b>VL50</b>

**Service kits**

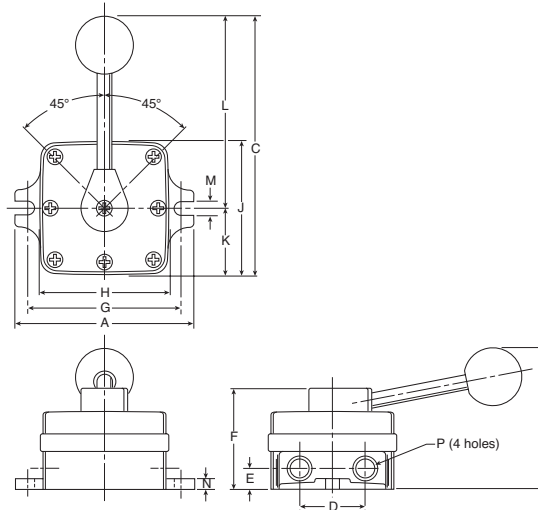
Description	Valve Size	Part Number
Lever Assembly	PL37, PL37HP, VL25, & VL37	<b>PL2425P</b>
Service Kits	PL50, PL50HP & VL50	<b>PL2424P</b>
Body Gasket	PL37, PL37HP, VL25, & VL37	<b>P66837</b>
	PL50, PL50HP & VL50	<b>P66829</b>

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 4/2 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing



**PL-VL Dimensions**

	A	B	C	D	E	F	G	H	J	K	L	M	N	P
<b>PL37</b>	4.75	3.81	6.81	1.69	.56	2.75	4.12	3.50	3.50	1.69	5.06	.34	.28	3/8
<b>VL37</b>	(121)	(97)	(173)	(43)	(14)	(70)	(105)	(89)	(89)	(43)	(129)	(9)	(7)	NPT
<b>PL50</b>	5.62	4.44	8.94	2.12	.66	3.25	5.00	4.38	4.38	2.12	6.75	.34	.34	1/2
<b>VL50</b>	(143)	(113)	(227)	(54)	(17)	(83)	(127)	(111)	(111)	(54)	(171)	(9)	(9)	NPT

inches (mm)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Features / Part Numbers**

**HV Valve Series**

- Compact and simple design
- Rotary disc, direct operated valves
- Side porting
- Detent action smooth lever actuation
- General pneumatic applications



**Material specifications**

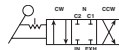
Cover	Zinc
Body	Aluminum
Seals	Polyurethane

**Operating information**

Operating pressure: 0 to 150 PSI (0 to 10 bar)  
 Temperature range: 32°F to 166°F (0°C to 60°C)  
 Lubrication: Filtered and lubricated air recommended for maximum valve life and minimum maintenance.

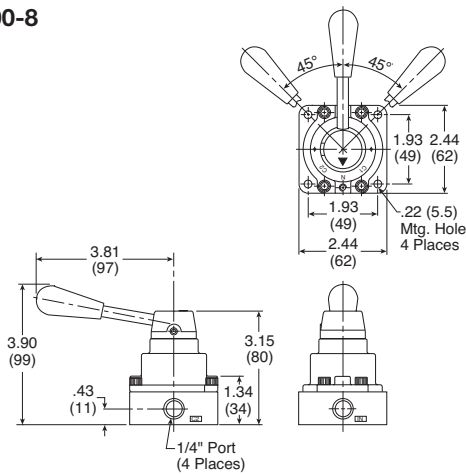
**HV Series Valves**

These closed center valves have a 90° lever movement. In neutral position, the inlet is closed to pressure and outlets are closed to exhaust. With clockwise (CW) rotation, inlet (IN) is connected to C2, C1 is connected to exhaust (EXH). With counter-clockwise (CCW) rotation, inlet (IN) is connected to C1, C2 is connected to exhaust (EXH). These valves are recommended for stationary air cylinders, and as throttling valves for positioning air cylinders. They are not to be used on punch presses or press brakes.

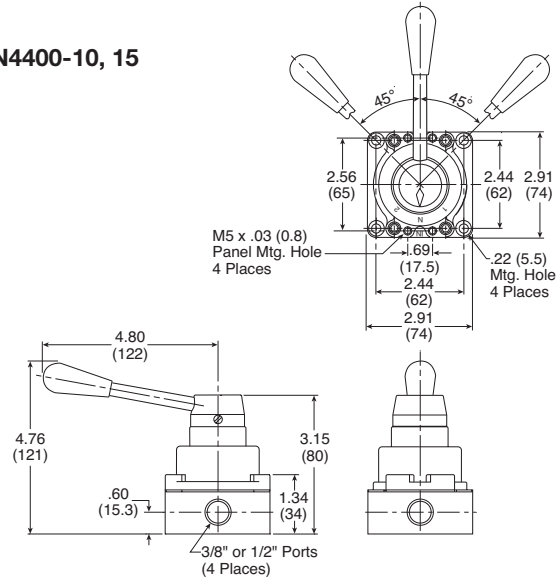


Port Size	Description	Cv (ANSI)	Cv (JIS)	Part Number
1/4" NPT	4-Way, 3-Position	0.5	0.4	<b>HVN4200-8</b>
3/8" NPT	4-Way, 3-Position	1.4	2.72	<b>HVN4400-10</b>
1/2" NPT	4-Way, 3-Position	1.5	3.26	<b>HVN4400-15</b>

**HVN4200-8**



**HVN4400-10, 15**



**Service kits**

Description	Valve Size	Part Number
Disk & Seal	HV4200	<b>HVRK420001</b>
Service Kits	HV4400	<b>HVRK440001</b>

**ANSI Cv vs. JIS Cv**

For Pneumatic Valve flow, the measurement Cv – Coefficient of Flow – is used to convey to the user how much air can flow through a given valve. Most valve manufacturers publish this information in their catalogs to assist the user in choosing the proper valve for their application. In publishing this data however, there are discrepancies in how the Cv is calculated, resulting in some Cv's being OVERSTATED by 20 to 40%. This can adversely affect the user's application because the valve flows LESS than the published Cv.

The reason for the large discrepancy is in the method of calculation - the ANSI (NFPA) or the JIS standard. Parker's Cv valve is calculated using the ANSI (NFPA) T3.21.3-1990 standard. The ANSI (NFPA) method is a structured test using very specific tube sizes and lengths, inlet pressures and pressure drops, and volume chambers.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

Control Panel Products

Sensing

Features / Part Numbers

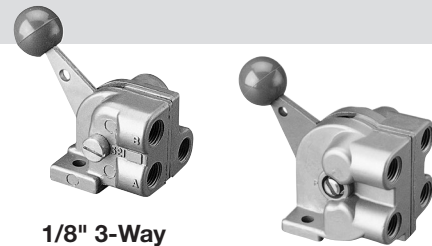
# Hand Operated Sliding Seal Valves

Sliding seal valves provide 3 or 4-Way directional control in a compact body size. Comfortable hand lever is easy to operate and maintains set position. Disc type valve has minimum number of moving parts. Valves should be used with filtered and lubricated air.

**CAUTION:**  
Install guards on all hand operated valves.  
Accidental operation can cause personal injury.

## Material specifications

Internal components	Brass, stainless steel
Body	Die cast zinc
Seals	Buna N



1/8" 3-Way

1/4" 4-Way

## Operating information

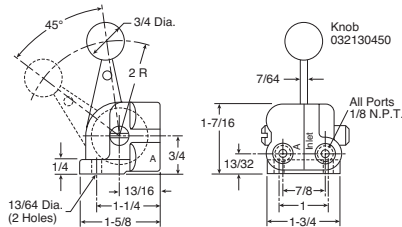
Operating pressure: Max. 200 PSIG air only  
Min. 26" Hg vacuum  
Temperature range: -40°F to 212°F (-40°C to 100°C)  
(If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.)

## Hand Operated Sliding Seal Valve

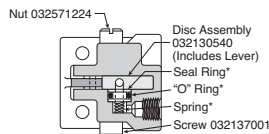
Symbol	Port Size	Function	Cv (Avg)	Service Kit*	Part Number
	1/8"	3-Way, 2-Position, Detented	0.54	<b>032130899</b>	<b>032130599</b>
	1/8"	4-Way, 2-Position, Detented	0.54	<b>032130899</b>	<b>032140299</b>
	1/4"	4-Way, 3-Position, Detented, Center Blocked	1.25	<b>008230299</b>	<b>008240109</b>

Note: 3-Way exhaust passage is through an untapped hole in bottom side of valve.

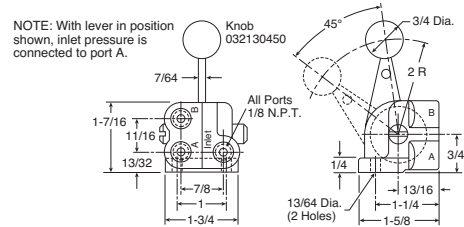
### 1/8" 3-Way 032130599



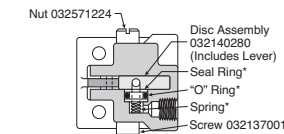
#### Service Kit 032130899\*



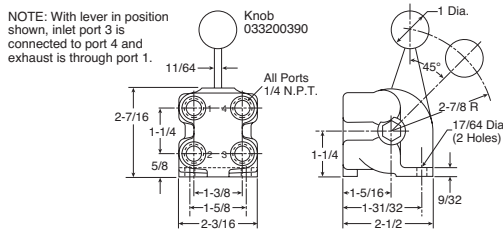
### 1/8" 4-Way 032140299



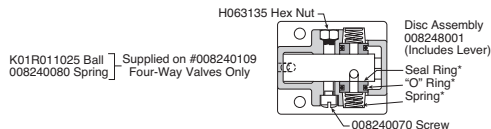
#### Service Kit 032130899\*



### 1/4" 4-Way 008240109



#### Service Kit 008230299\*



Most popular.

\* Service kits contain asterisk items



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

Brass Poppet Sliding Seal

Control Panel Products

Sensing

**Features / Part Numbers**

**Button Operated Valves**

2 & 3-way normally closed poppet, 1/4" Port valve operates at the press of a button and may be installed in a pipe line or used as a portable blow gun attached to a length of hose.

**CAUTION:**  
 Install guards on all hand operated valves.  
 Accidental operation can cause personal injury.





**Material specifications**

Internal components	Brass, stainless and plated steel
Body	Brass
Seals	Buna N

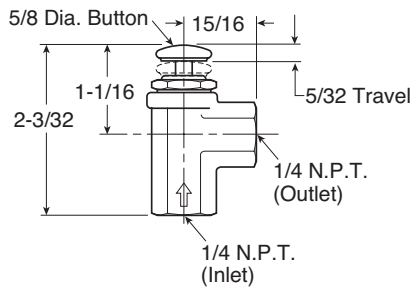
**Operating information**

Operating pressure:	Max. 150 PSIG air only Min. 0 PSIG
Temperature range:	-20°F to 180°F (-28°C to 82°C)

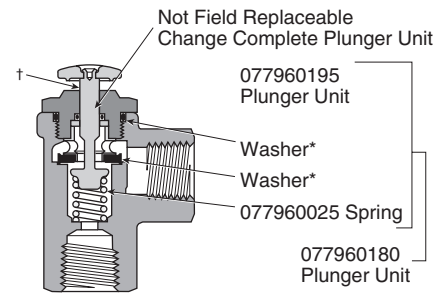
**Button Operated Valves**

	Port Size	Function	Cv (Avg)	Old Number	Service Kit	Part Number
	1/4"	2-way	0.94	7796SP1	<b>077960105</b>	<b>077960199</b>
	1/4"	3-way	0.94	8187	<b>077960105</b>	<b>081870129</b>

**Dimensions**



**Replacement Parts**



† 077960199 2-Way valve shown.  
 \* Included in service kits listed above.

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

MO Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

Control Panel Products

Sensing



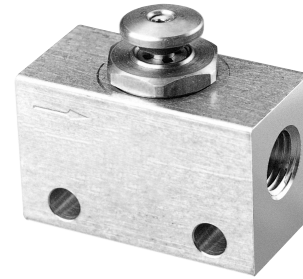
## Hand / Cam Operated Valves

Inline, button-operated, 2 & 3-way normally closed poppet, 1/4" port valve has mounting holes for single or gang mounting. Actuation by hand, cam or mechanical fingers. Valves should be used with filtered and lubricated air.



**CAUTION:**

Install guards on all hand operated valves. Accidental operation can cause personal injury.



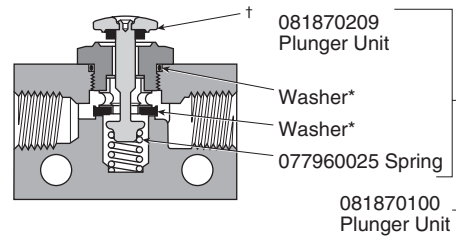
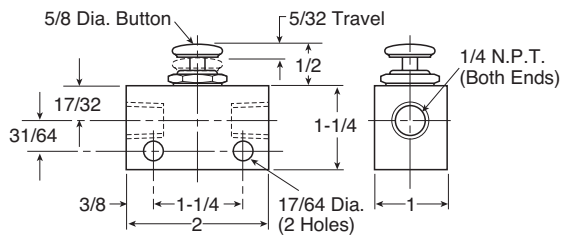
### Operating information

Operating pressure: Max. 150 PSIG air only  
Min. 0 PSIG  
Temperature range: -20°F to 180°F (-28°C to 82°C)

### Hand / Cam Operated Valves

	Port Size	Function	Cv (Avg)	Old Number	Service Kit	Part Number
	1/4"	2-Way	0.94	7796SP5	<b>077960105</b>	<b>077960319</b>
	1/4"	3-Way	0.94	8187SP1	<b>077960105</b>	<b>081870139</b>

### Replacement Parts



† 081870139 3-Way valve shown.  
\* Included in service kits listed above.



Features / Part Numbers

**Bleed Valves**

This 2-way normally closed bleeder valve is an accessory that may be used with any double pilot-operated valve (bleed type). It provides manual or cam-operated control. A 1/4" pipe thread fits either the pilot valve port or the feeder airline. Opposite end has standard 1/2-20 thread for easy mounting on machine or panel. Valves should be used with filtered and lubricated air.



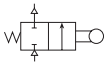
**Material specifications**

Internal components	Brass, stainless steel
Body	Brass
Seals	Fluorocarbon

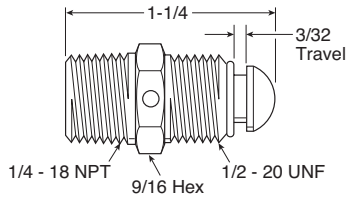
**Operating information**

Operating pressure:	Max. 150 PSIG air only Min. 0 PSIG
Temperature range:	-40°F to 450°F (-40°C to 232°C)

**Bleed Valves**

	Port Size	Function	Part Number
	1/4"	2-way	<b>315139000</b>

**Dimensions**



Directair 2 & 4 Series  
Viking Xtreme Lever Series  
4/2 Lever / Pedal Series  
MO Series  
Safety  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## Control Panel Products

HUMAN-MACHINE DIALOG requires devices such as push buttons and selector switches to provide command inputs. A wide variety of these devices are available to meet most application needs; in both pneumatic and electrical switch bodies. All of these devices use the 22 mm (7/8") mounting standard.



### Complete Assemblies— 3/2 Valve Bodies with 5/32" Instant Straight Connections

#### Flush Push Buttons

	Color	Function	Type of Switching*	Part Number
	Black			<b>PXBB3111BA2</b>
	Green	Spring Return	NNP	<b>PXBB3111BA3</b>
	Red			<b>PXBB3111BA4</b>
	Black	Spring Return	NNP+NP	<b>PXBB3251BA2</b>
	Black		Single	<b>PXBB4131BA2</b>
	Green	Spring Return	Universal 3-Way	<b>PXBB4131BA3</b>
	Red			<b>PXBB4131BA4</b>
	Black	Spring Return	Dual Universal 3-Way	<b>PXBB4231BA2</b>

\* Type of switching: Universal 3-way: valve can be connected either as NP or NNP as required by connecting the primary air supply to port 1 or port 3.

**Note:** Mount up to three valves on mounting ring.

#### Mushroom Head Push Buttons (40mm Diameter)

	Color	Function	Type of Switching*	Part Number
	Black	Spring Return	NNP	<b>PXBB3111BC2</b>
	Red	Push-Pull		<b>PXBB3111BT4</b>
	Red	Push-Pull	NP	<b>PXBB3121BT4</b>
	Black	Spring Return	Single Universal	<b>PXBB4131BC2</b>
	Red	Push-Pull	3-Way	<b>PXBB4131BT4</b>

\* Type of switching: Universal 3-way: valve can be connected either as NP or NNP as required by connecting the primary air supply to port 1 or port 3.

**Note:** Mount up to three valves on mounting ring.

#### Selector Switches

	Color	Function	Type of Switching*	Part Number
	Black	2 Maintained Positions with Std. Handle	NNP	<b>PXBB3111BD2</b>
	Black		NNP+NP	<b>PXBB3211BD2</b>
	Black		NNP+NP	<b>PXBB3251BD2</b>
	Black	3 Maintained Positions with Cdle	NNP+NP	<b>PXBB3211BD3</b>
	Black		NNP+NP	<b>PXBB3251BD3</b>
	Black	3 Positions, Spring Return to Center with Long Handle	NNP+NP	<b>PXBB3211BJ5</b>
	Black	2 Maintained Positions with Std. Handle	Single Universal 3-Way	<b>PXBB4131BD2</b>
	Black	2 Maintained Positions with Std. Handle	Dual Universal 3-Way	<b>PXBB4231BD2</b>
	Black	3 Maintained Positions with Std. Handle	Dual Universal 3-Way	<b>PXBB4231BD3</b>
	Black	3 Maintained Positions with Long Handle	Dual Universal 3-Way	<b>PXBB4231BJ5</b>

\* Type of switching: Universal 3-way: valve can be connected either as NP or NNP as required by connecting the primary air supply to port 1 or port 3.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever /  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal




Control Panel  
Products

Sensing

**Accessories**

**For Use With PXBB Valve Bodies and ZBE Electrical Switch Bodies**

**Push Buttons**



	Color	Function	Type	Part Number	Plastic Head**	Metal Head*
	Black	Spring Return	Flush	<b>ZB5AA2</b>	<b>ZB4BA2</b>	
	Green			<b>ZB5AA3</b>	<b>ZB4BA3</b>	
	Red			<b>ZB5AA4</b>	<b>ZB4BA4</b>	
	Yellow			—	<b>ZB4BA5</b>	
	Blue			—	<b>ZB4BA6</b>	
	Black	Spring Return	Extended	<b>ZB5AL2</b>	<b>ZB4BL2</b>	
	Green			<b>ZB5AL3</b>	<b>ZB4BL3</b>	
	Red			<b>ZB5AL4</b>	<b>ZB4BL4</b>	
	Yellow			—	<b>ZB4BL5</b>	
	Black			Spring Return	Booted	—
Green	—	<b>ZB4BPA3</b>				
Red	—	<b>ZB4BP4</b>				
	Black	Detent 2 Position	Flush	—	<b>ZB4BH02</b>	
	Green			—	<b>ZB4BH03</b>	
	Red			—	<b>ZB4BH04</b>	

\* ZB4\*\*\* model numbers are metal head operators  
\*\* ZB5\*\*\* model numbers are plastic head operators, use with plastic mounting ring.



**For Push Buttons and Visual Indicators**

**Mounting Ring for Valve Bodies, Switch Bodies and Operating Heads**

Description	Part Number
 Metal Mounting Ring	<b>ZB4BZ009</b>
 Plastic Mounting Ring	<b>ZB5AZ009</b>

**Note:** To release push button from mounting ring, pull lever on top of mounting ring up and remove push button operator. To assemble push button operator to mounting ring, align arrows and snap into place.

**Selector Switches**

Standard black handle			
Description	Function	Part Number*	
Maintained	2 positions	<b>ZB4BD2</b>	
Spring Return from Right to Left		<b>ZB4BD4</b>	
Maintained	3 positions	<b>ZB4BD3</b>	
Spring Return to Center from Left and Right		<b>ZB4BD5</b>	
Maintained Right Spring Return from Left to Center	3 positions	<b>ZB4BD7</b>	
Maintained Left Spring Return from Right to Center	3 positions	<b>ZB4BD8</b>	

Long Black Handle			
Description	Function	Part Number*	
Maintained	2 positions	<b>ZB4BJ2</b>	
Spring Return from Right to Left		<b>ZB4BJ4</b>	
Maintained	3 positions	<b>ZB4BJ3</b>	
Spring Return to Center from Left and Right		<b>ZB4BJ5</b>	

\* ZB4\*\*\* model numbers are metal head operators

**Key Operated Selectors**

Key Withdrawal	Function	Part Number*
Left	2 Maintained Positions	<b>ZB4BG2</b>
Left and Right		<b>ZB4BG4</b>
Center	3 Maintained Positions	<b>ZB4BG3</b>
Left and Right		<b>ZB4BG5</b>
Center	3 Positions	<b>ZB4BG7</b>
Center	2 Spring Return to Center	

\* ZB4\*\*\* Model numbers are metal head operators

**Mushroom Head Push Buttons with Key Select**

Color	Function	Description	Part Number*
Red	Latching Turn to Release	Ø 40mm head	<b>ZB4BS844</b>
Red	Key Latching		<b>ZB4BS944</b>

\* ZB4\*\*\*\* model numbers are metal head operators

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

Control Panel Products

Sensing

**For Use With 2B4\*\*\* Metal Operating Heads**



PXBB3111B



PXBB4131B

\* NNP: Normally non-passing.

Note: Mount up to 3 valves on mounting ring for push buttons.  
 Mount up to 2 valves on mounting ring for selector switches, valves cannot be mounted in center position.

**Specifications**

Air Quality – Standard Shop Air, Lubricated or Dry	40 µm Filtration
Flow –	PXBB3• Cv=.08
	PXBB4• Cv=.18
Materials –	Body Polyamide
	Operating Head Zinc Alloy & Plastic
Operating Positions	All Positions
Operating Pressure –	PXBB3• 15 to 115 PSIG (1 to 9 bar)
	PXBB4• 15 to 145 PSIG (1 to 10 bar)
Ports	5/32" Instant for Semi-Rigid Nylon or Polyurethane Tube
Operating Temperature –	5°F to 140°F (-15°C to 60°C)

**Additional Valve Bodies**



PXBB3911



PXBB4932



PXBB4931

Connections	Function	Type of Switching*	Part Number
5/32" instant straight	3/2	NNP	<b>PXBB3911</b>
5/32" instant swivel			<b>PXBB3912</b>
5/32" instant straight	3/2	NP	<b>PXBB3921</b>
5/32" instant swivel			<b>PXBB3922</b>
5/32" instant straight	3/2	Universal	<b>PXBB4931</b>
5/32" instant swivel			<b>PXBB4932</b>

\* NNP: Normally non-passing.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products


Sensing

**For Push Buttons and Visual Indicators**

**Legend Plates for PXBB Devices (22mm)**

Description	Part Number
<b>Without Text for Customer Engraving</b>	
Black / red background (white letters)	<b>ZBY2101</b>
Yellow / white background (black letters)	<b>ZBY4101</b>
<b>With Text for Push Buttons</b>	
Start	<b>ZBY2303</b>
Stop	<b>ZBY2304</b>
Forward	<b>ZBY2305</b>
Reverse	<b>ZBY2306</b>
Up	<b>ZBY2307</b>
Down	<b>ZBY2308</b>
Right	<b>ZBY2309</b>
Left	<b>ZBY2310</b>
On	<b>ZBY2311</b>
Off	<b>ZBY2312</b>
Open	<b>ZBY2313</b>
Close	<b>ZBY2314</b>
Inch	<b>ZBY2321</b>
Reset	<b>ZBY2323</b>
Power On	<b>ZBY2326</b>
Slow	<b>ZBY2327</b>
Fast	<b>ZBY2328</b>
Emergency stop	<b>ZBY2330</b>
Run	<b>ZBY2334</b>
<b>With Text for 2-Position Selectors</b>	
Off On	<b>ZBY2367</b>
<b>With Text for 3-Position Selectors</b>	
Hand Off Auto	<b>ZBY2387</b>



 Most popular.

**Blank Legend Plates for Inscription**

**For PXBB devices** (2 lines of 11 characters maximum)

**Please indicate the required text when ordering.**  
(Allow 3 weeks for delivery)

Description	Part Number
Black Background / White Letters	<b>ZBY2002</b>

**For 22mm Visual Indicators Only**

**2 lines of 11 characters maximum**

**Please indicate the required text when ordering.**  
(Allow 3 weeks for delivery)

Description	Part Number
Black Background / White Letters	<b>ZB2BY2002</b>

**Electrical Switch Bodies**

When combined with pneumatic valves, these contact blocks allow different forms of power to be provided from a single push button. Can be mounted with both types of valves PXBB3 / PXBB4.

Type of contact	Part Number
Normally Open (NO)	<b>ZBE101</b>
Normally Closed (NC)	<b>ZBE102</b>



**Note:** Plastic mounting ring ZB5AZ009 to be used with ZB5 plastic operating heads. Metal mounting ring ZB4BZ009 to be used with ZB4 metal operating heads.

**Electrical specification:** 240V, 10 Amp

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

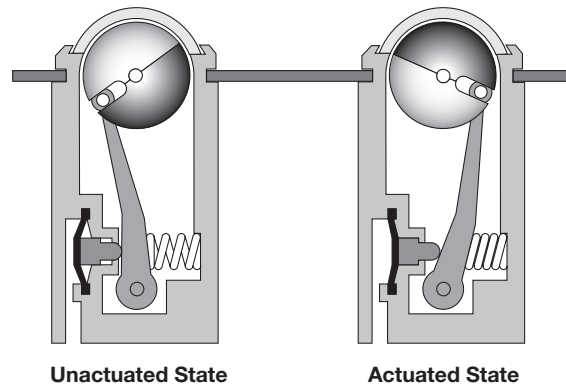
Control Panel Products

Sensing



**Pneumatic Visual Indicators**

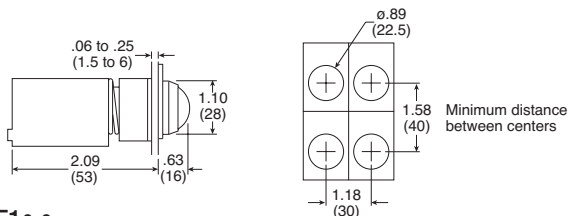
An indicator ball is rotated by a pneumatic input, changing the visible color. The ball sits behind a clear plastic window, providing a wide field of view. The visual indicators are available in five brightly colored Day-Glow paints for increased visibility. Like push buttons and selector switches, visual indicators use the 22mm (7/8") mounting standard.



**With 5/32" Instant Connections**




**Notes:** The Pneumatic Indicators are black in one position and colored in the other. The colored position corresponds either to the presence of a pressure ("ON" Indicator) or the absence of pressure ("OFF" Indicator).



PXVF1 • •

**Mounting Accessories**

	Color	Description	Part Number
	—	Plastic Head (ZB5) Mounting Nut Tightening Tool	<b>ZB5AZ905</b>
	Black Plastic	Guard for 40mm	<b>ZBZ1602</b>

**Specifications**

Air Quality –	Standard Shop Air, Lubricated or Dry 40 µm Filtration	
Materials –	Body	Polyamide
	Operating Head	Zinc Alloy & Plastic
Number of Operations with Dry Air at 90 PSI (6 bar) and 68°F (20°C) - Frequency 1 Hz	Mushroom Head	300,000 Operations
	Mushroom Head	1 million Operations
Operating Positions	All Positions	
Operating Pressure –	15 to 115 PSIG (1 to 8 bar)	
Ports	5/32" Instant for Semi-Rigid Nylon or Polyurethane Tube 10-32 UNF Available	
Operating Temperature –	Operating	32°F to 122°F (0°C to 50°C)
	Storage	-22°F to 140°F (-30°C to 60°C)

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

E71

**Parker Hannifin Corporation**  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

Directair 2 & 4 Series	Viking Xtreme Lever Series	42 Lever / Pedal Series	MO Series	Safety		Manual / Mechanical Valves	Brass Poppet / Sliding Seal	Control Panel Products	Sensing
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**Modular Pneumatic / Electric Push Buttons**

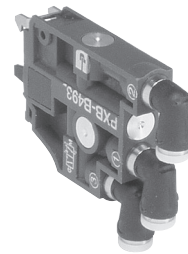
As with electrical contact switches, pneumatic valve modules can be mounted on a number of different operating heads.

- Pneumatic normally non passing (NNP) is equivalent to electrical normally open (N.O.).
- Pneumatic normally passing (NP) is equivalent to electrical normally closed (N.C.).

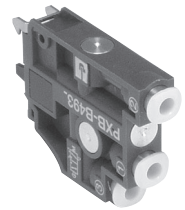
**Note:** Electrical switches can be stacked, but the rear connection on pneumatic switches prevents stacking. Therefore, when mixing electrical and pneumatic switch bodies on the same operator, the pneumatic switch must be mounted last.



PXBB3911



PXBB4932



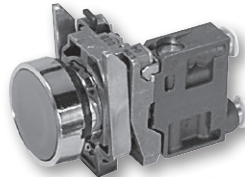
PXBB4931

**Push Buttons**

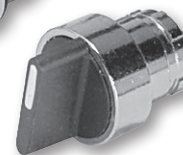
Spring Return or Latching  
 Mushroom Headed Push Buttons



Standard  
 Push Button



**Visual indicators**



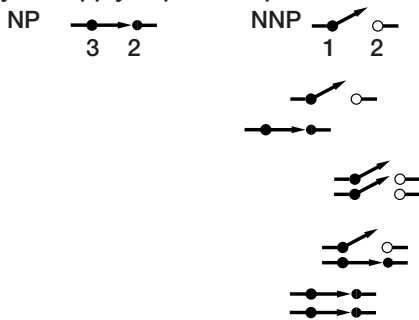
**Selector Switches**

2 or 3 Positions,  
 Fixed or  
 ReturnTo Center

**Functionality Explanation**

Fluid Power			Universal Description	Electrical	
Function	Symbol			Function	Symbol
Normally Closed (N.C.)	2-Way		Normally Non-Passing (NNP)	Normally Open (N.O.)	
	3-Way				
Normally Open (N.O.)	2-Way		Normally Passing (NP)	Normally Closed (N.C.)	
	3-Way				

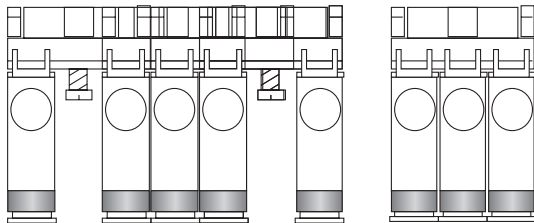
**Type of Switching: Universal 3-Way:** Valve can be connected either as NP or NNP as required by connecting the primary air supply to port 1 or port 3.



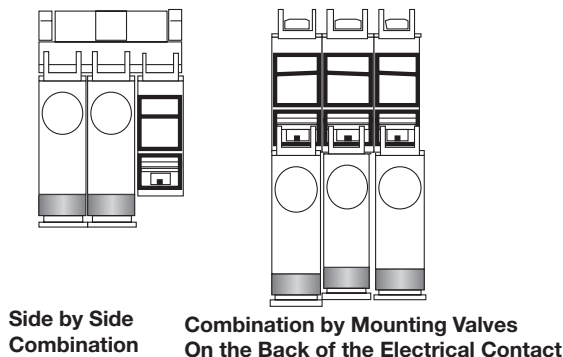
**Combination of Output Devices On a Single Mounting Block**

Up to 3 output devices (valves or electrical contacts) can be mounted side by side on 1 mounting block.

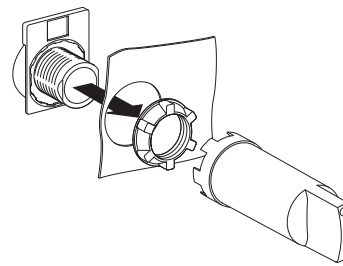
**Note:** The central position can only be activated by push button heads.



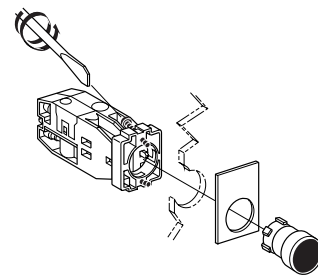
Electrical Contacts and Valves can be Combined Either Side by Side, or by Mounting the Valve on the Back of the Electrical Contact.



**Assembling Output Devices and Heads On ZB5 Series Mounting Block**

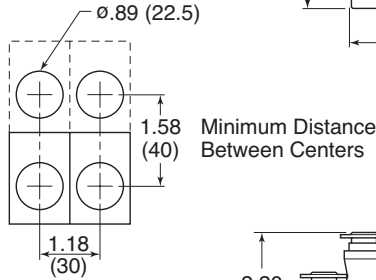
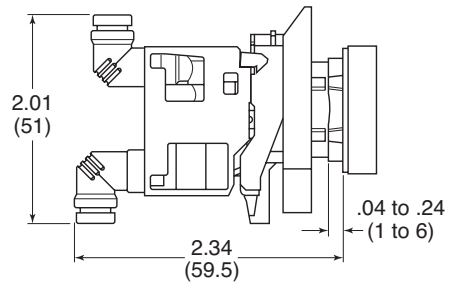
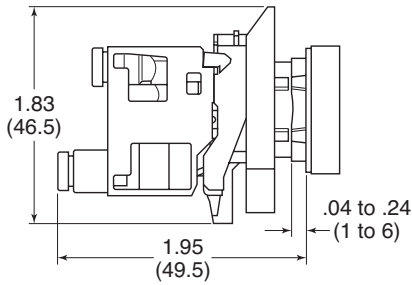


**Replacement Old Style Mounting**

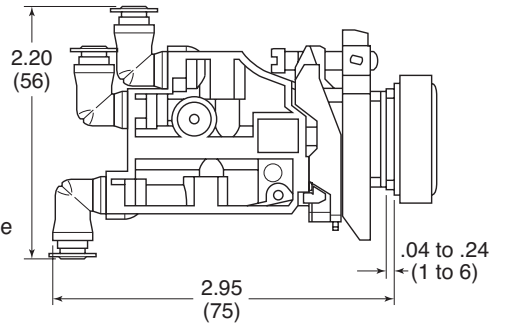
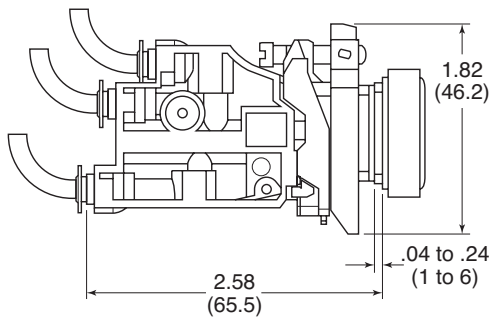


**Dimensional Data**

**PXB-B3 Dimensions**



**PXB-B4 Dimensions**

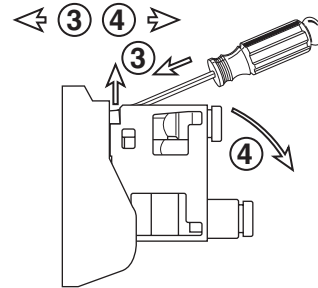
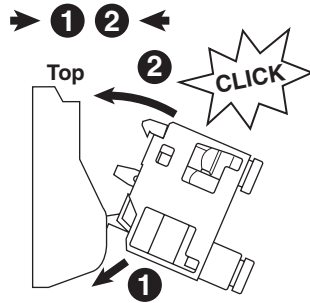


**Tube Bending Radius For PXBB3 and PXBB4**

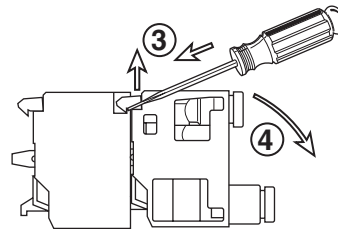
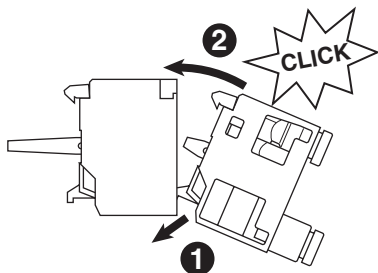
- 4 mm O.D. x 2 mm I.D. Tube = Minimum 0.39 (10) Radius
- 4 mm O.D. x 2.7 mm I.D. Tube = Minimum 0.59 (15) Radius

**Assembly**

Assembling PXB Valves On Mounting Block



Assembling PXB Valves On the Back of the Electrical Contact



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series	Viking Xtreme Lever Series	42 Lever / Pedal Series	MO Series	Safety	Manual / Mechanical Valves
					Brass Poppet / Sliding Seal
					Control Panel Products
					Sensing

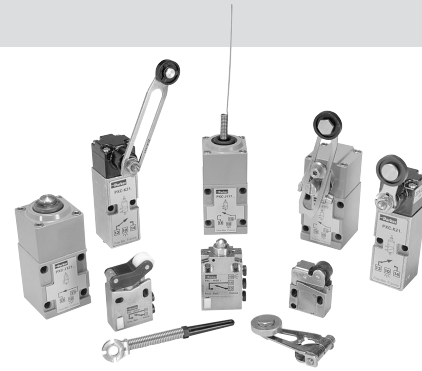
Features

Limit Switches

To achieve the sensing or feedback function, pneumatic sensors can be:

- Limit switches in a variety of sizes and configurations
- Pressure switches with many adjustable ranges
- Components designed specifically for pneumatic technology using pressure variation, air bleed or blocking for detection.

A wide variety of pneumatic sensors are available to suit any application requirement.



Material specifications

Body	Zinc alloy
Poppets	Polyurethane
Seals	Nitrile (Buna N)

Operating information

Operating pressure:	40 to 115 PSIG (3 to 8 bar)
Operating temperature:	32°F to 122°F (0°C to 50°C)
Storage	-22°F to 140°F (-30°C to 60°C)

3/2 Miniature Direct Acting Limit Switches  
1/16" I.D. Internal Orifice

	Actuator	Type of switching*	Flow SCFM (NI/min)	Nominal Bore	Connection	Part Number
	Steel Plunger Operating Levers Available	NNP	2.2 (60)	1/16" (1.5mm)	5/32" instant	<b>PXCM111</b>
					10-32 UNF	<b>PXCM115</b>
	Plastic Roller	NNP	3.0 (85)		5/32" Instant	<b>PXCM121</b>
					10-32 UNF	<b>PXCM125</b>

7/64" I.D. Internal Orifice

	Plastic Roller	NNP	8.8 (250)	7/16" (2.5mm)	5/32" Instant	<b>PXCM521</b>
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Actuators For Steel Plunger (Use with PXCM11\*)

	Plastic Roller Lever					<b>PXCZ11</b>
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\* NNP: Normally non-passing.

Specifications

Air Quality – Standard Shop Air, Lubricated or Dry	40 µm Filtration
Maximum Operating Frequency	5 Hz
Number of Operations with Dry Air at 90 PSI (6 bar) and 68°F (20°C) - Frequency 1 Hz	10 million
Operating Positions	All Positions

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

E75

Parker Hannifin Corporation  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves




Brass Poppet / Sliding Seal

Control Panel Products

Sensing





Part Numbers

**3/2 Compact Pilot Operated Limit Switches**  
7/64" I.D. Internal Orifice, 5/32" Instant Connections, Pipeable Exhaust Port

	Actuator	Type of Switching*	Flow SCFM (NI/min)	Nominal Bore	Connection	Part Number	
Directair 2 & 4 Series Viking Xtreme Lever Series 42 Lever / Pedal Series		Steel Plunger Operating Levers Available				<b>PXCM601A110</b>	
		Steel Roller Plunger	NNP	8.8 (250)	7/64" (2.5mm)	5/32" instant	<b>PXCM601A102</b>
		90° Steel Roller Plunger					<b>PXCM601A103</b>

**Standard Duty Limit Switches – “K” Series**

**Plunger Operated Limit Switches**  
1/8" I.D. Internal Orifice, 5/32" Instant Connections, Pipeable Exhaust Port

	Actuator	Type of Switching*	Flow SCFM (NI/min)	Nominal Bore	Connection	Part Number		
MO Series Safety		Steel Plunger	NNP			<b>PXCK21101</b>		
			NP			<b>PXCK22101</b>		
		Steel Roller Plunger	NNP			<b>PXCK21102</b>		
			NP			<b>PXCK22102</b>		
		Plastic Roller Plunger	NNP	7.4 (210)	1/8" (3mm)	5/32" instant	<b>PXCK21121</b>	
			NP				<b>PXCK22121</b>	
			Cats Whisker	NNP				<b>PXCK21106</b>
				NP				<b>PXCK22106</b>

\* NNP: Normally non-passing. 

 Most popular.





For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)




Part Numbers

Roller Operated Limit Switches


1/8" I.D. Internal Orifice, 5/32" Instant Connections, Pipeable Exhaust Port

	Actuator	Type of Switching*	Flow SCFM (NI/min)	Nominal Bore	Connection	Part Number
	Fixed Delrin Roller Lever Multi-Function Head Actuates:	NNP	7.4 (210)	1/8" (3mm)	5/32" Instant	<b>PXCK2110031</b>
	- from Right and Left - from Right - from Left	NP				PXCK2210031
	Adjustable Delrin Roller Lever Multi-Function Head Actuates:	NNP	7.4 (210)	1/8" (3mm)	5/32" Instant	<b>PXCK2110041</b>
	- from Right and Left - from Right - from Left	NP				PXCK2210041

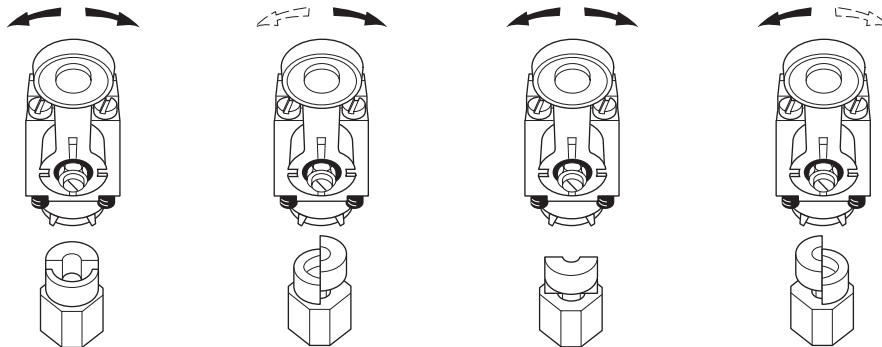
Separate Pneumatic Switch Bodies



	Actuator	Type of Switching*	Part Number
	For Use with Zck Series Operating Heads	NNP	<b>PXCK211</b>
		NP	<b>PXCK221</b>

Pneumatic Switch Bodies with Rotary Heads

	Actuator	Type of Switching*	Part Number
	Multi-Function Head Actuates:	NNP	<b>PXCK21100</b>
	- from Right and Left - from Right - from Left	NP	<b>PXCK22100</b>

Field Conversion of Rotary Operating Head



\* NNP: Normally non-passing.   
 NP: Normally passing. 

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever /  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products


Sensing

Part Numbers

Standard Duty Limit Switches – “K” Series







Operating Heads

For Use With PXCK Switch Bodies

Actuator	Description	Part Number
<b>Rotary operated</b>		
	Die Cast Zinc	<b>ZCKG00</b>
<b>Plunger operated</b>		
Roller plunger		<b>ZCKD02</b>
Whisker		<b>ZCKD06</b>
Rod plunger	Plunger Operated	<b>ZCKD10</b>
Delrin roller lever on plunger		<b>ZCKD21</b>
Steel roller lever on plunger		<b>ZCKD23</b>

Operating Levers for Rotary Heads

For Use With Rotary Head ZCKG00

Actuator	Description	Part Number
	Steel 1/8" Square	<b>ZCKY51</b>
	Fiberglass 1/8" Dia. Round	<b>ZCKY52</b>
	Plastic Spring Rod Lever	<b>ZCKY81</b>
	Metal Spring Rod Lever	<b>ZCKY91</b>
	Delrin Roller Lever	<b>ZCKY11</b>
	Steel Roller Lever	<b>ZCKY13</b>
	Adjust. Delrin Roller Lever	<b>ZCKY41</b>
	Adjust. Steel Roller Lever	<b>ZCKY43</b>

Heavy Duty Limit Switches – “J” Series

Switch Bodies Only










Type of Switching*	Part Number
NNP	<b>PXCJ117</b>
NP	<b>PXCJ127</b>

Separate Pneumatic Switch Bodies

Direction of Actuator	Type of Switching*	Part Number
Right & Left, Spring Return	NNP	<b>PXCJ11701</b>
Right or left, Spring Return	NNP	<b>PXCJ11705</b>
Right & Left, Spring Return	NP	<b>PXCJ12701</b>
Right or Left, Spring Return	NP	<b>PXCJ12705</b>










Operating Levers for Rotary Heads

Die Cast Zinc. For Use With PXCJ Switch Bodies

Operator	Description	Part Number
	Delrin Roller	<b>ZC2JY11</b>
	Steel Roller	<b>ZC2JY13</b>
	Offset Delrin Roller	<b>ZC2JY21</b>
	Plastic Spring Rod	<b>ZC2JY81</b>
	Metal Spring Rod	<b>ZC2JY91</b>
	Delrin Roller	<b>ZC2JY31</b>
	Offset Delrin Roller	<b>ZC2JY41</b>
	Single Track, Delrin Roller	<b>ZC2JY71</b>
	Double Track, Delrin Rollers	<b>ZC2JY61</b>

Top Plunger & Rotary Operating Heads

Die Cast Zinc. For Use With PXCJ Switch Bodies

Operation	Description	Part Number
<b>Top Plunger Type</b>		
	Top Push	<b>ZC2JE61</b>
	Top Roller Push	<b>ZC2JE62</b>
	Side Push	<b>ZC2JE63</b>
	Cat's Whisker	<b>ZC2JE70</b>
<b>Rotary Type</b>		
	From Left & Right	<b>ZC2JE01</b>
	Counterclockwise from Right	<b>ZC2JE02</b>
	Clockwise from Left	<b>ZC2JE03</b>
	From Left or Right	<b>ZC2JE05</b>
	Maintained Positions	<b>ZC2JE09</b>

\* NNP: Normally non-passing. NP: Normally passing.

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

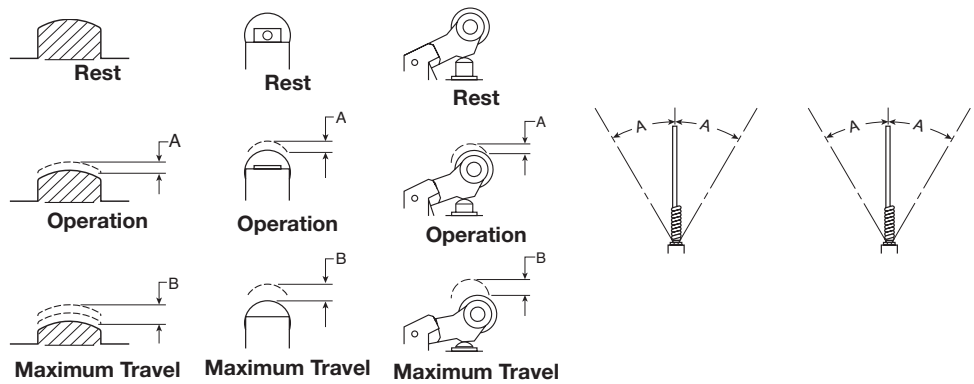
Control Panel Products

Sensing

**Operator Specifications**

	PXCK2••01	PXCK2••02	PXCK2••03	PXCK2••06	PXCK2••00 + Actuator
Differential Angle	—	—	—	12°	3°
Differential Travel	.008" (0.2 mm)	.008" (0.2 mm)	.008" (0.2 mm)	—	—
Maximum Angle of Travel	—	—	—	—	80°
Maximum Travel (B) at 90 PSIG (6 bar)	.228" (5.8 mm)	.228" (5.8 mm)	.228" (5.8 mm)	—	—
Minimum Pre-Travel (A) at 90 PSIG (6 bar)	.087" (2.2 mm)	.087" (2.2 mm)	.102" (2.6 mm)	—	—
Minimum Operating Force at 90 PSI (6 bar)	3.6 lbf (16N)	4.5 lbf (20N)	3.4 lbf (15N)	—	—
Minimum Operating Torque at 90 PSI (6 bar)	—	—	—	17.0 oz in (120mNm)	29.8 oz in (210mNm)
Operating Angle	—	—	—	35°	31° (Minimum lever travel including pre-travel required for operation)

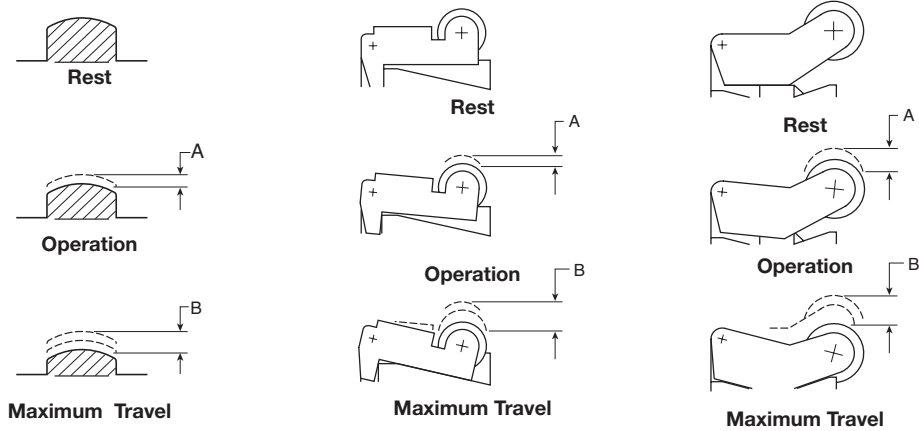
Operating Diagram



**Operators**

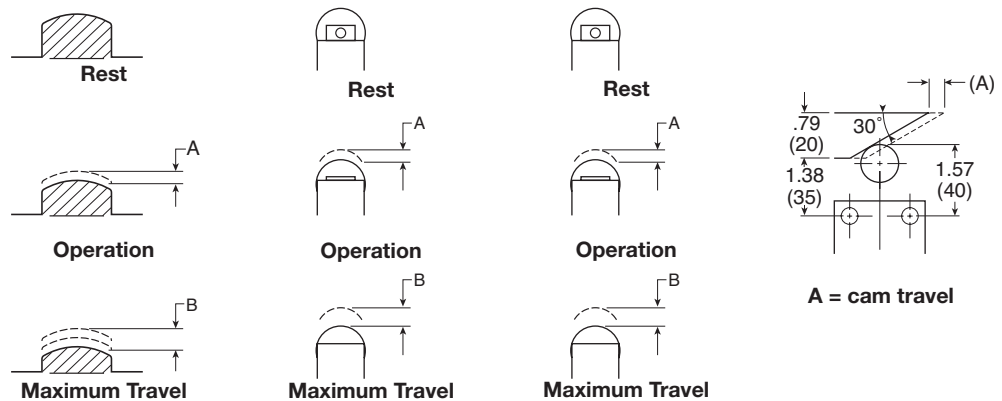
	PXCM111	PXCM121	PXCM521
Differential Travel at 90 PSI (6 bar)	.006" (0.15 mm)	.012" (0.3 mm)	.020" (0.5 mm)
Maximum Travel (B) at 90 PSIG (6 bar)	.055" (1.4 mm)	.126" (3.2 mm)	.228" (5.8 mm)
Minimum Pre-Travel (A) at 90 PSIG (6 bar)	.035" (0.9 mm)	.079" (2 mm)	.087" (2.2 mm)
Minimum Operating Force at 90 PSI (6 bar)	2.5 lb (11 N)	1.0 lb (4.5 N)	1.6 lb (7 N)

Operating Diagram



	PXCM601A110	PXCM601A102	PXCM601A103	PXCM601A110 + XCMZ24
Differential Travel at 90 PSI (6 bar)	.012" (0.3 mm)	.008" (0.2 mm)	.020" (0.5 mm)	.047" (1.2 mm) (A)
Maximum Travel (B) at 90 PSIG (6 bar)	.197" (5 mm)	.197" (5 mm)	.197" (5 mm)	—
Minimum Pre-Travel (A) at 90 PSIG (6 bar)	.066" (1.7 mm)	.066" (1.7 mm)	.066" (1.7 mm)	.370" (9.4 mm) (A)
Minimum Operating Force at 90 PSI (6 bar)	5.4 lbf (24 N)	5.2 lbf (23 N)	5.2 lbf (23)	4.3 lbf (19)

Operating Diagram

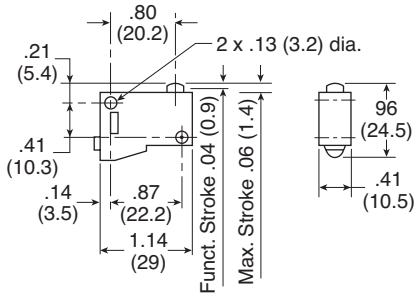


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

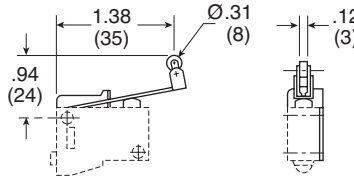
Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing

**Miniature Limit Switches**

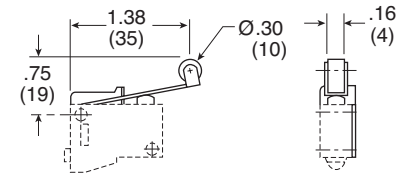
**PXCM111**



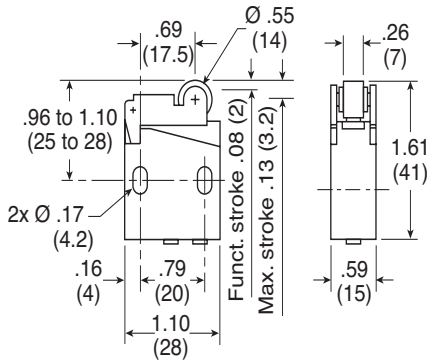
**PXCZ12**



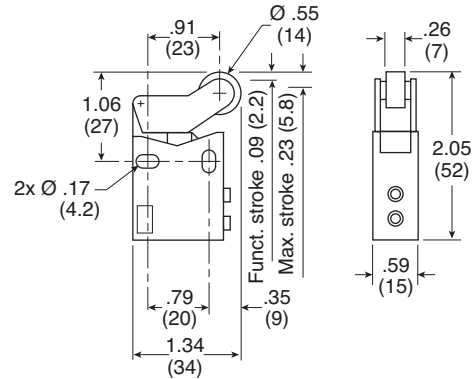
**PXCZ11**



**PXCM121, PXCM131**

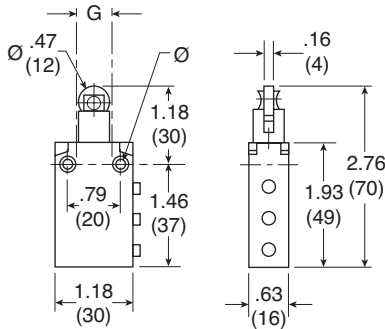


**PXCM521**

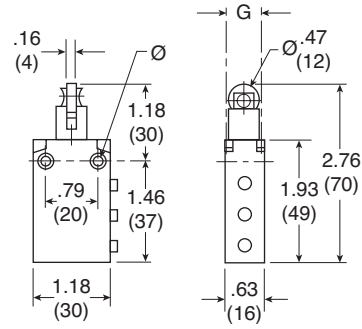


**Compact Limit Switches**

**PXCM601A102**

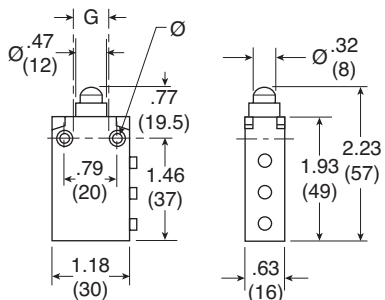


**PXCM601A103**



Ø:  
 2 mounting holes Ø .17" (4.3)  
 2 countersunk Ø .32" (8.2)  
 depth 4 mm

**PXCM601A110**



G:  
 top mounting holes, 2 x M5  
 .71" (18 mm) centers



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
 & 4 Series

Viking Xtreme  
 Lever Series

42 Lever/  
 Pedal Series

M0 Series

Safety



Manual / Mechanical  
 Valves

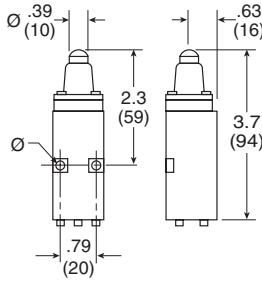
Brass Poppet /  
 Sliding Seal

Control Panel  
 Products

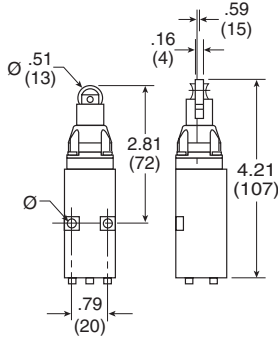
Sensing

**K Series**

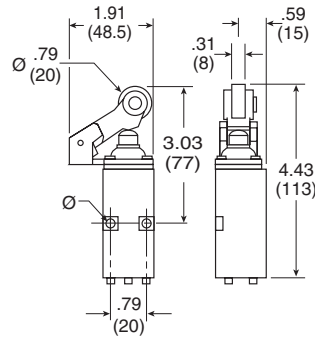
PXCK21101, PXCK22101



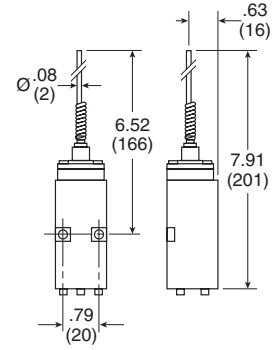
PXCK21102, PXCK22102



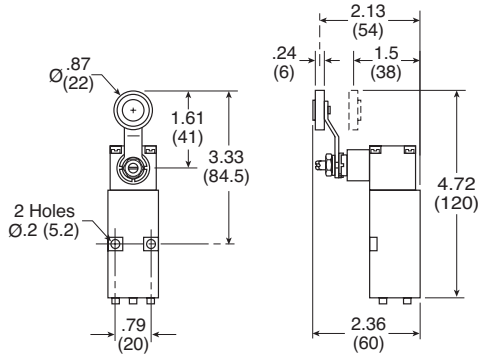
PXCK21121, PXCK22121



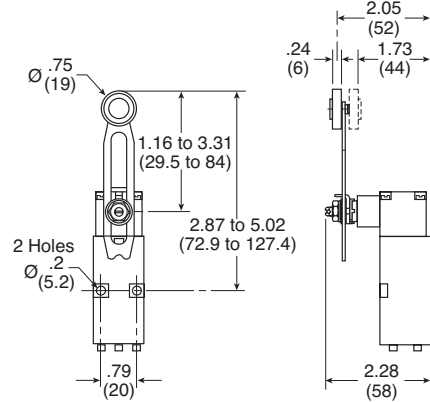
PXCK21106, PXCK22106



PXCK2110031, PXCK2210031

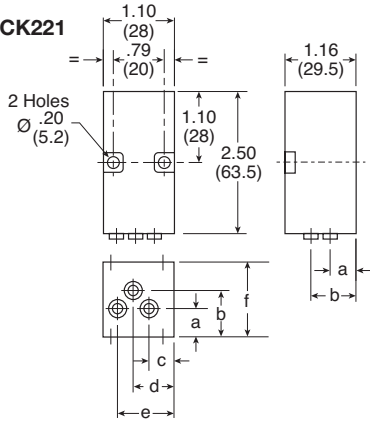


PXCK2110041, PXCK2210041



**Pneumatic Switch Bodies**

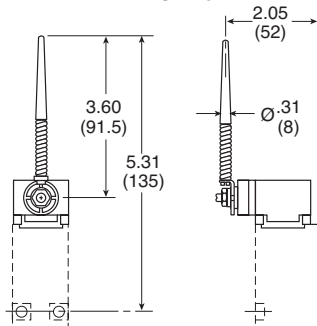
PXCK211, PXCK221



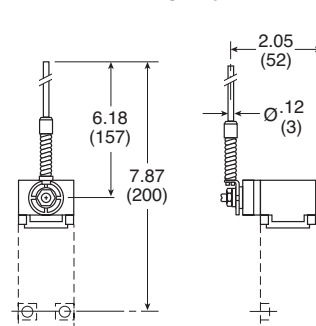
	inch	mm
a	.39	10
b	.77	19.5
c	.35	9
d	.61	15.5
e	.87	22
r	1.66	29.5

**Rotary Heads with Operating Levers**

ZCKY81



ZCKY91



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2 & 4 Series

Viking Xtreme Lever Series

42 Lever / Pedal Series

MO Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

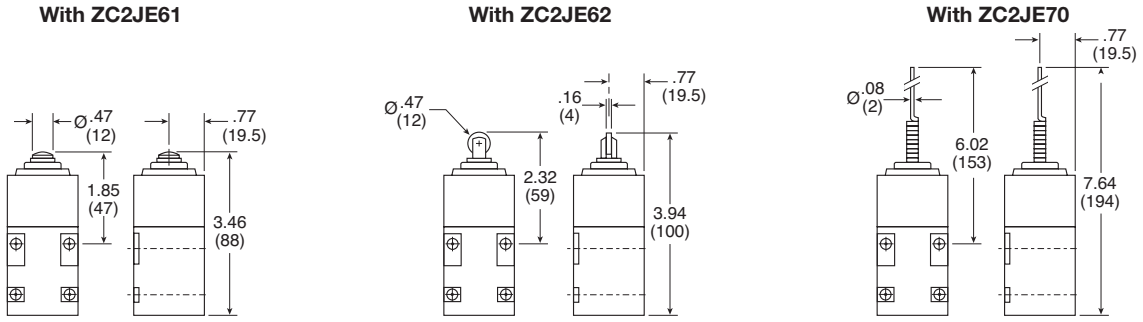
Control Panel Products

Sensing

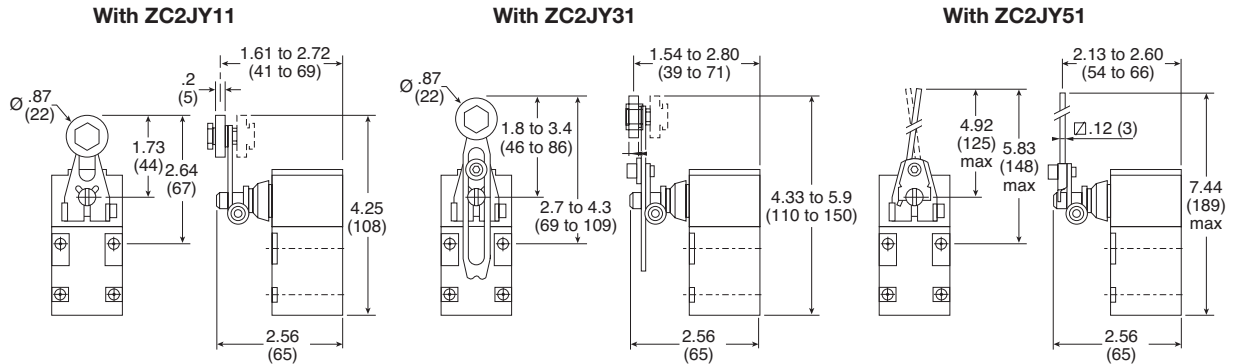


**J Series**

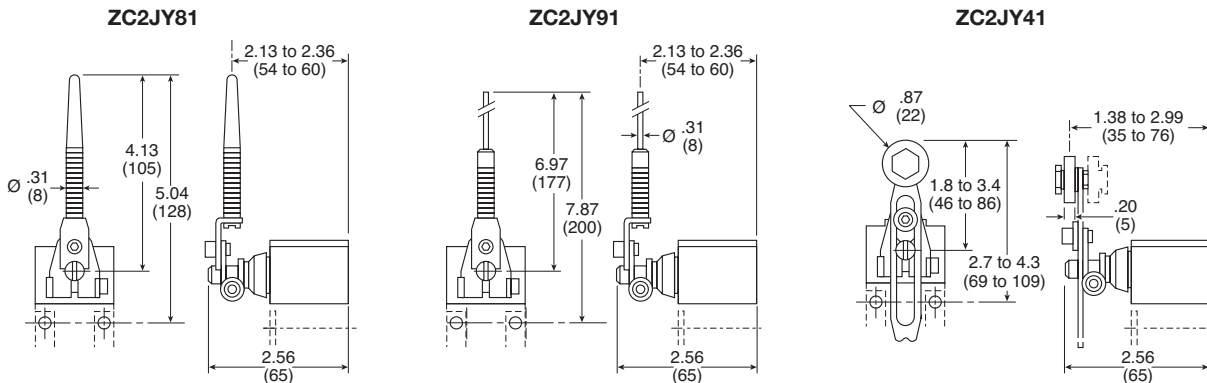
**Switch Body With Plunger Heads**



**Switch Body With Rotary Heads and Operating Levers**

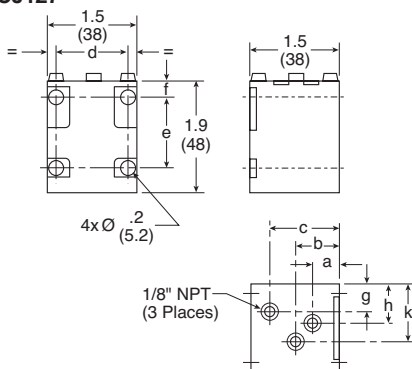


**Rotary Heads With Operating Levers**



**Pneumatic Switch Bodies**

PXCJ117, PXCJ127



	inch	mm
a	.47	12
b	.75	19
c	1.16	29.5
d	1.14 to 1.18	29 to 30
e	1.18	30
f	.28	7
g	.43	11
h	.51	13
k	.94	24



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever/  
Pedal Series

M0 Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

Directair 2 & 4 Series	Viking Xtreme Lever Series	42 Lever / Pedal Series	MO Series	Safety		Manual / Mechanical Valves	Brass Poppet / Sliding Seal	Control Panel Products	Sensing
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For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**Pneumatic Valve Products**  
**Accessories**

**Flow Controls & Check Valves**

337 Micrometer Series	F2
338 Series	F3
3250 Series	F4-F5
3251 Series	F6
339 Series	F7
3047 Series	F7

**Miscellaneous Accessories**

EM Series Sintered Bronze Muffler / Filters	F8
Muffler / Flow Controls	F8
Breather Vents	F9
Silencers	F9
Stainless Steel Mufflers	F10
Air Line Silencers, Plastic	F11-F12
ECS Reclassifier	F13
Quick Exhaust & Shuttle Valves	F14-F16
Threshold Sensors, PWS Series	F17-F19
Tank Valves	F20
Blow Guns	F21-F22

**Integrated Fittings**

Index	F23-F24
Compact Flow Control Valves	F25-F26
Miniature Flow Control Valves	F27
Swivel Outlet Flow Control Valves	F28
Plug-In Flow Control Valves	F29
In-Line Flow Control Valves	F30-F31
Compact Metal Flow Control Valves	F32
Flow Control Check Valves	F33-F34
Blocking Flow Control Valves	F35
Threshold Sensors	F36



## 337 Series Micrometer Flow Control Valves, 1/8" to 3/4" Ports

The "337" Series Flow Control Valves meter flow of air in one direction and allow free flow in the reverse direction.

Valves are manufactured with a fine tapered needle providing precise flow control, even at low flow rates. The perimeter of the adjustment knob features numerical micrometer position markings providing a visual indication of the setting. Once the desired flow is selected, a set screw can be tightened to maintain the setting.

These valves are available with NPTF ports in 1/8", 1/4", 3/8", 1/2", and 3/4" sizes. This series is recommended for pneumatic service.



### Material Specifications

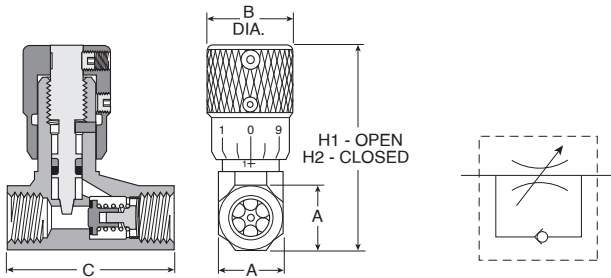
Body	Brass
Check Seal	Urethane
Knob	Aluminum
Needle	Stainless steel
Needle Seals	Buna N (Fluorocarbon optional – consult factory)
Retainer	Zinc- Plated Steel
Spring	Stainless Steel
Set Screw	Steel

### Operating information

Maximum operating pressure: 250 PSIG  
Cracking pressure for return check poppet 1 to 2 PSIG

Operating temperature: \*  
Standard: 0°F to 180°F  
Extended: 0°F to 300°F (consult factory)

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.



### 337 Micrometer Flow Control Valves – NPT

Port Size	Flow (SCFM †)		A	B	C	H1	H2	Part Number	Service Kits
	Adj.	Free Flow							
1/8"	15	32	9/16"	0.75	1.47	2.03	1.81	003371000	003378000
1/4"	28	75	11/16"	0.75	1.47	2.28	2.03	003371001	003378001
3/8"	59	139	7/8"	0.88	2.31	2.84	2.53	003371002	003378002
1/2"	126	183	1-3/16"	1.06	3.25	3.62	3.22	003371003	003378003
3/4"	140	327	1-3/8"	1.06	3.25	3.72	3.31	003371004	003378004

### 337 Micrometer Flow Control Valves – BSPP

Port Size	Flow (SCFM †)		A	B	C	H1	H2	Part Number	Service Kits
	Adj.	Free Flow							
1/8"	15	32	9/16"	0.75	1.47	2.03	1.81	00337G1000	003378000
1/4"	28	75	11/16"	0.75	1.47	2.28	2.03	00337G1001	003378001

† At 100 PSIG inlet pressure with full pressure drop.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## 338 Series Flow Control Valves, 1/8" to 3/4" Ports

"338" Series needle valves bi-directionally meter the flow of air through the valve.

This series features a fine tapered needle providing precise flow of air in both directions. Numerical micrometer position markings are stamped on the perimeter of the adjustment knob which provide a visual indication of the setting. Once the desired flow is selected, a set screw can be tightened to maintain the setting.

These valves are available with NPTF ports in 1/8", 1/4", 3/8" 1/2" and 3/4" sizes. This series is recommended for pneumatic service.



### Material Specifications

Body	Brass
Internal Components	Stainless steel
Seals	Buna N (Fluorocarbon optional – consult factory)

### Operating information

Maximum operating pressure: 250 PSIG

Operating temperature:\*

Standard: 0°F to 180°F

Extended: 0°F to 300°F (consult factory)

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

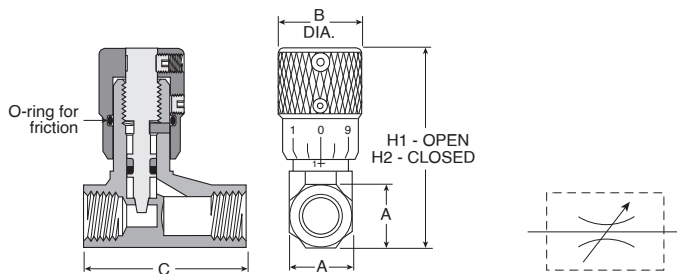
Flow Controls  
& Check Valves

Misc  
Accessories

Integrated  
Fittings

Accessories

F



### 338 Needle Valves – NPT

Port Size	Flow (SCFM †)	A	B	C	H1	H2	Part Number	Service Kits
1/8"	15	9/16"	0.75	1.47	2.03	1.81	003381100	003378000
1/4"	28	11/16"	0.75	1.47	2.28	2.03	003381101	003378001
3/8"	59	7/8"	0.88	2.31	2.84	2.53	003381102	003378002
1/2"	126	1-3/16"	1.06	3.25	3.62	3.22	003381103	003378003
3/4"	140	1-3/8"	1.06	3.25	3.72	3.31	003381104	003378004

### 338 Needle Valves – BSPP

Port Size	Flow (SCFM †)	A	B	C	H1	H2	Part Number	Service Kits
1/8"	15	9/16"	0.75	1.47	2.03	1.81	00338G1100	003378000
1/4"	28	11/16"	0.75	1.47	2.28	2.03	00338G1101	003378001

† At 100 PSIG inlet pressure with full pressure drop.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## 3250 Series Flow Control Valves, 1/8" to 3/4" Ports

The "3250" Series Flow Control Valves are specifically designed to accurately meter the flow of air in one direction and allow free flow in the opposite direction. The "3250" Series Flow Control Valves are also suitable for low pressure hydraulic service.

When air is moving in the free flow direction through the valve, it forces the poppet off its seat and unrestricted air flow is permitted.

When air is moving in the metered direction through the valve, air pressure and the force of the poppet spring causes the poppet to close. Flow must then be through the orifice that is controlled by the metering screw. Opening this screw allows more flow; closing it, less flow.



### Operating information

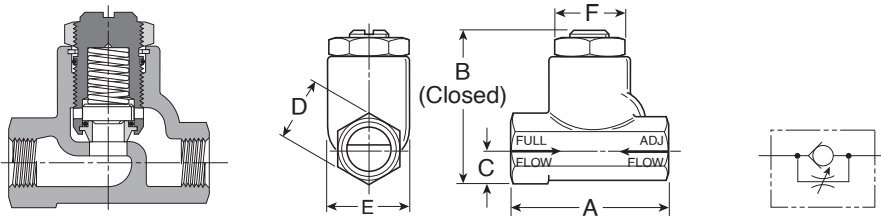
Operating pressure: 250 PSIG (Air)  
250 PSIG (Hydraulic)

Operating temperature:  
Standard: 0°F to 180°F  
Extended: 0°F to 300°F

Valve will operate mounted in any position. Lock nut on metering screw prevents change in setting during operation.

### Material Specifications

Body	Brass
Internal Components	Brass, Stainless steel
Seals	Buna N



### 3250 Flow Control Valves, 1/8" to 3/4" Ports – NPT

Port Size	Max. Flow (SCFM)		A	B	C	D	E	F	Part Number
	Metered Direction	Free Flow Direction							
1/8"	70	60	1.75	1.56	0.37	0.62	0.81	0.68	<b>032500119</b>
1/4"	130	120	2.33	1.97	0.44	0.75	1.09	0.94	<b>032500219</b>
3/8"	220	205	2.66	2.44	0.56	1.00	1.38	1.19	<b>032500319</b>
1/2"	295	346	3.11	3.06	0.75	1.25	1.63	1.38	<b>032500419</b>
3/4"	420	615	3.56	3.69	0.88	1.50	2.00	1.75	<b>032500519</b>

### 3250 Flow Control Valves, 1/8" to 3/4" Ports – BSPP

Port Size	Max. flow (SCFM)		A	B	C	D	E	F	Part Number
	Metered Direction	Free Flow Direction							
1/8"	70	60	1.75	1.56	0.37	0.62	0.81	0.68	<b>3250G0119</b>
1/4"	130	120	2.33	1.97	0.44	0.75	1.09	0.94	<b>3250G0219</b>
3/8"	220	205	2.66	2.44	0.56	1.00	1.38	1.19	<b>3250G0319</b>
1/2"	295	346	3.11	3.06	0.75	1.25	1.63	1.38	<b>3250G0419</b>
3/4"	420	615	3.56	3.69	0.88	1.50	2.00	1.75	<b>3250G0519</b>

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



## 3250 Series Needle Valves, 1" to 1-1/2" Ports

These extra large flow control valves have been developed to provide effective flow settings for large diameter cylinders and for other similar air applications. Each valve has a fine screw adjustment allowing precise settings which are secured by a sturdy lock nut.

Large internal port passages coupled with unique soft seal poppet and inline design provide maximum full flow capacity and minimum pressure drop in the free flow direction. Their cone shaped brass metering valve will provide consistent cylinder speed by regulating cylinder exhaust.



### Material Specifications

Body	Cast Aluminum
Internal Components	Brass, Aluminum
Seals	Buna N, Urethane
Spring	Stainless Steel

### Operating information

Maximum operating pressure:	250 PSIG
Operating temperature:	
Standard:	-40°F to 180°F
Extended:	-40°F to 350°F (consult factory)

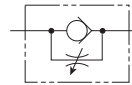
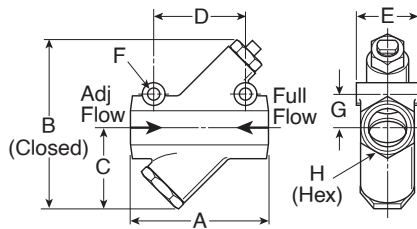
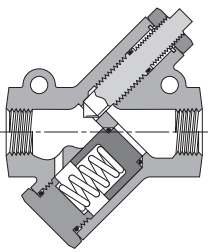
Flow Controls  
& Check Valves

Misc  
Accessories

Integrated  
Fittings

Accessories

F



### 3250 Flow Control Valves, 1" to 1-1/2" Ports – NPT

Port Size	Max. Flow Needle Open		A	B	C	D	E	F	G	H	Part Number
	SCFM <sup>†</sup>	Cv									
1"	1000	12.3	5.00	6.50	3.00	3.25	2.25	.39	1.31	2.13	<b>032501000</b>
1-1/4"	1200	13.8	5.00	6.50	3.00	3.25	2.25	.39	1.31	2.13	<b>032501250</b>
1-1/2"	1800	17.5	5.88	8.00	3.75	3.50	2.50	.39	1.50	2.38	<b>032501500</b>

### 3250 Flow Control Valves, 1" to 1-1/2" Ports – BSPP

Port Size	Max. Flow Needle Open		A	B	C	D	E	F	G	H	Part Number
	SCFM <sup>†</sup>	Cv									
1"	1000	12.3	5.00	6.50	3.00	3.25	2.25	.39	1.31	2.13	<b>03250G1000</b>
1-1/4"	1200	13.8	5.00	6.50	3.00	3.25	2.25	.39	1.31	2.13	<b>03250G1250</b>
1-1/2"	1800	17.5	5.88	8.00	3.75	3.50	2.50	.39	1.50	2.38	<b>03250G1500</b>

† At 100 PSIG inlet pressure with full pressure drop.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

F5

**Parker Hannifin Corporation**  
Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

## 3251 Series Right Angle Flow Control Valves, 1/8" to 1/2" Ports

The Right Angle Flow Control is an ideal solution to cylinder speed control where space is at a premium. Costly fittings, connections and piping expenses can be eliminated because the valve can rotate 360°, the piping alignment can be in any direction. It then locks into place. The 1/8" model can be rotated after final assembly.

Install by threading male end directly into cylinder port. The free-flow and metered-flow direction is automatically predetermined. Free-flow direction is into cylinder and metered-flow is out of the cylinder. Flow is adjusted with an Allen wrench and locked with nut.

Right Angle Flow Control also available with Prestolok fittings on inlet port to accommodate 5/32 - 3/8 tube sizes. This allows for quick connection and eliminates need for separate tube fitting.

### Material Specifications

Body	Brass
Plunger	Brass and Acetal
Seals	Buna N



Shown with Threaded Inlet



Shown with Prestolok Inlet Fitting

### Operating information

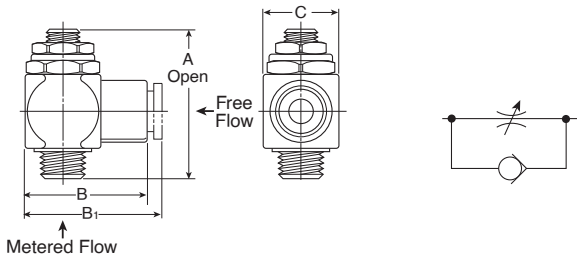
Operating pressure:	125 PSIG (863 kPa) max.
Operating temperature:	0°F to 140°F (-18°C to 60°C)

Flow Controls  
& Check Valves

Misc  
Accessories

Integrated  
Fittings

Accessories



### 3251 Flow Control Valves – NPT

Thread (NPT) Male	Thread (NPT) Female	Cv		A mm	B mm	C mm	Weight		Part Number
		Adjusted Flow	Free Flow				oz.	kg.	
1/8	1/8	0.26	0.20	44	30	17	2.0	0.9	032510125
1/4	1/4	0.75	0.68	51	36	23	4.5	2.0	032510250
3/8	3/8	0.84	0.72	58	43	27	7.0	3.2	032510375
1/2	1/2	1.64	1.41	68	53	32	11.0	5.0	032510500

#### With Prestolok Fittings

1/8	5/32	0.19	0.16	44	30	17	2.0	0.9	032511215
1/8	1/4	0.28	0.22	44	30	17	2.0	0.9	032511225
1/4	1/4	0.51	0.44	51	36	23	4.5	2.0	032512525
1/4	3/8	0.62	0.53	51	36	23	4.5	2.0	032512538
3/8	3/8	0.78	0.65	58	43	27	7.0	3.2	032513838

**CAUTION:** If it is possible that the ambient temperature may fall below freezing, the medium must be moisture-free to prevent internal damage or unpredictable behavior.

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

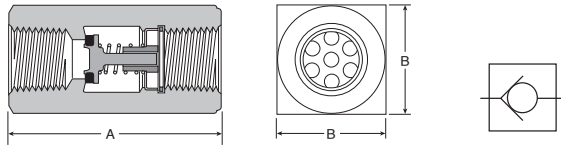
## 339 Series Check Valves, 1/8" to 3/4" Ports

"339" Series check valves allow free flow in one direction and provide positive checked flow in the reverse direction. These valves are available with NPTF ports in 1/8", 1/4", 3/8", 1/2" & 3/4" sizes. This series is recommended for pneumatic service.



### Material Specifications

Body	Brass
Internal Components	Brass / stainless steel / zinc-plated steel
Seals	Urethane (standard) Fluorocarbon (optional, consult factory)



### Operating information

Operating pressure: 250 PSIG max.  
Cracking pressure 1 to 2 PSIG

Operating temperature: \*  
Standard: 0°F to 180°F  
Extended Option: 0°F to 300°F (consult factory)

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

### 339 Check Valve

Port Size	Flow (SCFM †)	A	B	Part Number	
				NPT	BSPP
1/8"	35	1.22	0.56	003393000	00339G3000
1/4"	75	1.34	0.69	003393001	00339G3001
3/8"	143	2.00	0.88	003393002	–
1/2"	162	2.56	1.19	003393003	–
3/4"	323	2.66	1.38	003393004	–

† At 100 PSIG inlet pressure with full pressure drop.

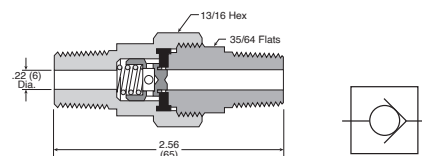
## 3047 Series Check Valves, 1/4" Ports

"3047" Series check valves allow free flow in one direction and provide positive checked flow in the reverse direction. This valve is available with a male 1/4" NPTF connection and is recommended for pneumatic service.



### Material Specifications

Body	Brass
Internal Components	Brass / stainless steel
Seals	Nitrile



### Operating information

Operating pressure: 250 PSIG max.  
Cracking pressure 1 to 2 PSIG

Operating temperature: \*  
Standard: 0°F to 180°F

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

### 3047 Check Valve

Port Size	Flow (SCFM †)	Part Number
1/4"	30	030470099

† At 100 PSIG inlet pressure with full pressure drop.

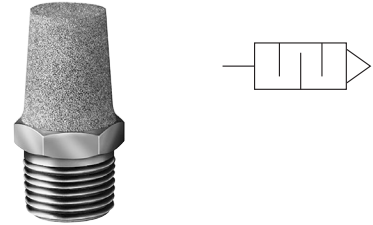
Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## EM Series – Sintered Bronze Muffler / Filters

Muffler / filters effectively reduce air exhaust noises to an industry accepted level with minimum flow restriction. They protect valves, impact wrenches, screw drivers and other air tools by preventing dirt and other foreign matter from entering the system. Non-corrosive. Can be cleaned with many common solvents.



### EM Series

Pipe Thread	Overall Length	Hex Size	Part Number
M5	.75	5/16"	<b>EMM5</b>
1/8"	1.00	7/16"	<b>EM12</b>
1/4"	1.32	9/16"	<b>EM25</b>
3/8"	1.54	11/16"	<b>EM37</b>
1/2"	1.85	7/8"	<b>EM50</b>
3/4"	2.29	1-1/6"	<b>EM75</b>
1"	2.91	1-5/16"	<b>EM100</b>
1-1/4"	3.25	1-11/16"	<b>EM125</b>
1-1/2"	3.69	2"	<b>EM150</b>

### Operating information

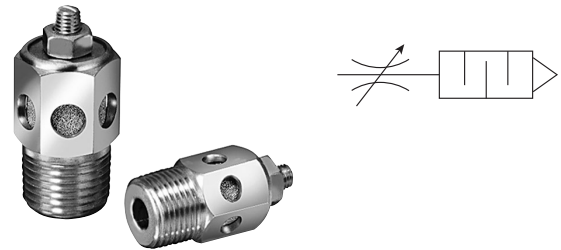
Operating pressure: 250 PSIG (Air)  
Cracking pressure 1 to 2 PSIG

Operating temperature:\* 0°F to 300°F

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

## Muffler / Flow Controls

Muffler / flow controls provide an acceptable exhaust noise level and effectively meter exhaust. Installed in valve exhaust ports, they control cylinder piston speeds throughout a wide range. The adjusting screw cannot be accidentally blown out, can be locked to maintain setting. Brass and bronze construction. Clean with commonly used solvents.



### Muffler / Flow Controls

Pipe Thread	Overall Length	Hex Size	Part Number
1/8"	1.15	9/16"	<b>045020002</b>
1/4"	1.42	1/2"	<b>045040004</b>
3/8"	1.49	11/16"	<b>045060060</b>
1/2"	1.77	7/8"	<b>045080080</b>
3/4"	1.98	1-1/16"	<b>045120012</b>
1"	2.15	1-5/16"	<b>045160016</b>

### Operating information

Operating pressure: 250 PSIG (Air)  
Cracking pressure 1 to 2 PSIG

Operating temperature:\* 0°F to 300°F

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

 Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## Breather Vents

These low silhouette versions of the muffler / filter are useful where space is a problem and / or to prevent contamination. Use for vacuum relief or pressure equalization in gear boxes, oil tanks, reservoirs, etc.



### Breather Vent

Pipe Thread	Overall Length	Hex Size	Part Number
1/8"	0.44	7/16"	047020002
1/4"	0.63	9/16"	047040004
3/8"	0.75	11/16"	047060006
1/2"	0.88	7/8"	047080008
3/4"	1.00	1-1/8"	047120012
1"	1.31	1-5/16"	047160016
1-1/4"	1.41	1-11/16"	047200020
1-1/2"	1.50	2"	047240024

**NOTE:** Breather vents should not be used as exhaust mufflers.

### Operating information

Operating pressure: 150 PSIG (Air) max.

Operating temperature:\* 0°F to 300°F

Material:  
Breather vent: Sintered bronze,  
Housing: Zinc plated steel

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

Flow Controls  
& Check Valves

Misc  
Accessories

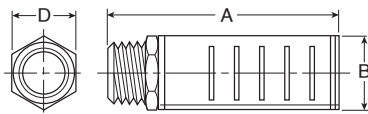
Integrated  
Fittings

Accessories

**F**

## ES Series – Silencer

The silencer is designed to give superior performance in noise control with a minimum effect on air efficiency. "Trimline" design allows location in the tightest places without extra plumbing and fittings. Fits directly into the exhaust port of more than 90% of present commercial valves. Slotted body permits rapid discharge of air without undesirable back pressure. Unique nylon screen element resists dirt buildup or clogging.



### Operating information

Operating pressure: 250 PSIG (Air) max.

Operating temperature:\* 0°F to 300°F

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

### ES Series – Silencer

Pipe Thread	Flow SCFM @ 100 PSIG Inlet	Dimensions			Part Numbers	
		A	B	D	NPTF	BSPT (R)
1/8"	115	1.85	0.81	0.63	ES12MC	ESB12MC
1/4"	129	1.85	0.81	0.63	ES25MC	ESB25MC
3/8"	219	3.31	1.26	1.00	ES37MC	ESB37MC
1/2"	549	3.31	1.26	1.00	ES50MC	ESB50MC
3/4"	893	4.56	2.01	1.62	ES75MC	ESB75MC
1"	1,013	4.56	2.01	1.62	ES100MC	ESB100MC
1-1/4"	1,486	5.69	2.88	—	ES125MC	ESB125MC
1-1/2"	1,580	5.69	2.88	—	ES150MC	ESB150MC

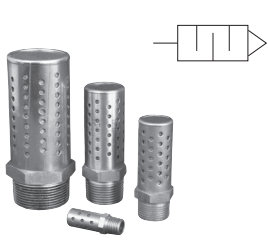
Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## Stainless Steel Mufflers

Corrosion resistant mufflers for harsh environments



Port Size	Construction	Threads	Dimensions In. (mm)		Part Number
			Width	Length	
1/4	Stainless steel	Male, NPT	0.56 (14.2)	1.75 (44.5)	<b>5500A2004</b>
1/2	Stainless steel	Male, NPT	0.87 (22.1)	2.75 (69.7)	<b>5500A4004</b>
1	Stainless steel	Male, NPT	1.31 (33.3)	3.87 (98.3)	<b>5500A6004</b>
2	Nickel plated	Male, NPT	2.37 (60.2)	5.50 (139.7)	<b>5500A9004*</b>

\* Nickel plated

Flow Controls  
& Check Valves

Misc  
Accessories

Integrated  
Fittings

Accessories

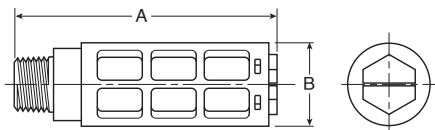




## ASN Air Line Silencer, Plastic

- Compact
- Lightweight
- Easy to Install
- Excellent Noise Reduction
- Protects Components from Contamination
- NPT and BSPT Threads Available

The plastic silencer is designed to give excellent noise reduction with a minimum effect on air efficiency. The “Trimline” design allows for locating the silencer in the tightest places without extra plumbing or fittings. Fits directly into the exhaust port of most commercial valves. Open surface area of element allows for rapid discharge of air without undesirable back pressure.



### Operating information

Operating pressure:	0 to 150 PSIG (0 to 10 bar, 0 to 1034 kPa)
Operating temperature:	14°F to 140°F (-10°C to 60°C)

### Material Specifications

Body	Acetal (Plastic)
Element	Polyethylene

### ASN Air Line Silencer, Plastic

Thread Size	A (mm)	B (mm)	Maximum Flow (SCFM) 100 PSIG Inlet	Sound Pressure Level (dBA)		Part Number	
				20 PSIG Inlet	100 PSIG Inlet	NPT	BSPT
M5	0.43 (11)	0.32 (8)	15	69	79	<b>AS-5</b>	
1/8"	1.57 (40)	0.63 (16)	51	69	81	<b>ASN-6</b>	<b>AS-6</b>
1/4"	2.56 (65)	0.83 (21)	124	67	84	<b>ASN-8</b>	<b>AS-8</b>
3/8"	3.35 (85)	0.98 (25)	247	83	98	<b>ASN-10</b>	<b>AS-10</b>
1/2"	3.74 (95)	1.18 (30)	370	69	96	<b>ASN-15</b>	<b>AS-15</b>

Most popular.

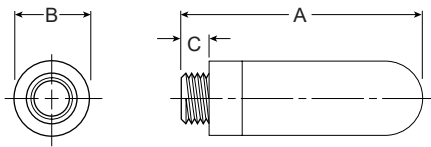
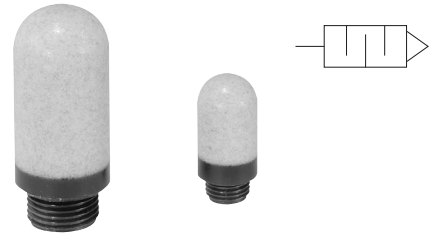


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## P6M G Thread Air Line Silencer, Plastic

- All Plastic Ultra Light Weight Versions
- High Noise Level Reduction
- Low Back Pressure Generation

The plastic silencer is designed to give excellent noise reduction with a minimum effect on air efficiency. The “Trimline” design allows for locating the silencer in the tightest places without extra plumbing or fittings. Fits directly into the exhaust port of most commercial valves. Open surface area of element allows for rapid discharge of air without undesirable back pressure.



### Operating information

Operating pressure:	0 to 246 PSIG (0 to 17 bar, 0 to 1700 kPa)
Operating temperature:	Plastic: 14°F to 176°F (-10°C to 80°C) Metal: 14°F to 165°F (-10°C to 74°C)
Efficiency	92%

### P6M G Thread, Air Line Silencer, Plastic

Port Thread	A	Diameter B	C	Weight (grams)	Part Number
M5	0.91 (23)	0.26 (6,5)	0.16 (4)	0.01	<b>P6M-PAC5</b>
G1/8	1.14 (29)	0.55 (14)	0.24 (6)	0.02	<b>P6M-PAB1</b>
G1/4	1.34 (34)	0.67 (17)	0.24 (6)	0.04	<b>P6M-PAB2</b>
G3/8	2.36 (60)	0.98 (25)	0.35 (9)	0.06	<b>P6M-PAB3</b>
G1/2	2.52 (64)	0.98 (25)	0.43 (11)	0.10	<b>P6M-PAB4</b>
G3/4	5.51 (140)	1.50 (38)	0.55 (14)	0.50	<b>P6M-PAB6</b>
G1	6.30 (160)	1.89 (48)	0.79 (20)	0.62	<b>P6M-PAB8</b>

Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Flow Controls & Check Valves  
 Misc Accessories  
 Integrated Fittings  
 Accessories



## ECS Reclassifier, Air Line Muffler

The ECS (Muffler-Reclassifier) eliminates unwanted oil mist and reduces exhaust noise from pneumatic valves, cylinders and air motors.

- 99.97% Oil Removal Efficiencies
- 25 dBA Noise Attenuation
- 1/2" NPT and 1" NPT
- Disposable Units
- Continuous or Plugged Drain Option
- Metal Retained Construction
- Fast Exhaust Time

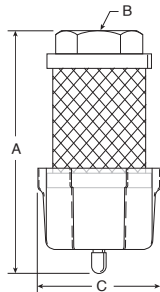
### Improve Overall Plant Environment

Exhaust oil mist and noise pollution have a direct impact on worker productivity.

Oil aerosol mist from lubricators and compressors is pervasive and enters the industrial plant environment through the exhaust ports of valves, cylinders and air motors. This rapidly expanding exhaust also produces sudden and excessive noise.

The ECS (Muffler-Reclassifier) is 99.97% efficient at removing the oil aerosols. The ECS also acts as a silencer to lower the dBA levels below O.S.H.A. requirements.

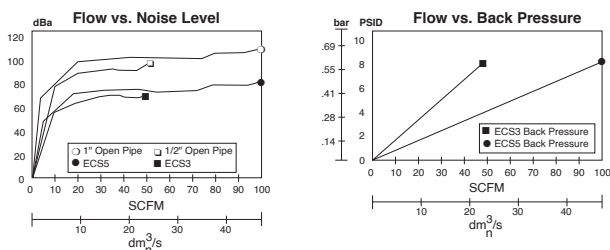
The result is a cleaner, quieter environment which equates to greater work productivity and safety.



### ECS Reclassifier, Air Line Muffler

Thread Size	A	B	C	Part Number
1/2	5.30 (135 mm)	1/2" NPT	2.57 (65 mm)	ECS3
1	7.30 (185mm)	1" NPT	2.57 (65mm)	ECS5

### Performance Characteristics



Most popular.



### Operating information

Maximum line pressure:	100 PSIG (6.8 bar)
Maximum operating temperature:	125°F (52°C)

### Operation

Compressor oils and lubricating oils are exhausted from valves, cylinders and air motors into the ECS. Oil aerosols are “coalesced” into larger droplets and gravity pulls them into the attached drain sump. The sump can then be drained manually or by using a 1/4" ID plastic tube drain. The air flowing into the ECS is also muffled or silenced as it enters the inside of the ECS and passes through the filter media into the atmosphere.

### Proven Technology

The ECS units are constructed from the same materials that go into our oil removal coalescing filter elements.

The seamless design insures media uniformity and strength. This proven technology provides high coalescing efficiency with low pressure drop.

The filter media is supported by cylindrical perforated steel retainers both inside and out. These retainers, fully plated for excellent corrosion resistance, give the ECS units high rupture strength in either flow direction. These filters can also be used as high efficiency inlet or bypass filters for vacuum pumps, or breather elements to protect the air above critical process liquids.

### ECS3 / ECS5

The ECS solves two problems inherent in compressed air exhaust from valves, cylinders and air motors - oil mist removal and noise abatement.

The ECS will improve your industrial plant environment, thereby improving worker productivity.

Flow Controls  
& Check Valves

Misc  
Accessories

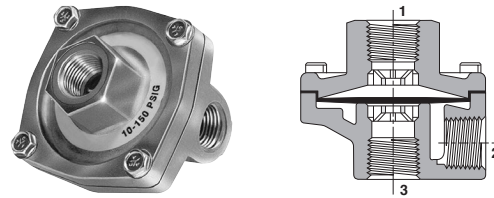
Integrated  
Fittings

Accessories

F

## OR Series Quick Exhaust & Shuttle Valves

Quick exhaust valves provide rapid exhaust of control air when placed between control valve and actuator. They can also be used as shuttle valves. Diaphragm materials are available in urethane, Nitrile, Fluorocarbon, and PTFE to meet a wide variety of operating conditions.



### Material Specifications

Body	Die cast aluminum
Static Seals	Nitrile standard with urethane (Others see chart below)
Diaphragm	Standard – Urethane Optional – Fluorocarbon, PTFE, or Nitrile (Depending on size)

### Operating information

Operating pressure (Air): 150 PSIG (max), 3 PSIG (min)  
200 PSIG (max), 50 PSIG (min) for Model No. OR37TB (PTFE diaphragm)

Operating temperature:\*

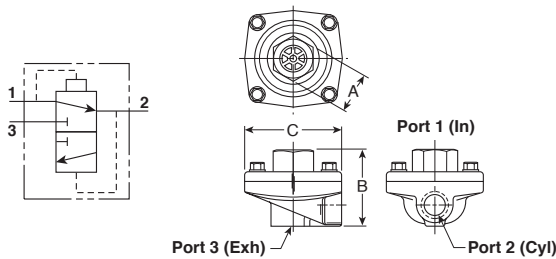
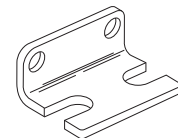
- Urethane: 0°F to 180°F\* (-18°C to 80°C)
- Nitrile: 0°F to 180°F\* (-18°C to 80°C)
- Fluorocarbon: 0°F to 400°F\* (-18°C to 205°C)
- PTFE: 0°F to 500°F\* (-18°C to 260°C)

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

### Mounting Bracket Kit – No. 036408100

(Including body screws)

For “OR12” and “OR25” sizes with 7/8” “A” Dimension.



### Model Selection, Performance Data and Dimensions

Port 1	Port 2	Port 3	Flow (SCFM †)	Part Number		A	B	C	Service Kit No.
				NPTF	BSPP “G”				
<b>STANDARD Urethane Diaphragms (Nitrile static seals)</b>									
1/4"	1/4"	3/8"	150	<b>OR25NB</b>	<b>ORB25NB</b>	1" Hex	2.06	2.44	<b>033400105</b>
	3/8"	3/8"	240	<b>OR25PB</b>	—	1" Hex	2.06	2.44	<b>033400105</b>
3/8"	3/8"	3/8"	240	<b>OR37B</b>	<b>ORB37B</b>	1" Hex	2.06	2.44	<b>033400105</b>
1/2"	1/2"	1/2"	450	<b>OR50B</b>	<b>ORB50B</b>	1-1/2" Hex	2.88	3.38	<b>034750109</b>
3/4"	3/4"	3/4"	550	<b>OR75B</b>	<b>ORB75B</b>	1-1/2" Hex	2.88	3.38	<b>034750109</b>
<b>Nitrile Diaphragms (Nitrile static seals)</b>									
1/8"	1/8"	1/8"	70	<b>OR12B</b>	<b>ORB12B</b>	7/8" Sq.	1.75	1.88	<b>033400105</b>
	1/8"	1/4"	70	<b>OR12NB</b>	<b>ORB12NB</b>	7/8" Sq.	1.75	1.88	<b>033400105</b>
1/4"	1/4"	1/4"	90	<b>OR25B</b>	<b>ORB25B</b>	7/8" Sq.	1.75	1.88	<b>036408000</b>
	1/4"	3/8"	90	<b>OR25NFB</b>	<b>ORB25NFB</b>	1" Hex	2.06	2.44	<b>033408000</b>
3/8"	3/8"	3/8"	240	<b>OR37FB</b>	<b>ORB37FB</b>	1" Hex	2.06	2.44	<b>033408000</b>
3/4"	3/4"	3/4"	550	<b>OR75FB</b>	<b>ORB75FB</b>	1-1/2" Hex	2.88	3.38	<b>034759000</b>
<b>Fluorocarbon Diaphragms for Extended Temperature Operation (Fluorocarbon static seals)</b>									
1/8"	1/8"	1/8"	70	<b>OR12VB</b>	<b>ORB12VB</b>	7/8" Sq.	1.75	1.88	<b>036508000</b>
	1/8"	1/4"	70	<b>OR12NVB</b>	<b>ORB12NVB</b>	7/8" Sq.	1.75	1.88	<b>036508000</b>
1/4"	1/4"	1/4"	90	<b>OR25VB</b>	<b>ORB25VB</b>	7/8" Sq.	1.75	1.88	<b>036508000</b>
3/8"	3/8"	3/8"	240	<b>OR37VB</b>	<b>ORB37VB</b>	1" Hex	2.06	2.44	<b>033400319</b>
1/2"	1/2"	1/2"	450	<b>OR50VB</b>	<b>ORB50VB</b>	1-1/2" Hex	2.88	3.38	<b>034750120</b>
3/4"	3/4"	3/4"	550	<b>OR75VB</b>	<b>ORB75VB</b>	1-1/2" Hex	2.88	3.38	<b>034750120</b>
<b>PTFE Diaphragms for Higher Pressure and Temperature (Fibre static seals)</b>									
3/8"	3/8"	3/8"	240	<b>OR37TB</b>	<b>ORB37TB</b>	1" Hex	2.06	2.44	<b>033400504</b>

† At 100 PSIG inlet pressure with full pressure drop.

  Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



## Shuttle Valves

Shuttle valves determine a single pneumatic output from two separate inputs. If pressure is applied to both ports simultaneously, the valve will select the port with the higher pressure.



### Material Specifications

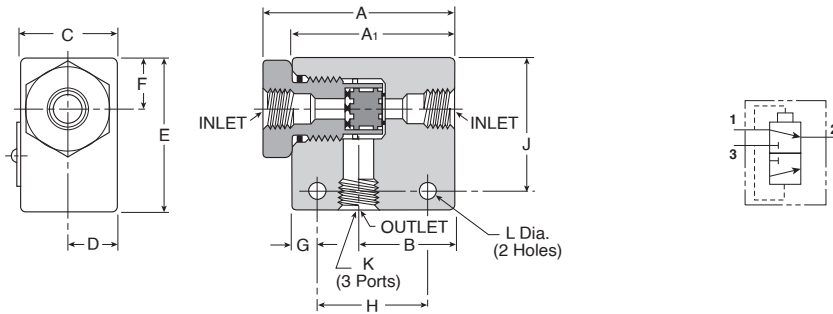
Body	Aluminum
Internal Components	Aluminum
Seals	Nitrile

### Operating information

Operating pressure:  
 Maximum: 200 PSIG  
 Minimum: Differential Pressure 3 PSIG

Operating temperature:\* 0°F to 160°F

\* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.



### Model Selection and Dimensions

Port Size	Flow (Cv)	Dimensions											Part Number	
		A	A1	B	C	D	E	F	G	H	J	K		L
1/8"	0.32	N/A	1.62	0.81	0.62	0.31	1.00	0.281	0.312	1.00	0.75	1/8 - 27	0.219	<b>N1641001</b>
1/4"	1.65	2.50	2.12	1.25	1.25	0.62	2.00	0.67	0.265	1.25	1.35	1/4 - 18	0.219	<b>N1642003</b>
3/8"	2.02	2.50	2.12	1.25	1.25	0.62	2.00	0.67	0.265	1.25	1.35	3/8 - 16	0.219	<b>N1643003</b>

Most popular.

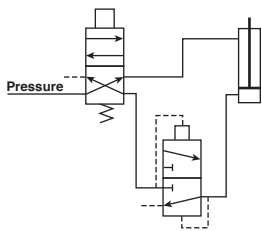


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



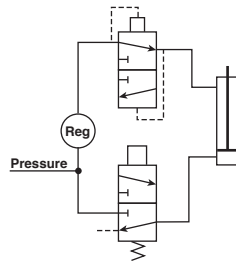
Typical “Quick Exhaust Valve” Applications

Flow Controls & Check Valves
Misc Accessories
Integrated Fittings
Accessories



**Rapid Retraction – Double Acting Cylinder**

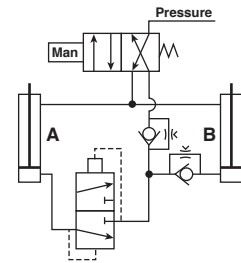
In this circuit, air is exhausted through a Quick Exhaust Valve that is **close coupled** to the cap end of the cylinder. Because the Quick Exhaust Valve has a greater exhaust capacity than the four-way Control Valve, increased cylinder speed can be accomplished with a smaller and less expensive control valve.



**Dual Pressure Actuation of Double Acting Cylinder**

This circuit utilizes a Quick Exhaust Valve and a three-way Control Valve to permit rapid extension of the cylinder at a high pressure.

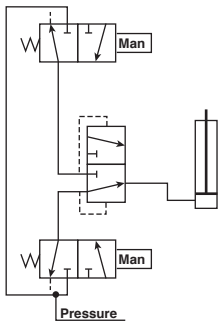
NOTE: Line pressure must be 3 or 4 times greater than rod end pressure. Effective working pressure is the differential between the cap and rod end.



**Bi-Directional Control of Two Double Acting Cylinders**

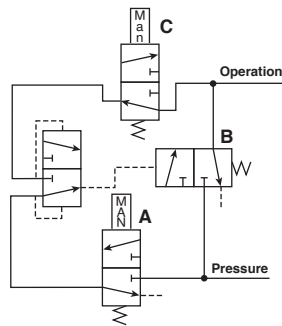
This circuit provides maximum control with a minimum of valving. A large four-way Control Valve is not needed to permit the rapid retraction of Cylinder A, as the Quick Exhaust Valve performs this function. The extension of Cylinders A and B and retraction of Cylinder B are controlled by Speed Control Valves.

Typical “Shuttle Valve” Applications



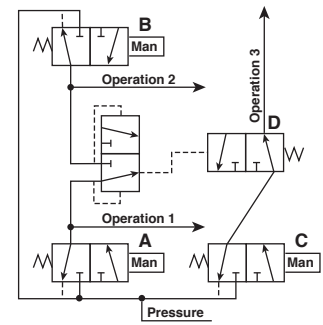
**“OR” Circuit**

The most common application of the Shuttle Valve is the “OR” Circuit. Here a cylinder or other work device can be actuated by either control valve. The valves can be manually or electrically actuated and located in any position.



**Memory Circuit**

This circuit enables continuous operation once initiated. Pressure is delivered to the circuit when Valve A is actuated. This allows pressure to pass through the shuttle valve actuating Valve B. Pressure then flows through Valve B and also the other side of the shuttle valve which holds Valve B open for continuous operation. To unlock the circuit, Valve C must be opened to exhaust the circuit and allow Valve B to return to its normally closed position.



**Interlock**

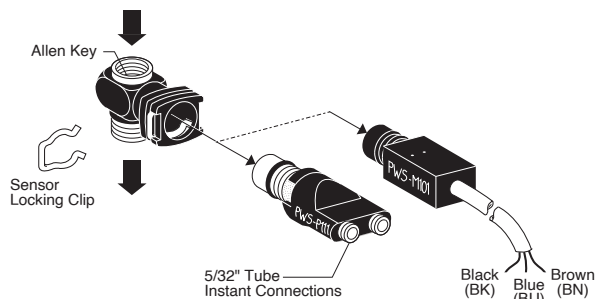
This circuit prevents the occurrence of a specific operation while one or another operation takes place. When either Valve A or B is actuated to perform operation 1 or 2, Valve D is shifted to the closed position and prevents operation 3 from occurring.



## Threshold Sensors

The plug-in threshold sensors provide feedback information on pneumatic cylinder status in either pneumatic or electrical outputs. Mounted into the cylinder port, these devices monitor the back pressure of the cylinder's exhaust. When the cylinder's piston stops, the back pressure rapidly drops and the threshold sensor provides the desired output. Ideal for variable stroke applications such as robotics where other sensor type devices such as limit switches are impractical, these devices provide a signal whenever the cylinder stops motion.

The threshold sensor consists of two complementary sub assemblies (1) the banjo fitting and (2) the plug-in sensor element. In all cases, the sensor is easily plugged into the banjo fitting and locked in place with a spring clip. The banjo fitting is designed to accept (piggy backed) other functional fittings such as flow controls or blocking valves. Simply select the sensor based on the type feedback signal that best fits the application.



### Material specifications

Body	Thermoplastic
Mounting screw	Brass

### Banjo Sockets (with Sensor Clip)

Port Size	Wrench	Part Number
10-32	5/16" Hex	<b>PWSB1557</b>
1/8"	3/16" Allen	<b>PWSB1887</b>
1/4"	5/16" Allen	<b>PWSB1997</b>
3/8"	3/8" Allen	<b>PWSB1337</b>
1/2"	1/2" Allen	<b>PWSB1227</b>



### Plug-in Sensors

Output	Connection	Part Number
Pneumatic	5/32" push-in	<b>PWSP111</b>
Electrical	3-wire cable (6 ft)	<b>PWSM1012</b>

Most popular.



### Operating information

Operating pressure: 0 to 150 PSIG (0 to 10.3 bar)  
 Operating temperature:  
 Operating 5°F to 140°F (-15°C to 60°C)  
 Storage -40°F to 160°F (-40°C to 70°C)

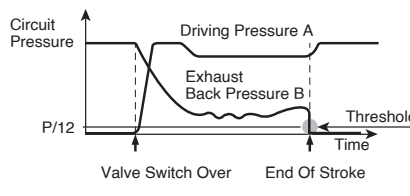
**Caution:** If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.

### Mounting

Banjo fittings in 10-32 to 1/2" pipe sizes are designed to be installed directly into actuator ports (up to 5" bore cylinders). The banjo fitting can accommodate other functional fittings and components such as right angle flow control valves or blocking valves. Banjo fittings screw into actuators using an Allen wrench or 5/16" hex head wrench for 10-32 size. Electrical or pneumatic feedback element snaps into place using a locking clip.

### Operation

Pneumatic sensors have a continuous pressure signal applied to the sensor device. Electrical sensors have a continuous electrical signal applied to the sensor device. The threshold sensor assembly mounted directly into the cylinder Port provides an output signal S, which can be pneumatic or electrical, when the falling back pressure in the exhausting chamber of the cylinder reaches the operating threshold (approximately 6-9 PSIG). (The device is a normally passing device. The output is only on when there is nearly zero pressure at the cylinder.)



Flow Controls & Check Valves  
 Misc Accessories  
 Integrated Fittings  
 Accessories

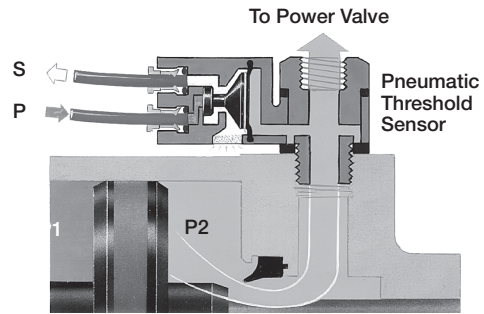
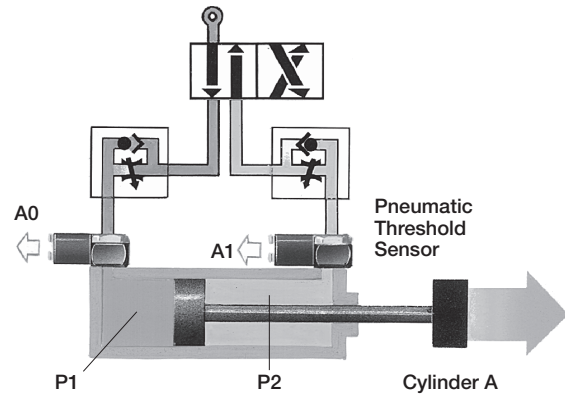
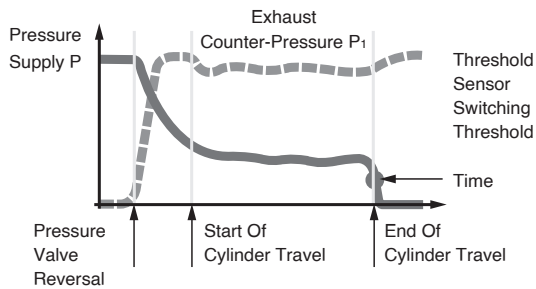


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Specifications**

Maximum Operating Frequency	10 Hz
Pilot Pressure (PWSP111)	>64 PSIG (4.4 bar)
Threshold Pressure	6 to 9 PSIG (.4 to .6 bar)
Output Flow Rate (PWSP111)	3 SCFM at 90 PSIG
Current Rating (PWSM1012) –	5 VA, 250 VAC 5W, 48 VAC
Life Expectancy –	10 million cycles with dry air at 90 PSIG, 68°F, and 1 Hz operating frequency
Voltage Range (PWSM1012) –	12 - 240 VAC 12 - 48 VDC

Air Quality – Standard Shop Air, Lubricated or Dry 40 µm Filtration



**PWS General Characteristics**

Permissible Fluids	Air or neutral gas, 50 µm filtration, lubricated or not
Flow	N/A
Mechanical Life	10 Million
Maximum Operating Frequency	10Hz
Maximum Mounting Torque:	
10-32 UNF and M5	88 inch pounds
1/8"	70 inch pounds
1/4"	105 inch pounds
3/8"	265 inch pounds
1/2"	310 inch pounds
Adjustment	N/A
Adjustment Locking	N/A

**Piloting and De-Piloting Pressure**

Threshold Sensors	Pilot with Operating Pressure of 90 PSI	Depilot with Operating Pressure of 90 PSI
PWSP111	64 PSI	6 PSI
PWSM1012	15 PSI	9 PSI
PWSE101 and PWSE111	10 PSI	7 PSI

Flow Controls  
& Check Valves

Misc  
Accessories

Integrated  
Fittings

Accessories



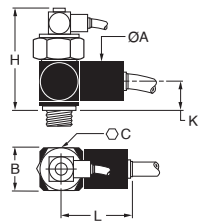
Fluid Power		Universal Description	Electrical	
Function	Symbol		Function	Symbol
Normally Closed (N.C.)	2-Way	Normally Non-Passing (NNP)	Normally Open (N.O.)	
	3-Way			
Normally Open (N.O.)	2-Way	Normally Passing (NP)	Normally Closed (N.C.)	
	3-Way			



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

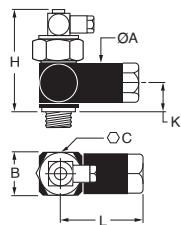
**Blocking Valves**

**PWBA14/34**



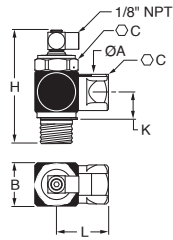
ØA	B	C	K	H	L	Flow*	Part Number
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.32" (59)	1.54" (39)	14.8	PWBA1468/3468
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.09" (53)	1.54" (39)	19.4	PWBA1469/3469 PWBA1489
1.06" (27)	1.10" (28)	0.94" (24)	0.55" (14)	2.09" (53)	1.98" (50)	45.9	PWBA1483 PWBA1493/3493
1.22" (31)	1.30" (33)	1.30" (33)	0.94" (24)	2.59" (66)	2.59" (66)	81.2	PWBA1412/3412

**PWBA18/38**



0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.32" (59)	1.71" (43.5)	14.8	PWBA1898/3888
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.09" (53)	1.71" (43.5)	19.4	PWBA1899/3899
1.06" (27)	1.10" (28)	0.94" (24)	0.55" (14)	2.09" (53)	2.18" (55)	45.9	PWBA1833/3833
1.22" (31)	1.30" (33)	1.30" (33)	0.94" (24)	2.59" (66)	2.47" (63)	81.2	PWBA1822/3822

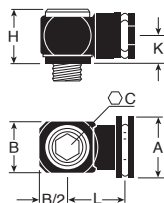
**PWBA38**



0.75" (19)	0.87" (22)	0.83" (21)	0.67" (17)	2.20" (56)	1.73" (44)	14.8	PWBA38887
0.75" (19)	0.87" (22)	0.83" (21)	0.67" (17)	2.20" (56)	1.73" (44)	19.4	PWBA38997
1.06" (27)	1.18" (30)	1.06" (27)	0.91" (23)	2.64" (67)	1.42" (36)	45.9	PWBA38337
1.06" (27)	1.18" (30)	1.06" (27)	0.91" (23)	2.64" (67)	1.42" (36)	81.2	PWBA38227

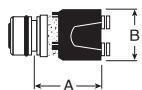
**Threshold Sensors**

**Banjo Socket**



A	B	C	H	K	L	Part Number
.98 (25)	.43 (11)	5/16" Hex	.79 (20)	.40 (10)	.67 (17)	PWSB1557
.98 (25)	.63 (16)	3/16" Allen	.71 (18)	.40 (10)	.79 (20)	PWSB1887
.98 (25)	.83 (21)	5/16" Allen	.71 (18)	.40 (10)	.87 (22)	PWSB1997
.98 (25)	1.10 (28)	3/8" Allen	.79 (20)	.47 (12)	.98 (25)	PWSB1337
.98 (25)	1.30 (33)	1/2" Allen	.93 (24)	.55 (14)	1.02 (26)	PWSB1227

**PWSP111**



A	B	Part number
.87 (22)	.79 (20)	PWSP111
1.26 (32)	.79 (20)	PWSM1012

**PWSM1012**



Flow Controls  
& Check Valves

Misc  
Accessories

Integrated  
Fittings

Accessories

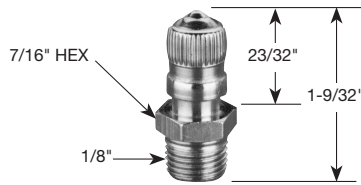
**F**

## Tank Valves

For tanks, steel barrels, compressors and other pneumatic containers where a dependable automatic air valve is needed. Equipped with standard valve core and sealing cap. Maximum operating pressure is 185 PSIG. Temperature range is -40°F to 220°F.

### 091660060, 1/8" pipe thread, dome shaped cap

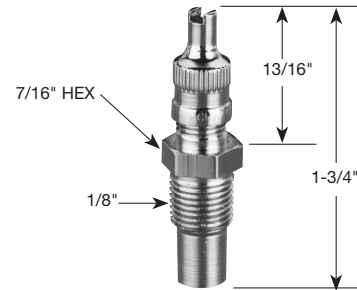
Has a 1/8" pipe thread at bottom for minimum protrusion. N/P finish, dome shaped cap.



Thread Size	Box Qty	Part Number
1/8	25	<b>091660060</b>

### 014680006, 1/8" pipe thread part way up the stem, screwdriver type cap

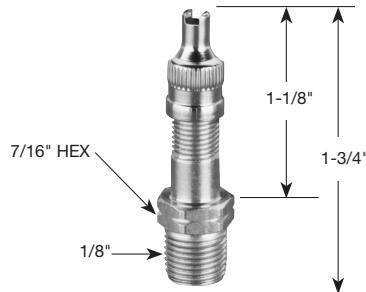
Has a 1/8" pipe thread part way up the stem which allows for minimum protrusion. N/P finish, has screwdriver type cap.



Thread Size	Box Qty	Part Number
1/8	25	<b>014680006</b>

### 006450060, 1/8" pipe thread at bottom, screwdriver type cap

A 1/8" pipe thread at bottom permits maximum protrusion. N/P finish, screwdriver type cap.



Thread Size	Box Qty	Part Number
1/8	25	<b>006450060</b>

   Most popular.



For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Flow Controls & Check Valves  
 Misc Accessories  
 Integrated Fittings  
 Accessories



**O.S.H.A. Certification** — All safety blow guns conform to the requirements of Compressed Air Standards as currently described in the U.S. Bureau of Labor Standards, paragraph 1910.242, when pressurized at the inlet to a maximum of 100 PSIG. Conform to current O.S.H.A. Directive No. 100-1.

## Brass Nozzle Blow Guns

Contoured lever or button control both provide a natural, comfortable grip even when used with gloves. Finger guard and hang-up hook for finger protection and quick safe storage. Die cast zinc body, painted finish.



### Brass Nozzle Blow Gun

Type	Inlet Port	SCFM Rating*	Part Number
Lever Operated	1/4	20	<b>004750010</b>
Button Operated	1/4	20	<b>004700010</b>

\* Based on 100 PSIG inlet pressure.

Flow Controls  
& Check Valves

Misc  
Accessories

Integrated  
Fittings

Accessories



## Vortec FLO-GAIN Blow Guns

A quiet Vortec FLO-GAIN nozzle is combined with a high performance blow gun. Compressed air attains sonic velocity through an adjustable slot and attaches to the exterior surface of the cone shaped nozzle. Settings are shown on a micrometer dial. Sound level of 80 dBA with 80 PSIG inlet. Finger guard and hang-up hook offers desirable finger protection and quick secure storage. Die cast zinc body, painted finish.



### Vortec FLO-GAIN Blow Gun

Type	Inlet Port	SCFM Rating*	Part Number
Lever Operated	1/4	70+	<b>004750900</b>
Button Operated	1/4	70+	<b>004700900</b>

\* Based on 100 PSIG inlet pressure.

## Self-Regulating Blow Gun

Designed with integral self-regulating pressure reducing valve for automatic shut-off when nozzle is blocked. Prevents air pressure buildup over 30 PSIG in compliance with U.S. Dept. of Labor standards.

Air shield aids in protecting the operator against blow back of flying chips of dirt. Designed to operate at less than 90 dBA to comply with government regulations. Die cast zinc body, painted finish.



### Self-Regulating Blow Gun

Type	Inlet Port	SCFM Rating*	Part Number
Lever Operated	1/4	10	<b>004750010</b>

\* Based on 100 PSIG inlet pressure.

  Most popular.

### Performance Data

Inlet Pressure	Blocked Pressure	Sound Level
70 PSIG	17.0 PSIG	79 dBA
100 PSIG	21.0 PSIG	83 dBA
175 PSIG	28.0 PSIG	87 dBA

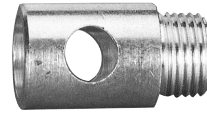


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## Brass Nozzle

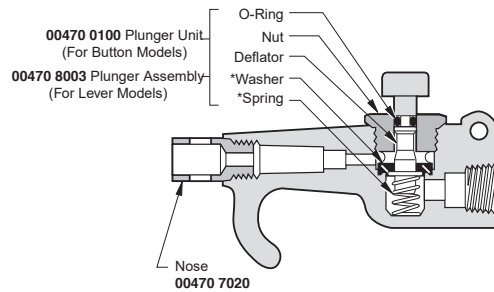
### 004707020

General purpose nozzles are supplied as standard on 004700010 and 004750010 blow guns. Conform to the requirements of the Williams Steiger Occupational Safety and Health Act of 1970, paragraph 1910.242 when fitted with blow guns pressurized at the inlet to a maximum of 100 PSIG. Conform to O.S.H.A. Directive 100-1.



	Part Number
Brass Nozzle	<b>004707020</b>

## 470 and 475 Series Blow Guns




\* Contained in Service Kit No. 00470 0090

Flow Controls & Check Valves

Misc Accessories

Integrated Fittings

Accessories
































 Most popular.



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<b>Compact Flow Control Valves</b>	<b>FCC731</b> Meter Out  Page F27	<b>FCC731</b> Meter Out - BSPP  Page F27	<b>FCCB731</b> Bi-Directional Flow Control  Page F27	<b>FCCB731</b> Bi-Directional Flow Control - BSPP  Page F27	<b>FCKC731</b> Knobless Meter Out Flow Control  Page F28
	<b>FCKC731</b> Knobless Flow Control - BSPP  Page F28	<b>FCKCB731</b> Knobless Bi-Directional Flow Control - BSPP  Page F28	<b>Miniature Flow Control Valves</b>	<b>FCM731</b> Meter Out Flow Control  Page F29	<b>FCM731</b> Flow Control - BSPP  Page F29
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## Compact Flow Control Valves

Compact flow control regulators ensure excellent performance of flow and are perfectly suited for reduced spaces due to their small size. The sensitivity of the adjustment screw provides very precise air flow control and regulation. A locking nut guarantees stability of adjustment against vibration tampering of the flow setting.



### Material Specifications

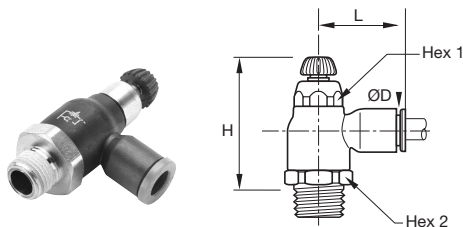
Body (depending upon the model)	Glass reinforced nylon 6.6 Brass
Gripping Ring	Stainless Steel
Adjustment Screws	Nickel-plated brass
Locking Nut	Nickel-plated brass
Base	Nickel-plated brass

### Applicable Tube

Tube O.D.	1/8, 5/32, 1/4, 3/8
Tube O.D. (mm)	4, 6, 8, 10, 12

### Operating information

Pressure range:	15 to 145 PSI
Temperature range:	30°F to 160°F
Working fluid:	Compressed air



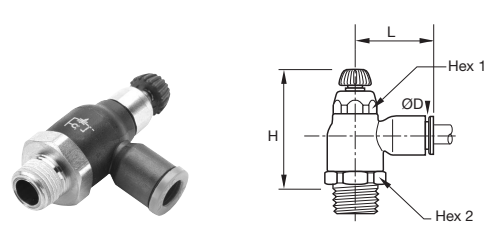
### FCC731 Compact Meter Out - NPT

Tube Size (In)	NPT	Hex 1 (In)	Hex 2 (In)	H Open	H Closed	L	Part Number
5/32	1/8	0.63	0.39	1.67	1.44	0.85	<b>FCC731-5/32-2</b>
	1/4	0.63	0.39	1.67	1.44	0.85	<b>FCC731-5/32-4</b>
1/4	1/8	0.63	0.39	1.67	1.44	0.85	<b>FCC731-4-2</b>
	1/4	0.63	0.39	1.67	1.44	0.85	<b>FCC731-4-4</b>
3/8	1/4	0.91	0.67	2.03	1.71	1.22	<b>FCC731-6-4</b>
	3/8	0.91	0.67	2.03	1.71	1.22	<b>FCC731-6-6</b>

### FC731 Compact Meter Out - BSPP

Tube Size (mm)	BSPP	Hex 1 (mm)	Hex 2 (mm)	H Open	H Closed	L	Part Number
4	1/8	10	16	38.0	44.0	22.0	<b>FCC731-4M-2G</b>
	1/8	10	16	38.0	44.0	22.0	<b>FCC731-6M-2G</b>
6	1/4	10	16	36.5	42.5	22.0	<b>FCC731-6M-4G</b>
	1/8	14	19	41.5	48.0	28.0	<b>FCC731-8M-2G</b>
8	1/4	14	19	41.5	48.0	28.0	<b>FCC731-8M-4G</b>
	3/8	14	19	41.5	48.0	28.0	<b>FCC731-8M-6G</b>
10	1/4	17	23	45.5	53.5	31.5	<b>FCC731-10M-4G</b>
	3/8	17	23	45.5	54.0	31.5	<b>FCC731-10M-6G</b>
12	3/8	17	23	45.5	54.0	35.0	<b>FCC731-12M-6G</b>
	1/2	17	24	45.5	54.0	35.0	<b>FCC731-12M-8G</b>

Most popular.



### FCCB731 Compact Bi-Directional Flow Control - NPT

Tube Size (In)	NPT	Hex 1 (In)	Hex 2 (In)	H Open	H Closed	L	Part Number
5/32	1/8	0.63	0.39	1.67	1.44	0.85	<b>FCCB731-5/32-2</b>
	1/8	0.63	0.39	1.67	1.44	0.85	<b>FCCB731-4-2</b>
1/4	1/4	0.63	0.39	1.67	1.44	0.85	<b>FCCB731-4-4</b>

### FCCB731 Compact Bi-Directional Flow Control - BSPP

Tube Size (mm)	BSPP	Hex 1 (mm)	Hex 2 (mm)	H Open	H Closed	L	Part Number
4	1/8	10	16	38.0	44.0	22.0	<b>FCCB731-4M-2G</b>
	1/8	10	16	38.0	44.0	22.0	<b>FCCB731-6M-2G</b>
6	1/4	10	16	36.5	42.5	22.0	<b>FCCB731-6M-4G</b>
	1/8	14	19	41.5	48.0	28.0	<b>FCCB731-8M-2G</b>
8	1/4	14	19	41.5	48.0	28.0	<b>FCCB731-8M-4G</b>
	3/8	14	19	41.5	48.0	28.0	<b>FCCB731-8M-6G</b>

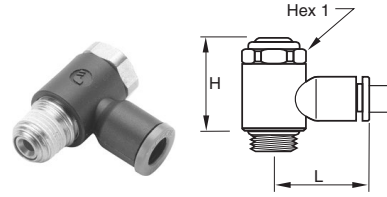
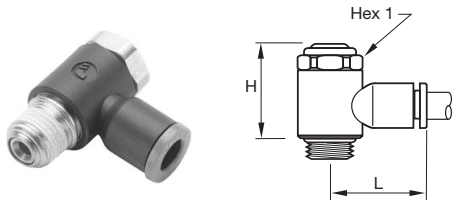
Flow Controls & Check Valves

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F



**FCKC731 Knobless Meter Out Flow Control - NPT**

Tube Size (In)	NPT / UNF	Hex 1 (In)	H	L	Part Number
1/8	10-32	10-32	-	0.69	<b>FCKC731-2-0</b>
	1/8	1/8	13	0.79	<b>FCKC731-2-2</b>
5/32	10-32	10-32	-	0.69	<b>FCKC731-5/32-0</b>
	1/8	1/8	13	0.79	<b>FCKC731-5/32-2</b>
1/4	10-32	10-32	-	0.69	<b>FCKC731-4-0</b>
	1/8	1/8	13	0.79	<b>FCKC731-4-2</b>
5/16	1/4	1/4	17	1.04	<b>FCKC731-4-4</b>
	1/8	1/8	13	0.79	<b>FCKC731-5-2</b>
3/8	1/4	1/4	17	1.04	<b>FCKC731-5-4</b>
	3/8	3/8	20	1.14	<b>FCKC731-6-6</b>

**FCKCB731 Knobless Bi-Directional Flow Control - BSPP**

Tube Size (In)	BSPP / M5	Hex 1 (In)	H	L	Part Number
4	M5X0.8	8	17.5	17.0	<b>FCKCB731-4M-M5</b>
	1/8	13	25.0	19.0	<b>FCKCB731-4M-2G</b>
6	M5X0.8	8	17.5	19.0	<b>FCKCB731-6M-M5</b>
	1/8	13	25.0	21.0	<b>FCKCB731-6M-2G</b>
8	1/4	17	26.5	22.0	<b>FCKCB731-6M-4G</b>
	1/8	13	25.0	26.0	<b>FCKCB731-8M-2G</b>
8	1/4	17	26.5	27.0	<b>FCKCB731-8M-4G</b>
	3/8	20	37.5	29.0	<b>FCKCB731-8M-6G</b>

**FCKC731 Knobless Meter Out Flow Control - BSPP**

Tube Size (mm)	BSPP / M5	Hex 1 (mm)	H	L	Part Number
4	M5X0.8	8.0	17.5	17.0	<b>FCKC731-4M-M5</b>
	1/8	13.0	25.0	19.0	<b>FCKC731-4M-2G</b>
6	M5X0.8	8.0	17.5	19.0	<b>FCKC731-6M-M5</b>
	1/8	13.0	25.0	21.0	<b>FCKC731-6M-2G</b>
8	1/4	17.0	26.5	22.0	<b>FCKC731-6M-4G</b>
	1/8	13.0	25.0	26.0	<b>FCKC731-8M-2G</b>
8	1/4	17.0	26.5	27.0	<b>FCKC731-8M-4G</b>
	3/8	20.0	37.5	29.0	<b>FCKC731-8M-6G</b>
10	1/4	17.0	26.5	29.0	<b>FCKC731-10M-4G</b>
	3/8	20.0	37.5	31.0	<b>FCKC731-10M-6G</b>
12	1/2	23.0	43.0	37.0	<b>FCKC731-10M-8G</b>
	3/8	20.0	37.5	6.8	<b>FCKC731-12M-6G</b>
	1/2	23.0	43.0	37.0	<b>FCKC731-12M-8G</b>

Flow Controls  
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## Miniature Flow Control Valves

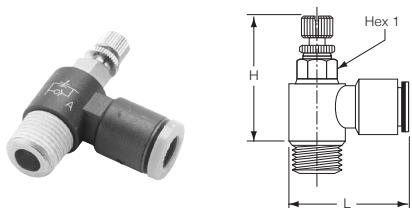
The miniature flow control regulator is especially adapted for all very small sized pneumatic applications (micro-pneumatic in particular). They are specifically designed for use with small bore cylinders (pancake / flat cylinders). Miniature flow control regulators are available in meter out, meter in and Bi-Directional versions.

### Material Specifications

Body (depending upon the model)	Glass reinforced nylon 6.6 Brass
Gripping Ring	Stainless Steel
Adjustment Screws	Nickel-plated brass
Locking Nut	Nickel-plated brass
Base	Nickel-plated brass

### Applicable Tube

Tube O.D.	1/8, 5/32, 1/4
Tube O.D. (mm)	3, 4, 6, 8



### FCM731 Miniature Meter Out Flow Control - NPT

Tube Size (in)	NPT	Hex 1 (mm)	H Open	H Closed	L	Part Number
1/8	10-32	6	1.14	0.91	0.67	<b>FCM731-2-0</b>
	1/8	7	1.41	1.26	0.69	<b>FCM731-2-2</b>
5/32	10-32	6	1.02	0.93	0.67	<b>FCM731-5/32-0</b>
	1/8	7	1.16	1.06	0.71	<b>FCM731-5/32-2</b>
1/4	10-32	6	1.02	0.93	0.73	<b>FCM731-4-0</b>
	1/8	7	1.16	1.06	0.75	<b>FCM731-4-2</b>
	1/4	8	1.28	1.18	0.77	<b>FCM731-4-4</b>

### FCM731 Miniature Meter Out Flow Control - BSPP

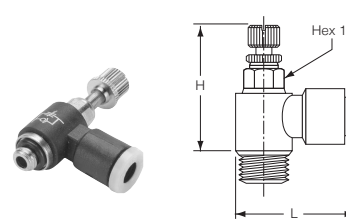
Tube Size (mm)	BSPP	Hex 1 (mm)	H Closed	H Open	L	Part Number
3	M3X0.5	6	23.5	26.0	17.0	<b>FCM731-3M-M3</b>
	M5X0.8	6	23.5	26.0	17.0	<b>FCM731-3M-M5</b>
4	M3X0.5	6	23.5	26.0	16.5	<b>FCM731-4M-M3</b>
	M5X0.8	6	23.5	26.0	17.0	<b>FCM731-4M-M5</b>
6	1/8	7	27.0	29.5	18.0	<b>FCM731-4M-2G</b>
	M5X0.8	6	23.5	26.0	18.0	<b>FCM731-6M-M5</b>
8	1/8	7	27.0	29.5	18.5	<b>FCM731-6M-2G</b>
	1/4	8	30.0	32.5	19.0	<b>FCM731-6M-4G</b>
8	1/8	13	26.5	31.0	26.0	<b>FCM731-8M-2G</b>
	1/4	16	29.0	34.0	27.5	<b>FCM731-8M-4G</b>
	3/8	20	36.0	42.0	29.0	<b>FCM731-8M-6G</b>

Most popular.



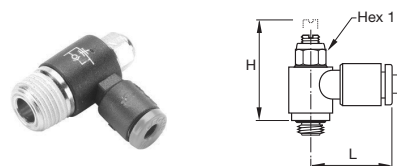
### Operating information

Pressure range:	15 to 145 PSI
Temperature range:	30°F to 160°F
Working fluid:	Compressed air



### FCMB731 Miniature Bi-Directional Flow Control - BSPP

Tube Size (mm)	BSPP	Hex 1	H Open	H Closed	L	Part Number
4	M5X0.8	6	23.5	26.0	16.5	<b>FCMB731-4M-M5</b>
	1/8	7	27.0	29.5	17.0	<b>FCMB731-4M-2G</b>
6	M5X0.8	6	23.5	26.0	18.0	<b>FCMB731-6M-M5</b>
	1/8	7	27.0	29.5	18.0	<b>FCMB731-6M-2G</b>
6	1/4	8	30.0	32.5	18.5	<b>FCMB731-6M-4G</b>



### FCMB731 Miniature Bi-Directional Flow Control - BSPP

Tube Size (in)	NPT	Hex 1 mm	H Open	H Closed	L	Part Number
1/8	10-32	6	0.79	0.65	0.65	<b>FCMK731-2-0</b>
	1/8	6	0.85	0.71	0.71	<b>FCMK731-2-2</b>
5/32	10-32	6	0.79	0.65	0.65	<b>FCMK731-5/32-0</b>
	1/8	6	0.85	0.71	0.71	<b>FCMK731-5/32-2</b>
1/4	10-32	6	0.79	0.65	0.65	<b>FCMK731-4-0</b>
	1/8	6	0.85	0.71	0.73	<b>FCMK731-4-2</b>
	1/4	6	0.97	0.83	0.73	<b>FCMK731-4-4</b>

Flow Controls  
& Check Valves

Misc  
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## Swivel Outlet Flow Control Valves

Flow control regulators with “swivel outlet” are especially designed to allow a vertical or angled tube exit where access is restricted. The swivel outlet comes with instant push-in connection to ease installation. Flow control regulators with swivel outlet are available in meter out and meter in versions.



### Material Specifications

Body	Glass reinforced nylon 6.6
Gripping Ring	Stainless Steel
Adjustment Screws	Nickel-plated brass
Locking Nut	Nickel-plated brass
Base	Nickel-plated brass

### Applicable Tube

Tube O.D.	5/32, 1/4, 3/8
Tube O.D. (mm)	4, 6, 8, 10, 12

### Operating information

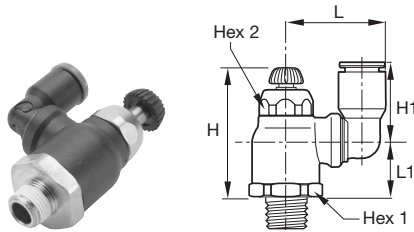
Pressure range:	15 to 145 PSI
Temperature range:	30°F to 160°F
Working fluid:	Compressed air

Flow Controls  
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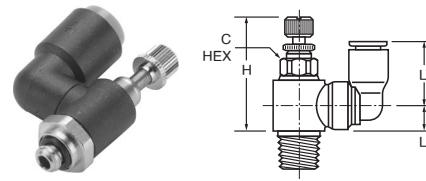


### FCCS731 Compact Swivel Outlet Flow Control

Tube Size (In)	NPT	Hex 1 mm	Hex 2 mm	H Closed	H Open	H1	L	L1	Part Number
1/8	1/8	19	10	1.87	2.09	0.63	0.93	0.65	<b>FCCS731-4-2</b>
	1/4	19	14	1.79	1.99	0.73	1.00	0.89	<b>FCCS731-4-4</b>
3/8	1/4	23	17	1.93	2.20	1.04	1.34	0.97	<b>FCCS731-6-4</b>
	3/8	23	17	1.93	2.20	1.04	1.34	0.97	<b>FCCS731-6-6</b>

### FCCS731 Compact Swivel Outlet - BSPP

Tube Size (In)	BSPP	Hex 1 mm	Hex 2 mm	H Closed	H Open	H1	L	L1	Part Number
6	1/8	16	10	38.0	44.0	16.0	23.5	18.0	<b>FCCS731-6M-2G</b>
	1/4	16	10	36.5	42.5	16.0	23.5	16.5	<b>FCCS731-6M-4G</b>
8	1/8	19	14	41.5	48.0	23.0	28.0	19.0	<b>FCCS731-8M-2G</b>
	1/4	19	14	41.5	48.0	23.0	28.0	19.5	<b>FCCS731-8M-4G</b>
	3/8	19	14	41.5	48.0	23.0	28.0	17.5	<b>FCCS731-8M-6G</b>
10	1/4	23	17	45.5	53.5	26.5	35.0	21.0	<b>FCCS731-10M-4G</b>
	3/8	23	17	45.5	54.0	26.5	35.0	21.5	<b>FCCS731-10M-6G</b>
	3/8	23	17	45.5	54.0	31.0	38.0	21.5	<b>FCCS731-12M-6G</b>
12	1/2	23	17	45.5	54.0	31.0	38.0	21.0	<b>FCCS731-12M-8G</b>



### FCMS731 Mini Swivel Outlet Flow Control

Tube Size (In)	NPT	Hex 1 mm	H Closed	H Open	H1	L	L1	Part Number
5/32	10-32	6	0.96	1.08	0.55	0.73	0.26	<b>FCMS731-5/32-0</b>
	1/8	8	1.08	1.20	0.55	0.73	0.33	<b>FCMS731-5/32-2</b>

### FCMS731 Miniature Swivel Outlet - BSPP

Tube Size (In)	BSPP	Hex 1 mm	H Closed	H Open	H1	L	L1	Part Number
4	M5X0.8	6	24.5	27.5	14.5	19.5	6.5	<b>FCMS731-4M-M5</b>
	1/8	7	27.5	31.0	14.5	20.0	8.5	<b>FCMS731-4M-2G</b>
6	M5X0.8	6	24.5	27.5	16.0	21.5	6.5	<b>FCMS731-6M-M5</b>
6	1/8	7	27.5	31.0	16.0	22.0	8.5	<b>FCMS731-6M-2G</b>





## Plug-In Flow Control Valves

Plug-in flow control regulators can be directly mounted into existing fittings and allow very compact installations. They are particularly suited for mounting in manifolds using cartridges. Their design and function give equal performance to that of flow control regulators with threaded connections.

### Material Specifications

Body	Glass reinforced nylon 6.6
Gripping Ring	Stainless Steel
Adjustment Screws	Nickel-plated brass
Locking Nut	Nickel-plated brass
Tailpiece	Nickel-plated brass

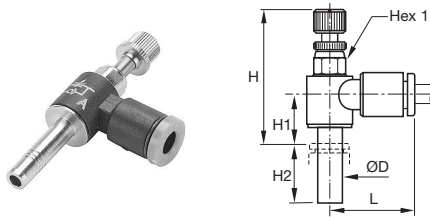
### Applicable Tube

Tube O.D.	1/8, 5/32, 1/4
Tube O.D. (mm)	4, 6, 8, 10, 12



### Operating information

Pressure range:	15 to 145 PSI
Temperature range:	30°F to 160°F
Working fluid:	Compressed air

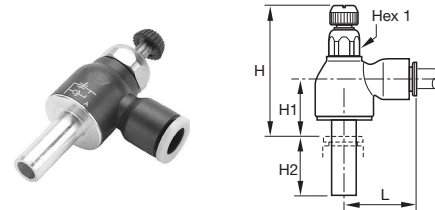


### FCMS731 Plug-In Mini Flow Control

Tube Size (In)	Hex 1 mm	H Open	H Closed	H1	H2	L	Part Number
1/8	6	1.04	0.94	0.12	0.59	0.67	<b>FCMS731-2</b>
5/32	6	1.10	1.00	0.37	0.61	0.67	<b>FCMS731-5/32</b>
1/4	7	1.18	1.08	0.12	0.73	0.73	<b>FCMS731-4</b>

### FCMS701 - Plug-In Miniature Flow Control

Tube Size (mm)	Hex 1 mm	H Closed	H Open	H1	H2	L	Part Number
4	6	25.5	28.0	9.5	15.5	17.0	<b>FCMS701-4M</b>
6	7	27.5	29.0	10.5	17.0	18.5	<b>FCMS701-6M</b>



### FCCSP731 Plug-In Compact Flow Control

Tube Size (mm)	Hex 1 mm	H Closed	H Open	H1	H2	L	Part Number
6	10	35.0	41.0	14.0	17.0	22.0	<b>FCCSP731-6M</b>
8	14	39.5	46.5	16.0	21.5	28.0	<b>FCCSP731-8M</b>
10	17	43.5	51.5	17.5	24.5	31.5	<b>FCCSP731-10M</b>
12	17	43.0	51.0	17.0	27.0	31.5	<b>FCCSP731-12M</b>

Flow Controls  
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## In-Line Flow Control Valves

In-line flow controls are unidirectional flow control valves. Intake air flows freely through the flow control; exhaust air is metered out through a specially designed adjustment screw. An arrow on the body of the valve indicates the direction of controlled flow. They can be easily added to existing circuitry. Simply splice it into the cylinder port line.

They can be used individually or they may be stacked together using two joining clips.

### Material Specifications

Body	Glass reinforced nylon 6.6
Gripping Ring	Stainless Steel
Adjustment Screws	Nickel-plated brass
Locking Nut	Nickel-plated brass
Tailpiece	Nickel-plated brass

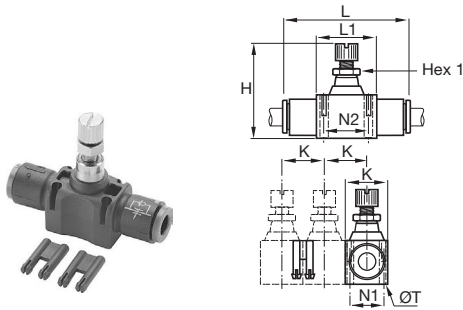
### Applicable Tube

Tube O.D.	5/32, 1/4, 5/16, 3/8, 1/2
Tube O.D. (mm)	4, 6, 8, 10, 12



### Operating information

Pressure range:	15 to 145 PSI
Temperature range:	30°F to 160°F
Working fluid:	Compressed air

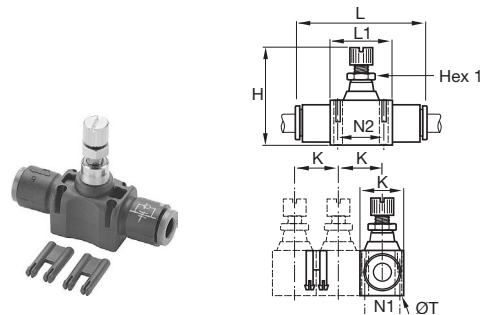


### FC832 In-Line Flow Control

Tube Size (In)	Hex 1 mm	H Closed	H Open	K	L	L1	N1	N2	T	Part Number
5/32	5	1.15	1.31	0.47	1.52	0.59	0.31	0.43	0.09	<b>FC832-5/32</b>
1/4	8	1.54	1.74	0.66	2.00	0.90	0.43	0.66	0.12	<b>FC832-4</b>
5/16	11	1.73	1.97	0.73	2.38	1.02	0.49	0.79	0.13	<b>FC832-5</b>
3/8	14	2.03	2.38	0.94	2.87	1.29	0.62	1.01	1.60	<b>FC832-6</b>
1/2	14	2.24	2.63	1.09	3.35	1.37	0.78	1.07	0.16	<b>FC832-8</b>

### FC832 In-Line Flow Control

Tube Size (mm)	Hex 1 mm	H Closed	H Open	K	L	L1	N1	N2	T	Part Number
4	5	29.5	33.5	12.0	39.0	15.0	8.0	11.0	2.2	<b>FC832-4M</b>
6	8	39.5	44.5	17.0	54.0	23.0	11.0	17.0	3.2	<b>FC832-6M</b>
8	11	44.0	50.0	18.5	60.5	26.0	12.5	20.0	3.2	<b>FC832-8M</b>
10	14	52.0	61.0	24.0	76.0	33.0	16.0	26.0	4.2	<b>FC832-10M</b>
12	14	57.5	67.5	28.0	86.0	35.0	20.0	27.5	4.2	<b>FC832-12M</b>

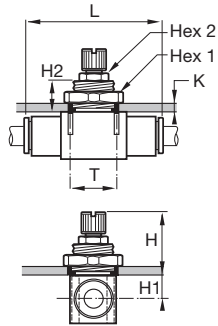


### FCB832 In-Line Bi-Directional Flow Control

Tube Size (In)	Hex 1 mm	H Closed	H Open	K	L	L1	N1	N2	T	Part Number
5/32	5	1.15	1.31	0.47	1.52	0.59	0.31	0.43	0.09	<b>FCB832-5/32</b>
1/4	8	1.54	1.74	0.66	2.00	0.90	0.43	0.66	0.12	<b>FCB832-4</b>
5/16	11	1.73	1.97	0.73	2.38	1.02	0.49	0.79	0.13	<b>FCB832-5</b>

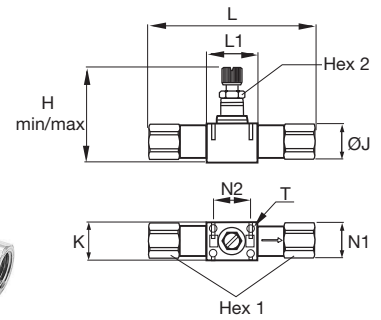
### FCB832 In-Line Bi-Directional Flow Control

Tube Size (mm)	Hex 1 mm	H Closed	H Open	K	L	L1	N1	N2	T	Part Number
4	5	29.5	33.5	12.0	39.0	15.0	8.0	11.0	2.2	<b>FCB832-4M</b>
6	8	39.5	44.5	17.0	54.0	23.0	11.0	17.0	3.2	<b>FCB832-6M</b>
8	11	44.0	50.0	18.5	60.5	26.0	12.5	20.0	3.2	<b>FCB832-8M</b>



**FCPM832 In-Line Panel Mountable Flow Control**

Tube Size (mm)	Hex 1 mm	Hex 2 mm	H Closed	H Open	K	L	H1	H2	T	Part Number
4	14		21.5	25.5	6.0	39.0	6.5	11.0	10.5	<b>FCPM832-4M</b>
6	19		27.5	32.5	7.0	54.0	7.5	13.5	16.5	<b>FCPM832-6M</b>
8	24	11	28.5	34.5	7.0	60.5	9.0	13.5	18.5	<b>FCPM832-8M</b>
10	30	14	29.5	38.5	7.0	76.0	11.5	13.5	24.5	<b>FCPM832-10M</b>
12	32	14	32.0	42.0	8.0	86.0	12.5	15.5	27.5	<b>FCPM832-12M</b>



**FC836 Threaded In-Line Flow Control**

NPT	Hex 1 mm	Hex 2 mm	H Closed	H Open	K	L	L1	N1	N2	T	Part Number
1/8	13	8.00	1.56	1.75	0.67	2.70	0.91	0.43	0.67	0.12	<b>FC836-2</b>
1/4	16	11.00	1.73	1.97	0.73	3.27	1.02	0.49	0.79	0.12	<b>FC836-4</b>
3/8	22	14.00	2.05	2.40	0.94	3.82	1.30	0.63	1.02	0.16	<b>FC836-6</b>
1/2	24	14.00	2.26	2.66	1.10	4.76	1.38	0.79	1.08	0.16	<b>FC836-8</b>

**FC836 Threaded In-Line Flow Control - BSPP**

BSPP	Hex 1 mm	Hex 2 mm	H Closed	H Open	K	L	L1	N1	N2	T	Part Number
1/8	13	8	39.5	44.5	17.0	68.5	23.1	11.0	17.0	3.2	<b>FC836-2G</b>
1/4	16	11	44.0	50.0	18.5	83.0	25.9	12.5	20.0	3.2	<b>FC836-4G</b>
3/8	19	14	52.0	61.0	24.0	97.0	33.0	16.0	26.0	4.2	<b>FC836-6G</b>
1/2	24	14	57.5	67.5	28.0	121.0	35.0	20.0	27.5	4.2	<b>FC836-8G</b>

Flow Controls & Check Valves

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## Compact Metal Flow Control Valves

Metal flow control regulators are suited for use in severe conditions (temperatures, sparks, abrasion, etc). The screw and locking nut have been designed for easy manipulation, by hand. Adjustment can be made with a screwdriver and locking by use of a wrench.

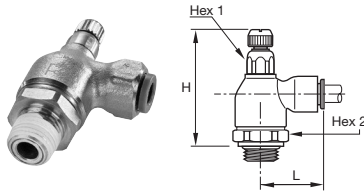


### Material Specifications

Body	Treated Brass
Gripping Ring	Stainless Steel
Adjustment Screws	Nickel-plated Brass
Locking Nut	Nickel-plated Brass
Tailpiece	Nickel-plated Brass

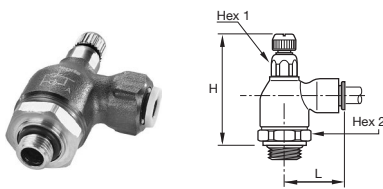
### Applicable Tube

Tube O.D.	1/8, 5/32, 1/4, 3/8
Tube O.D. (mm)	4, 6, 8, 10, 12, 14



### FC705 Push-to-Connect Metal Flow Control

Tube Size (in)	NPT	Hex 1 mm	Hex 2 mm	H Closed	H Open	L	Part Number
5/32	1/8	19	10	1.79	2.01	0.85	<b>FC705-5/32-2</b>
1/4	1/8	19	10	1.79	2.01	0.97	<b>FC705-4-2</b>
	1/4	19	10	1.79	2.01	0.97	<b>FC705-4-4</b>
3/8	1/4	19	14	1.91	2.11	1.14	<b>FC705-6-4</b>
	3/8	25	17	2.15	2.40	1.40	<b>FC705-6-6</b>

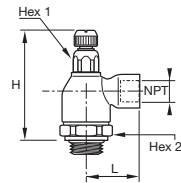


### FC701 Push-to-Connect Metal Flow Control - BSPP

Tube Size (mm)	BSPP	Hex 1 mm	Hex 2 mm	H Closed	H Open	L	Part Number
4	1/8	10	19	47.0	53.0	21.0	<b>FC701-4M-2G</b>
	1/8	10	19	47.0	53.0	24.5	<b>FC701-6M-2G</b>
6	1/4	10	19	47.5	53.0	24.5	<b>FC701-6M-4G</b>
	1/8	14	19	50.0	55.0	29.0	<b>FC701-8M-2G</b>
8	1/4	14	19	50.0	56.0	29.0	<b>FC701-8M-4G</b>
	3/8	17	25	56.0	62.0	30.5	<b>FC701-8M-6G</b>
10	1/4	14	19	50.0	56.0	35.0	<b>FC701-10M-4G</b>
	3/8	17	25	56.0	62.0	35.0	<b>FC701-10M-6G</b>
12	3/8	17	25	56.0	62.0	38.0	<b>FC701-12M-6G</b>
	1/2	17	25	55.0	62.0	38.0	<b>FC701-12M-8G</b>
14	1/2	17	25	55.0	62.0	41.0	<b>FC701-14M-8G</b>

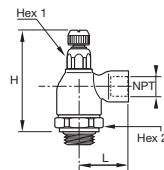
### Operating information

Pressure range:	15 to 145 PSI
Temperature range:	30°F to 160°F
Working fluid:	Compressed air



### FC708 Threaded Port Meter Out Flow Control

NPT	Hex 1 mm	Hex 2 mm	H Closed	H Open	L	L1	L2	Part Number
1/8	19	10	1.79	2.01	0.89	0.87	1.14	<b>FC708-2</b>
1/4	19	14	1.91	2.11	1.28	0.87	1.28	<b>FC708-4</b>
3/8	25	17	2.15	2.40	1.36	0.91	1.44	<b>FC708-6</b>
1/2	25	17	2.15	2.40	1.50	0.91	1.50	<b>FC708-8</b>



### FC702 Threaded Port Meter Out Flow Control - BSPP

BSPP	Hex 1 mm	Hex 2 mm	H Closed	H Open	L	Part Number
1/8	10	19	47.0	52.5	22.5	<b>FC702-2G</b>
1/4	14	19	50.5	55.5	32.0	<b>FC702-4G</b>
3/8	17	25	56.0	62.0	34.5	<b>FC702-6G</b>
1/2	17	25	55.0	62.0	37.5	<b>FC702-8G</b>

## Flow Control Check Valves

These in-line check valves allows air to pass in one direction while blocking flow in the other direction. Their extreme compactness and light weight make them suitable as a safety item in compressed air circuits. The body of the fitting contains an arrow to indicate the direction of flow.

### Material Specifications

Body	32PLCK: Nylon/nickel plated brass 68PLCK: Nylon body with nickel-plated brass base VC: Acetal
Gripping Ring	Stainless Steel
O-ring	Nitrile (32PLCK & 68PLCK) EPDM (VC)

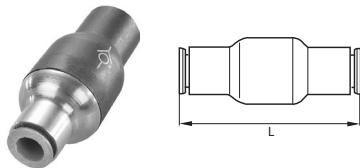
### Applicable Tube

Tube O.D.	PLCK: 5/32, 1/4, 5/16, 3/8 VC: 1/4, 5/16, 3/8
Tube O.D. (mm)	PLCK: 4, 6, 8, 10, 12



### Operating information

Pressure range:	15 to 145 PSI
Temperature range:	34°F to 150°F
Cracking pressure:	PLCK: 7 PSI VC: 1/3 PSI
Working fluid:	Compressed air

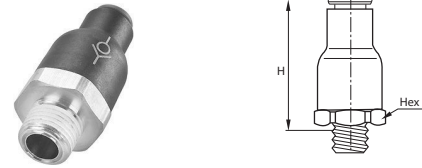


### 32PLCK In-Line Check Valve - NPT

Tube Size (In)	L	Part Number
5/32	1.52	<b>32PLCK-5/32</b>
1/4	1.61	<b>32PLCK-4</b>
5/16	2.03	<b>32PLCK-5</b>
3/8	2.50	<b>32PLCK-6</b>

### 32PLCK In-Line Check Valve - BSPP

Tube Size (mm)	L	Part Number
4	38.5	<b>32PLCK-4M</b>
6	41.0	<b>32PLCK-6M</b>
8	51.5	<b>32PLCK-8M</b>
10	63.5	<b>32PLCK-10M</b>
12	66.5	<b>32PLCK-12M</b>

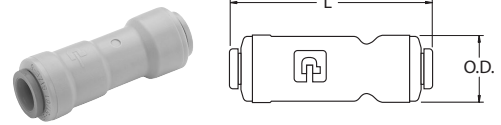
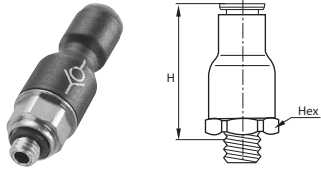


### W68PLCK Male Check Valve

Tube Size (In)	NPT/ UNF	Hex mm	H	Part Number
5/32	10-32	9	1.26	<b>68PLCK-5/32-0</b>
5/32	1/8	16	1.12	<b>W68PLCK-5/32-2</b>
1/4	1/8	19	1.42	<b>W68PLCK-4-2</b>
1/4	1/4	19	1.42	<b>W68PLCK-4-4</b>
3/8	1/4	23	1.65	<b>W68PLCK-6-4</b>
3/8	3/8	23	1.65	<b>W68PLCK-6-6</b>

### W68PLCKI Male Check Valve Meter In

Tube Size (in)	NPT/ UNF	Hex mm	H	Part Number
5/32	10-32	9	1.26	<b>68PLCKI-5/32-0</b>
5/32	1/8	16	1.12	<b>W68PLCKI-5/32-2</b>
1/4	1/8	19	1.42	<b>W68PLCKI-4-2</b>
1/4	1/4	19	1.42	<b>W68PLCKI-4-4</b>
3/8	1/4	23	1.65	<b>W68PLCKI-6-4</b>
3/8	3/8	23	1.65	<b>W68PLCKI-6-6</b>



**68PLCK Male Check Valve Meter Out - BSPP**

Tube Size (mm)	BSPP	Hex 1 mm	H	Part Number
4	M5X0.8	9	32.0	<b>68PLCK-4M-M5</b>
4	1/8	16	28.5	<b>68PLCK-4M-2G</b>
6	1/8	16	30.5	<b>68PLCK-6M-2G</b>
6	1/4	16	30.5	<b>68PLCK-6M-4G</b>
8	1/8	19	36.0	<b>68PLCK-8M-2G</b>
8	1/4	19	36.0	<b>68PLCK-8M-4G</b>

**VC - Check Valve**

Tube Size (in)	BSPP	Hex 1 mm	Part Number
1/4	2.00	.66	<b>A4VC4-MG</b>
5/16	2.10	.70	<b>A5VC5-MG</b>
3/8	2.15	.80	<b>A6VC6-MG</b>

**68PLCKI Male Check Valve Meter In - BSPP**

Tube Size (mm)	BSPP	Hex 1 mm	H	Part Number
4	M5X0.8	9	32.0	<b>68PLCKI-4M-M5</b>
6	1/8	16	30.5	<b>68PLCKI-6M-2G</b>
8	1/8	19	36.0	<b>68PLCKI-8M-2G</b>
8	1/4	19	36.0	<b>68PLCKI-8M-4G</b>
10	3/8	23	42.0	<b>68PLCKI-10M-6G</b>
12	3/8	23	42.0	<b>68PLCKI-12M-6G</b>
12	1/2	23	44.0	<b>68PLCKI-12M-8G</b>

Flow Controls & Check Valves  
 Misc Accessories  
 Integrated Fittings  
 Accessories





## Blocking Flow Control Valves

Blocking valves prevents damage to work and equipment in the event of a loss of pressure. Blocking valves which are mounted in pairs on a cylinder lock the piston by simultaneously cutting off the supply and exhaust. Functional locks are more precise and rapid when blocking valves are located on the cylinder: the volume of air in the pipe work no longer needs to be taken into consideration.



### Material Specifications

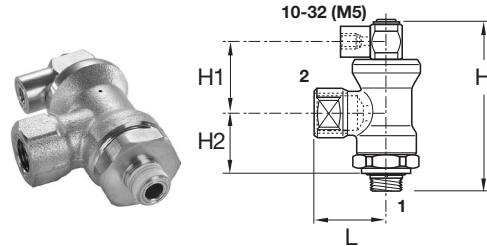
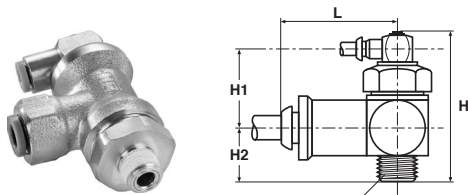
Body	Treated brass
Gripping Ring	Stainless Steel
Seals, Diaphragm	Nitrile

### Applicable Tube

Tube O.D.	1/8, 5/32, 1/4, 3/8
Tube O.D. (mm)	4, 6, 8, 10, 12, 14

### Operating information

Pressure range:	15 to 145 PSI
Temperature range:	-4°F to 160°F
Number of cycles:	> 10 million at 68°F and 1 Hz
Leak rate:	< 3.2 CCM
Working fluid:	Compressed air



### FC601 Push-to-Connect Lockout Valves

Tube Size (in)	NPT	Hex mm	H	H1	H2	L	Part Number
1/4	1/8	21	2.03	1.24	0.79	1.10	<b>FC601-4-2</b>
1/4	1/4	21	2.03	1.24	0.79	1.10	<b>FC601-4-4</b>
3/8	3/8	24	2.19	1.14	1.04	1.38	<b>FC601-6-6</b>
1/2	1/2	24	2.19	1.14	1.04	1.69	<b>FC601-8-8</b>

### FC601 Push-to-Connect Lockout Valve - BSPP

Tube Size (mm)	BSPP	Hex 1 mm	H	H1	H2	L	Part Number
6	1/8	21	53	24.5	21.0	28.0	<b>FC601-6M-2G</b>
6	1/4	21	53	24.5	21.0	28.0	<b>FC601-6M-4G</b>
8	1/4	21	53	24.5	21.0	28.0	<b>FC601-8M-4G</b>
8	3/8	24	56	25.0	23.0	34.5	<b>FC601-8M-6G</b>
10	3/8	24	56	25.0	23.0	35.0	<b>FC601-10M-6G</b>
12	1/2	24	56	25.0	23.0	37.5	<b>FC601-12M-8G</b>

### FC602 Threaded Port Lockout Valves

1 NPT	2 NPT	Hex mm	H	H1	H2	L	Part Number
1/4	1/8	21	2.03	1.24	0.79	1.04	<b>FC602-2</b>
1/4	1/4	21	2.03	1.24	0.79	1.04	<b>FC602-4</b>
3/8	3/8	24	2.19	1.14	1.04	1.34	<b>FC602-6</b>
1/2	1/2	24	2.19	1.14	1.04	1.57	<b>FC602-8</b>

### FC608 Threaded Port Lockout Valve - BSPP

1 BSPP	2 BSPP	Hex 1 mm	H	H1	H2	L	Part Number
1/8	1/4	21	53	24.5	21.0	28.0	<b>FC608-4G-2G</b>
1/4	1/4	21	53	24.5	21.0	28.0	<b>FC608-4G-4G</b>
3/8	3/8	24	56	25.0	23.0	34.0	<b>FC608-6G-6G</b>
1/2	1/2	24	56	25.0	23.0	41.0	<b>FC608-8G-8G</b>

Flow Controls & Check Valves

Misc Accessories

Integrated Fittings

Accessories

F

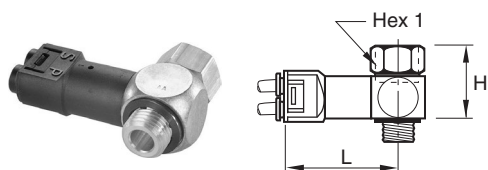
## Threshold Sensor

The sensor fitting detects the absence of pressure and translates it to a high pressure pneumatic output. When used to monitor the decaying or exhausting side of a pneumatic cylinder's piston, it emits a positive output. When the cylinder comes to the end of its stroke, wherever that may be, the signal emitted from the sensor can then be used to pilot the next step.



### Operating information

	PSBJ, PSPJ	PSPE
Working pressure:	45 to 115 PSI	45 to 115 PSI
Breaking pressure:	8.5 PSI	7 PSI
Working temperature:	5°F to 140°F	–
Response time:	3 Ms	–
Current rating:	–	5A / 250VAC 5W / 48VDC
Reset pressure:	10 PSI	10 PSI
UL listed component		

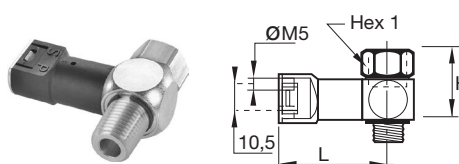


#### PSBJ731 Pneumatic Threshold Sensor - 5/32 Pilot

NPT / UNF	Hex 1 mm	H	L	Part Number
10-32	5/16	0.62	1.70	<b>PSBJ731-0</b>
1/8	9/16	0.90	1.74	<b>PSBJ731-2</b>
1/4	5/8	1.09	1.81	<b>PSBJ731-4</b>
3/8	7/8	1.13	1.91	<b>PSBJ731-6</b>
1/2	1	1.17	2.05	<b>PSBJ731-8</b>

#### PSBJ731 Pneumatic Threshold Sensor - 4mm Pilot

BSPP	Hex 1 mm	H	L	Part Number
M5X0.8	8	16	43.5	<b>PSBJ731-M5</b>
1/8	14	23	44.5	<b>PSBJ731-2G</b>
1/4	17	28	46.5	<b>PSBJ731-4G</b>
3/8	22	29	49.0	<b>PSBJ731-6G</b>
1/2	27	30	52.5	<b>PSBJ731-8G</b>

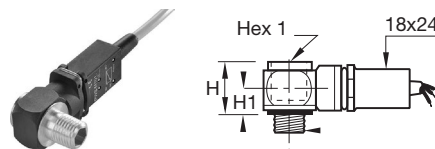


#### PSPJ731 Pneumatic Threshold Sensor - 10-32 Pilot

NPT	Hex 1 mm	H	L	Part Number
1/8	9/16	0.90	1.58	<b>PSPJ731-2</b>
1/4	5/8	1.09	1.66	<b>PSPJ731-4</b>
3/8	7/8	1.13	1.76	<b>PSPJ731-6</b>

#### PSBJ708 Pneumatic Threshold Sensor - M5 Pilot

BSPP	Hex 1 mm	H	L	Part Number
1/8	14	23	40.5	<b>PSBJ708-2G</b>
1/4	17	28	42.5	<b>PSBJ708-4G</b>



#### PSPE701 Pneumatic / Electric Threshold Sensor - BSPP

NPT	Hex 1 mm	H	H1	L	Part Number
M5X0.8	8	20	10	49	<b>PSPE701-M5</b>
1/8	6	20	10	52	<b>PSPE701-2G</b>
1/4	8	20	10	54	<b>PSPE701-4G</b>
3/8	10	22	12	57	<b>PSPE701-6G</b>
1/2	12	26	14	58	<b>PSPE701-8G</b>

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3393002.....	F7	45160016.....	F8	414321000.....	E5	529831000.....	E4
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4700900.....	F21	47080008.....	F9	414451000.....	E3	9121658076.....	C6
4707020.....	F22	47120012.....	F9	414711000.....	E5	9121658077.....	C6
4750010.....	F21	47160016.....	F9	414721000.....	E5	9121658078.....	C6
4750900.....	F21	47200020.....	F9	414751000.....	E5	00339G3000.....	F7
6450060.....	F20	47240024.....	F9	414811000.....	E3	00339G3001.....	F7
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# Safety Guide For Selecting And Using Pneumatic Division Products And Related Accessories

## WARNING:

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF PNEUMATIC DIVISION PRODUCTS, ASSEMBLIES OR RELATED ITEMS ("PRODUCTS") CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE. POSSIBLE CONSEQUENCES OF FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THESE PRODUCTS INCLUDE BUT ARE NOT LIMITED TO:**

- Unintended or mistimed cycling or motion of machine members or failure to cycle
- Work pieces or component parts being thrown off at high speeds.
- Failure of a device to function properly for example, failure to clamp or unclamp an associated item or device.
- Explosion
- Suddenly moving or falling objects.
- Release of toxic or otherwise injurious liquids or gasses.

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

## 1. GENERAL INSTRUCTIONS

- 1.1. Scope:** This safety guide is designed to cover general guidelines on the installation, use, and maintenance of Pneumatic Division Valves, FRLs (Filters, Pressure Regulators, and Lubricators), Vacuum products and related accessory components.
- 1.2. Fail-Safe:** Valves, FRLs, Vacuum products and their related components can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of associated valves, FRLs or Vacuum products will not endanger persons or property.
- 1.3. Relevant International Standards:** For a good guide to the application of a broad spectrum of pneumatic fluid power devices see: ISO 4414:1998, Pneumatic Fluid Power – General Rules Relating to Systems. See [www.iso.org](http://www.iso.org) for ordering information.
- 1.4. Distribution:** Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of Valves, FRLs or Vacuum products. Do not select, or use Parker valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.
- 1.5. User Responsibility:** Due to the wide variety of operating conditions and applications for valves, FRLs, and vacuum products Parker and its distributors do not represent or warrant that any particular valve, FRL or vacuum product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
  - Making the final selection of the appropriate valve, FRL, Vacuum component, or accessory.
  - Assuring that all user's performance, endurance, maintenance, safety, and warning requirements are met and that the application presents no health or safety hazards.
  - Complying with all existing warning labels and / or providing all appropriate health and safety warnings on the equipment on which the valves, FRLs or Vacuum products are used; and,
  - Assuring compliance with all applicable government and industry standards.
- 1.6. Safety Devices:** Safety devices should not be removed, or defeated.
- 1.7. Warning Labels:** Warning labels should not be removed, painted over or otherwise obscured.
- 1.8. Additional Questions:** Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to [www.parker.com](http://www.parker.com), for telephone numbers of the appropriate technical service department.

## 2. PRODUCT SELECTION INSTRUCTIONS

- 2.1. Flow Rate:** The flow rate requirements of a system are frequently the primary consideration when designing any pneumatic system. System components need to be able to provide adequate flow and pressure for the desired application.
- 2.2. Pressure Rating:** Never exceed the rated pressure of a product. Consult product labeling, Pneumatic Division catalogs or the instruction sheets supplied for maximum pressure ratings.
- 2.3. Temperature Rating:** Never exceed the temperature rating of a product. Excessive heat can shorten the life expectancy of a product and result in complete product failure.
- 2.4. Environment:** Many environmental conditions can affect the integrity and suitability of a product for a given application. Pneumatic Division products are designed for use in general purpose industrial applications. If these products are to be used in unusual circumstances such as direct sunlight and/or corrosive or caustic environments, such use can shorten the useful life and lead to premature failure of a product.
- 2.5. Lubrication and Compressor Carryover:** Some modern synthetic oils can and will attack nitrile seals. If there is any possibility of synthetic oils or greases migrating into the pneumatic components check for compatibility with the seal materials used. Consult the factory or product literature for materials of construction.
- 2.6. Polycarbonate Bowls and Sight Glasses:** To avoid potential polycarbonate bowl failures:
  - Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
  - Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, ketones, esters or certain alcohols.
  - Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.

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Pneumatic Division  
Richland, Michigan  
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**2.7. Chemical Compatibility:** For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

- 2.8. Product Rupture:** Product rupture can cause death, serious personal injury, and property damage.
- Do not connect pressure regulators or other Pneumatic Division products to bottled gas cylinders.
  - Do not exceed the maximum primary pressure rating of any pressure regulator or any system component.
  - Consult product labeling or product literature for pressure rating limitations.

**3. PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS**

**3.1. Component Inspection:** Prior to assembly or installation a careful examination of the valves, FRLs or vacuum products must be performed. All components must be checked for correct style, size, and catalog number. DO NOT use any component that displays any signs of nonconformance.

**3.2. Installation Instructions:** Parker published Installation Instructions must be followed for installation of Parker valves, FRLs and vacuum components. These instructions are provided with every Parker valve or FRL sold, or by calling 1-800-CPARKER, or at [www.parker.com](http://www.parker.com).

**3.3. Air Supply:** The air supply or control medium supplied to Valves, FRLs and Vacuum components must be moisture-free if ambient temperature can drop below freezing

**4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS**

**4.1. Maintenance:** Even with proper selection and installation, valve, FRL and vacuum products service life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a component failure, and experience with any known failures in the application or in similar applications should determine the frequency of inspections and the servicing or replacement of Pneumatic Division products so that products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.9.

**4.2. Installation and Service Instructions:** Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the valve or FRL in question for the appropriate practices to service the unit in question. These Service and Installation Instructions are provided with every Parker valve and FRL sold, or are available by calling 1-800-CPARKER, or by accessing the Parker website at [www.parker.com](http://www.parker.com).

**4.3. Lockout / Tagout Procedures:** Be sure to follow all required lockout and tagout procedures when servicing equipment. For more information see: OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – (Lockout / Tagout)

**4.4. Visual Inspection:** Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:

- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
- Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
- Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted air flow and lead to unpredictable system behavior.
- Any observed improper system or component function: Immediately shut down the system and correct malfunction.
- Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

**Caution: Leak detection solutions should be rinsed off after use.**

**4.5. Routine Maintenance Issues:**

- Remove excessive dirt, grime and clutter from work areas.
- Make sure all required guards and shields are in place.

**4.6. Functional Test:** Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.

**4.7. Service or Replacement Intervals:** It is the user's responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components need to be serviced or replaced on routine intervals. Service intervals need to be established based on:

- Previous performance experiences.
- Government and / or industrial standards.
- When failures could result in unacceptable down time, equipment damage or personal injury risk.

**4.8. Servicing or Replacing of any Worn or Damaged Parts:** To avoid unpredictable system behavior that can cause death, personal injury and property damage:

- Follow all government, state and local safety and servicing practices prior to service including but not limited to all OSHA Lockout Tagout procedures (OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – Lockout / Tagout).
- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
- Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put product or system into use.
- Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.

**4.9. Putting Serviced System Back into Operation:** Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.

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**OFFER OF SALE**

**1. Definitions.** As used herein, the following terms have the meanings indicated.

- Buyer: means any customer receiving a Quote for Products.
- Goods: means any tangible part, system or component to be supplied by Seller.
- Products: means the Goods, Services and/or Software as described in a Quote.
- Quote: means the offer or proposal made by Seller to Buyer for the supply of Products.
- Seller: means Parker-Hannifin Corporation, including all divisions and businesses thereof.
- Services: means any services to be provided by Seller.
- Software: means any software related to the Goods, whether embedded or separately downloaded.
- Terms: means the terms and conditions of this Offer of Sale.

**2. Terms.** All sales of Products by Seller are expressly conditioned upon, and will be governed by the acceptance of, these Terms. These Terms are incorporated into any Quote provided by Seller to Buyer. Buyer's order for any Products whether communicated to Seller verbally, in writing, by electronic data interface or other electronic commerce, shall constitute acceptance of these Terms. Seller objects to any contrary or additional terms or conditions of Buyer. Reference in Seller's order acknowledgement to Buyer's purchase order or purchase order number shall in no way constitute an acceptance of any of Buyer's terms or conditions of purchase. No modification to these Terms will be binding on Seller unless agreed to in writing and signed by an authorized representative of Seller.

**3. Price; Payment.** The Products set forth in the Quote are offered for sale at the prices indicated in the Quote. Unless otherwise specifically stated in the Quote, prices are valid for thirty (30) days and do not include any sales, use, or other taxes or duties. Seller reserves the right to modify prices at any time to adjust for any raw material price fluctuations. Unless otherwise specified by Seller, all prices are F.C.A. Seller's facility (INCOTERMS 2020). All sales are contingent upon credit approval and full payment for all purchases is due thirty (30) days from the date of invoice (or such date as may be specified in the Quote). Unpaid invoices beyond the specified payment date incur interest at the rate of 1.5% per month or the maximum allowable rate under applicable law.

**4. Shipment; Delivery; Title and Risk of Loss.** All delivery dates are approximate, and Seller is not responsible for damages resulting from any delay. Regardless of the manner of shipment, delivery occurs and title and risk of loss or damage pass to Buyer, upon placement of the Products with the carrier at Seller's facility. Unless otherwise agreed prior to shipment and for domestic delivery locations only, Seller will select and arrange, at Buyer's sole expense, the carrier and means of delivery. When Seller selects and

arranges the carrier and means of delivery, freight and insurance costs for shipment to the designated delivery location will be prepaid by Seller and added as a separate line item to the invoice. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions. Buyer shall not return or repackage any Products without the prior written authorization from Seller, and any return shall be at the sole cost and expense of Buyer.

**5. Warranty.** The warranty for the Products is as follows: (i) Goods are warranted against defects in material or workmanship for a period of twelve (12) months from the date of delivery or 2,000 hours of use, whichever occurs first; (ii) Services shall be performed in accordance with generally accepted practices and using the degree of care and skill that is ordinarily exercised and customary in the field to which the Services pertain and are warranted for a period of six (6) months from the date of completion of the Services; and (iii) Software is only warranted to perform in accordance with applicable specifications provided by Seller to Buyer for ninety (90) days from the date of delivery or, when downloaded by a Buyer or end-user, from the date of the initial download. All prices are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **EXEMPTION CLAUSE; DISCLAIMER OF WARRANTY, CONDITIONS, REPRESENTATIONS; THIS WARRANTY IS THE SOLE AND ENTIRE WARRANTY, CONDITION, AND REPRESENTATION, PERTAINING TO PRODUCTS. SELLER DISCLAIMS ALL OTHER WARRANTIES, CONDITIONS, AND REPRESENTATIONS, WHETHER STATUTORY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE RELATING TO DESIGN, NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. SELLER DOES NOT WARRANT THAT THE SOFTWARE IS ERROR-FREE OR FAULT-TOLERANT, OR THAT BUYER'S USE THEREOF WILL BE SECURE OR UNINTERRUPTED. UNLESS OTHERWISE AUTHORIZED IN WRITING BY SELLER, THE SOFTWARE SHALL NOT BE USED IN CONNECTION WITH HAZARDOUS OR HIGH RISK ACTIVITIES OR ENVIRONMENTS. EXCEPT AS EXPRESSLY STATED HEREIN, ALL PRODUCTS ARE PROVIDED "AS IS"**.

**6. Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon receipt. No claims for shortages will be allowed unless reported to Seller within ten (10) days of delivery. Buyer shall notify Seller of any alleged breach of warranty within thirty (30) days after the date the non-conformance is or should have been discovered by Buyer. Any claim or action against Seller based upon breach of contract or any other theory, including tort, negligence, or otherwise must be commenced within twelve (12) months from the date of the alleged breach or other alleged event, without regard to the date of discovery.

**7. LIMITATION OF LIABILITY.** IN THE EVENT OF A BREACH OF WARRANTY, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE THE NON-CONFORMING PRODUCT, RE-PERFORM THE SERVICES, OR REFUND THE PURCHASE PRICE PAID WITHIN A REASONABLE PERIOD OF TIME. **IN NO EVENT IS SELLER LIABLE FOR**

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**ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING ANY LOSS OF REVENUE OR PROFITS, WHETHER BASED IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE PAID FOR THE PRODUCTS.**

**8. Confidential Information.** Buyer acknowledges and agrees that any technical, commercial, or other confidential information of Seller, including, without limitation, pricing, technical drawings or prints and/or part lists, which has been or will be disclosed, delivered or made available, whether directly or indirectly, to Buyer ("Confidential Information"), has been and will be received in confidence and will remain the property of Seller. Buyer further agrees that it will not use Seller's Confidential Information for any purpose other than for the benefit of Seller.

**9. Loss to Buyer's Property.** Any tools, patterns, materials, equipment or information furnished by Buyer or which are or become Buyer's property ("Buyer's Property"), will be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer ordering the Products manufactured using Buyer's Property. Furthermore, Seller shall not be responsible for any loss or damage to Buyer's Property while it is in Seller's possession or control.

**10. Special Tooling.** "Special Tooling" includes but is not limited to tools, jigs, fixtures and associated manufacturing equipment acquired or necessary to manufacture Goods. Seller may impose a tooling charge for any Special Tooling. Such Special Tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in the Special Tooling, even if such Special Tooling has been specially converted or adapted for manufacture of Goods for Buyer and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller has the right to alter, discard or otherwise dispose of any Special Tooling or other property owned by Seller in its sole discretion at any time.

**11. Security Interest.** To secure payment of all sums due from Buyer, Seller retains a security interest in all Products delivered to Buyer and, Buyer's acceptance of these Terms is deemed to be a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect Seller's security interest.

**12. User Responsibility.** Buyer, through its own analysis and testing, is solely responsible for making the final selection of the Products and assuring that all performance, endurance, maintenance, safety and warning requirements of the application of the Products are met. Buyer must analyze all aspects of the application and follow applicable industry standards, specifications, and any technical information provided with the Quote or the Products, such as Seller's instructions, guides and specifications. If Seller provides options of or for Products based upon data or specifications provided by Buyer, Buyer is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products. In the event Buyer is not the end-user

of the Products, Buyer will ensure such end-user complies with this paragraph.

**13. Use of Products, Indemnity by Buyer.** Buyer shall comply with all instructions, guides and specifications provided by Seller with the Quote or the Products. **Unauthorized Uses.** If Buyer uses or resells the Products in any way prohibited by Seller's instructions, guides or specifications, or Buyer otherwise fails to comply with Seller's instructions, guides and specifications, Buyer acknowledges that any such use, resale, or non-compliance is at Buyer's sole risk. Further, Buyer shall indemnify, defend, and hold Seller harmless from any losses, claims, liabilities, damages, lawsuits, judgments and costs (including attorney fees and defense costs), whether for personal injury, property damage, intellectual property infringement or any other claim, arising out of or in connection with: (a) improper selection, design, specification, application, or any misuse of Products; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, tools, equipment, plans, drawings, designs, specifications or other information or things furnished by Buyer; (d) damage to the Products from an external cause, repair or attempted repair by anyone other than Seller, failure to follow instructions, guides and specifications provided by Seller, use with goods not provided by Seller, or opening, modifying, deconstructing, tampering with or repackaging the Products; or (e) Buyer's failure to comply with these Terms. Seller shall not indemnify Buyer under any circumstance except as otherwise provided in these Terms.

**14. Cancellations and Changes.** Buyer may not cancel or modify, including but not limited to movement of delivery dates for the Products, any order for any reason except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage and any additional expense. Seller, at any time, may change features, specifications, designs and availability of Products.

**15. Limitation on Assignment.** Buyer may not assign its rights or obligations without the prior written consent of Seller.

**16. Force Majeure.** Seller is not liable for delay or failure to perform any of its obligations by reason of events or circumstances beyond its reasonable control. Such circumstances include without limitation: accidents, labor disputes or stoppages, government acts or orders, acts of nature, pandemics, epidemics, other widespread illness, or public health emergency, delays or failures in delivery from carriers or suppliers, shortages of materials, war (whether declared or not) or the serious threat of same, riots, rebellions, acts of terrorism, fire or any reason whether similar to the foregoing or otherwise. Seller will resume performance as soon as practicable after the event of force majeure has been removed. All delivery dates affected by force majeure shall be tolled for the duration of such force majeure and rescheduled for mutually agreed dates as soon as practicable after the force majeure condition ceases to exist. Force majeure shall not include financial distress, insolvency, bankruptcy, or other similar conditions affecting one of the parties, affiliates and/or sub-contractors.

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**17. Waiver and Severability.** Failure to enforce any provision of these Terms will not invalidate that provision; nor will any such failure prejudice either party's right to enforce that provision in the future. Invalidation of any provision of these Terms shall not invalidate any other provision herein and, the remaining provisions will remain in full force and effect.

**18. Termination.** Seller may terminate any agreement governed by or arising from these Terms for any reason and at any time by giving Buyer thirty (30) days prior written notice. Seller may immediately terminate, in writing, if Buyer: (a) breaches any provision of these Terms, (b) becomes or is deemed insolvent, (c) appoints or has appointed a trustee, receiver or custodian for all or any part of Buyer's property, (d) files a petition for relief in bankruptcy on its own behalf, or one is filed against Buyer by a third party, (e) makes an assignment for the benefit of creditors; or (f) dissolves its business or liquidates all or a majority of its assets.

**19. Ownership of Software.** Seller retains ownership of all Software supplied to Buyer hereunder. In no event shall Buyer obtain any greater right in and to the Software than a right in the nature of a license limited to the use thereof and subject to compliance with any other terms provided with the Software.

**20. Indemnity for Infringement of Intellectual Property Rights.** Seller is not liable for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights ("Intellectual Property Rights") except as provided in this Section. Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on a third party claim that one or more of the Products sold hereunder infringes the Intellectual Property Rights of a third party in the country of delivery of the Products by Seller to Buyer. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of any such claim, and Seller having sole control over the defense of the claim including all negotiations for settlement or compromise. If one or more Products sold hereunder is subject to such a claim, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Products, replace or modify the Products so as to render them non-infringing, or offer to accept return of the Products and refund the purchase price less a reasonable allowance for depreciation. Seller has no obligation or liability for any claim of infringement: (i) arising from information provided by Buyer; or (ii) directed to any Products provided hereunder for which the designs are specified in whole or part by Buyer; or (iii) resulting from the modification, combination or use in a system of any Products provided hereunder. The foregoing provisions of this Section constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for claims of infringement of Intellectual Property Rights.

**21. Governing Law.** These Terms and the sale and delivery of all Products are deemed to have taken place in, and shall be governed and construed in accordance with, the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of

Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to the sale and delivery of the Products.

**22. Entire Agreement.** These Terms, along with the terms set forth in the main body of any Quote, forms the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale and purchase. In the event of a conflict between any term set forth in the main body of a Quote and these Terms, the terms set forth in the main body of the Quote shall prevail. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter shall have no effect. These Terms may not be modified unless in writing and signed by an authorized representative of Seller.

**23. Compliance with Laws.** Buyer agrees to comply with all applicable laws, regulations, and industry and professional standards, including those of the United States of America, and the country or countries in which Buyer may operate, including without limitation the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.S. Anti-Kickback Act ("Anti-Kickback Act"), U.S. and E.U. export control and sanctions laws ("Export Laws"), the U.S. Food Drug and Cosmetic Act ("FDCA"), and the rules and regulations promulgated by the U.S. Food and Drug Administration ("FDA"), each as currently amended. Buyer agrees to indemnify, defend, and hold harmless Seller from the consequences of any violation of such laws, regulations and standards by Buyer, its employees or agents. Buyer acknowledges that it is familiar with all applicable provisions of the FCPA, the Anti-Kickback Act, Export Laws, the FDCA and the FDA and certifies that Buyer will adhere to the requirements thereof and not take any action that would make Seller violate such requirements. Buyer represents and agrees that Buyer will not make any payment or give anything of value, directly or indirectly, to any governmental official, foreign political party or official thereof, candidate for foreign political office, or commercial entity or person, for any improper purpose, including the purpose of influencing such person to purchase Products or otherwise benefit the business of Seller. Buyer further represents and agrees that it will not receive, use, service, transfer or ship any Products from Seller in a manner or for a purpose that violates Export Laws or would cause Seller to be in violation of Export Laws. Buyer agrees to promptly and reliably provide Seller all requested information or documents, including end-user statements and other written assurances, concerning Buyer's ongoing compliance with Export Laws.

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**Pneumatic Division**

8676 E. M89

Richland, MI 49083 USA

Tel: 269 629 5000

Applications Engineering: [pdnapps@parker.com](mailto:pdnapps@parker.com)

Customer Support: [pdncustsvc@parker.com](mailto:pdncustsvc@parker.com)

Web site: [www.parker.com/pneumatics](http://www.parker.com/pneumatics)

