



# 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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**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".



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**Direct Acting Valves**

***XM Series, 15mm Solenoid Valve,  
A00 Solenoid Valve***

**B**

Direct Acting  
Valves

**Inline Valves**

***Viking Lite Series, Viking Xtreme Series,  
"B3, B5, B6" Series, "B7 & B8" Series,  
Air Saver Unit, "N" Series***

**C**

Inline Valves

**Subbase & Manifolds Valves**

***H Series Micro, Moduflex Series,  
H Series ISO, Network Connectivity,  
"DX" ISOMAX Series, Valvair II Series***

**D**

Subbase & Manifold  
Valves

**Manual Mechanical Valves**

***Directair 2 & 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***

**E**

Manual / Mechanical  
Valves

**Accessories**

***Flow Controls, Check Valves, Mufflers,  
Quick Exhaust & Shuttle Valves, Tank Valves,  
Breather Vents, Silencers, Blocking Valves,  
Blow Guns, Integrated Fittings***

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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



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

## 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

## 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

### 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

### 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

### 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

### 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

### Network Connectivity



D145

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

### 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

### 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

### 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

### 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

### 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
- Offer of Sale

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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.



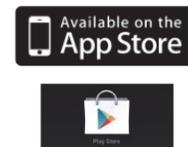
### Part Lookup Tool Contents

- 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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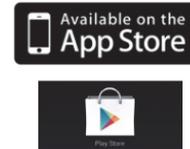
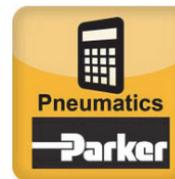
## Pneumatic Division Size & Selection Calculators

### 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!



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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



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

**Pneumatic Valves**

Symbol	Description
	Check
	Flow Control
	Relief Valve
	2-Position, 2-Way
	2-Position, 3-Way
	2-Position, 4-Way
	2-Position, 4-Way 5-Ported

**Pneumatic Valves**

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

**Valve Actuators**

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

**Cylinders**

Symbol	Description
	Standard double acting
	Single Acting
	Double Rod
	Spring Return
	Ram Type
	Telescope
	Tandem
	Duplex

**Lines and Functions**

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

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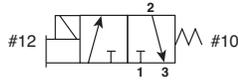
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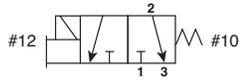
**3-Way, 2-Position, Normally Closed**



**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.

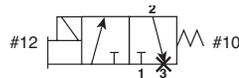
**3-Way, 2-Position, Diverter**



**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.

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

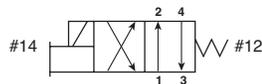


**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 1 blocked, port 2 is connected to port 3, which is plugged.

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

X Plug port 3.

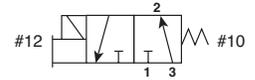
**4-Way, 2-Position**



**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.

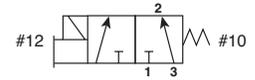
**3-Way, 2-Position, Normally Open**



**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.

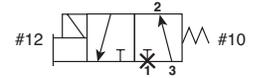
**3-Way, 2-Position, Selector**



**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 Open**

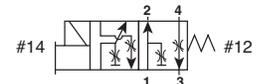


**De-energized position** – Solenoid #12 de-energized. Pressure at inlet port 3 is connected to outlet port 2. Port 1 is blocked.

**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 with Flow Controls**



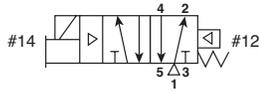
**De-energized position** – Solenoid #14 de-energized. Pressure at inlet port 1 connected outlet port 2. Outlet port 4 connected to exhaust port 3.

**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.



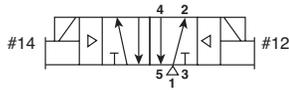
**Single Solenoid**  
**4-Way, 2-Position**



**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.

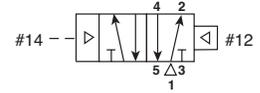
**Double Solenoid**  
**4-Way, 2-Position**



**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.

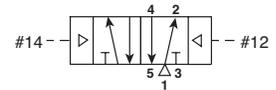
**Single Remote Pilot**  
**4-Way, 2-Position**



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

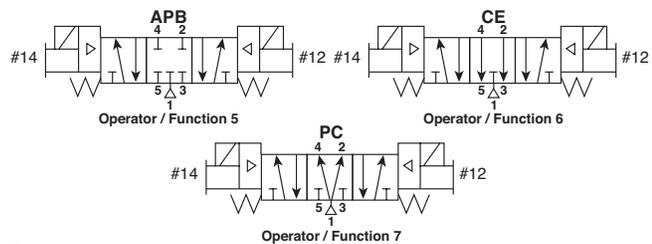
**Operated position** – Maintained air signal at port 14. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**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**

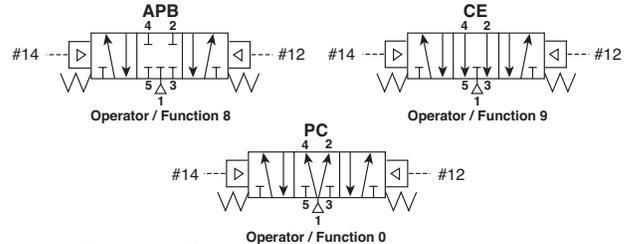
Pressure port 1 connected to cylinder ports 2 and 4, and exhaust ports 3 and 5 blocked in center position.

**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.

**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.

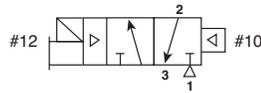
**A**

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

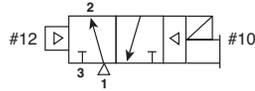


**Normally Closed:**

**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)**

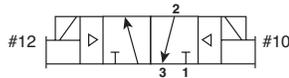


**Normally Open:**

**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.

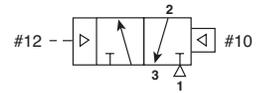
**Double Solenoid**  
**3-Way, 2-Position**



**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)**

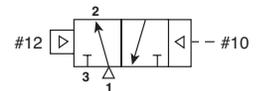


**Normally Closed:**

**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)**

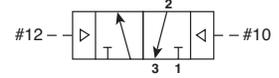


**Normally Open:**

**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.



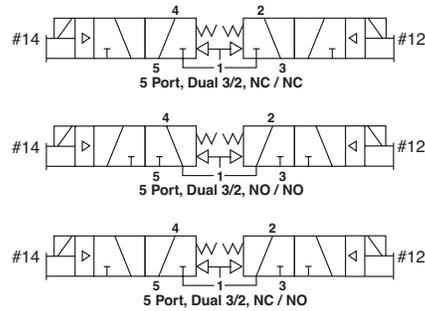
**Double Solenoid / Remote Pilot**  
**Dual 3-Way, 2-Position NC / NC (NNP)**

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.

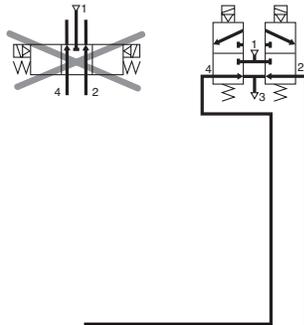
With #14 & #12 operators both energized – pressure at inlet port 1 connected to outlet ports 4 & 2, exhaust ports 3 & 5 blocked.



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

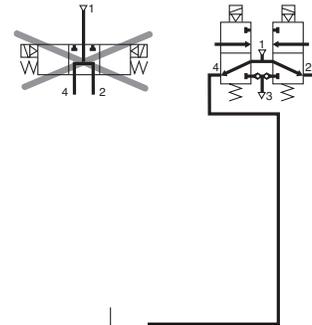
**3-position center exhaust**

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**

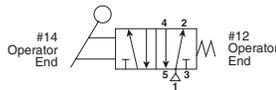
A traditional 5/3 pressure center valve is now replaced by a double 3/2 NO+NO valve module. The function is identical.



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**Lever Valves – Parallel & Perpendicular Operated**

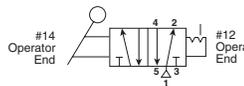
**2-Position, Spring Return**



**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**

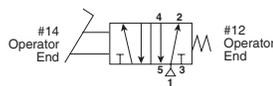


**Single Pressure at Port #1** – The Hand Lever alternately pressurizes port 2 or 4 while exhausting at port 3 or 5. When pulling Hand Lever, port 4 is pressurized; when pushing Hand Lever, port 2 is pressurized. Spool stays in last actuated position.

**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**

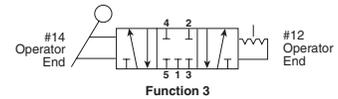


**CAUTION:**  
 This valve shall not be used to actuate a punch press.  
 Do not use this valve on punch presses or press brakes.  
 See OSHA 1910.217.

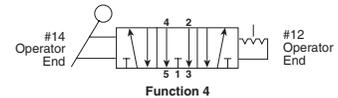
See Dimension page for Pedal Guard Kit.

**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.)	



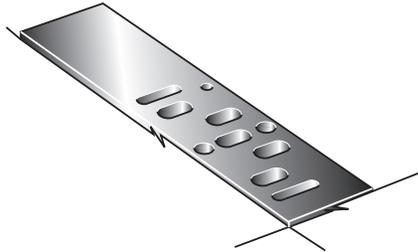
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**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.

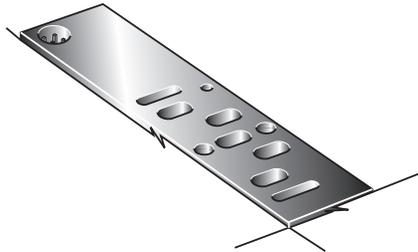
**15407-1**



**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.

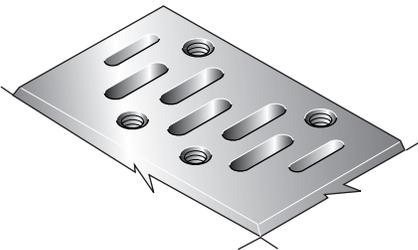
**15407-2**



**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.

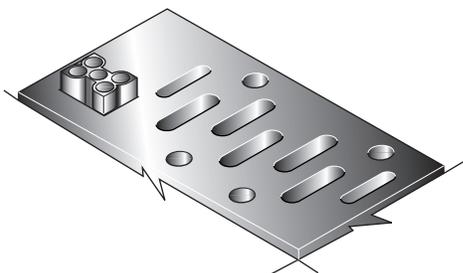
**5599-1**



**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**

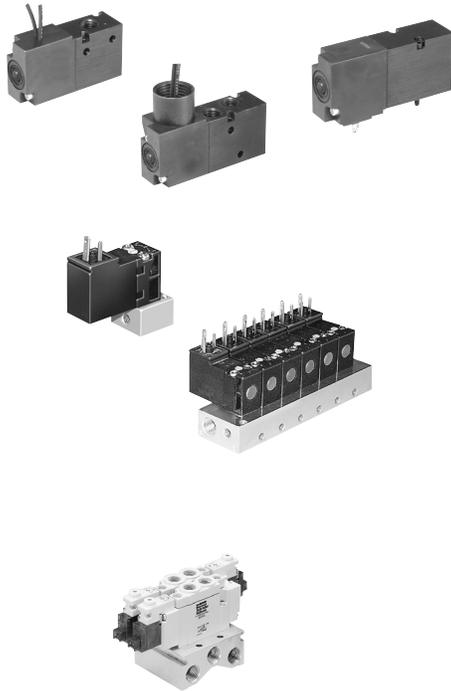


**Body-to-Base Plug-In Subbase Valves**

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	B1
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

**A00 Solenoid Valve**

Features	B12
Common Part Numbers / Ordering Information	B13
Accessories	B13
Technical Data	B14
Dimensional Data	B15

**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**

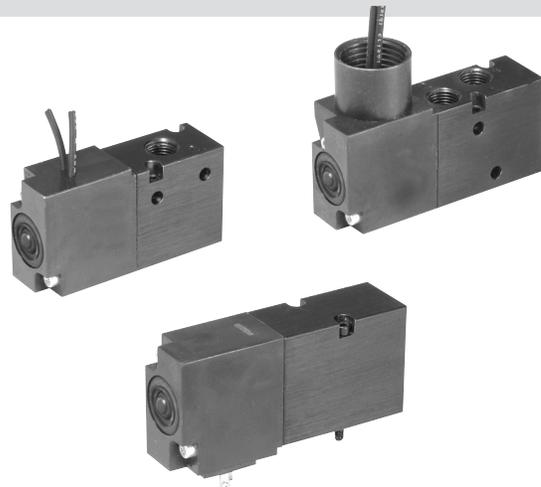
**Material specifications**

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.

B2  
 Direct Acting Valves  
 XM Series  
 15mm Solenoid Valves  
 A00 Solenoid Valve



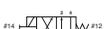
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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>

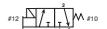
Note: All units with non-locking flush override. Can be used as N.O / N.C. / Diverter / Selector function.

**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>

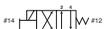
Note: All units with non-locking flush override.

**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  
 A00 Solenoid Valve

**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

\* Available on IEM manifolds.

Options	
Blank	None
F0*	Flow Control

\* 4-Way Valves Only.

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:**

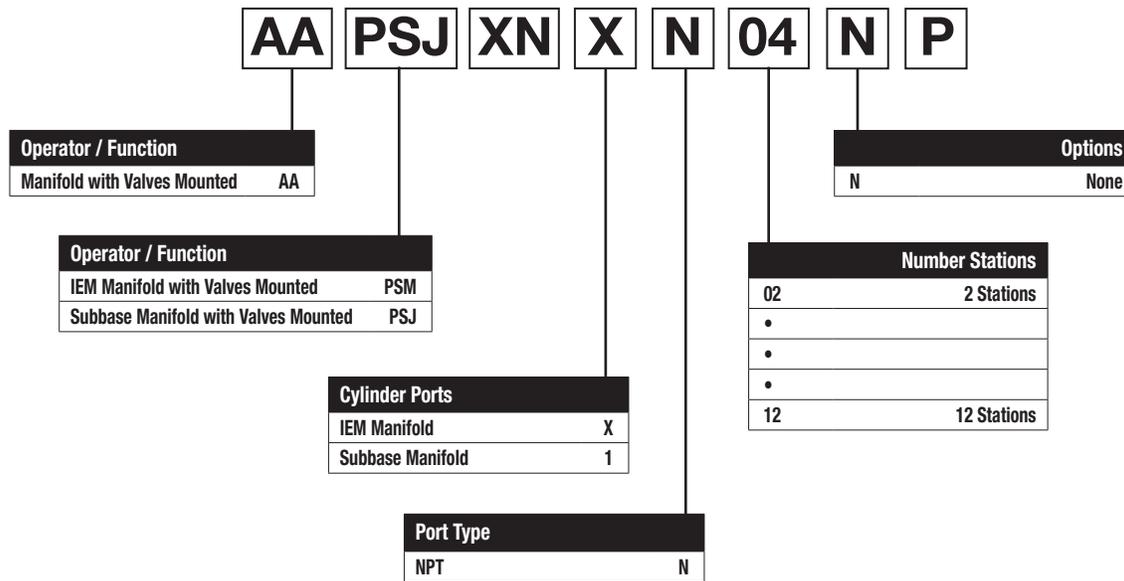
**Inline Valves**

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	XM40NBG49F0A - 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	XM40NBG49F0A (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	XM4VNBG49F0A - 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	XM4VNBG49F0A (Valve)



**Accessories**

**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 &	12/24V	<b>PESC2020B</b>
	Suppression	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

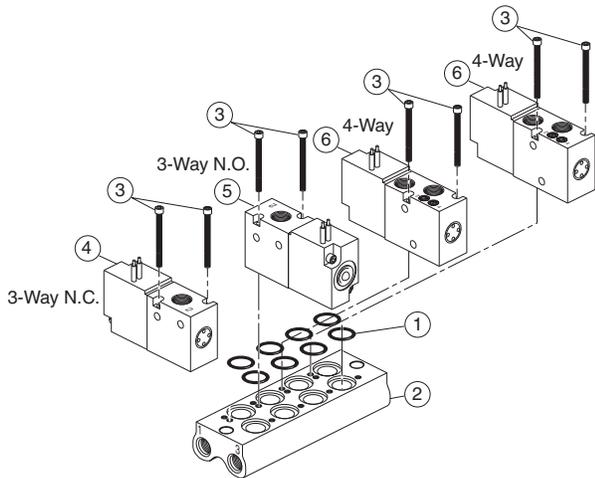
XM Series

15mm Solenoid Valves

A00 Solenoid Valve

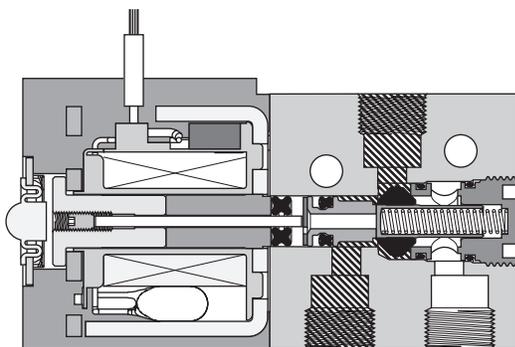
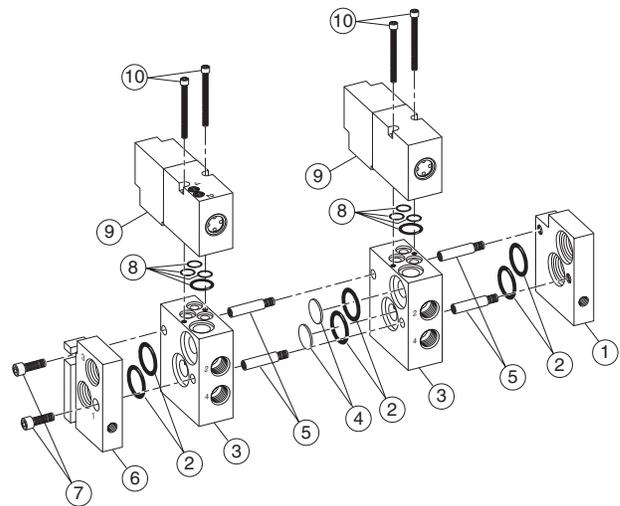
**Inline Valve on IEM Bar Manifold Assembly**

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.

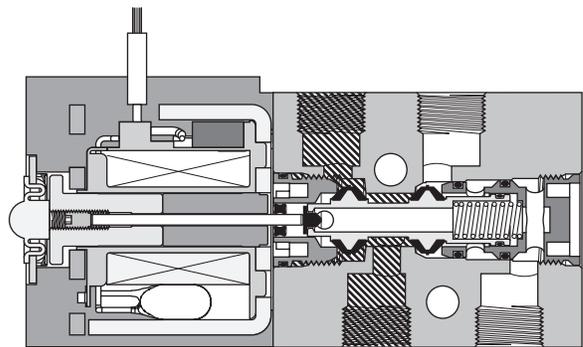


**Subbase Valve and Manifold Assembly**

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



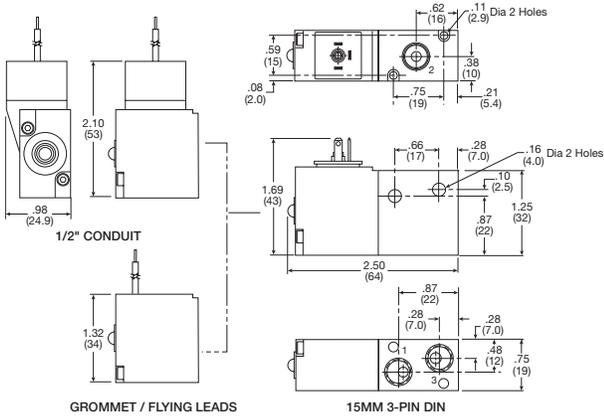
**4-Way Inline Valve**  
 Shown De-Energized

Pressure Exhaust



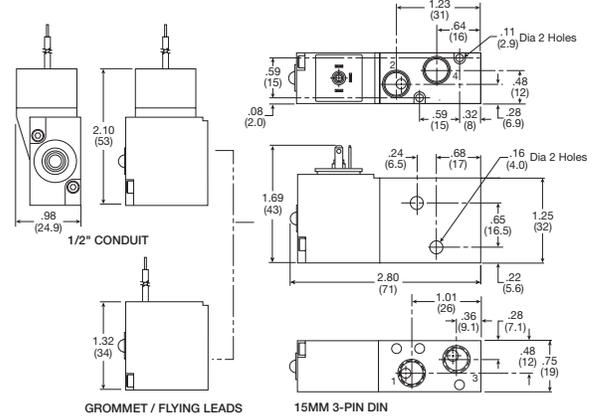
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**XM 3-way Inline**



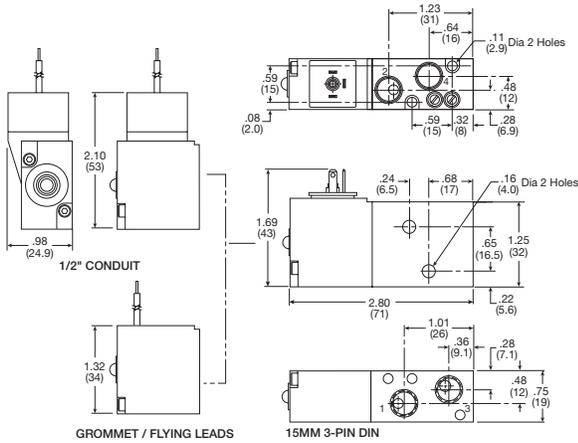
Inches (mm)  
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

**XM 4-way Inline**



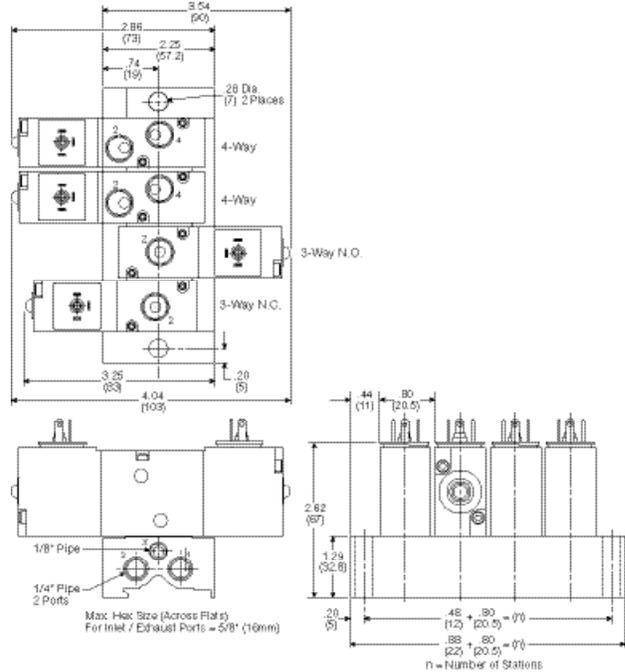
Inches (mm)  
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

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

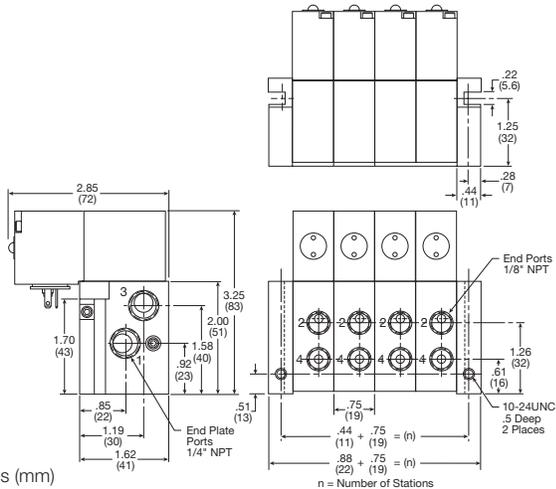


Inches (mm)  
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

**XM IEM Manifold**

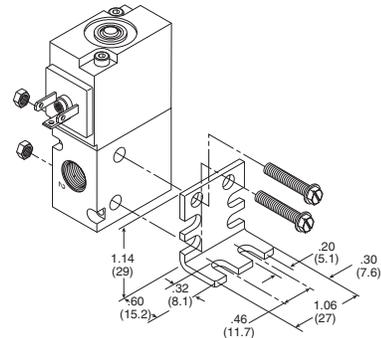


**XM IEM Subbase**



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  
 A00 Solenoid Valve

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

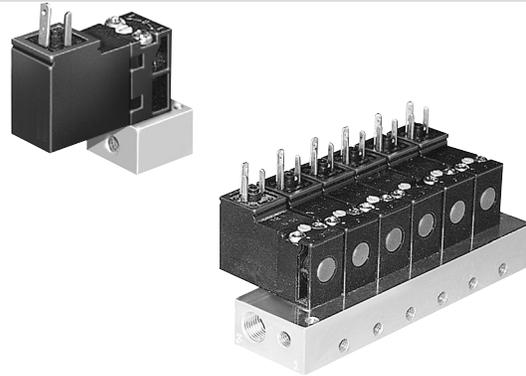
- Piloting for process control valves
  - pharmaceutical equipment
  - waste water treatment systems
  - food processing
  - chemical batching
- Industrial laundry equipment
- Paint spray & dyeing equipment
- Textile winding applications
- Vacuum and conveyor applications

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

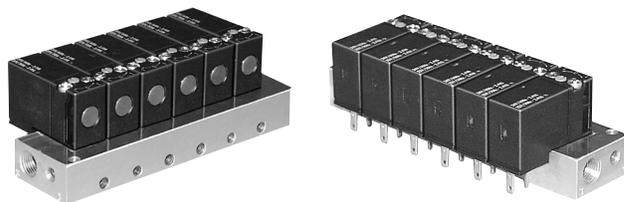
Electrical interface per:	DIN 43650 Form C (EN175301-803C) 8mm pin spacing
Pneumatic interface per:	AFNOR E 0652 110 N
Protection:	IP65 (Washdown)
Air flow:	Standard flow 0.033 Cv (33 Lpm) (1.2W) (1.6VA)
Voltage tolerance:	All voltages except 47 & 48: Rated voltage +10% / -15% options 47 & 48: Rated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



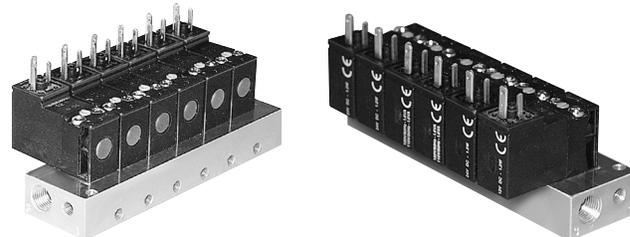
Operating information

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)

Manifold - Pins Down



Manifold - Pins Up



B

Direct Acting Valves

XM Series

15mm Solenoid Valves

A00 Solenoid Valve

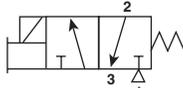


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

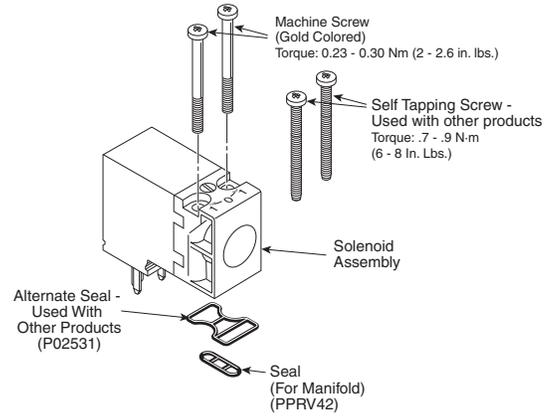
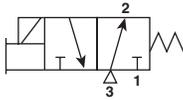
Ordering Information

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

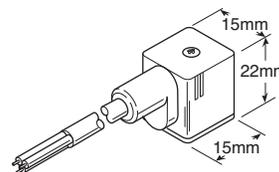
\* LED with surge suppression.

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

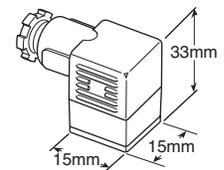
Engineering Data:

- 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

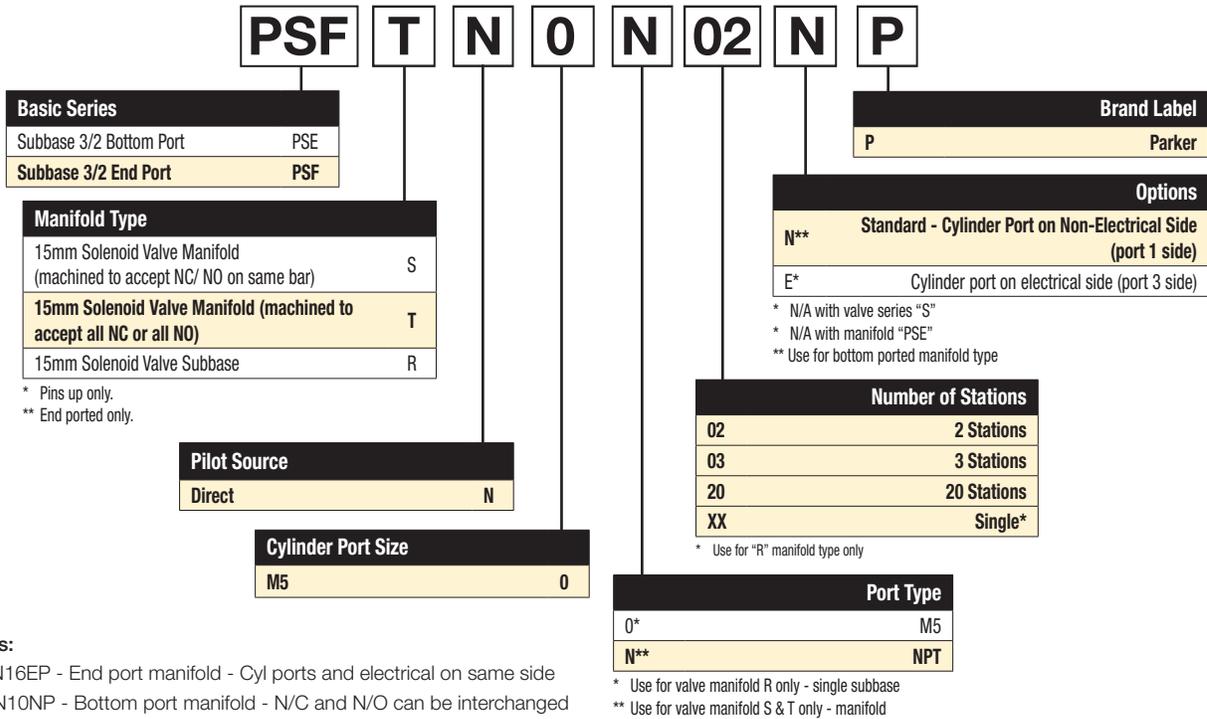


Connector only



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

**Model Number Index**

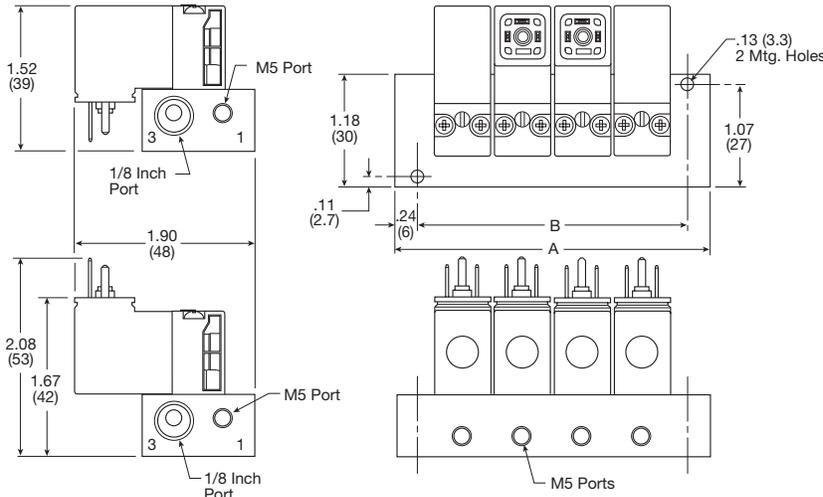


**Examples:**

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**

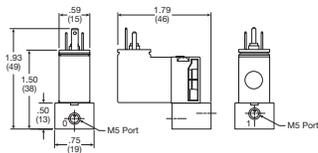
Special mounting considerations must be made for connector assembly clearance when mounting solenoid valves with pins down.



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**

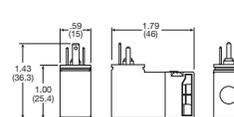
Pins up only.



Most popular.

**15mm Solenoid Dimensions**

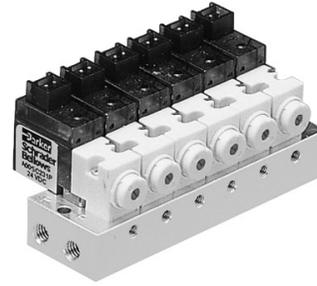
Pins up only.



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

## ADEX Solenoid Valve

ADEX A00 Valve is miniature low power direct acting 3-way solenoid valve. A00 can be used in piloting or low flow vacuum applications.



**Features**

- Fast response < 10ms

**Ports**

- A00: M3 – .01 Cv

**Mounting**

- Subbase mount

**Solenoids**

- 0.6 W
- 12VDC and 24VDC
- LED and surge suppression

### Operating information

Maximum operating pressure\*:

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	
	PSIG	Bar
<b>3-way</b> A00 Series	Vacuum	

\* When using vacuum and pressure on ports 1 & 3 – 85 PSIG (586 kPa) NC; 58 PSIG (400 kPa) NO.

**B**

Direct Acting Valves

XM Series

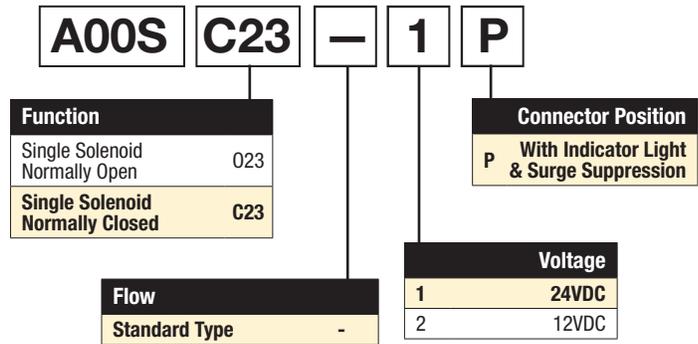
15mm Solenoid Valves

A00 Solenoid Valve

**A00 Valve Only – Single Solenoid, 3-way, 2-position\***



**A00SC23-1P Shown**  
 \* Screwdriver-Operated, Locking Manual Override (LMOR).



**A00 Valve Subbase, M3 ports**



Valve type	All Ports	Part number
A00	M3	<b>A00S-B-M3</b>

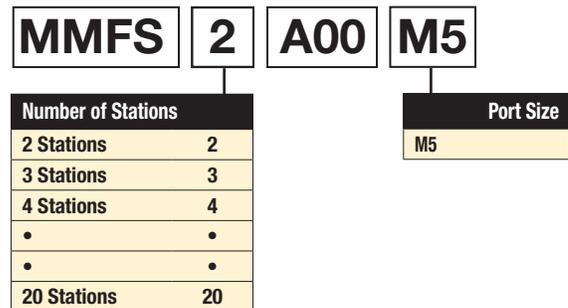
Mounting screws and gaskets included with valve.

**A00 Valve Manifold\*, M5 ports**



**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.



**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>
		3 meter	<b>A05P-DC-CL30</b>

DC Voltage: Positive "+" (Red Wire)  
 Negative "-" (Black Wire)

**Exhaust Mufflers**



Pipe Thread	Part Number
M5	<b>P6M-PAC5</b>

P6M - Plastic; EM - Sintered Bronze

**Replacement Base Gasket Kits**



**A00S-SG**

Size	Type	Gasket & Screw Kit
A00	Subbase	<b>A00S-SG</b>

These are spare parts, mounting screws and gaskets included with valves.

Most popular.



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

**Flow Rating (Cv)**

Size	Port Size	Mounting Style	ANSI / (NFPA)
			2-Position
A00	M3	Subbase	.010

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

**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
	DC	W	
			0.6

**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.

**B**

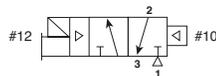
Direct Acting Valves

XM Series

15mm Solenoid Valves

A00 Solenoid Valve

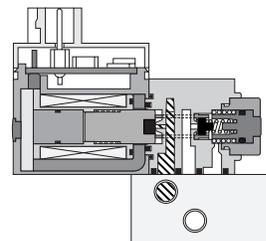
**Single Solenoid 3-Way, 2-Position NC**



**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

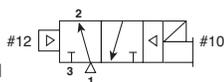
† When both vacuum and compressed air are required, maximum pressure is 85 PSIG (586 kPa).



**A00S Single Solenoid Normally Closed (NC)**

Pressure Exhaust

**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.

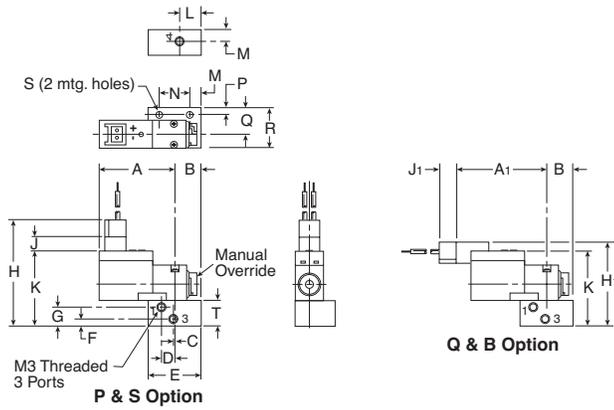
† When both vacuum and compressed air are required, maximum pressure is 58 PSIG (400 kPa).

**Caution:** Normally Open and Normally Closed 3-Way valve cannot be mixed on the same manifold.



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

**A00 Subbase**

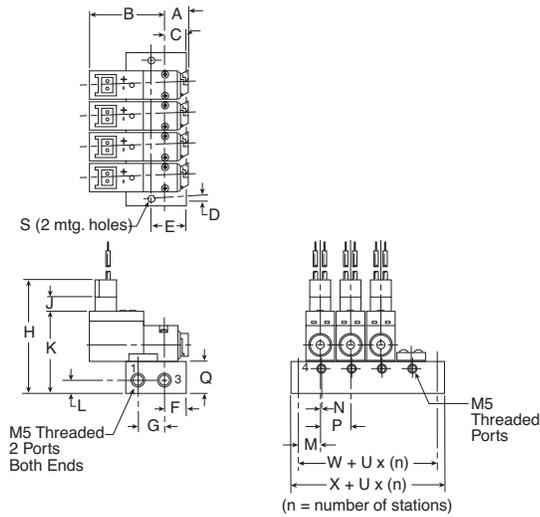


**A00 - Subbase**

<b>A</b>	<b>A1</b>	<b>B</b>	<b>C</b>	<b>D</b>
1.00 (25)	1.18 (30)	.41 (11)	.015 (.4)	.17 (4)
<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>H1</b>
.79 (20)	.12 (3)	.28 (7)	1.54 (39)	1.38 (34)
<b>J</b>	<b>J1</b>	<b>K</b>	<b>L</b>	<b>M</b>
.24 (6)	.20 (5)	1.11 (28)	.32 (8)	.18 (5)
<b>N</b>	<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>
.47 (12)	.10 (3)	.39 (10)	.59 (15)	.106 (2.7)
<b>T</b>				
.38 (10)				

Inches (mm)

**A00 Manifold**



**A00 - Manifold**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
.36 (9)	1.00 (25)	.31 (8)	.10 (3)	.51 (13)
<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>
.31 (8)	.39 (10)	1.63 (42)	.20 (5)	1.22 (31)
<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>	<b>Q</b>
.20 (5)	.33 (9)	.02 (.6)	.41 (10.5)	.47 (12)
<b>S</b>	<b>U</b>	<b>X</b>	<b>W</b>	
.125 (3.2)	.41 (10.5)	.45 (11.5)	.26 (6.5)	

Inches (mm)

**B**

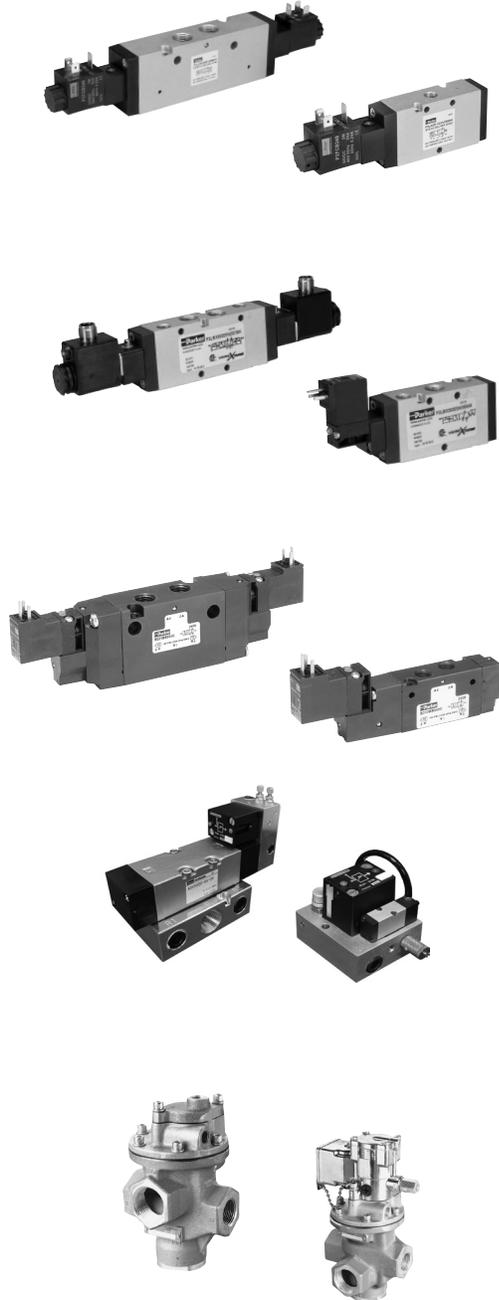
Direct Acting Valves

XM Series

15mm Solenoid Valves

A00 Solenoid Valve

**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-C63
Accessories	C64-C66
Technical Data	C67-C69
Dimensional Data	C70-C73

**Air Saver Series**

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

**N Series**

Features	C81
Common Part Numbers / Ordering Information	C82-C85
Technical Data	C86-C91
Dimensional Data	C92-C99

**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

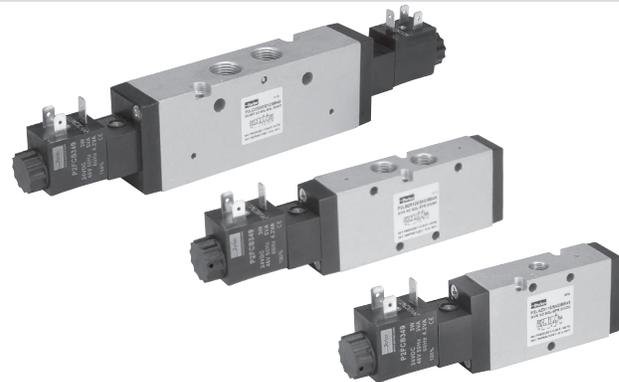
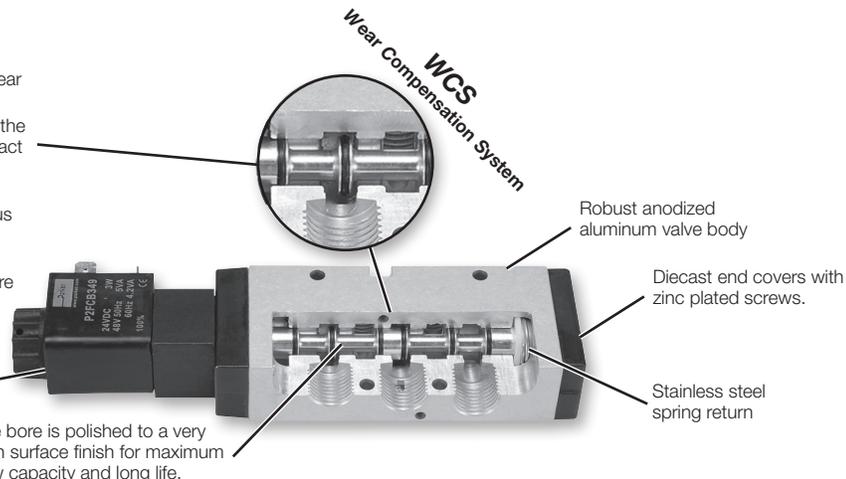
### Features

#### 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.

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air-Saver Unit

"N" Series

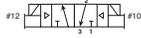
**3/2 - 2-Position Single Solenoid, Non-locking Manual Override**



P2LAZ Shown

Port size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	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>

**3/2 - 2-Position Double Solenoid, 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	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>

**5/2 - 2-Position Single Solenoid, 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	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>

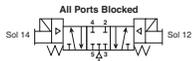
**5/2 - 2-Position Double Solenoid, Non-locking Manual Override**



P2LAZ Shown

Port Size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	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>

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



P2LAZ Shown

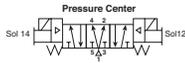
Port Size	Cv	Response Time (msec)	Weight lb (kg)	Voltage	Part Number (NPT)	Part Number (BSPP)
1/8	0.6	18 / 40	0.57 (0.26)	24VDC	<b>P2LAZ691EENDBB49</b>	<b>P2LAZ611EENDBB49</b>
				120VAC	<b>P2LAZ691EENDBB53</b>	<b>P2LAZ611EENDBB53</b>
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	<b>P2LBZ692EENDBB49</b>	<b>P2LBZ612EENDBB49</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>

**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)

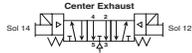
5/3 - 3-Position, Pressure Center, Non-locking Manual Override



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
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**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

**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

**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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**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

**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

**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

**12 End Operator**

EE	Double Solenoid
ES*	Single Solenoid, Spring Return

\* Not available with 3-position valves.

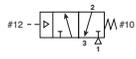
Most popular.



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

Part Numbers / Ordering Information

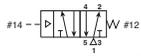
Single Remote Air Pilot, 3-way, 2-position



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>

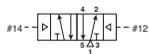
Single Remote Air Pilot, 4-way, 2-position



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.

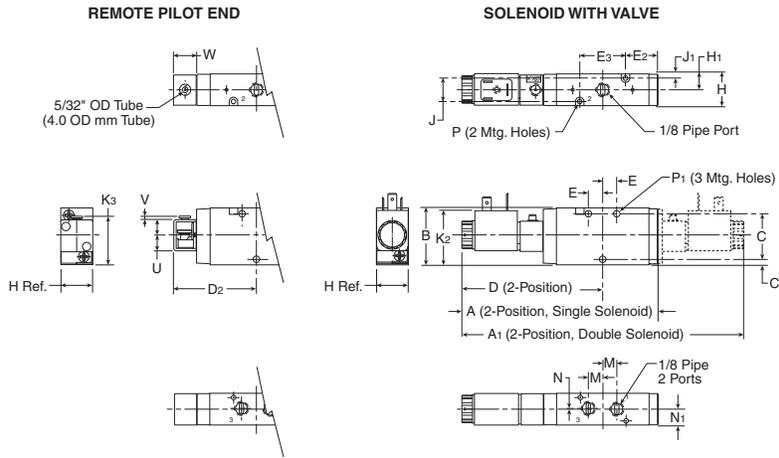
Replacement Parts

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**

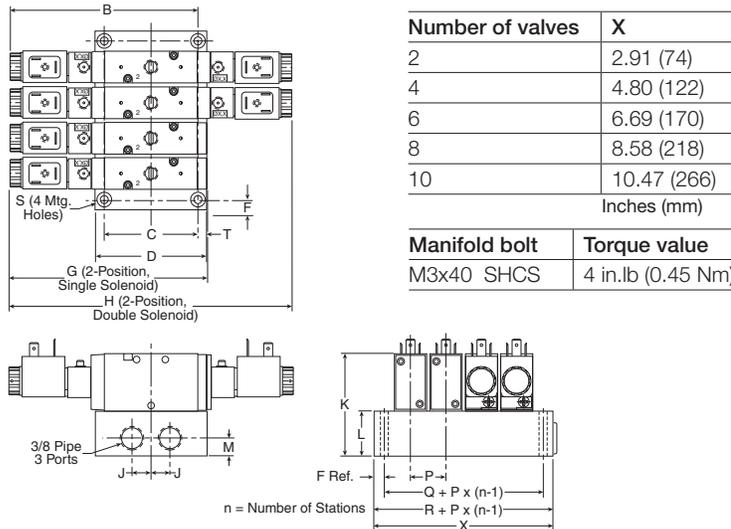


**P2LAZ 3/2  
 Solenoid & Remote Air Pilot**

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**

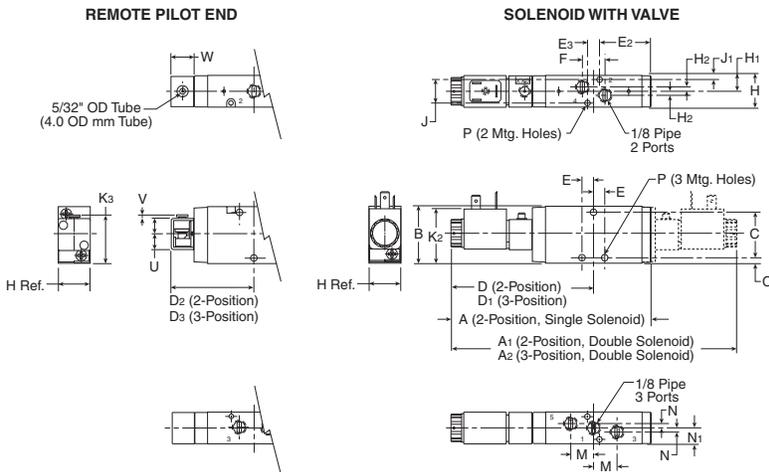


**P2LAZ 3/2  
 IEM Aluminum Bar Manifold**

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**

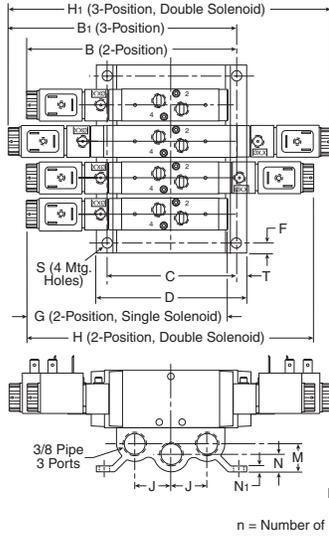
A	A1	A2	B	C	C1
5.47 (139)	7.76 (197)	8.70 (221)	1.57 (40)	1.30 (33)	.14 (3.5)
D	D1	D2	D3	E	E2
3.88 (98.5)	4.35 (110.5)	2.33 (59.3)	2.80 (71)	.31 (8)	1.86 (47.3)
E3	F	H	H1	H2	J
.33 (8.5)	.63 (16)	.87 (22)	.43 (11)	.12 (3)	.63 (16)
J1	K2	K3	M	N	N1
.12 (3)	1.50 (38)	1.31 (33.2)	.63 (16)	.12 (3)	.43 (11)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

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

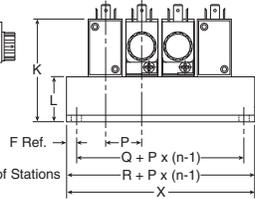


Number of valves	X
2	3.07 (78)
4	4.96 (126)
6	6.85 (174)
8	8.74 (222)
10	10.63 (270)
Inches (mm)	
Manifold bolt	Torque value
M4x45 Screw MRX	9 in.lb (0.75 Nm)

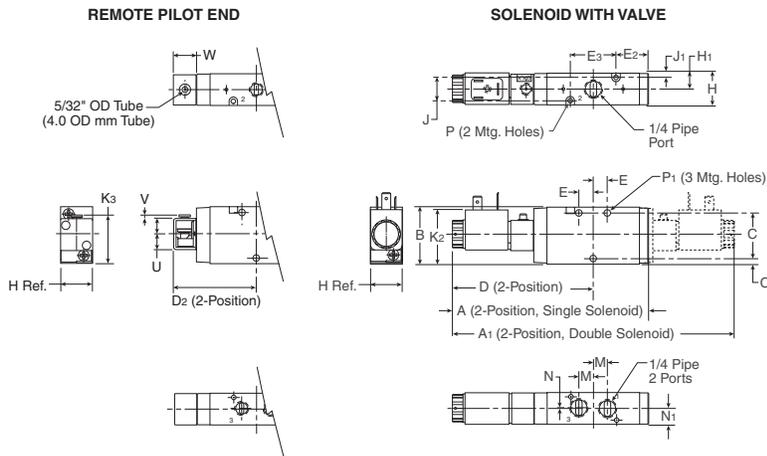
**P2LAZ 5/2 & 5/3  
 IEM Aluminum Bar Manifold**

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)				

n = Number of Stations



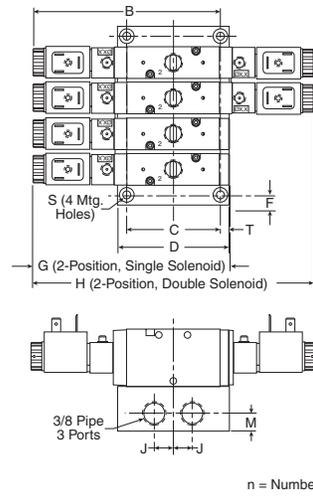
**P2LBZ 3/2 Single & Double Operators – Solenoid & Remote Air Pilot**



**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**

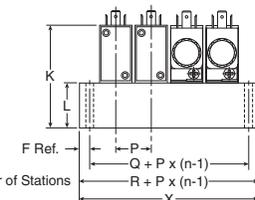


Number of valves	X
2	2.91 (74)
4	4.80 (122)
6	6.69 (170)
8	8.58 (218)
10	10.47 (266)
Inches (mm)	
Manifold bolt	Torque value
M3x40 SCHS	4 in.lb (0.45 Nm)

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

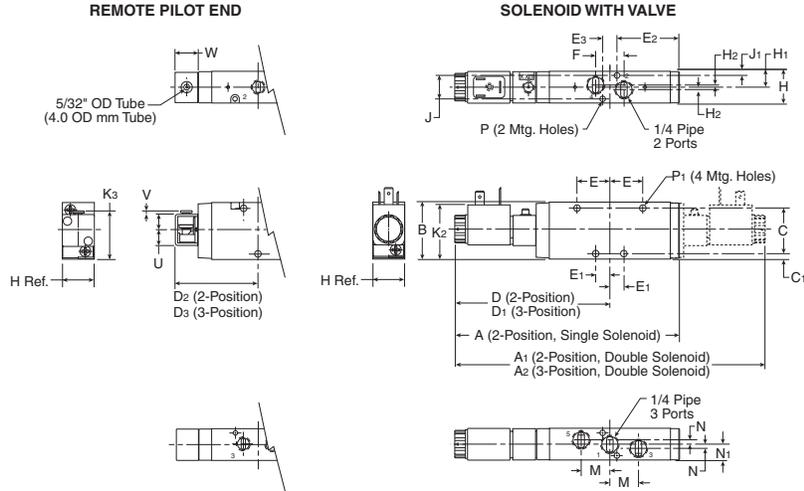
B	C	D	F	G
5.06 (128.5)	2.44 (62)	2.99 (76)	.28 (7)	5.35 (136)
H	J	K	L	M
7.68 (195)	.51 (13)	2.78 (70.5)	1.20 (30.5)	.47 (12)
P	Q	R	S	T
.94 (24)	1.42 (36)	1.97 (50)	∅.22 ∅ (5.5)	.88 (7)
Inches (mm)				

n = Number of Stations



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**

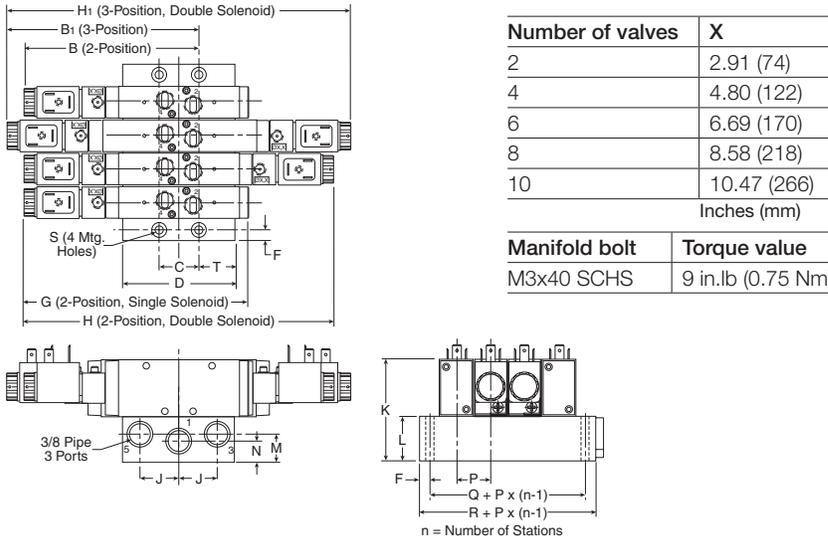


**P2LBZ 5/2 & 5/3 Solenoid & Remote Air Pilot**

<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**



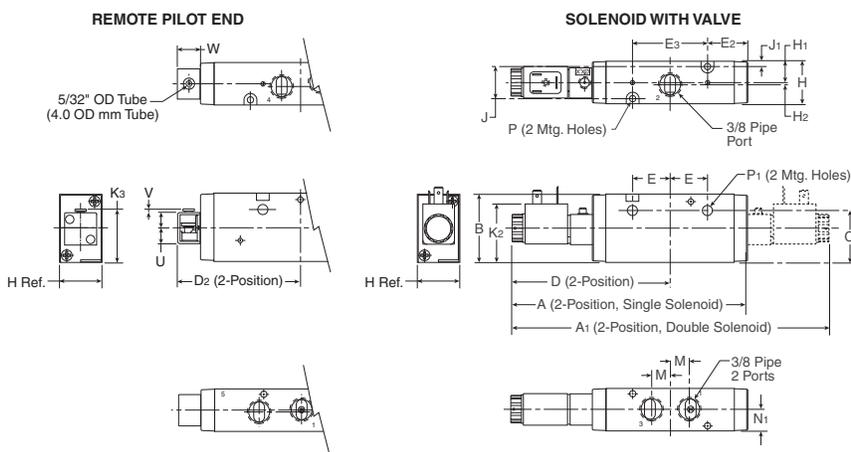
<b>Number of valves</b>	<b>X</b>
2	2.91 (74)
4	4.80 (122)
6	6.69 (170)
8	8.58 (218)
10	10.47 (266)
Inches (mm)	
<b>Manifold bolt</b>	<b>Torque value</b>
M3x40 SCHS	9 in.lb (0.75 Nm)

**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)	1.42 (36)
<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)	

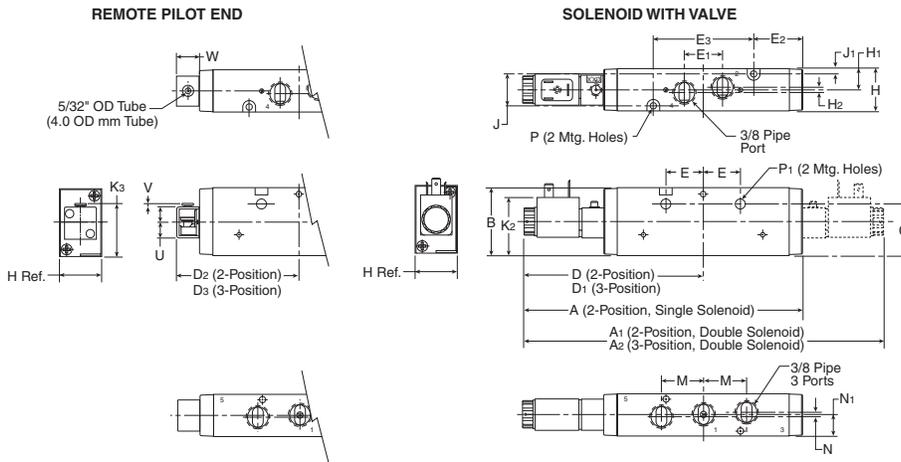
Inches (mm)

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

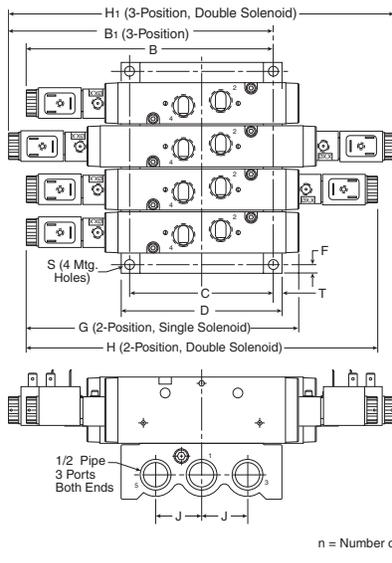


**P2LBZ 5/2 & 5/3  
 Solenoid & Remote Air Pilot**

<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)

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

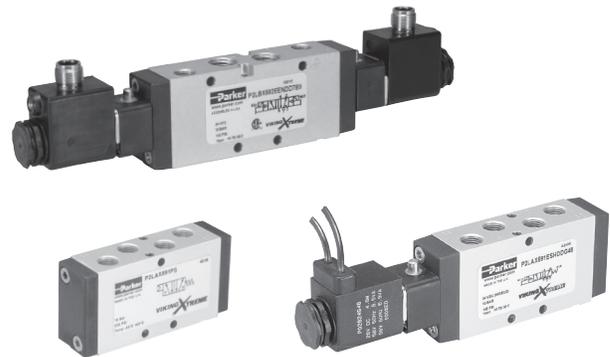
- IP65 Rated, RoHS, CE
- cCSAus Approved to 145 PSIG (10 bar)
- Canada Registration Number available (CRN)
- ATEX option available

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)

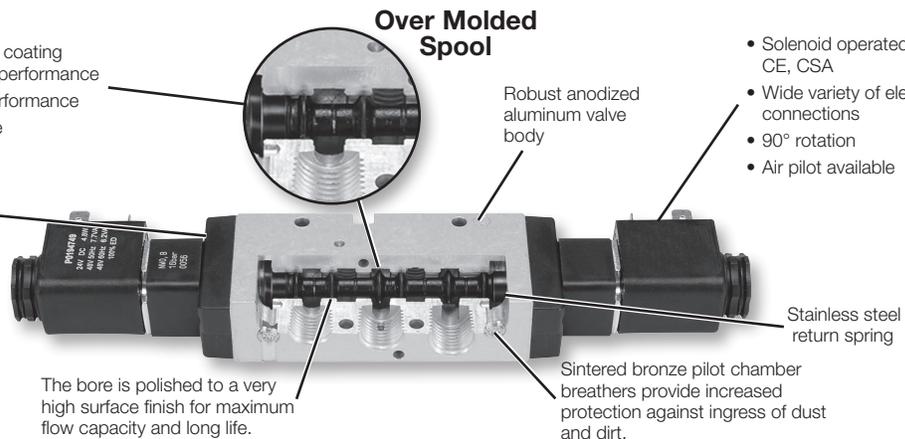
Valve Type - Internal Pilot	P2LAX	P2LBX	P2LCX	P2LDX
Single solenoid - spring return	46 (3.2)	51 (3.5)	51 (3.5)	51 (3.5)
Single remote pilot - spring return	46 (3.2)	51 (3.5)	51 (3.5)	51 (3.5)
Double solenoid - 2-position	22 (1.5)	22 (1.5)	22 (1.5)	22 (1.5)
Double remote pilot - 2-position	22 (1.5)	22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



- Solenoid operated, IP65, RoHS, CE, CSA
- Wide variety of electrical connections
- 90° rotation
- Air pilot available



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	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	<b>P2LAX391ESNDDG49</b>
							120VAC	<b>P2LAX391ESNDDG53</b>
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	<b>P2LBX392ESNDDG49</b>
							120VAC	<b>P2LBX392ESNDDG53</b>
	3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC	<b>P2LCX393ESNDDG49</b>	
120VAC						<b>P2LCX393ESNDDG53</b>		
1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC	<b>P2LDX394ESNDDG49</b>		
120VAC	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	<b>P2LAX391ESNDD7B9</b>	
						120VAC	<b>P2LAX391ESNDD7B9</b>	
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	<b>P2LBX392ESNDD7B9</b>	
						120VAC	<b>P2LBX392ESNDD7B9</b>	
3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC	<b>P2LCX393ESNDD7B9</b>		
					120VAC	<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	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>		

**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).

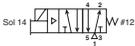
 Most popular.



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  
 "N" Series

**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	<b>P2LAX591ESNDDDB49</b> <b>P2LAX591ESNDDDB53</b>
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	<b>P2LBX592ESNDDDB49</b> <b>P2LBX592ESNDDDB53</b>
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC 120VAC	<b>P2LCX593ESNDDDB49</b> <b>P2LCX593ESNDDDB53</b>
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC 120VAC	<b>P2LDX594ESNDDDB49</b> <b>P2LDX594ESNDDDB53</b>
 P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC 120VAC	<b>P2LAX591ESNDDG49</b> <b>P2LAX591ESNDDG53</b>
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	<b>P2LBX592ESNDDG49</b> <b>P2LBX592ESNDDG53</b>
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC 120VAC	<b>P2LCX593ESNDDG49</b> <b>P2LCX593ESNDDG53</b>
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC 120VAC	<b>P2LDX594ESNDDG49</b> <b>P2LDX594ESNDDG53</b>
 P2LAX M12 Coil Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC	<b>P2LAX591ESNDD7B9</b>
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	<b>P2LBX592ESNDD7B9</b>
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC	<b>P2LCX593ESNDD7B9</b>
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC	<b>P2LDX594ESNDD7B9</b>
 P2LAX 15mm DIN Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC 120VAC	<b>P2LAX591ESNXB549</b> <b>P2LAX591ESNXB553</b>
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	<b>P2LBX592ESNXB549</b> <b>P2LBX592ESNXB553</b>
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC 120VAC	<b>P2LCX593ESNXB549</b> <b>P2LCX593ESNXB553</b>
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC 120VAC	<b>P2LDX594ESNXB549</b> <b>P2LDX594ESNXB553</b>

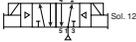
**Notes:** Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.  
 Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

 Most popular.



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

**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	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	<b>P2LBX592EENDDDB49</b>	
						120VAC	<b>P2LBX592EENDDDB53</b>	
	3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	<b>P2LCX593EENDDDB49</b>	
						120VAC	<b>P2LCX593EENDDDB53</b>	
	1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	<b>P2LDX594EENDDDB49</b>	
						120VAC	<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	<b>P2LBX592EENDDG49</b>
							120VAC	<b>P2LBX592EENDDG53</b>
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	<b>P2LCX593EENDDG49</b>
							120VAC	<b>P2LCX593EENDDG53</b>
1/2"		2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	<b>P2LDX594EENDDG49</b>	
						120VAC	<b>P2LDX594EENDDG53</b>	
 18" Grommet		1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC	<b>P2LAX591EENDD7B9</b>
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC	<b>P2LBX592EENDD7B9</b>
							24VDC	<b>P2LBX592EENDD7B9</b>
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	<b>P2LCX593EENDD7B9</b>
							24VDC	<b>P2LCX593EENDD7B9</b>
	1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	<b>P2LDX594EENDD7B9</b>	
						24VDC	<b>P2LDX594EENDD7B9</b>	
	 M12 Coil with LED	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC	<b>P2LAX591EENXB549</b>
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC	<b>P2LBX592EENXB549</b>
							120VAC	<b>P2LBX592EENXB553</b>
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	<b>P2LCX593EENXB549</b>
							120VAC	<b>P2LCX593EENXB553</b>
1/2"		2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	<b>P2LDX594EENXB549</b>	
						120VAC	<b>P2LDX594EENXB553</b>	
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	<b>P2LBX592EENXB549</b>
							120VAC	<b>P2LBX592EENXB553</b>
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	<b>P2LCX593EENXB549</b>
							120VAC	<b>P2LCX593EENXB553</b>
	1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	<b>P2LDX594EENXB549</b>	
						120VAC	<b>P2LDX594EENXB553</b>	
	 15mm DIN	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	<b>P2LBX592EENXB549</b>
							120VAC	<b>P2LBX592EENXB553</b>
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	<b>P2LCX593EENXB549</b>
							120VAC	<b>P2LCX593EENXB553</b>
1/2"		2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	<b>P2LDX594EENXB549</b>	
						120VAC	<b>P2LDX594EENXB553</b>	
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	<b>P2LBX592EENXB549</b>
							120VAC	<b>P2LBX592EENXB553</b>
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	<b>P2LCX593EENXB549</b>
							120VAC	<b>P2LCX593EENXB553</b>
	1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	<b>P2LDX594EENXB549</b>	
						120VAC	<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).

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air-Saver Unit

"N" Series

 Most popular.



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		
Solenoid	Port Size (NPT)	Cv	Valve Type	Response Time (msec)	Weight lb (kg)	Voltage	Sol 14		Sol 12	
							All Ports Blocked	Center Exhaust	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>P2LAX891EENDDDB49</b>	<b>P2LAX691EENDDDB53</b>	<b>P2LAX891EENDDDB53</b>
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC / 120VAC	<b>P2LBX692EENDDDB49</b>	<b>P2LBX892EENDDDB49</b>	<b>P2LBX692EENDDDB53</b>	<b>P2LBX892EENDDDB53</b>
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC / 120VAC	<b>P2LCX693EENDDDB49</b>	<b>P2LCX893EENDDDB49</b>	<b>P2LCX693EENDDDB53</b>	<b>P2LCX893EENDDDB53</b>
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC / 120VAC	<b>P2LDX694EENDDDB49</b>	<b>P2LDX894EENDDDB49</b>	<b>P2LDX694EENDDDB53</b>	<b>P2LDX894EENDDDB53</b>
 18" Grommet P2LBX 18" Grommet Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC / 120VAC	<b>P2LAX691EENDDDG49</b>	<b>P2LAX891EENDDDG49</b>	<b>P2LAX691EENDDDG53</b>	<b>P2LAX891EENDDDG53</b>
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC / 120VAC	<b>P2LBX692EENDDDG49</b>	<b>P2LBX892EENDDDG49</b>	<b>P2LBX692EENDDDG53</b>	<b>P2LBX892EENDDDG53</b>
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC / 120VAC	<b>P2LCX693EENDDDG49</b>	<b>P2LCX893EENDDDG49</b>	<b>P2LCX693EENDDDG53</b>	<b>P2LCX893EENDDDG53</b>
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC / 120VAC	<b>P2LDX694EENDDDG49</b>	<b>P2LDX894EENDDDG49</b>	<b>P2LDX694EENDDDG53</b>	<b>P2LDX894EENDDDG53</b>
 M12 Coil with LED P2LBX M12 Coil Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC / 120VAC	<b>P2LAX691EENDD7B9</b>	<b>P2LAX891EENDD7B9</b>	<b>P2LAX691EENDD7B9</b>	<b>P2LAX891EENDD7B9</b>
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC / 120VAC	<b>P2LBX692EENDD7B9</b>	<b>P2LBX892EENDD7B9</b>	<b>P2LBX692EENDD7B9</b>	<b>P2LBX892EENDD7B9</b>
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC / 120VAC	<b>P2LCX693EENDD7B9</b>	<b>P2LCX893EENDD7B9</b>	<b>P2LCX693EENDD7B9</b>	<b>P2LCX893EENDD7B9</b>
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC / 120VAC	<b>P2LDX694EENDD7B9</b>	<b>P2LDX894EENDD7B9</b>	<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>P2LAX891EENXB549</b>	<b>P2LAX691EENXB553</b>	<b>P2LAX891EENXB553</b>
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC / 120VAC	<b>P2LBX692EENXB549</b>	<b>P2LBX892EENXB549</b>	<b>P2LBX692EENXB553</b>	<b>P2LBX892EENXB553</b>
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC / 120VAC	<b>P2LCX693EENXB549</b>	<b>P2LCX893EENXB549</b>	<b>P2LCX693EENXB553</b>	<b>P2LCX893EENXB553</b>
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC / 120VAC	<b>P2LDX694EENXB549</b>	<b>P2LDX894EENXB549</b>	<b>P2LDX694EENXB553</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.



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

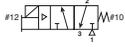
B7, B8 Series

Air Saver Unit

"N" Series

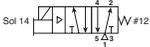
Common Part Numbers

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	P2LAX391ESHDDDB47
						24VDC	P2LAX391ESHDDDB48
	1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	P2LBX392ESHDDDB47
						24VDC	P2LBX392ESHDDDB48
	3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	P2LCX393ESHDDDB47
						24VDC	P2LCX393ESHDDDB48
	1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	P2LDX394ESHDDDB47
						24VDC	P2LDX394ESHDDDB48
 P2LBX 18" Grommet Shown	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	P2LAX391ESHDDG47
						24VDC	P2LAX391ESHDDG48
	1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	P2LBX392ESHDDG47
						24VDC	P2LBX392ESHDDG48
	3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	P2LCX393ESHDDG47
						24VDC	P2LCX393ESHDDG48
	1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	P2LDX394ESHDDG47
						24VDC	P2LDX394ESHDDG48

**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	P2LAX591ESHDDDB47
						24VDC	P2LAX591ESHDDDB48
	1/4"	1.3	P2LBX	20 / 55	0.84 (0.38)	12VDC	P2LBX592ESHDDDB47
						24VDC	P2LBX592ESHDDDB48
	3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	P2LCX593ESHDDDB47
						24VDC	P2LCX593ESHDDDB48
	1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	P2LDX594ESHDDDB47
						24VDC	P2LDX594ESHDDDB48
 P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	P2LAX591ESHDDG47
						24VDC	P2LAX591ESHDDG48
	1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	P2LBX592ESHDDG47
						24VDC	P2LBX592ESHDDG48
	3/8"	2.5	P2LCX	28 / 85	1.01 (0.46)	12VDC	P2LCX593ESHDDG47
						24VDC	P2LCX593ESHDDG48
	1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	P2LDX594ESHDDG47
						24VDC	P2LDX594ESHDDG48

**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.



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

**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>
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	12VDC	<b>P2LBX692EEHDDDB47</b>	<b>P2LBX892EEHDDDB47</b>
							24VDC	<b>P2LBX692EEHDDDB48</b>
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	12VDC	<b>P2LCX693EEHDDDB47</b>	<b>P2LCX893EEHDDDB47</b>
							24VDC	<b>P2LCX693EEHDDDB48</b>
1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	12VDC	<b>P2LDX694EEHDDDB47</b>	<b>P2LDX894EEHDDDB47</b>	
						24VDC	<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>
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	12VDC	<b>P2LBX692EEHDDG47</b>	<b>P2LBX892EEHDDG47</b>
							24VDC	<b>P2LBX692EEHDDG48</b>
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	12VDC	<b>P2LCX693EEHDDG47</b>	<b>P2LCX893EEHDDG47</b>
							24VDC	<b>P2LCX693EEHDDG48</b>
1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	12VDC	<b>P2LDX694EEHDDG47</b>	<b>P2LDX894EEHDDG47</b>	
						24VDC	<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.



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

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.

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.

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".

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)

Most popular.



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

Part Numbers / Ordering Information

Remote Pilot Valves

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



P2LAX Shown

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	P2LAX391PS
1/4"	1.3	25 / 65	0.68 (0.31)	P2LBX	P2LBX392PS
3/8"	2.5	25 / 65	0.88 (0.40)	P2LCX	P2LCX393PS
1/2"	2.7	25 / 65	0.88 (0.40)	P2LDX	P2LDX394PS

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



P2LAX Shown

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	P2LAX591PS
1/4"	1.3	20 / 55	0.68 (0.31)	P2LBX	P2LBX592PS
3/8"	2.5	25 / 85	0.90 (0.41)	P2LCX	P2LCX593PS
1/2"	2.7	25 / 85	0.90 (0.41)	P2LDX	P2LDX594PS

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



P2LAX Shown

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	P2LAX591PP
1/4"	1.3	13 / 13	0.68 (0.31)	P2LBX	P2LBX592PP
3/8"	2.5	18 / 18	0.90 (0.41)	P2LCX	P2LCX593PP
1/2"	2.7	18 / 18	0.90 (0.41)	P2LDX	P2LDX594PP

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



P2LAX Shown

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	P2LAX691PP	P2LAX891PP
1/4"	0.9	25 / 65	0.73 (0.33)	P2LBX	P2LBX692PP	P2LBX892PP
3/8"	1.8	30 / 90	0.93 (0.42)	P2LCX	P2LCX693PP	P2LCX893PP
1/2"	1.9	30 / 90	0.93 (0.42)	P2LDX	P2LDX694PP	P2LDX894PP

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

**P2L A X 5 91 PS**

**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)

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  
 "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  
 "N"  
 Series

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

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

Voltage	
49	24VDC

Enclosures	
M	ATEX 8-22T EExm T4 135°C

Valve Type / Function		
<b>Internal Pilot Supply To Solenoid</b>		
2-Position Valve		5
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>		
2-Position Valve		N
3-Position Valve APB		P
3-Position Valve PC		Q
3-Position Valve CE		R

Overrides	
D	Extended Non-Locking

Solenoid Pilot Type	
D	Vented Pilot Exhaust
N	Tapped Pilot Exhaust (M5)

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

\* Not available with 3-position valves.

Main Port Thread	
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.
  - Can be mounted to size A, B or C IEM Bar Manifolds.

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,

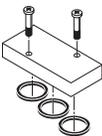
How to Order: 1. List Add-A-Fold assembly part number as line item 1

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**

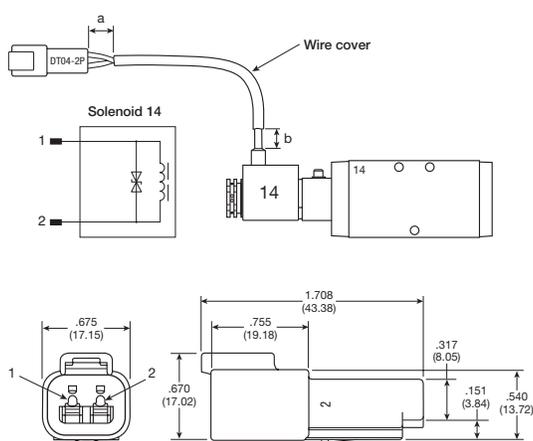
		“T” Single Solenoid Option	“V” Double Solenoid Option
Solenoid Kit		<b>P2FCT446</b>	<b>P2FCV446</b>
Connector Information	Housing material	Thermoplastic	Thermoplastic
	Grommet seal material	Silicone	Silicone
	Connector housing / seal number	DT04-2P*	DT04-4P*
	Contact material	Copper alloy	Copper alloy
	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”**



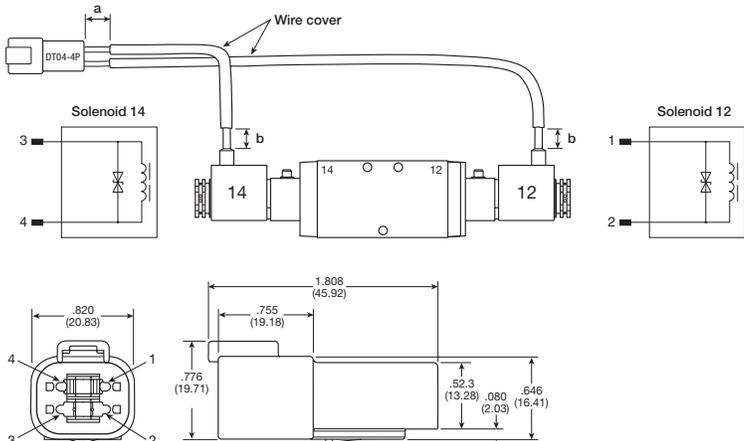
Solenoid Kit P2FCT446 shown



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



Solenoid Kit P2FCV446 shown





**Solenoid Kits**

**Solenoid Enclosures**

**P2FC B 4 49**

Type	
Solenoid Kit	C

B9 ‡	Voltage
	24 VDC w/ Surge Suppression & LED
42	24VAC
45	12VDC
46 †	12 VDC Mobile w/ surge Suppression
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.



**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

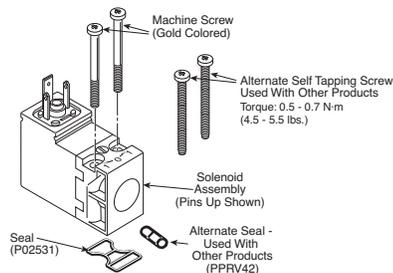


**Option H & R**  
 1/2" Conduit, 18" or 72" Leads

**Solenoid 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.

**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

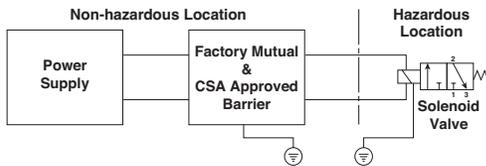
Must be connected to an FM approved Barrier.

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.

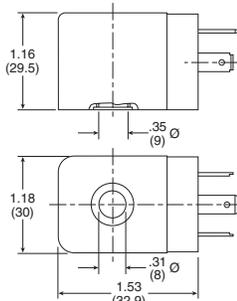
The intrinsically safe coil width (30mm) is wider than the body width of valve type A & B valves. If mounted on a manifold, the valves need to be staggered to fit and must be single solenoid valves only.



**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%

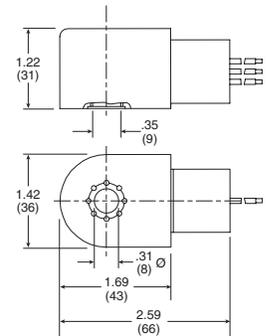
IP65 Rated (with connected conduit connector)

**Notes:**

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 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**



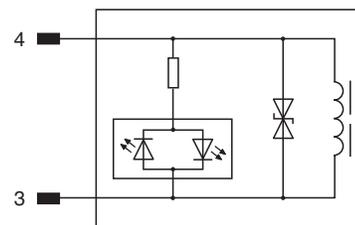
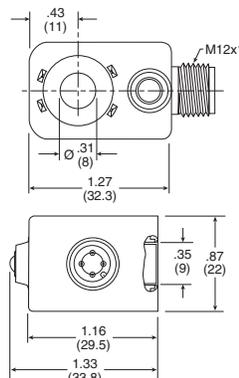
**M12, 24VDC solenoid coil (“7” option)**

Connection type: M12, metal thread, M12 x 1

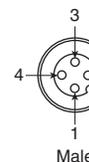
DIN EN 60947-5-2 appendix D

LED color: yellow

Bi-directional surge suppression



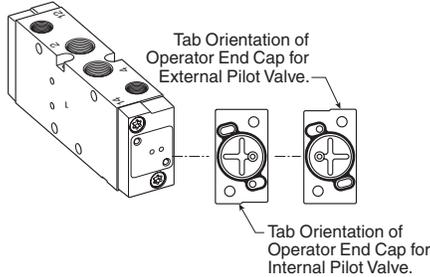
1. Not Used
2. Not Used
3. +/- (blue)
4. +/- (black)



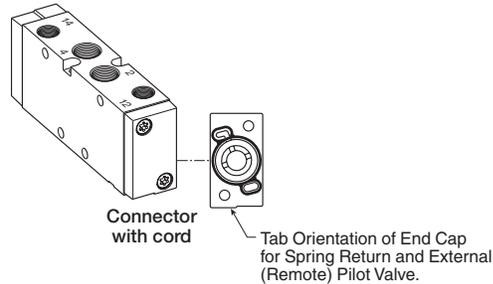
**4-Pin Female Wiring Diagram  
 (only Pins 4 & 3 are used)  
 Per ISO 20401**

**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 – 24V/60Hz, 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:**

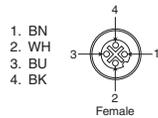
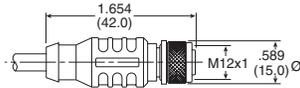
Conductors: 2 Poles Plus Ground; Cable Range (Connector Only): 6 to 8mm (0.24 to 0.31 Inch); Contact Spacing: 11mm

**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)

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%

**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 Xtreme**

**B3, B5, B6 Series**

**B7, B8 Series**

**Air Saver Unit**

**"N" Series**



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

**Exhaust Protector**

**Features**

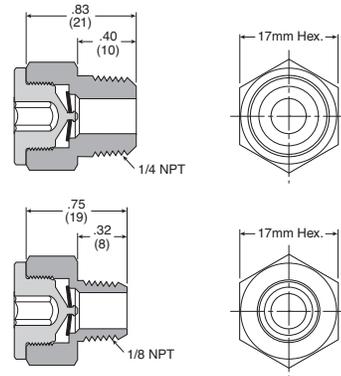
- 1/8 and 1/4 NPT male sizes
- Fitted with a brass pipe adapter and a fluorocarbon membrane
- Resistant to rust, clog, wash down and contamination

**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**

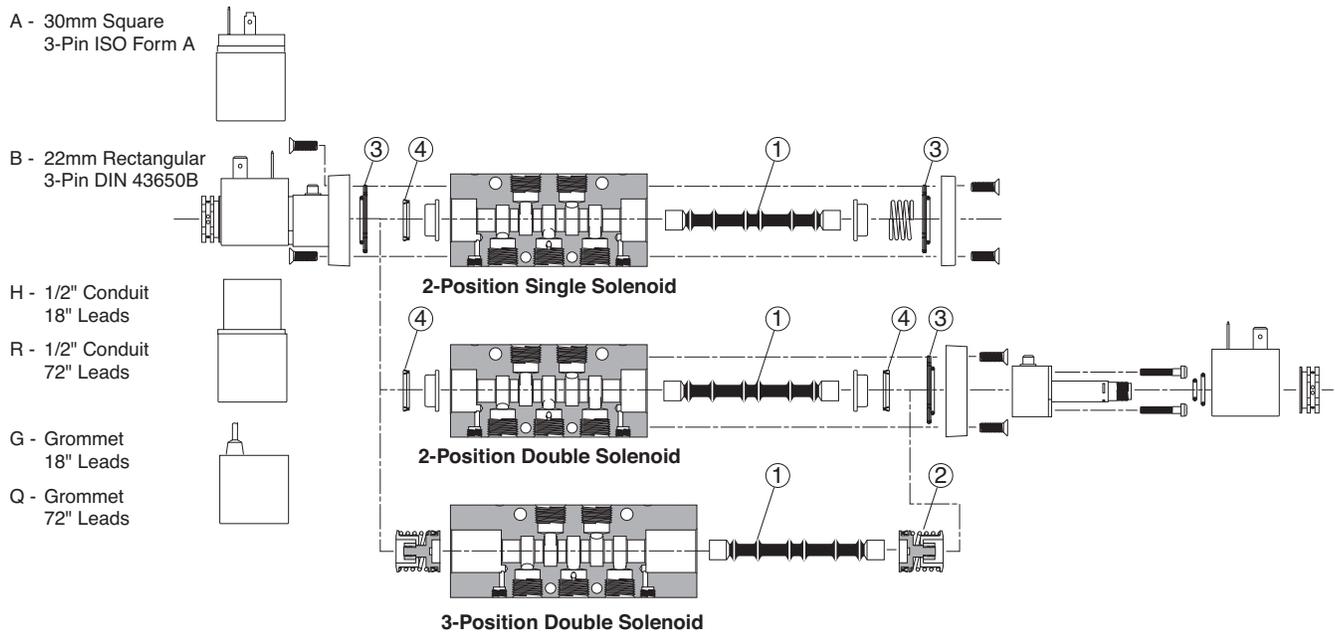
Thread Size	A (mm)	B (mm)	Part Number		
			NPT	BSPT	Metric
M5	.43 (11)	.32 (8)	-	-	<b>AS-5</b>
1/8"	1.57 (40)	.63 (16)	<b>ASN-6</b>	<b>AS-6</b>	-
1/4"	2.56 (65)	.83 (21)	<b>ASN-8</b>	<b>AS-8</b>	-
3/8"	3.35 (85)	.98 (25)	<b>ASN-10</b>	<b>AS-10</b>	-
1/2"	3.74 (95)	1.18 (30)	<b>ASN-15</b>	<b>AS-15</b>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



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

**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>P2LCXDYSK1</b>
Size C & Size D, 4-way, 2 & 3-position valves	1 (1), 3 (2), 4 (2)	<b>P2LCXDYSK1</b>

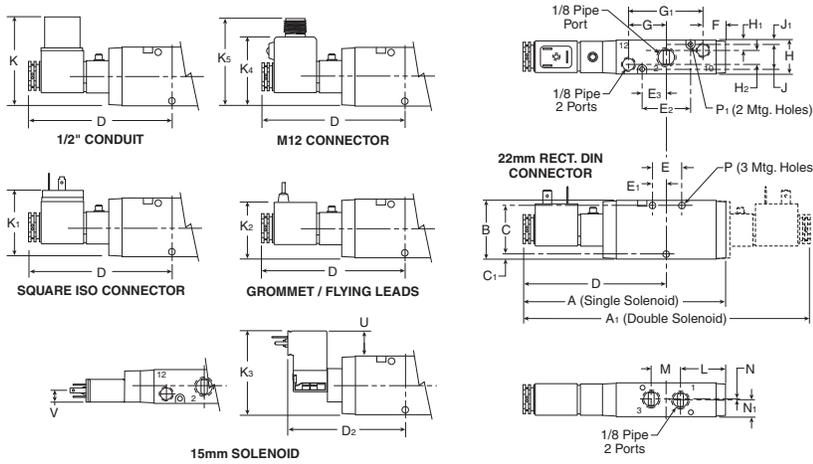


C
Inline Valves
Viking Lite
Viking Xtreme
B3, B5, B6 Series
B7, B8 Series
Air Saver Unit
"N" Series



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

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

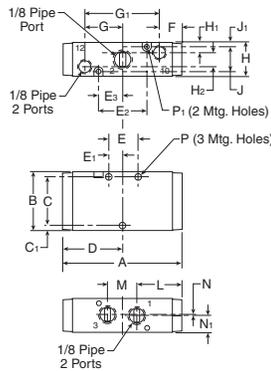


**P2LAX 3/2 (solenoid)**

<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**

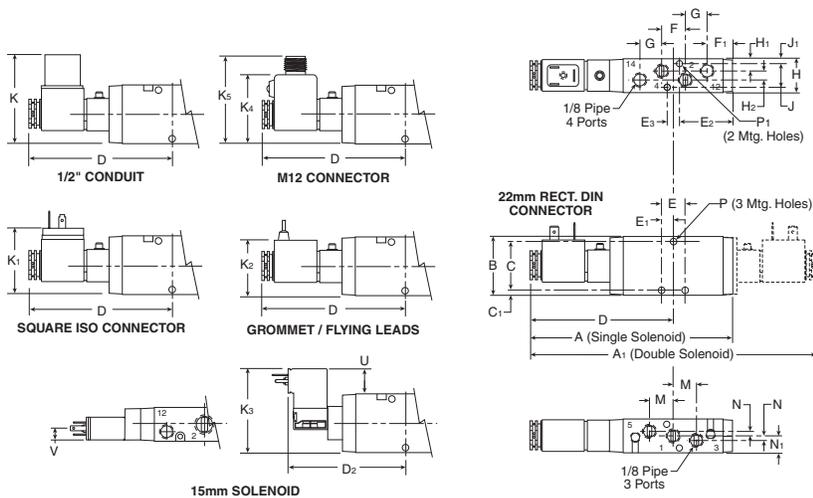


**P2LAX 3/2 (remote air pilot)**

<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)				

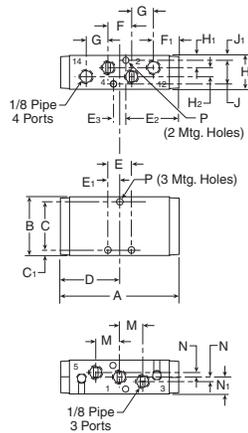
Inches (mm)

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



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

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

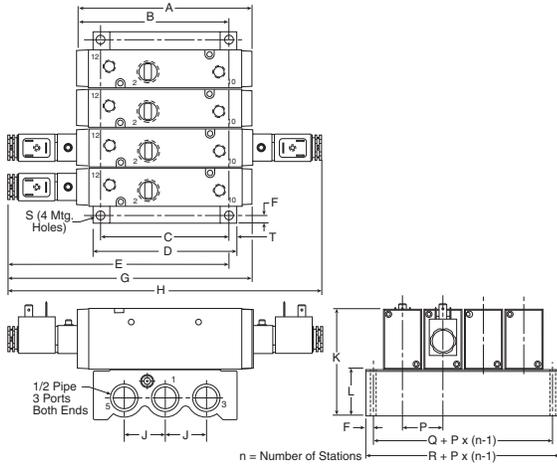


**P2LAX 5/2 & 5/3 (remote)**

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**

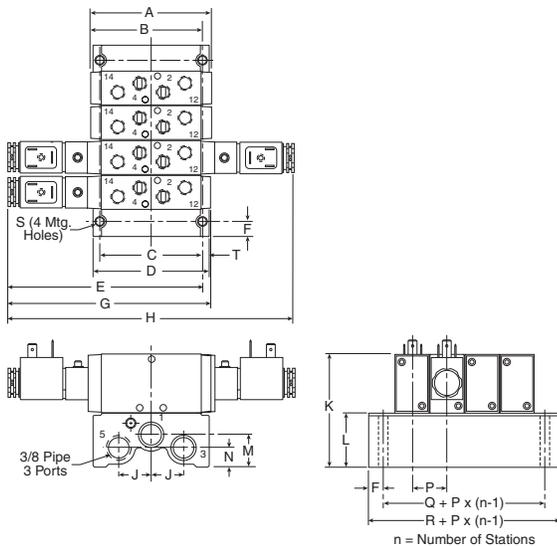


**P2LAX 3/2  
 IEM Aluminum bar manifold**

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

"N" Series

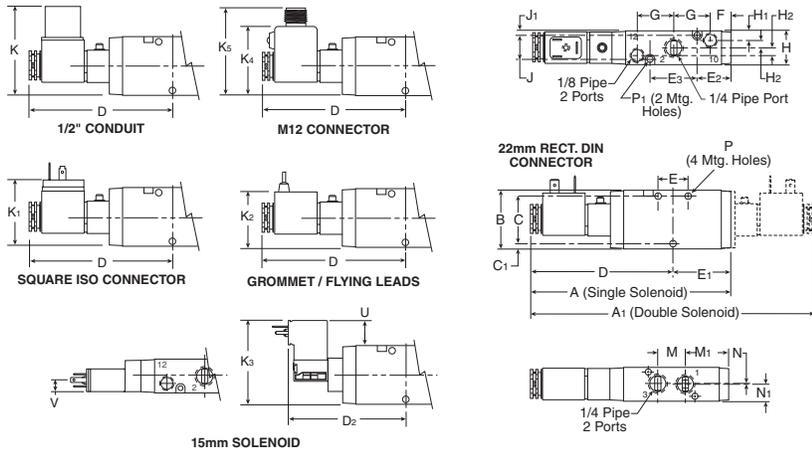


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C31

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

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

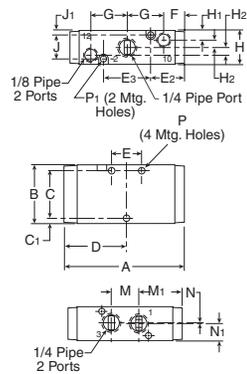


**P2LBX 3/2 (solenoid)**

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**

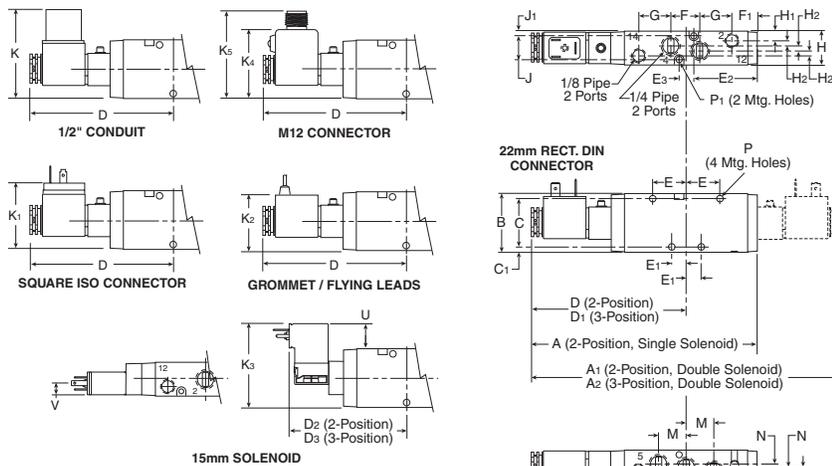


**P2LBX 3/2 (remote air pilot)**

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)	

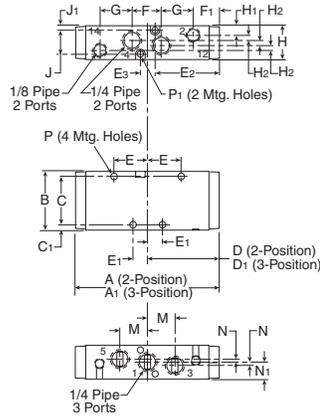
Inches (mm)

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



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

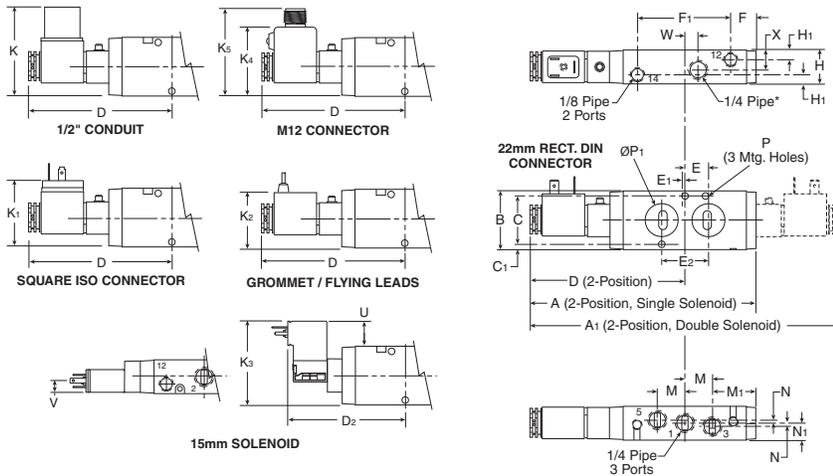


**P2LBX 5/2 & 5/3 (remote air pilot)**

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**



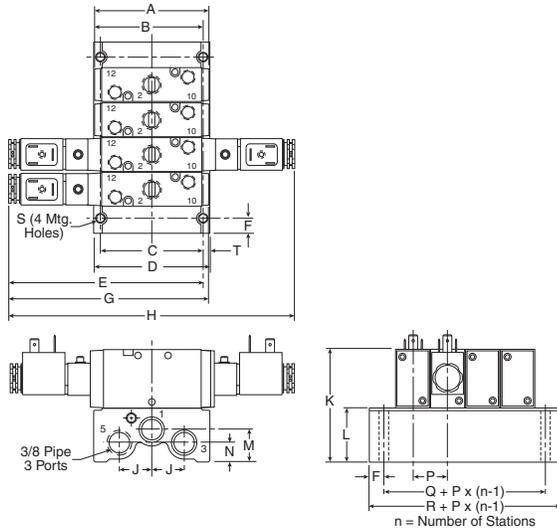
**P2LBX 5/2 (NAMUR)**

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.

**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)

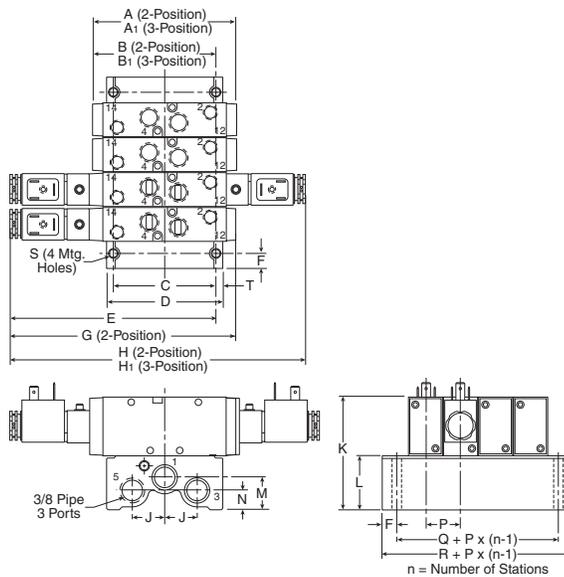
F	G	H	J	K
.40 (10.2)	5.33 (136)	7.6 (193)	.87 (22)	3.11 (79)

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)

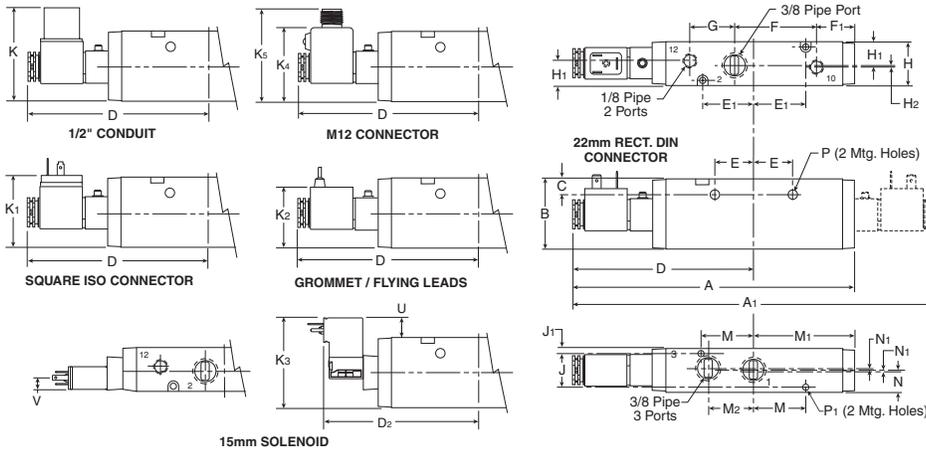
Inches (mm)

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



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

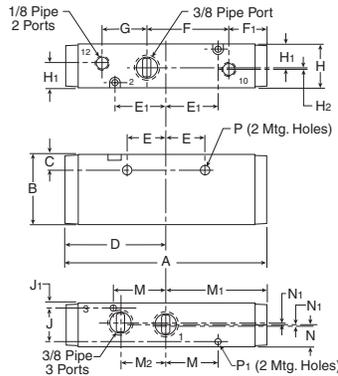


**P2LCX 3/2 (solenoid)**

<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

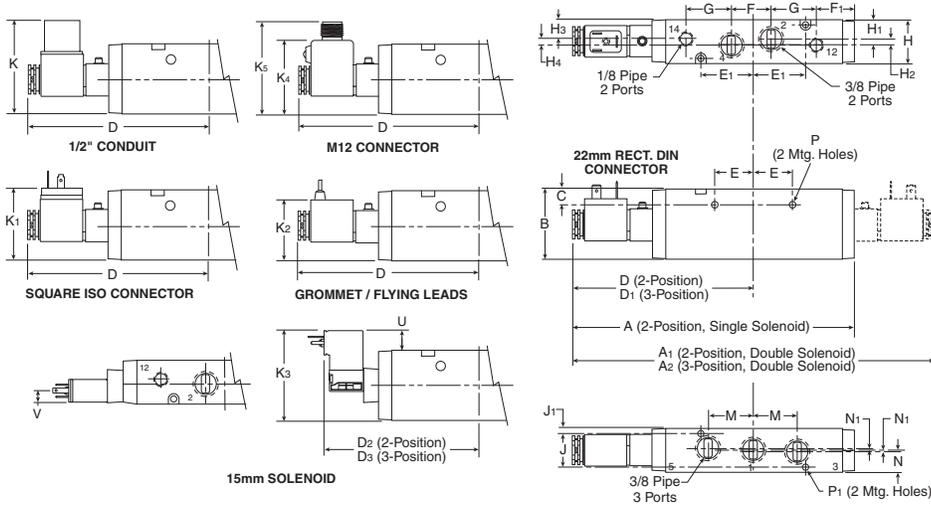
B7, B8 Series

Air Saver Unit

"N" Series



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

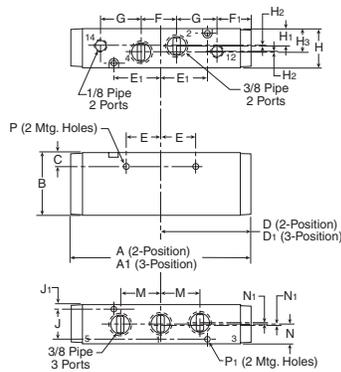


**P2LCX 5/2 & 5/3 (solenoid)**

<b>A</b>	<b>A<sub>1</sub></b>	<b>A<sub>2</sub></b>	<b>B</b>	<b>C</b>
7.68 (195)	9.84 (250)	10.71 (272)	1.89 (48)	.43 (11)
<b>D</b>	<b>D<sub>1</sub></b>	<b>D<sub>2</sub></b>	<b>D<sub>3</sub></b>	<b>E</b>
4.92 (125)	5.35 (136)	4.17 (105.8)	4.61 (117.2)	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)	1.06 (27)	1.02 (26)	1.22 (31)	1.18 (30)
<b>H<sub>1</sub></b>	<b>H<sub>2</sub></b>	<b>H<sub>3</sub></b>	<b>H<sub>4</sub></b>	<b>J</b>
.53 (13.5)	.12 (3)	.51 (13)	.16 (4)	.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>N</b>	<b>N<sub>1</sub></b>
1.78 (45.3)	2.26 (57.3)	1.18 (30)	.55 (14)	.04 (1)
<b>P</b>	<b>P<sub>1</sub></b>	<b>U</b>	<b>V</b>	
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**

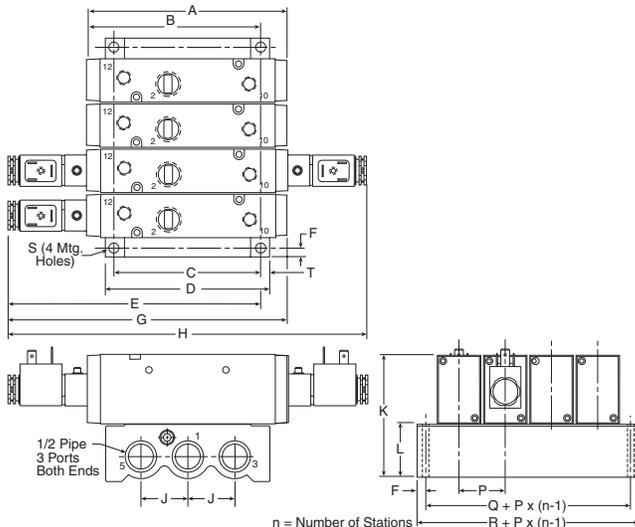


**P2LCX 5/2 & 5/3 (remote air pilot)**

<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>D<sub>1</sub></b>
5.51 (140)	6.38 (162)	1.89 (48)	.43 (11)	2.76 (70)	3.18 (81)
<b>E</b>	<b>E<sub>1</sub></b>	<b>F</b>	<b>F<sub>1</sub></b>	<b>G</b>	<b>H</b>
1.04 (26.5)	1.40 (35.5)	1.06 (27)	1.02 (26)	1.22 (31)	1.18 (30)
<b>H<sub>1</sub></b>	<b>H<sub>2</sub></b>	<b>H<sub>3</sub></b>	<b>J</b>	<b>J<sub>1</sub></b>	<b>M</b>
.51 (13)	.02 (0.5)	.12 (3)	.91 (23)	.14 (3.5)	1.18 (30)
<b>N</b>	<b>N<sub>1</sub></b>	<b>P</b>	<b>P<sub>1</sub></b>		
.55 (14)	.04 (1)	Ø .27 (6.9)	Ø .17 (4.4)		

Inches (mm)

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

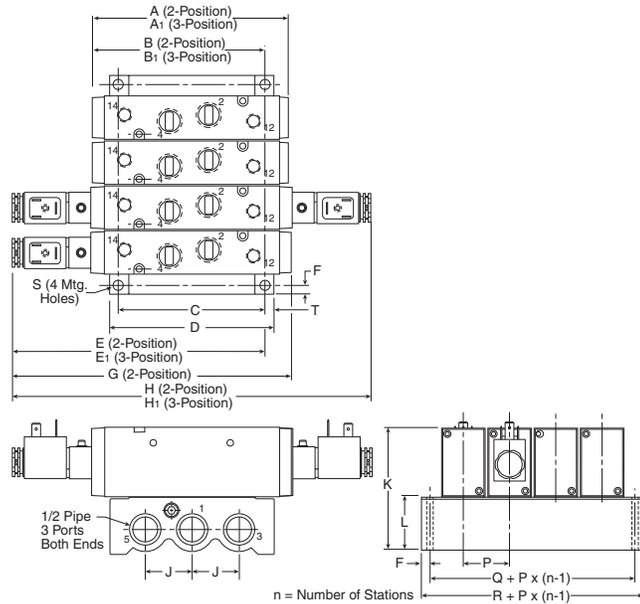


**P2LCX 3/2  
 IEM Aluminum bar manifold**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
5.51 (140)	4.96 (126)	3.94 (100)	4.41 (112)	7.11 (180.5)	.24 (6)
<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>P</b>
7.66 (194.5)	9.80 (249)	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 (6.5)	.24 (6)		

Inches (mm)

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

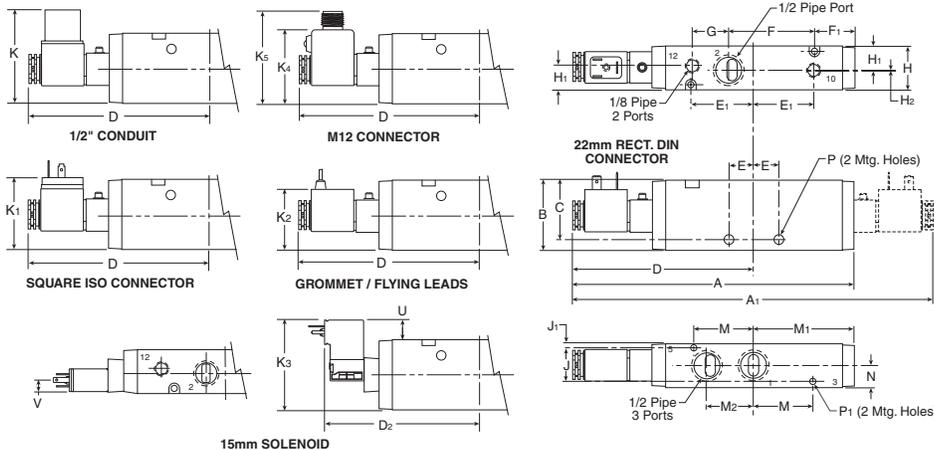


**P2PCX 5/2 & 5/3  
 IEM Aluminum bar manifold**

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)

**C**

Inline Valves

Viking  
Lite

Viking  
Extreme

B3, B5, B6  
Series

B7, B8  
Series

Air Saver  
Unit

"N"  
Series

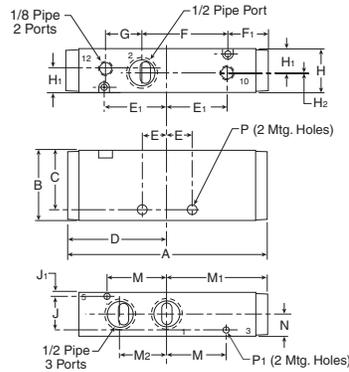


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C37

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

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

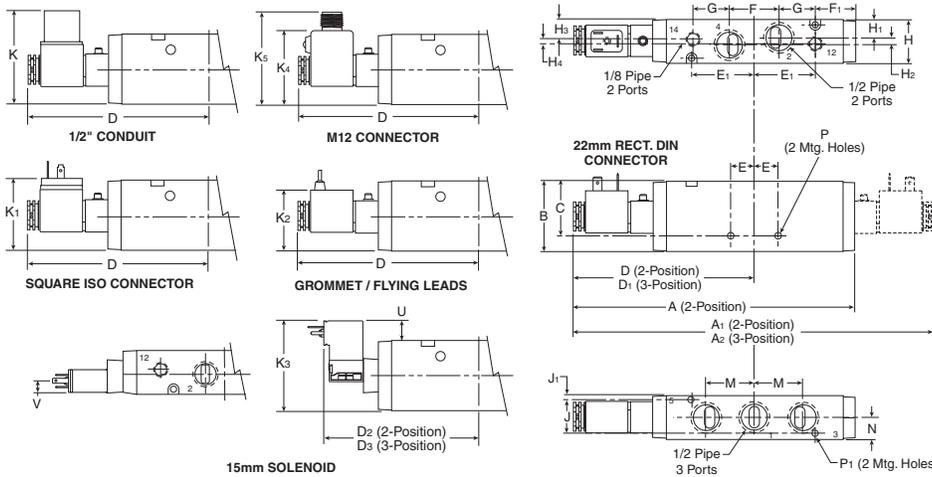


**P2LDX 3/2 (remote air pilot)**

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**

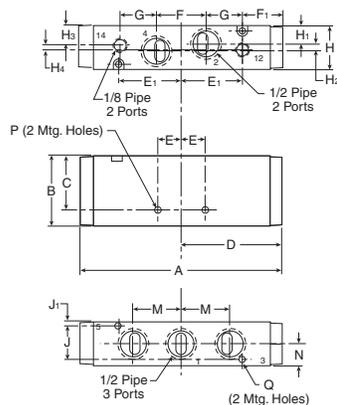


**P2LDX 5/2 & 5/3 (solenoid)**

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**  
**Series**  
**"N"**



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	Vacuum	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	Vacuum	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

"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

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.

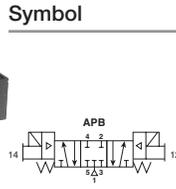
Most popular.



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

Common Part Numbers

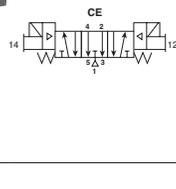
Double Solenoid, 4-way, 3-position, APB



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

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>

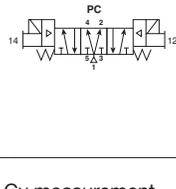
Double Solenoid, 4-way, 3-position, CE



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

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>

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

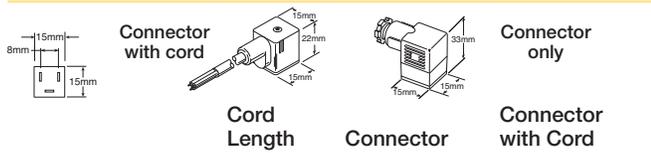


B5 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

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>

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.

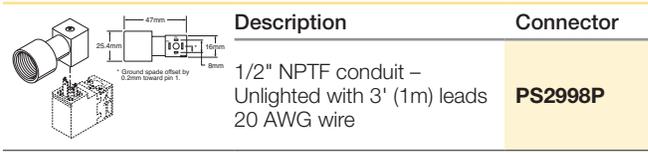
Note: Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

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



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  
 "N" Series



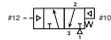
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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



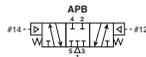
B5 Shown, M5 Remote Pilot Ports

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.



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

"N" Series

**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

Voltage			
	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.

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

 Most popular.



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

**B5 Series**

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air-Saver Unit

"N" 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.

 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

"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  
 "N" Series

Most popular.

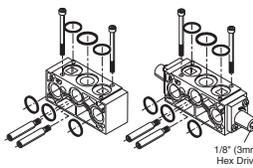


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Accessories**

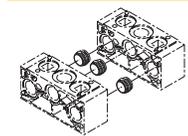
**IEM Stackable Manifolds**

- 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.

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

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

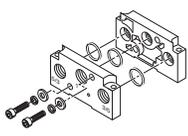
**Isolator Plugs**

	Series	Description	Kit Number
	B3	4-way, IEM stackable	<b>PS2919P</b>
	B5	4-way, IEM stackable	<b>PS2819P</b>

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

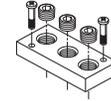
Kit includes: (3) plugs and (6) o-rings

**End Plate Kits**

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

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

**Blanking Plate**



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

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

 Most popular.

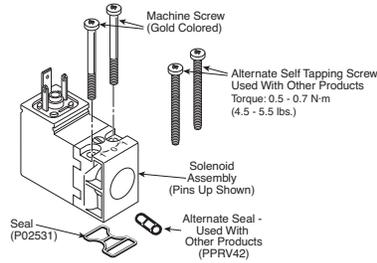


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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	PS2932BP	PS2932HBP	PS2932JBP
Light – 12VAC or DC	6 Feet	PS294675BP	PS2946J75BP *	
Light – 24VAC or DC	6 Feet	PS294679BP	PS2946J79BP *	
Light – 110/120VAC	6 Feet	PS294683BP	PS2946J83BP *	
Light – 240/230VAC		PS294687BP	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	PS2998P

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

Most popular.



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**

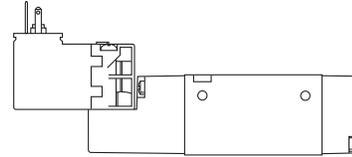
*Kit Includes:*

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

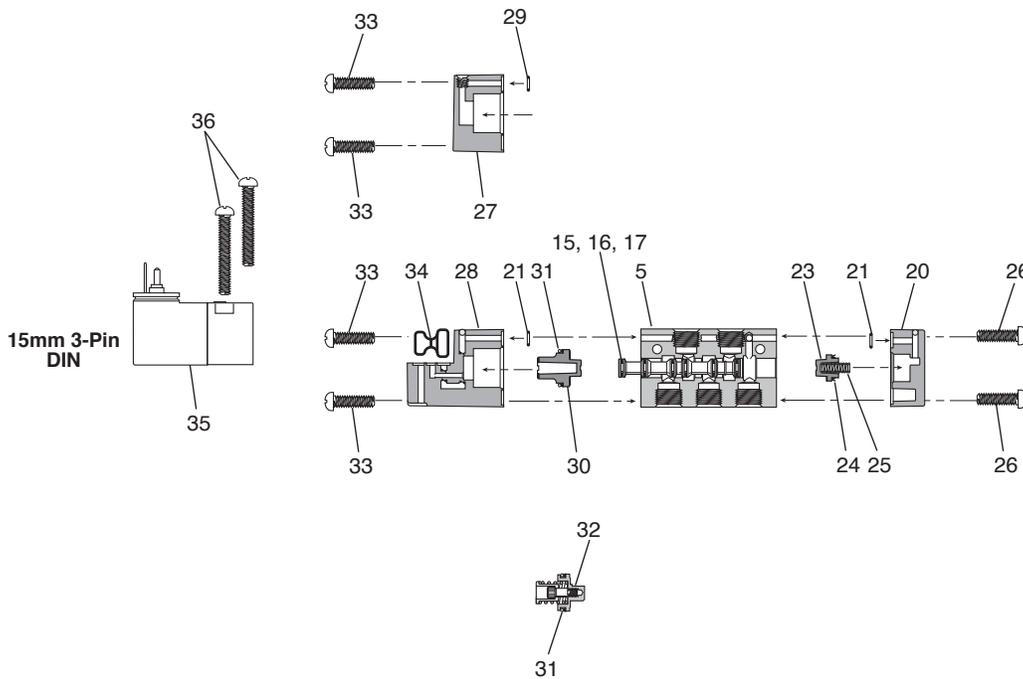


**Manifold to Manifold Kit**

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  
 "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**

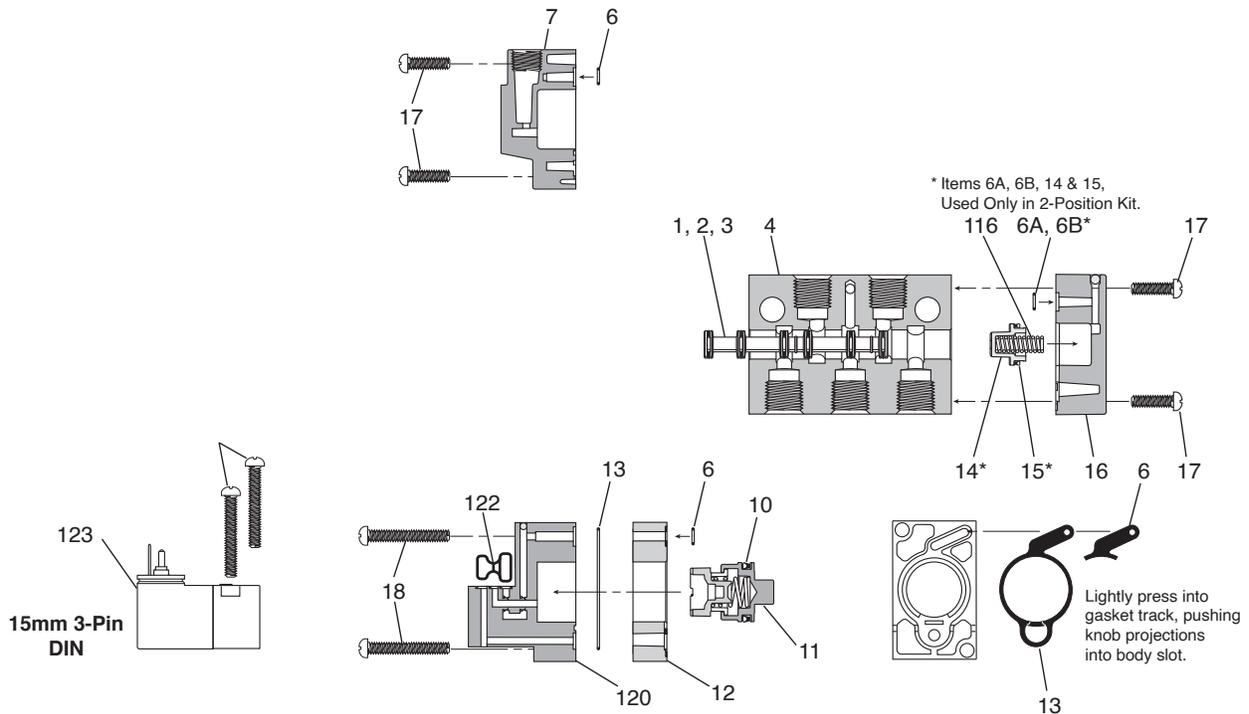
PS2884P	O-ring (10) - Inline Valve to IEM Manifold (All)
PS2887P	Mounting Bolts (10) - Inline & Subbase Valve

**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
"N" Series

**B6A Series**

**Spool / Body Service Kits**

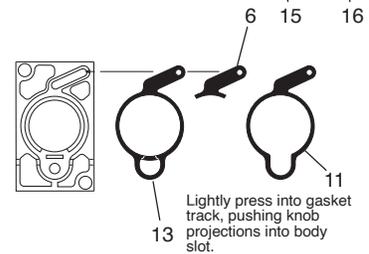
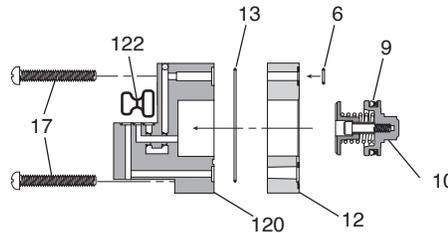
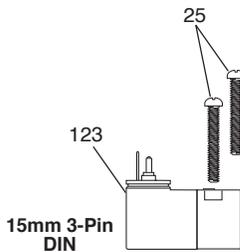
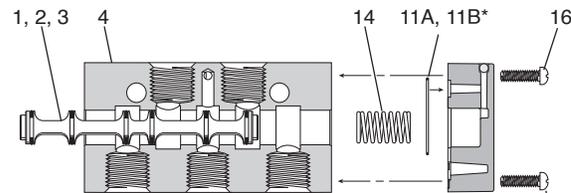
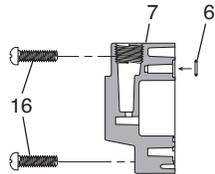
		<i>Kit Includes:</i>
PS2601P	4-Way, 2-Pos	Item 2, 6 (2), 9 (2), 11, 14, grease packet
PS2602P	4-Way, 3-Pos APB	Item 3, 6 (2), 9 (2), 13 (2), grease packet
PS2603P	4-Way, 3-Pos CE	Item 3, 6 (2), 9 (2), 13 (2), grease packet
PS2604P	4-Way, 3-Pos PC	Item 3, 6 (2), 9 (2), 13 (2), grease packet

**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.

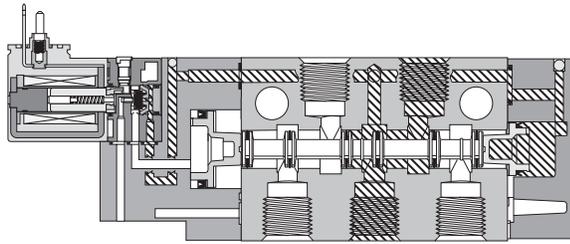
Item	Description	Item	Description	Item	Description
1*	Spool Seal	10	Operator Piston Mechanism - 3-Position	15a	Return Operator
2*	Spool - 2-Position (Seals Assembled)	11A*	Gasket - Body to Return Cap	16*	Screws - Operator Adapter - 2-Position
3*	Spool - 3-Position (Seals Assembled)	11B*	O-ring - Body 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.

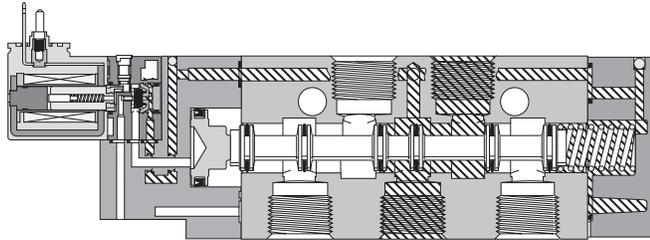
**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 "N" Series



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



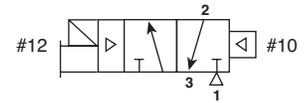
**B5 Single Solenoid Inline - Air Return**  
 Shown De-Energized



**B6 Single Solenoid Inline - Spring / Air Return**  
 Shown De-Energized

 Pressure  Exhaust

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

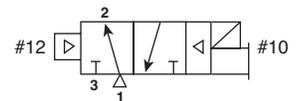


**Normally Closed:**

*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

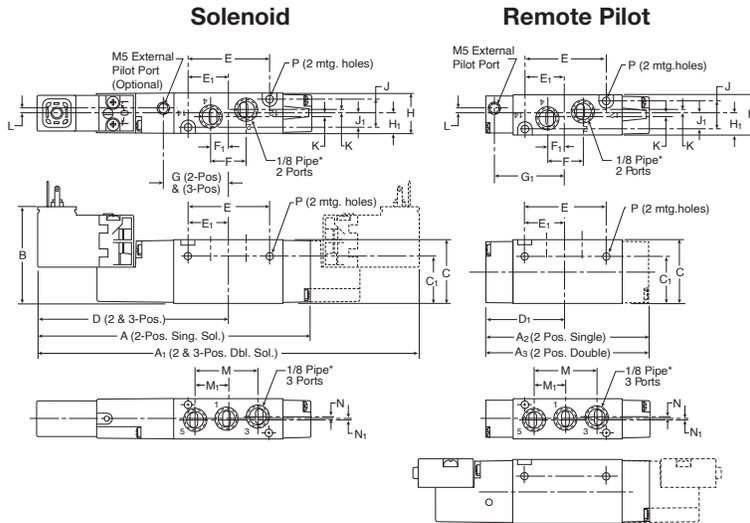
B7, B8 Series

Air Saver Unit

"N" Series



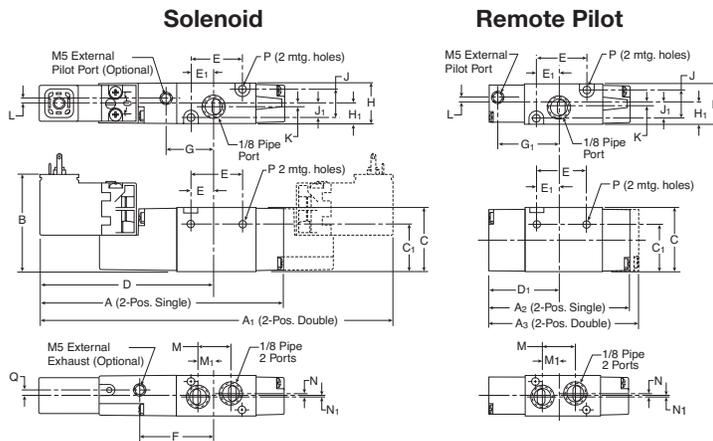
**B3 Single & Double Operators – 4-way Inline**



**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

"N" Series

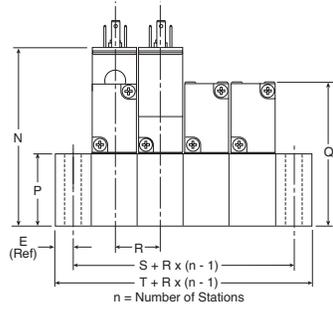
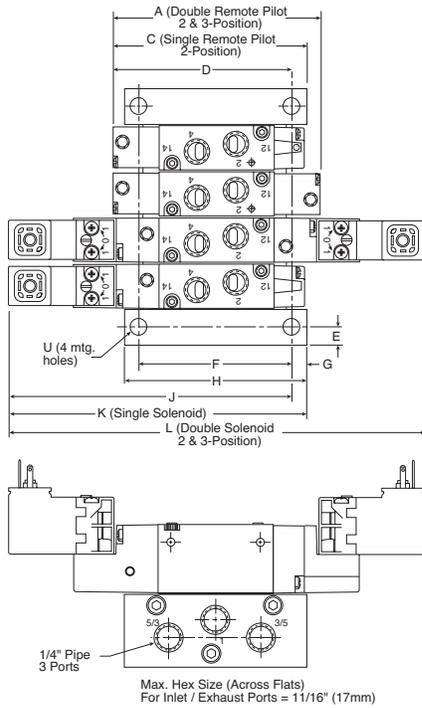


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

C54

**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
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**B3 Single & Double Operators – 4-way IEM Stackable**

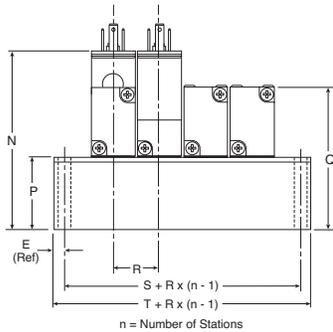
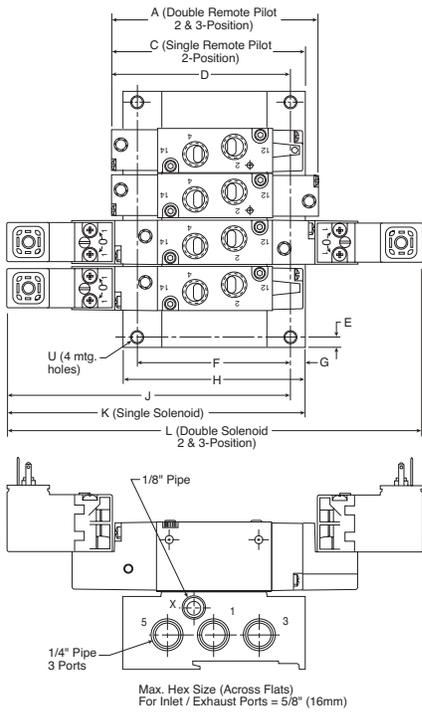


**B3 4-Way IEM Stackable**

<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

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**C**

Inline Valves

Viking Lite

Viking Extreme

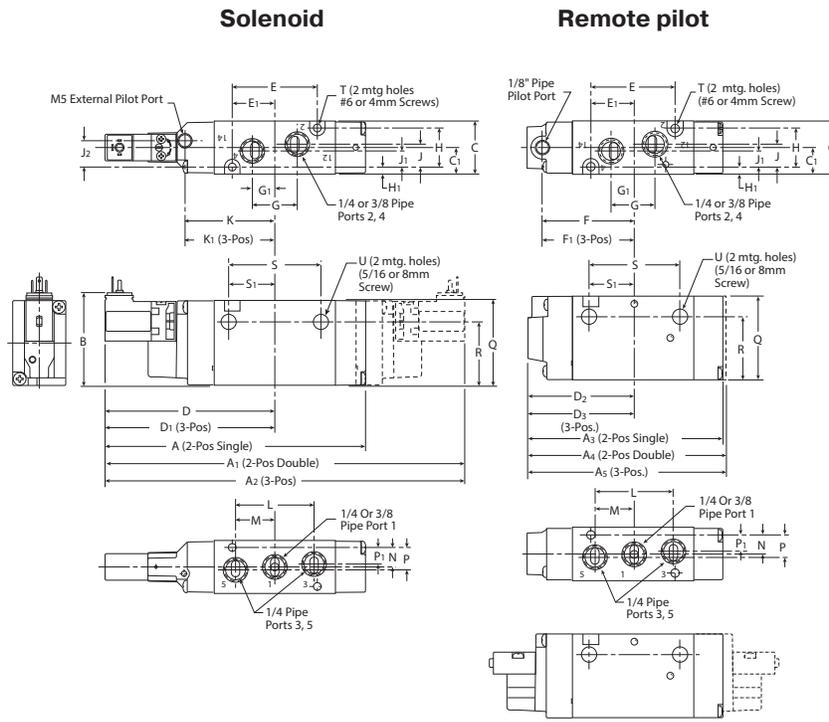
B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

"N" Series

**B5 Single & Double Operators – 4-way Inline**

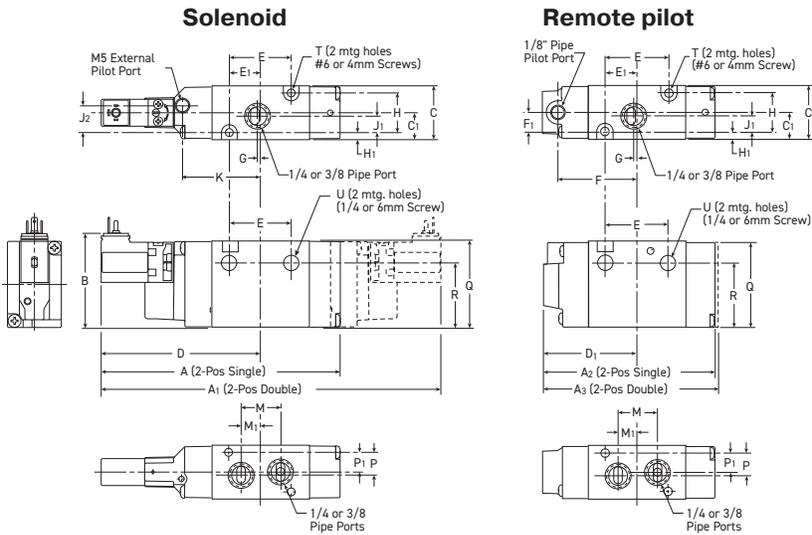


**B5 4-Way Inline**

<b>A</b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>A4</b>
5.78 (147)	7.51 (191)	8.45 (215)	4.37 (110)	4.70 (119)
<b>A5</b>	<b>B</b>	<b>C</b>	<b>C1</b>	<b>D</b>
5.64 (143)	2.06 (52)	1.18 (30)	.59 (15)	3.76 (96)
<b>D1</b>	<b>D2</b>	<b>D3</b>	<b>E</b>	<b>E1</b>
4.23 (107)	2.35 (60)	2.82 (72)	1.89 (48)	.95 (24)
<b>F</b>	<b>F1</b>	<b>G</b>	<b>G1</b>	<b>H</b>
2.01 (51)	2.47 (63)	1.00 (25)	.50 (13)	.87 (22)
<b>H1</b>	<b>J</b>	<b>J1</b>	<b>J</b>	<b>K</b>
.16 (4)	.51 (13)	.36 (9)	.58 (15)	2.00 (51)
<b>K1</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>
2.47 (63)	1.75 (44)	.88 (22)	.43 (8)	.50 (13)
<b>P1</b>	<b>Q</b>	<b>R</b>	<b>S</b>	<b>S1</b>
.37 (92)	1.89 (48)	1.41 (36)	2.05 (52)	1.03 (26)
<b>T</b>	<b>U</b>			
Ø .177 Ø (4.5)	Ø .34 Ø (9)			

Inches (mm)

**B5 Single & Double Operators – 3-way Inline**

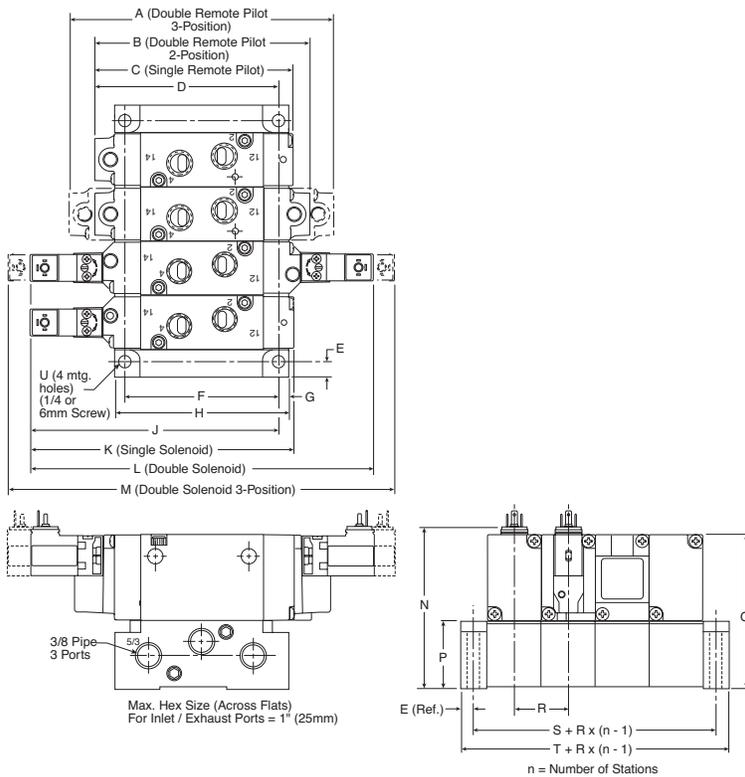


**B5 3-Way Inline**

<b>A</b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>B</b>
5.29 (134)	7.03 (179)	3.88 (99)	4.21 (107)	2.06 (52)
<b>C</b>	<b>C1</b>	<b>D</b>	<b>D1</b>	<b>E</b>
1.18 (30)	.59 (15)	3.43 (87)	2.11 (54)	1.40 (36)
<b>E1</b>	<b>F</b>	<b>F1</b>	<b>G</b>	<b>H</b>
.70 (18)	1.77 (45)	.43 (11)	.06 (2)	.87 (22)
<b>H1</b>	<b>J1</b>	<b>J2</b>	<b>K</b>	<b>M</b>
.16 (4)	.36 (9)	.58 (15)	1.67 (42)	.88 (22)
<b>M1</b>	<b>P</b>	<b>P1</b>	<b>Q</b>	<b>R</b>
.44 (11)	.50 (13)	.37 (9)	1.89 (48)	1.41 (36)
<b>T</b>	<b>U</b>			
Ø .177 Ø (4.5)	Ø .26 Ø (6.6)			

Inches (mm)

**B5 Single & Double Operators – 4-way IEM Stackable**

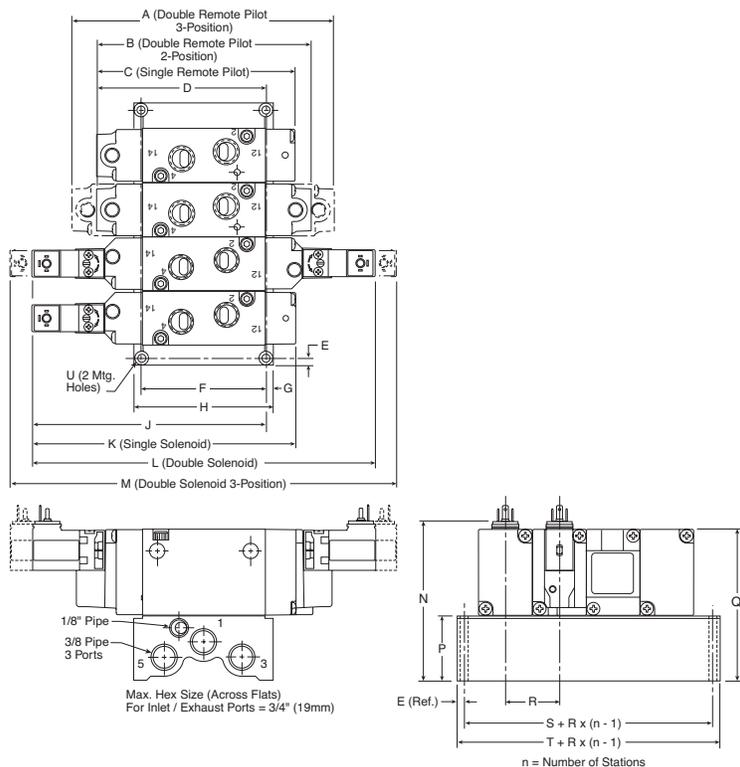


**B5 4-Way IEM Stackable**

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

"N" Series



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

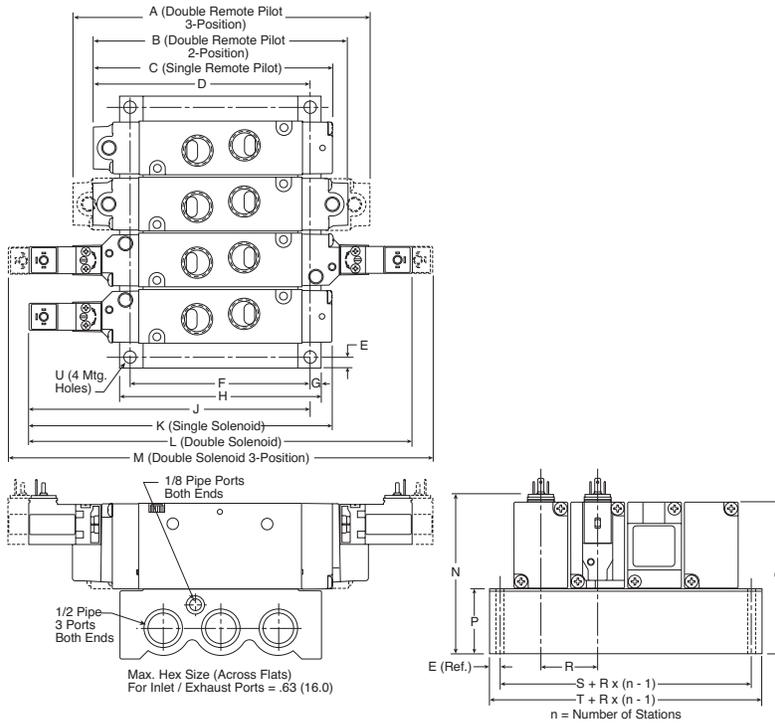
C57

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**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  
"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	Vacuum
V, W, X, Y*	Single remote pilot - air return / spring assist	35 (241)	35 (241)
<b>External pilot *</b>			
All	"B" series	Vacuum	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) <sup>††</sup>

\* Enclosure Option E is CSA / FM approved at source. For certification of valve / solenoid assembly, consult factory.

<sup>†</sup> Not Available with Enclosure 5

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

"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

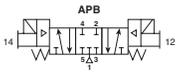
Kit includes: Solenoid, (2) machine screws, (2) self threading screws, (1) gasket, (1) 3-cell gasket.

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

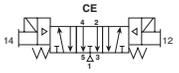


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

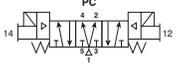
**Double Solenoid, 4-way, 3-position, APB**

		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’**

	## 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
	“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

	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§	
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	
	Standard	
49	S	S
53	S	S

**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.



Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

"N" Series

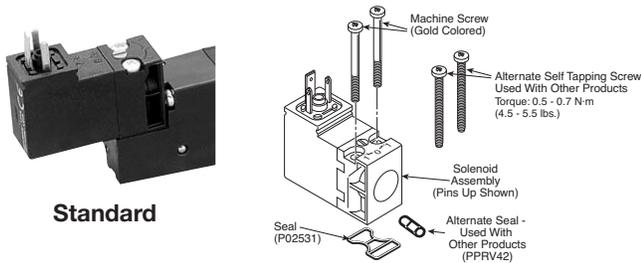
 Most popular.



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**



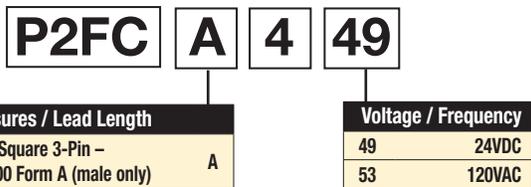
**Standard**

**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.

**Solenoid Kits Alternate Enclosures**



\* 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"

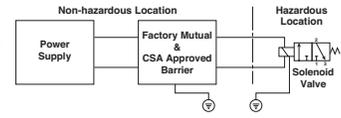


**Option F, H & R**  
1/2" Conduit, 18"

Most popular.

**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.

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

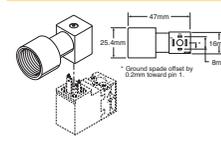


	Cord Length	Connector	Connector with Cord
Unlighted	18 Inches	<b>PS2932BP</b>	<b>PS2932HBP</b>
Unlighted	6 Feet	<b>PS2932BP</b>	<b>PS2932JBP</b>
Light – 12VAC or DC	6 Feet	<b>PS294675BP</b>	<b>PS2946J75BP *</b>
Light – 24VAC or DC	6 Feet	<b>PS294679BP</b>	<b>PS2946J79BP *</b>
Light – 110/120VAC	6 Feet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

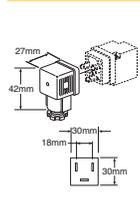
**15mm 3-Pin DIN 43650C to 1/2" Conduit**



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.

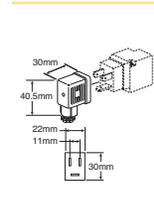
**30mm Square 3-Pin – ISO 4400, DIN 43650A  
 (Use with Enclosure “A”)**



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

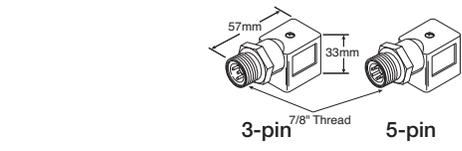
**22mm Rectangular 3-Pin – Type B Industrial  
 (Use with Enclosure “B”)**



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)

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

Voltage					Enclosure "5"					Voltage					B7, B8 Enclosure "A"					B7, B8 Enclosure "B" to "H"				
AC			DC	Power Consumption	Holding (Amps)	AC			DC	Power Consumption	Holding (Amps)	AC			DC	Power Consumption	Holding (Amps)	AC			DC	Power Consumption	Holding (Amps)	
Code	60Hz	50Hz				Code	60Hz	50Hz				Code	60Hz	50Hz				Code	60Hz	50Hz				Code
49			24	1.2W	.049	49			24	2.7W	.112	4.8W	.200	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.

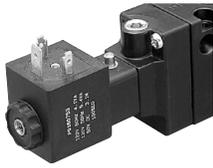
C	Inline Valves
	Viking Lite
	Viking Extreme
	B3, B5, B6 Series
B7, B8 Series	
Air-Saver Unit	
"N" Series	



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

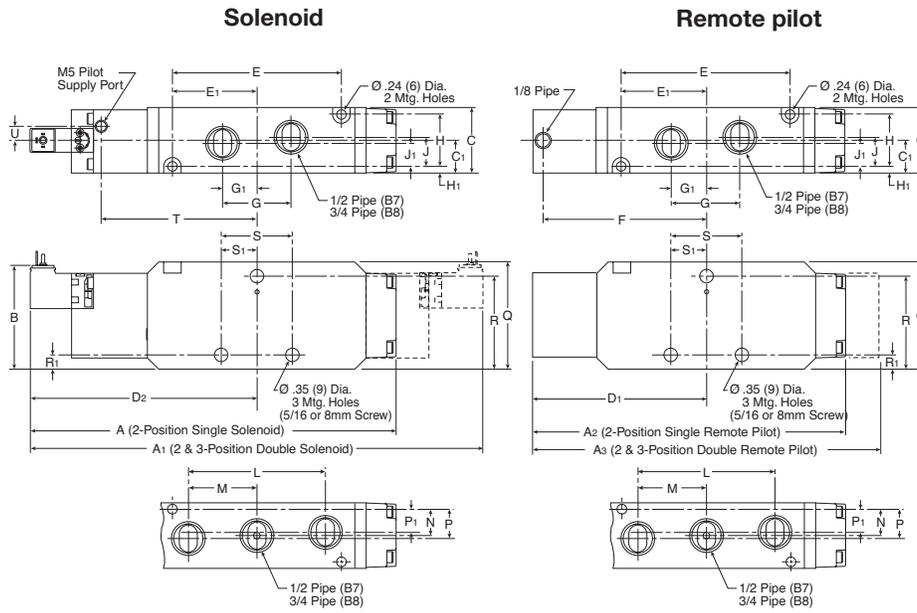
Air Saver  
 Unit

"N"  
 Series





**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

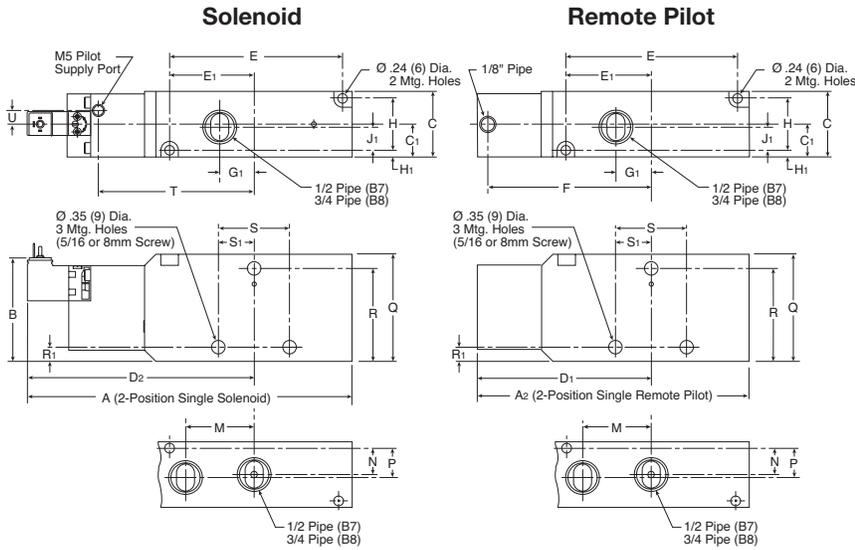
B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

"N" Series

**B7 & B8 Single Operators – 3-way Inline**

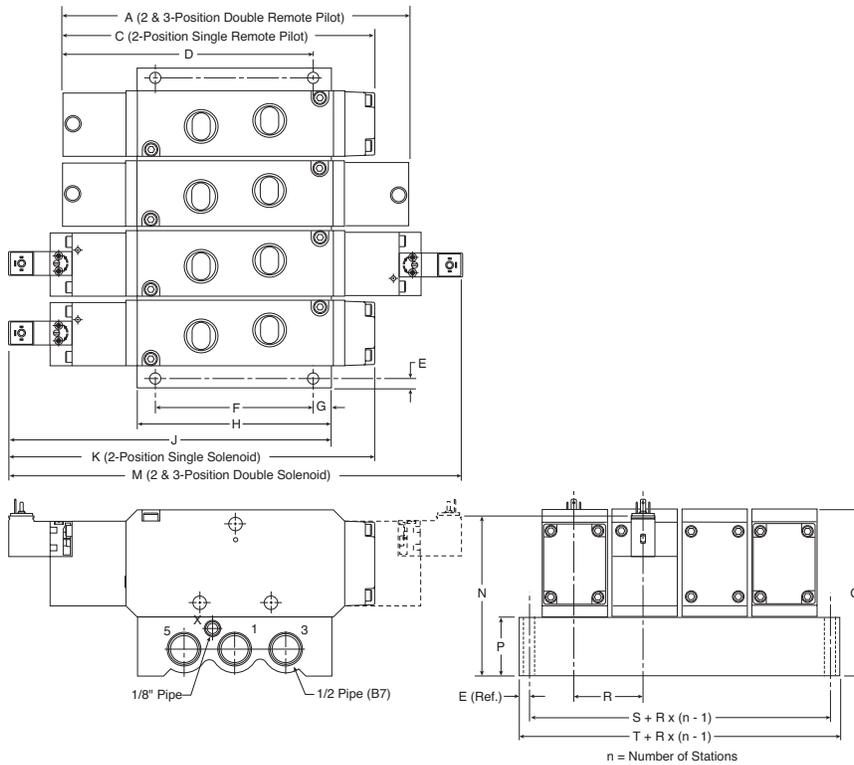


**B7 & B8 3-Way Inline**

<b>A</b>	<b>A<sub>2</sub></b>	<b>B</b>	<b>C</b>	<b>C<sub>1</sub></b>
7.99 (203)	6.65 (169)	2.59 (66)	1.65 (42)	.83 (21)
<b>D<sub>1</sub></b>	<b>D<sub>2</sub></b>	<b>E</b>	<b>E<sub>1</sub></b>	<b>F</b>
4.29 (109)	5.63 (143)	4.21 (107)	2.13 (54)	4.06 (103)
<b>G<sub>1</sub></b>	<b>H</b>	<b>H<sub>1</sub></b>	<b>J<sub>1</sub></b>	<b>M</b>
.86 (22)	1.29 (33)	.16 (4)	.59 (15)	1.69 (43)
<b>N</b>	<b>P</b>	<b>Q</b>	<b>R</b>	<b>R<sub>1</sub></b>
.67 (17)	.75 (19)	2.68 (68)	2.32 (59)	.35 (9)
<b>S</b>	<b>S<sub>1</sub></b>	<b>T</b>	<b>U</b>	
1.81 (46)	.90 (23)	3.94 (100)	.35 (9)	

Inches (mm)

**B7 & B8 Single & Double Operators – 4-way IEM Aluminum Bar**

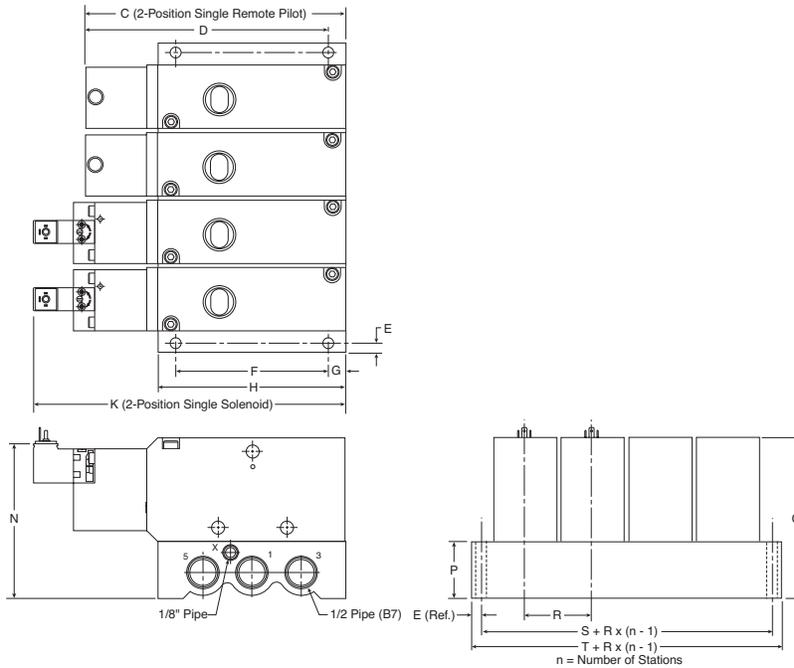


**B7 & B8 4-Way IEM  
 Aluminum Bar Manifold**

<b>A</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
7.79 (198)	8.62 (219)	6.26 (159)	.24 (6)	3.94 (100)
<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>M</b>
.45 (11.5)	4.84 (123)	8.07 (205)	9.13 (232)	11.29 (287)
<b>N</b>	<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>
4.00 (101.5)	1.48 (37.5)	4.15 (105.5)	1.77 (45)	2.24 (57)
<b>T</b>				
2.72 (69)				

Inches (mm)

**B7 & B8 Single Operators – 3-way IEM Aluminum Bar**

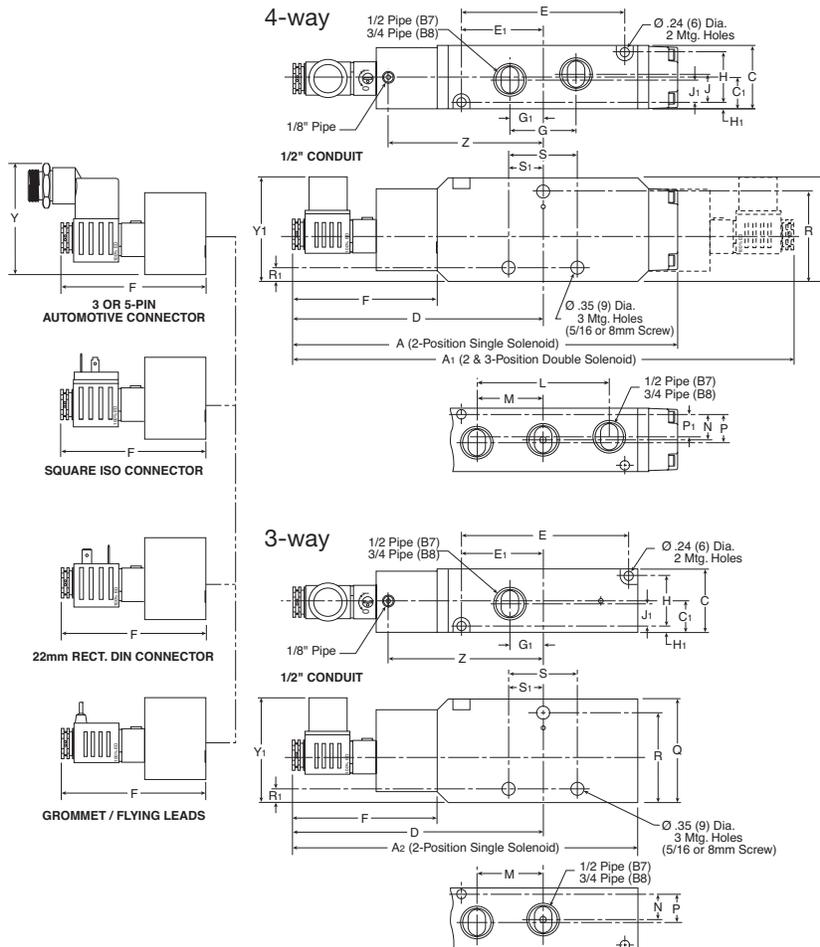


**B7 & B8 3-Way IEM Aluminum Bar Manifold**

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	A1	A2	C	C1
9.92 (252)	12.91 (328)	8.78 (223)	1.65 (42)	.83 (21)
D	E	E1	F	G
6.46 (164)	4.21 (107)	2.13 (54)	3.74 (95)	1.73 (44)
G1	H	H1	J	J1
.86 (22)	1.29 (33)	.16 (4)	.75 (19)	.59 (15)
L	M	N	P	P1
3.39 (86)	1.69 (43)	.67 (17)	.75 (19)	.59 (15)
Q	R	R1	S	S1
2.68 (68)	2.32 (59)	.35 (9)	1.81 (46)	.90 (23)
Y	Y1	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

"N" Series

Features

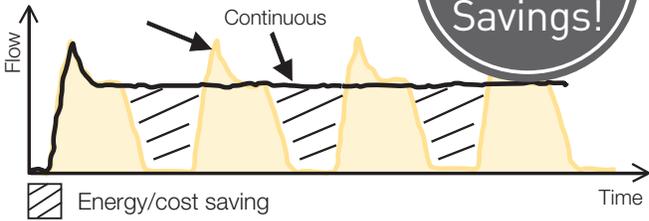
An easy solution to your environmental protection efforts!  
The Air Saver Unit contributes to power savings and CO<sub>2</sub> reduction.

# 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%!

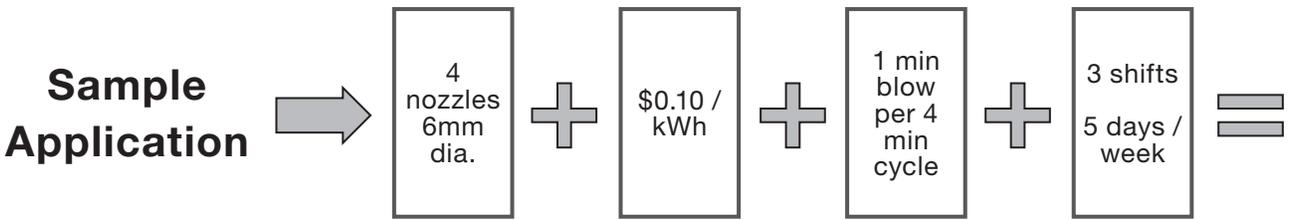
\* To achieve the benefits of pulsed air, the Air Saver Unit should be installed no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

- 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  
"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>



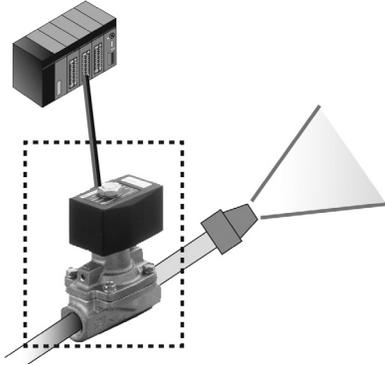
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Features**

**Installation is simple and reduction in air consumption can be realized immediately.**

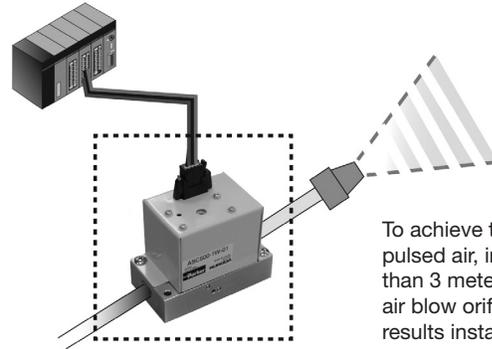
- When using an electrically operated solenoid valve to control the air blow, an Air Saver Unit can quickly and easily be retrofitted providing an immediate reduction in air consumption with no changes to the PLC program.

*Before introduction of the unit*



*After introduction of the unit*

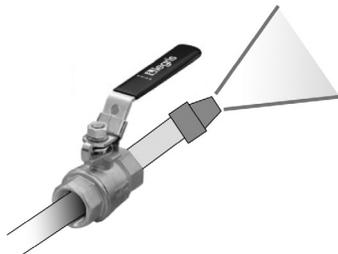
- Easy to install. Change the current solenoid valve to Air Saver Unit. (ASC500 or ASO500)
- Program change of controller is not necessary.



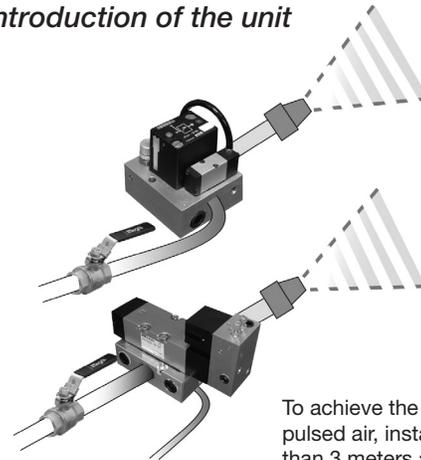
To achieve the benefits of pulsed air, install no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

- 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”.



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

**Specifications**

								Unit
<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  
 "N" Series



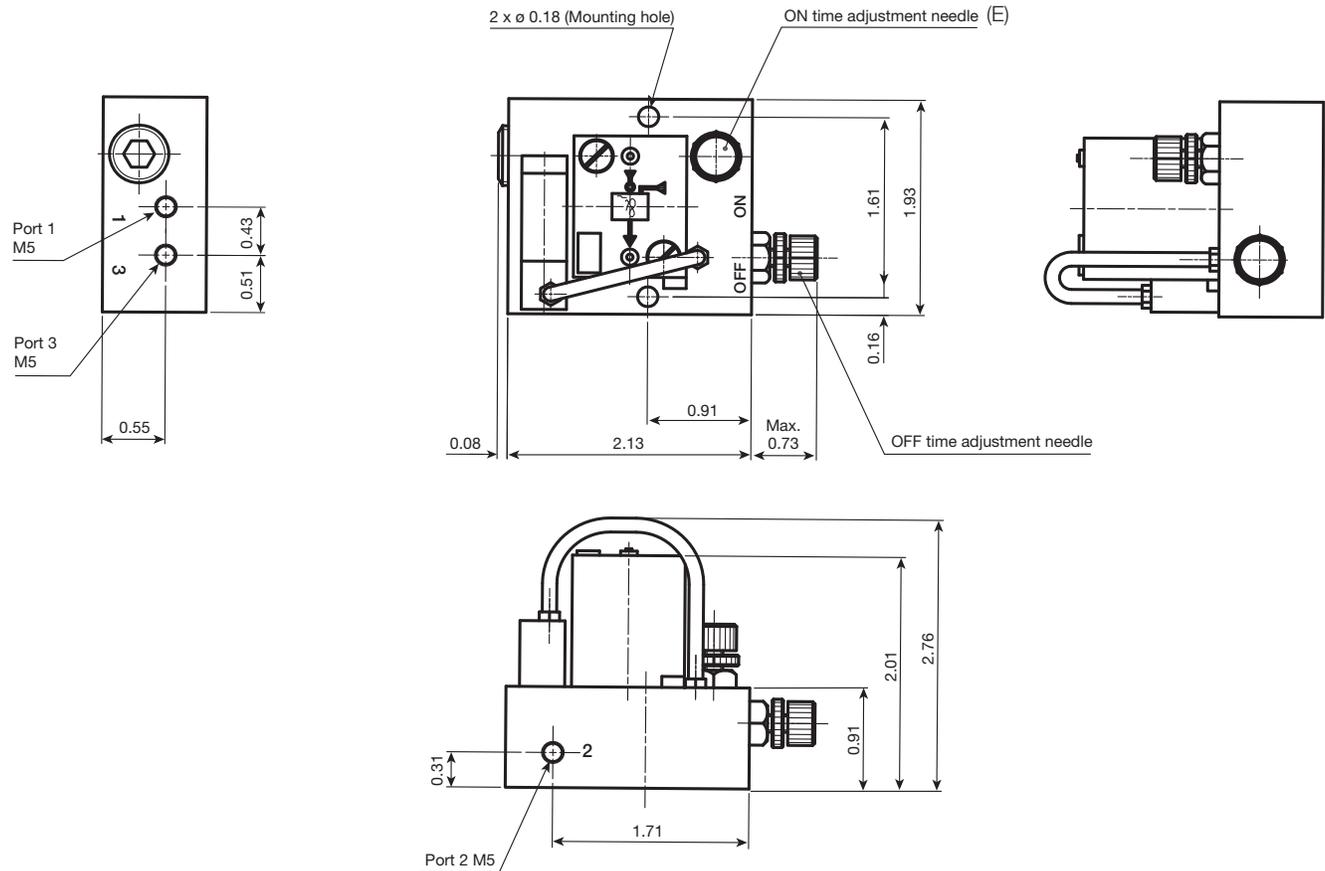
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



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

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

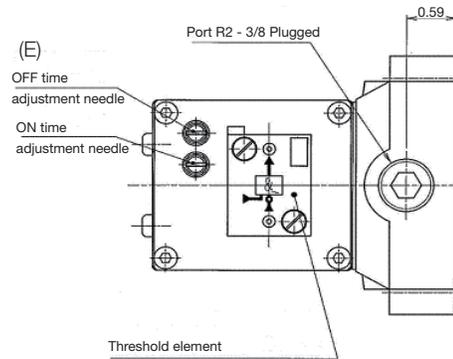
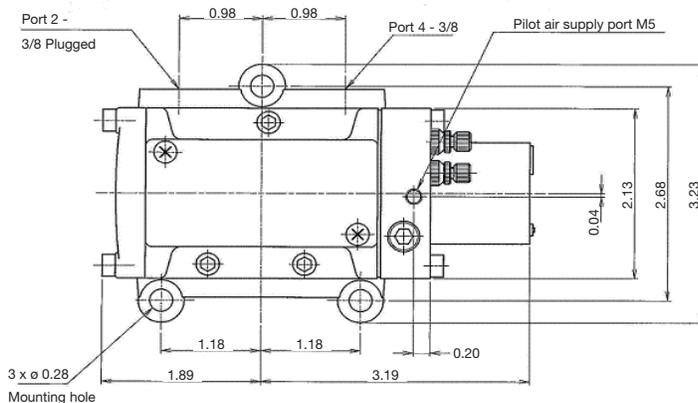
"N" Series



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.



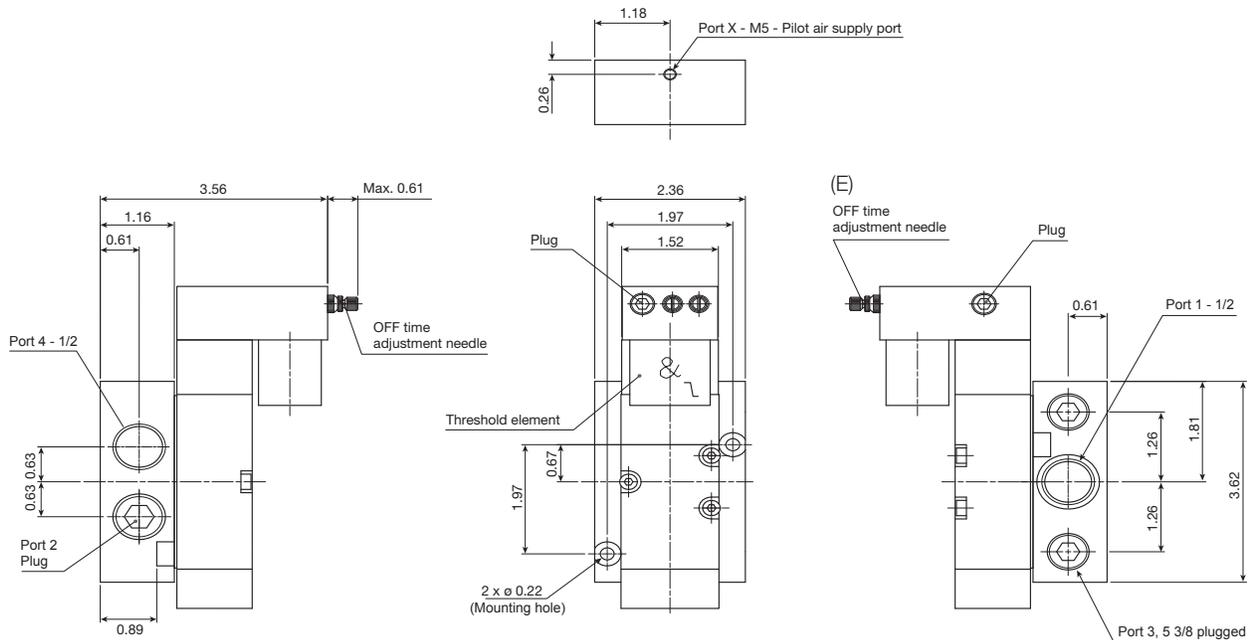
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



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	ASV5000-AA-91
									BSPP	ASV5000-AA-21
									NPT	WPASV5000-AA-91
									BSPP	WPASV5000-AA-21

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

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

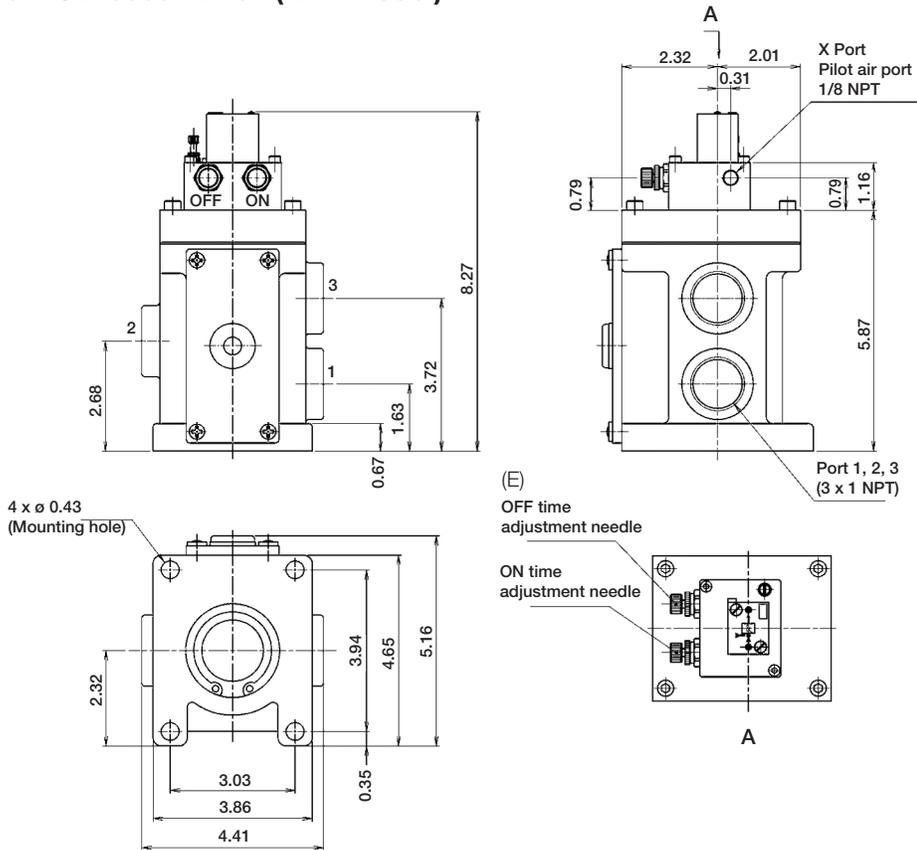
"N" Series



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.



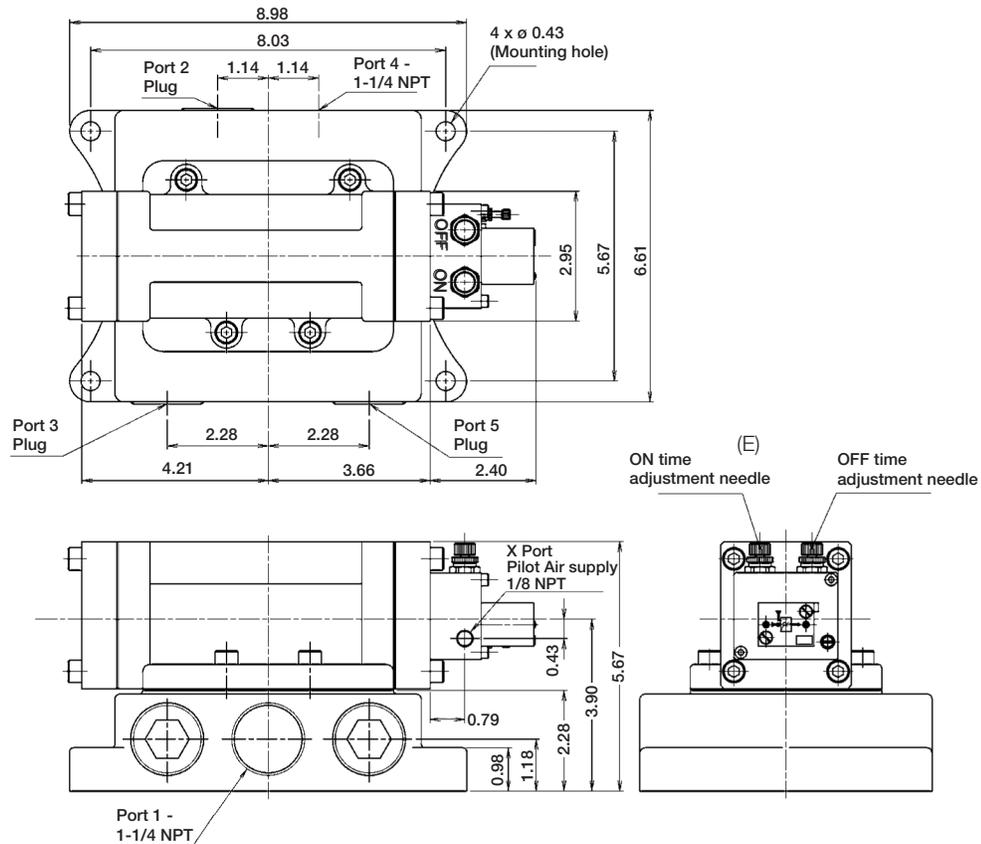
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



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)

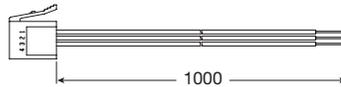


Ordering Information ASC500-1W / ASO500-1W

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

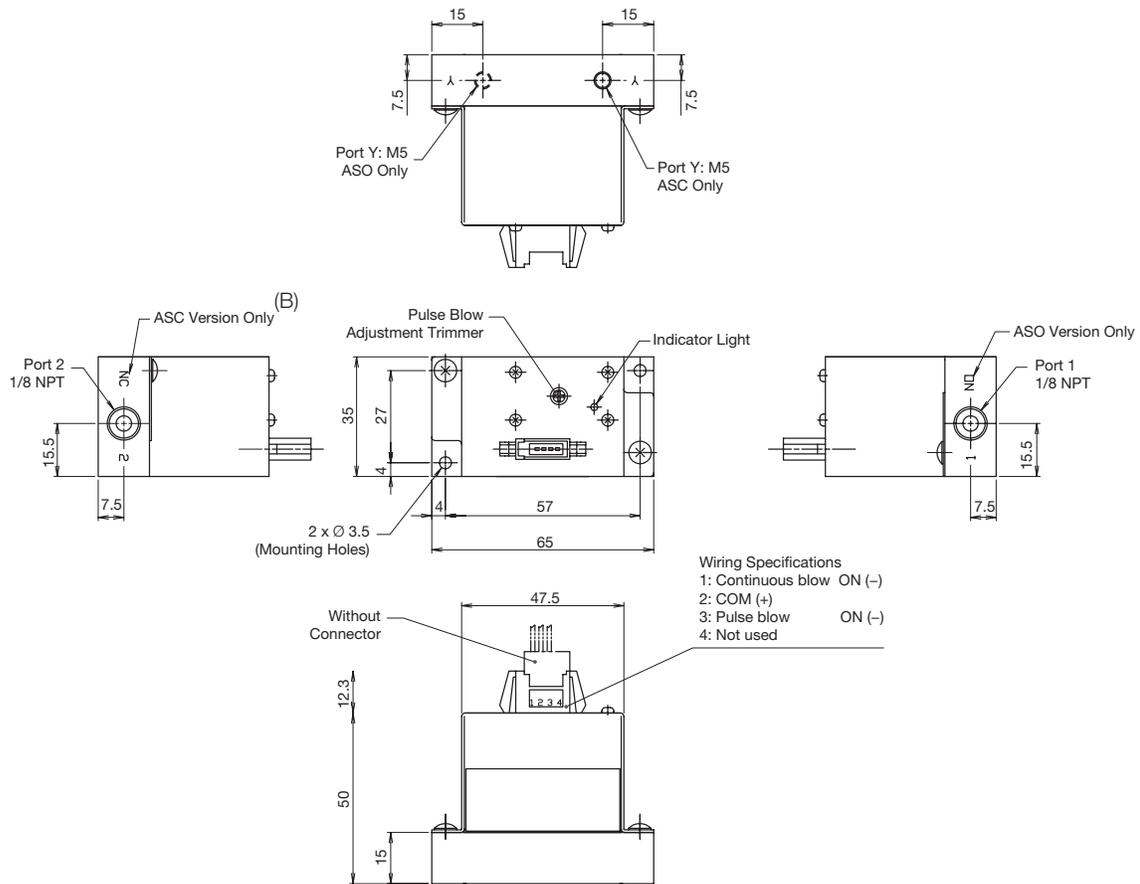
Cable

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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 Richland, Michigan  
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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

"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.



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>

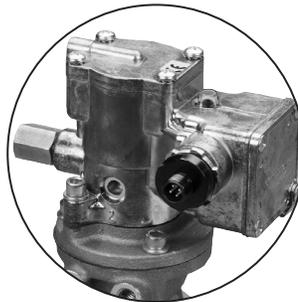
Normally Closed    Normally Open

Single Solenoid, Non-locking manual override, internal "L" pilot 140 PSI, standard service, junction box w/ light, 4-pin M12.

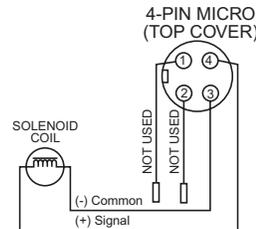


Normally Closed

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)



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

  Most popular.



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

**"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).

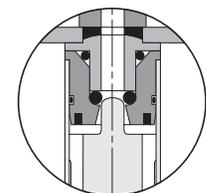
**Continuous Duty Pilots**

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)

C83

**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

"N" Series

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"	1-1/4"	120VAC	<b>N3257904753</b>	<b>N3657904753</b>	<b>N3857904753</b>
1-1/4"	19.5 to 26.7	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

**C**

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air-Saver Unit

"N" Series

Most popular.



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

Ordering Information

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

**N 314 3 1 091**

Valve Function - Solenoid	
3/8" & 3/4" Body	
2-Way, Normally Closed	<b>314</b>
3-Way, Normally Closed	<b>354</b>
3-Way, Normally Open	<b>374</b>
1-1/4" Body	
2-Way, Normally Closed	<b>324</b>
3-Way, Normally Closed	<b>364</b>
3-Way, Normally Open	<b>384</b>

Port Size / Thread Type		
3/8" Body Size		
3/8" Inlet & Cyl - 1/2" Exhaust - NPT		<b>3</b>
1/2" Inlet & Cyl - 1/2" Exhaust - NPT		<b>4</b>
1/2" Inlet & Cyl - 1/2" Exhaust - BSPP		<b>N</b>
3/4" Body Size		
1/2" Inlet & Cyl - 3/4" Exhaust - BSPP		<b>P</b>
3/4" Inlet & Cyl - 1" Exhaust - NPT		<b>6</b>
3/4" Inlet & Cyl - 1" Exhaust - BSPP		<b>Q</b>
1" Inlet & Cyl - 1" Exhaust - NPT		<b>7</b>
1-1/4" Body Size		
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>

Pilot Configuration	
089 *†	External Pilot Return
<b>091</b>	<b>Internal Pilot Return</b>

\* 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

Note: BSPP is to the ISO 228 Standard, and requires an R-BSPT male fitting.

Most popular.



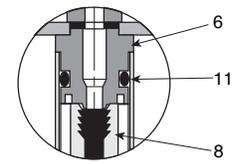
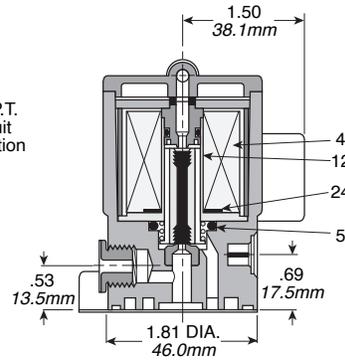
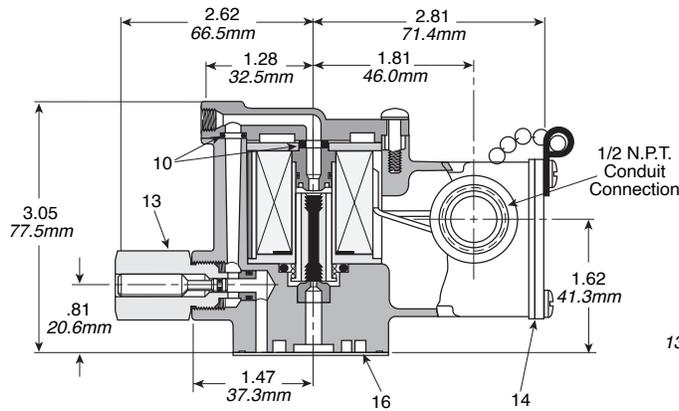
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Replacement Pilots**

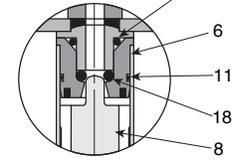


Description	Standard L-Pilot		Continuous Duty L-Pilot	
	Locking	Non-locking	Locking	Non-locking
Override Type	Locking	Non-locking	Locking	Non-locking
Basic with override	<b>K0653035**</b>	<b>K0652035**</b>	<b>K0853025**</b>	<b>K0852025**</b>
JIC with junction box & override	<b>K0656035**</b>	<b>K0655035**</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)



**Standard Duty Pilot Only**



**Continuous Duty Pilot Only**

**Parts List**

Item no.	Part Number	Description
4	<b>K593025</b>	Coil 120V 60Hz / 110V 50Hz
	<b>K593035</b>	Coil 240V 60Hz / 220V 50Hz
	<b>K593003</b>	Coil 6VDC / 24V 60Hz
	<b>K593010</b>	Coil 12VDC
	<b>K593014</b>	Coil 24VDC
5	<b>K593041</b>	Coil 120VDC
	<b>H14213</b>	Seal
6	<b>K423006</b>	Top Seat
	<b>K423010</b>	Top Seat (Continuous Duty)
8	<b>K343002</b>	Plunger (STD. Service)
	<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)

Item no.	Part Number	Description
12	<b>K272004</b>	Plunger Guide
13	<b>K152003</b>	Override Assembly
14	<b>K183047</b>	Cover Gasket
16*	<b>K183001</b>	Gasket
18*	<b>H13473</b>	O-Ring
20*	<b>H13413</b>	O-Ring
22	<b>H19102</b>	120 AC Only – Indicator Light
24	<b>K183108</b>	Gasket

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  
 "N" Series



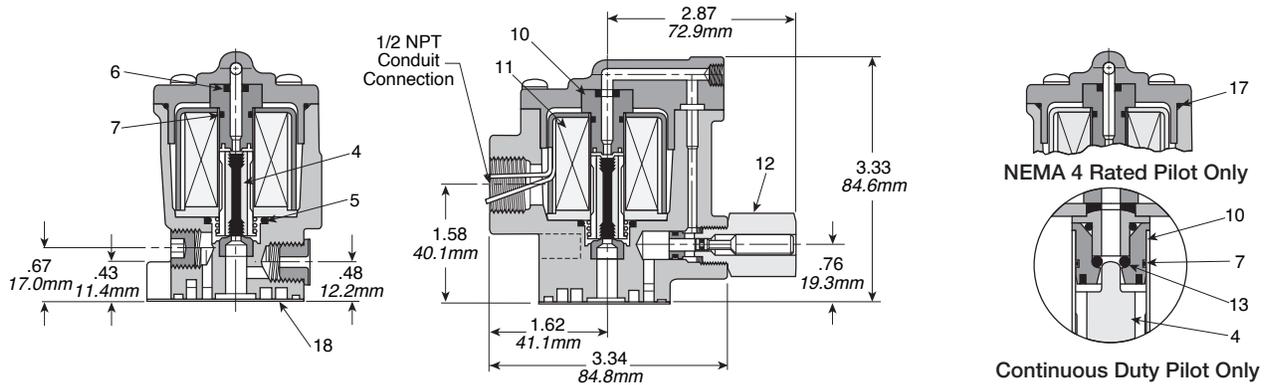
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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
4*	<b>K343002</b>	Plunger (STD. Service)
	<b>K343001</b>	Plunger (Continuous Duty)
5*	<b>K14213</b>	Seal
6*	<b>K41RB72009</b>	O-Ring
	<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)
11	<b>K593025</b>	Coil 120V 60Hz / 110V 50Hz
	<b>K593035</b>	Coil 240V 60Hz / 220V 50Hz
	<b>K593003</b>	Coil 6VDC / 24V 60Hz
	<b>K593010</b>	Coil 12VDC
	<b>K593014</b>	Coil 24VDC
	<b>K593041</b>	Coil 120VDC

Item no.	Part Number	Description
12	<b>K152003</b>	Override Assembly
13*	<b>H13473</b>	O-Ring
17*	<b>H13716</b>	Gasket (NEMA 4 Rated Pilot Only)
18*	<b>K183001</b>	Gasket

Coil leads are 19" long.  
 \* Parts included in Service Kit.  
 Continuous Duty Kit ..... **K352366**  
 Standard Service Kit ..... **K352166**

C

Inline Valves

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Viking Lite

---

Viking Extreme

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B3, B5, B6 Series

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B7, B8 Series

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Air Saver Unit

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"N" Series



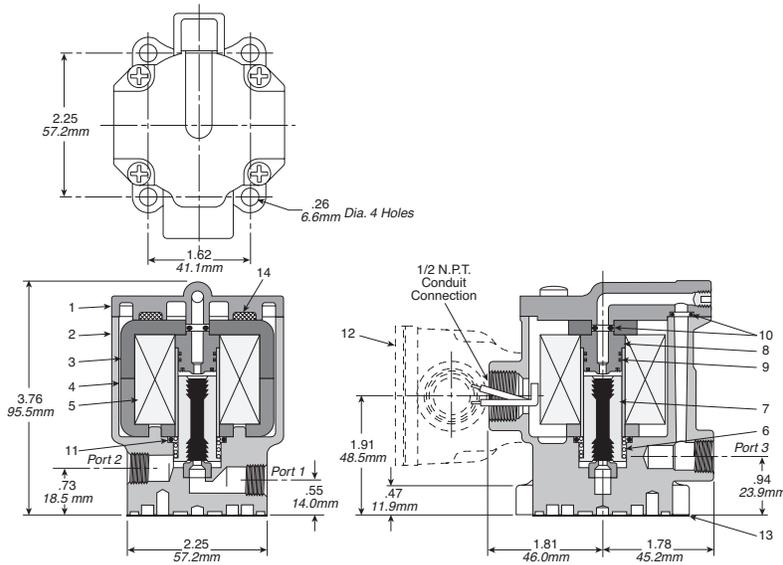
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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	Item no.	Part Number	Description
1	<b>K062005</b>	Cover Assy	6	<b>K473010</b>	Spring N.O. Valve
2	<b>K112045</b>	Body, Man. Mtd. (1/8" Bottom Seal)		<b>K473011</b>	Spring N.C. Valve
3	<b>K112046</b>	Body, Man. Mtd. (3/16" Bottom Seal)	7 •	<b>K343042</b>	Plunger
4	<b>K013001</b>	Magnet Bar	8	<b>K423020</b>	Top Seat (1/8" Orifice)
	<b>K272002</b>	Sleeve Sub Assy		<b>K423022</b>	Top Seat (3/16" Orifice)
5*	<b>K593108</b>	Coil (115V 60Hz)	9 •	<b>H13436</b>	Seal
	<b>K593112</b>	Coil (230V 60Hz)	10 •	<b>H14202</b>	Seal
	<b>K593097</b>	Coil 24VDC	11 •	<b>H14215</b>	Seal
	<b>K593107</b>	Coil 115VDC	12	<b>K322004</b>	Junction Box Kit
			13 •	<b>K183012</b>	Gasket

\* Coil leads are 19" long.  
 • Parts included in Seal Kit K352064.

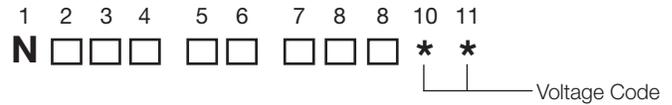
**C**  
 Inline Valves  
 Viking Lite  
 Viking Extreme  
 B3, B5, B6 Series  
 B7, B8 Series  
 Air-Saver Unit  
 "N" Series



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.

C

Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

Air Saver Unit

"N" Series

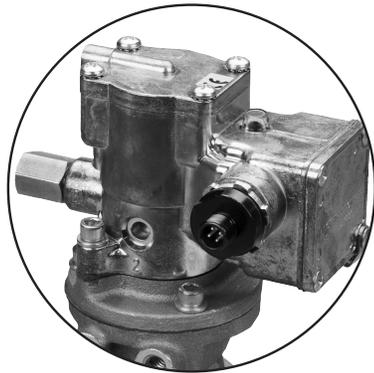


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Flow**

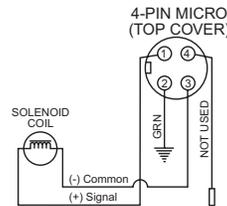
Basic Valve Size	Inlet Port Size	Exhaust Port Size	Cv Inlet to Cylinder	Cv Cylinder to Exhaust
3/8" 3-Way, Normally Closed	3/8" Pipe	1/2" Pipe	3.6	4.2
	1/2" Pipe	1/2" Pipe	3.8	4.3
3/8" 3-Way, Normally Open	3/8" Pipe	1/2" Pipe	3.6	4.1
	1/2" Pipe	1/2" Pipe	3.9	4.5
3/4" 3-Way, Normally Closed	1/2" Pipe	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**

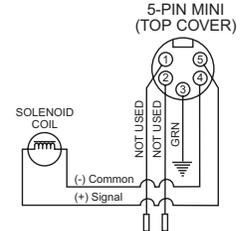


**Chrysler Connection**

**4-Pin Male/Single Solenoid**  
 (Encl. Option J, Wiring Option C)

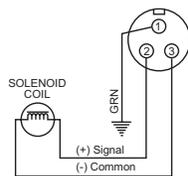


**5-Pin Male/Single Solenoid**  
 (Encl. Option N, Wiring Option C)

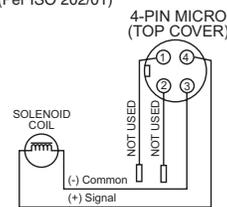


**Ford Connection**

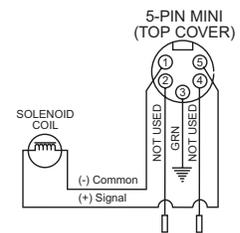
**3-Pin Male/Single Solenoid**  
 (Encl. Option E, Wiring Option F)



**4-Pin Male/Single Solenoid**  
 (Encl. Option J, Wiring Option F)  
 (Per ISO 202/01)

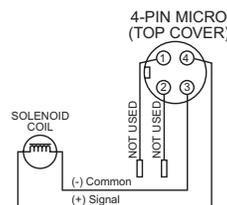


**5-Pin Male/Single Solenoid**  
 (Encl. Option N, Wiring Option F)

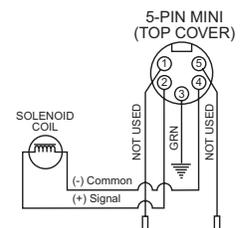


**GM Connection**

**4-Pin Male/Single Solenoid**  
 (Encl. Option J, Wiring Option G)



**5-Pin Male/Single Solenoid**  
 (Encl. Option N, Wiring Option G)



**Automotive Connections**

- 3-Pin & 5-Pin "Mini" (7/8 UNF Thread)
- 4-Pin "Micro" (M12 Thread)

**Solenoid Configurations**

"E", "J", "N"

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



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

**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.

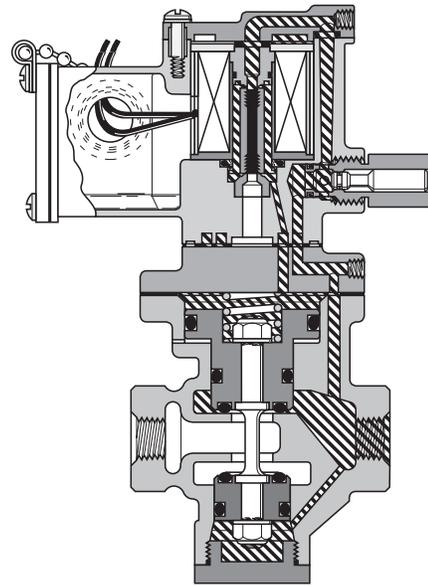
**Installation**

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.

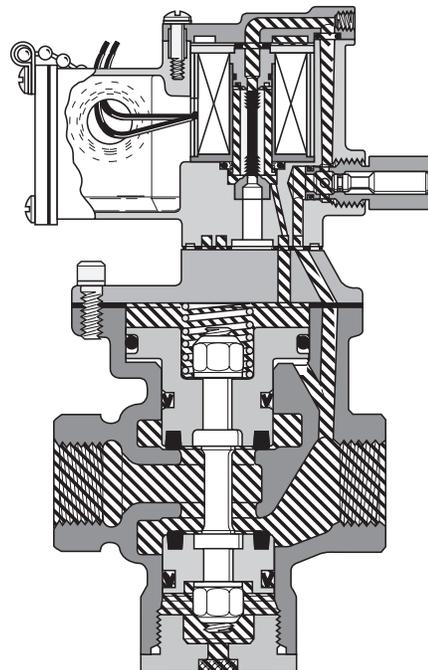
For the small port size options, it is recommended that an air reservoir is located close to the valve inlet as to not starve the valve of air pressure.

**⚠ 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**



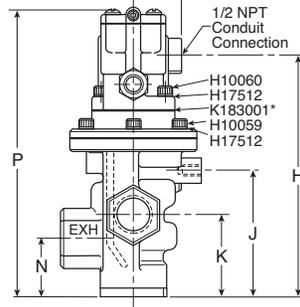
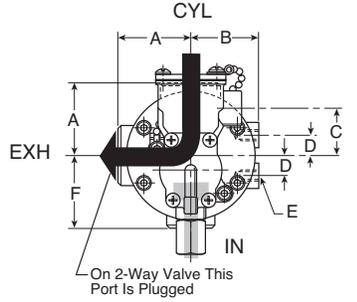
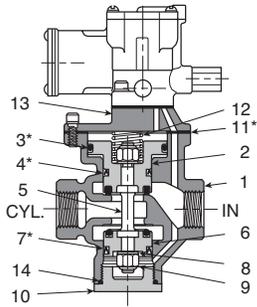
**1-1/4" Solenoid Pilot De-Energized  
 Normally Open**

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

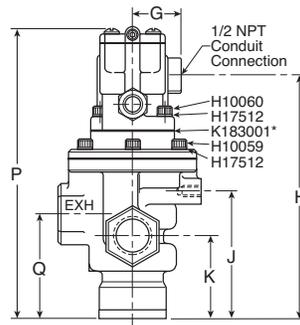
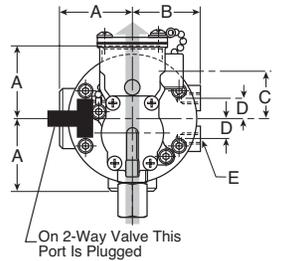
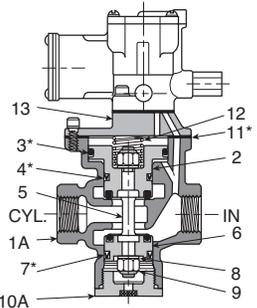
Dimensional Data - Single Solenoid

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	3/8" Tap <b>K053022</b>	1/2" Tap <b>K053075</b> 3/4" Tap <b>K053076</b>	Body (N.C.)
1A	3/8" Tap <b>K053025</b>	1" Tap <b>K053220</b> 3/4" Tap <b>K053077</b> 3/4" Tap <b>K053078</b>	Body (N.O.)
2	<b>K212001</b>	1" Tap <b>K053026</b>	Upper piston Assy
3*	<b>H13648</b>	1" Tap <b>K053218</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

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

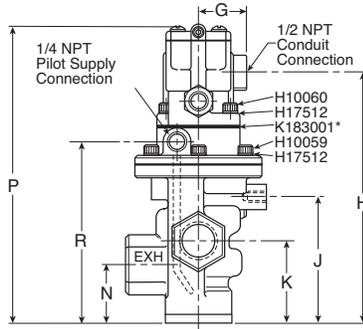
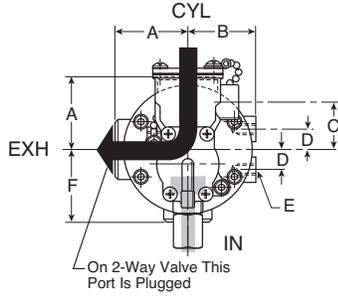
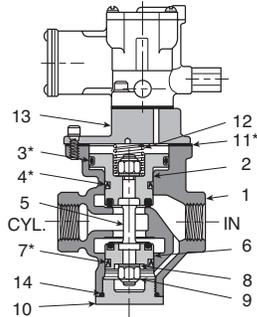


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

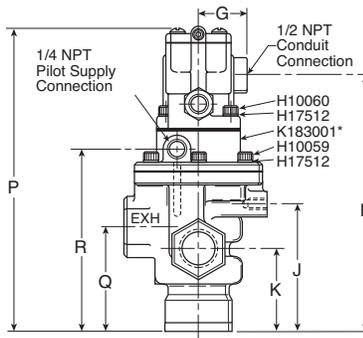
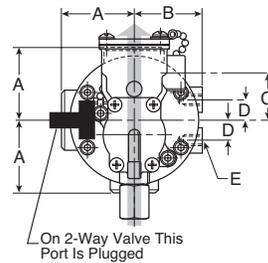
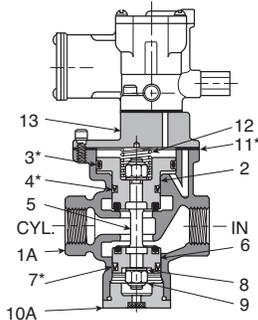
Dimensional Data - Single Solenoid

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	—	1/2" Tap <b>K053067</b>	Body (N.C.)
	3/8" Tap <b>K053019</b>	3/4" Tap <b>K053069</b>	
	—	1" Tap <b>K053221</b>	
1A	—	3/4" Tap <b>K053065</b>	Body (N.O.)
	3/8" Tap <b>K053018</b>	3/4" Tap <b>K053070</b>	
	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

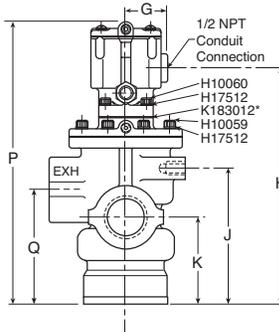
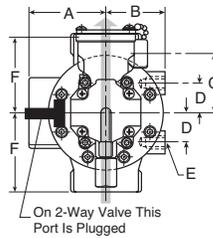
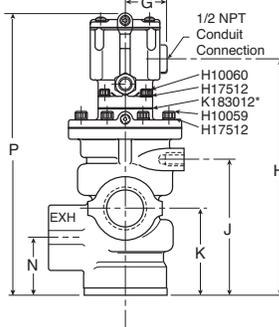
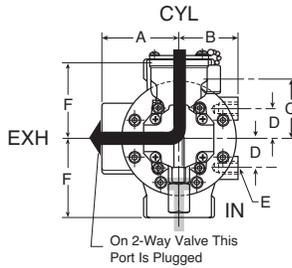
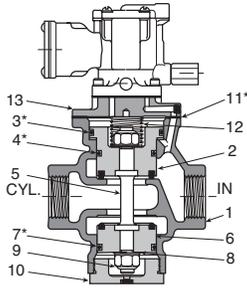


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

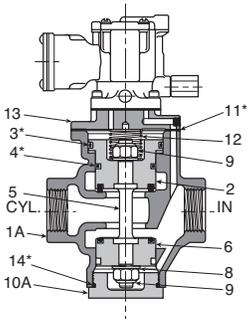
Dimensional Data - Single Solenoid

Internal 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 <b>K313029</b>	
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.

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:

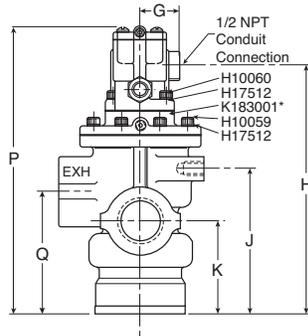
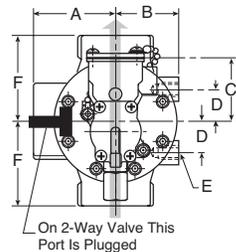
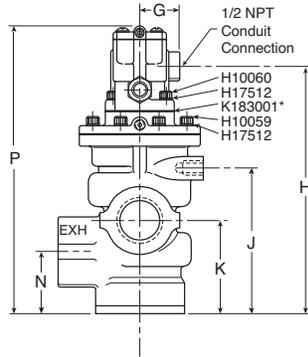
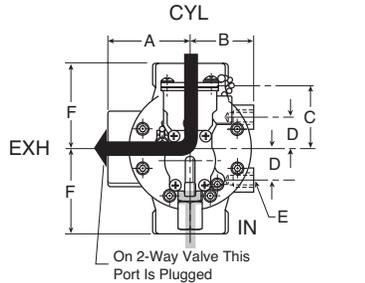
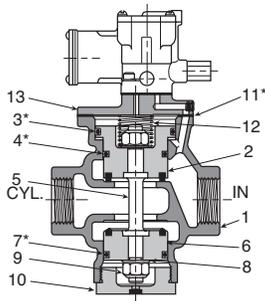
1-1/4" Basic valve with standard service P-Pilots .....**K352078**



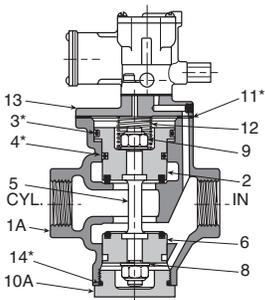
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Continuous Duty 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.

**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**

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

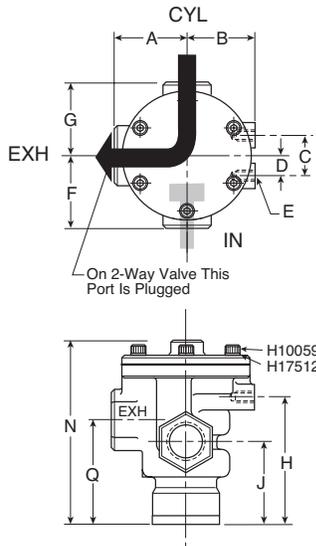
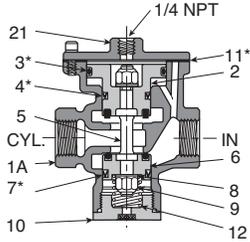


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

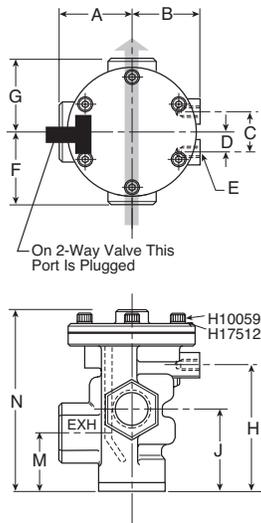
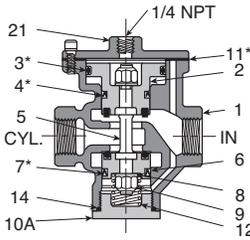
Dimensional Data - Remote Operated

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

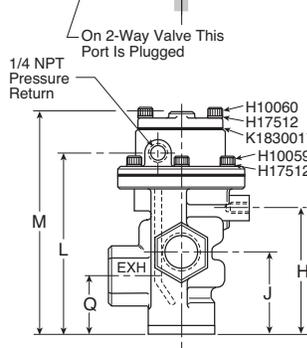
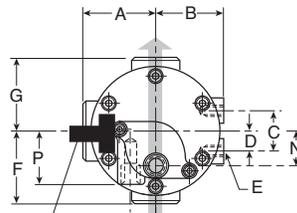
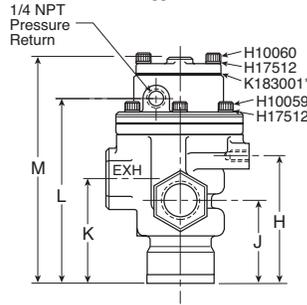
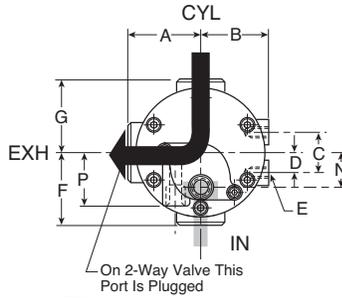
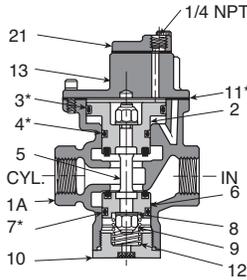


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

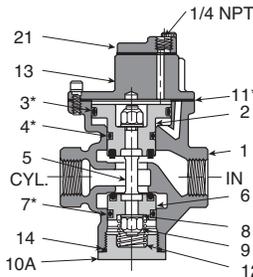
Dimensional Data - Remote Operated

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	1/4" Tap K053011	1/2" Tap K053067	1" Tap K053143	Body (N.O.)
	—	3/4" Tap K053069	—	
	1/2" Tap K053157	1" Tap K053221	1-1/2" Tap K053146	
1A	1/4" Tap K053010	1/2" Tap K053065	1" Tap K053159	Body (N.C.)
	—	3/4" Tap K053070	—	
	1/2" Tap K053064	1" Tap K053219	1-1/2" Tap K053145	
2	K212001	K212002	K313029	Upper piston assy
3*	H13648	H13728	H13752	Seal
4*	H13529	H13676	H13728	Seal

Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
5	K493002	K493009	K493016	Stem
6	K202001	K202002	K313028	Lower piston assy.
7*	H13499	H13676	H13728	Seal
8	H17811	H17813	H17817	Washer (2)
9	H06326	H06332	H06338	Stop nut (2)
10	K092020	K092034	K092046	Bottom cap assy. (N.C.)
10A	K103035	K103053	K103061	Bottom cap (N.O.)
11*	K183049	K183057	K183058	Gasket
12	K473014	K473015	K473016	Spring
13	K563016	K563021	K563027	Adapter
14*	K41RB72121	K41RB72221	K41RB72143	O-ring
21	K323027	K323027	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 13			On center 1.00 25		
Q	1.44	37	1.78	45	2.31	59

Service Kits

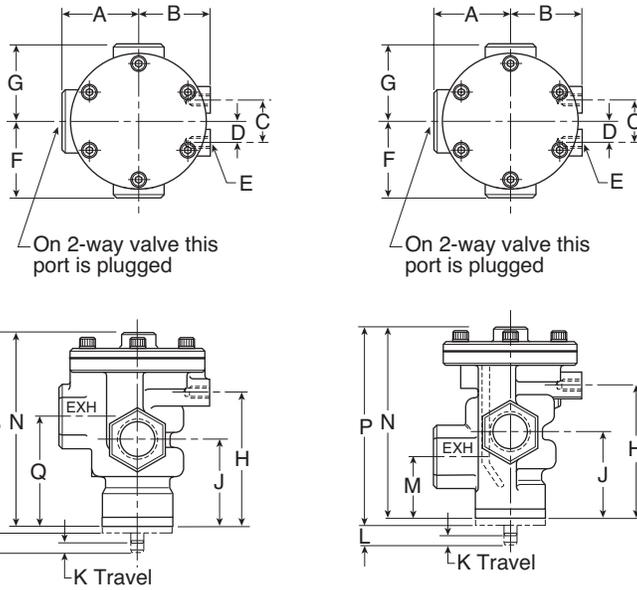
Include all parts normally required for in-service maintenance:

- 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)

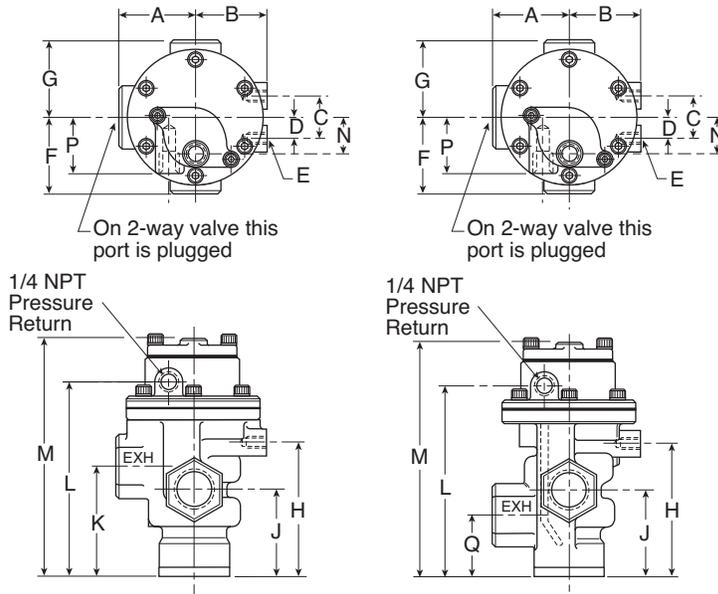
**Internal Return - 3/8", 3/4" & 1-1/4" Basic Body**



**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

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



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



Inline Valves

Viking Lite

Viking Extreme

B3, B5, B6 Series

B7, B8 Series

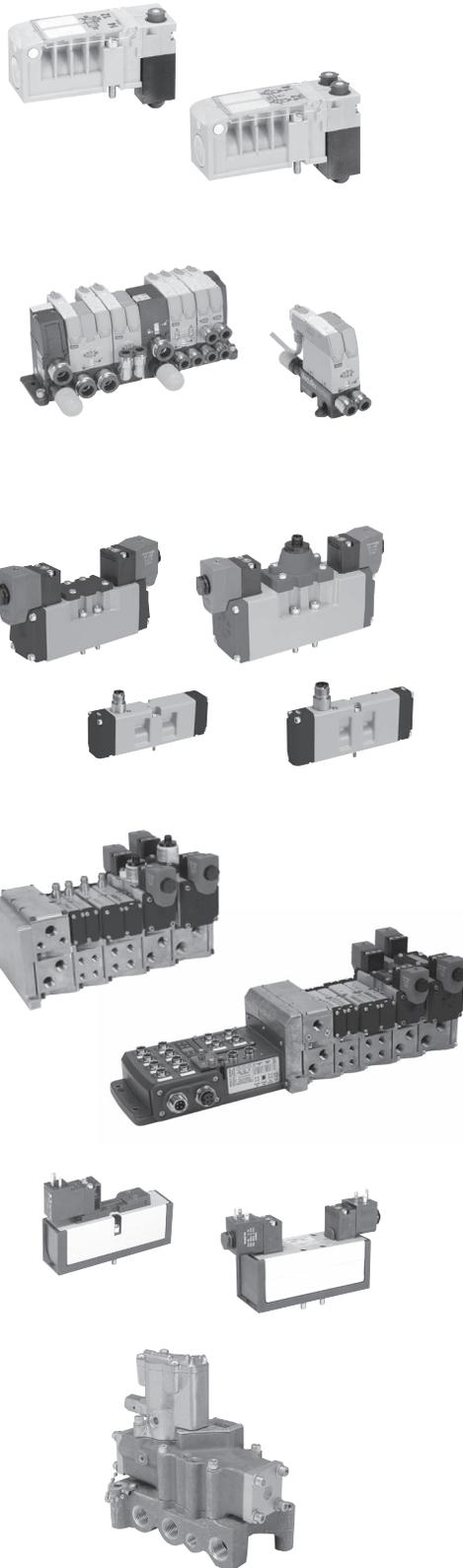
Air Saver Unit

"N" Series



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

**Pneumatic Valve Products**  
**Subbase and Manifold Valve Series**



**H Series Micro**

Features	D2-D3
Common Part Numbers	D4-D5
Ordering Information	D6-D9
Technical / Dimensional Data	D10-D26
Accessories	D12

**Moduflex Series**

Features	D27-D31
Common Part Numbers / Ordering Information	D32-D46
P2M Network Nodes	D47-D54
Technical Data / Accessories	D55-D65
Dimensional Data	D66-D71

**H Series ISO**

Features	D72-D75
Plug-In	
15407-2 - Size 02, 01 / 5599-2, Size 1, 2	D76-D92
5599-2 - Size 3	D93-D100
Non Plug-In	
15407-1 - Size 02, 01 / 5599-1 - Size 1, 2	D101-D115
5599-1 Size 3	D116-D122
Technical Data / Accessories	D123-D137
Dimensional Data	D138-D149

**Network Connectivity**

Features	D150-D159
P2M Network Nodes	D160-D169
P2H Network Nodes	D170-D189
PCH Network Portal	D190-D206
Turck Network Portal	D207-D226
Accessories / Cables	D227-D229
Technical / Dimensional Data	D230

**DX Series**

Features	D231
Common Part Numbers / Ordering Information	D232-D238
Non Plug-In	
15407-1, Size 02 & 01	D239-D247
5599-1, Size 1, 2, 3	D248-D249
Technical Data / Accessories	D250-D262
Dimensional Data	D263-D269

**Valvair II Series**

Features	D270
Common Part Numbers / Ordering Information	D271-D276
Technical Data / Accessories	D277-D287
Dimensional Data	D288-D295

**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**

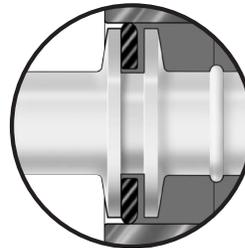
0.30 Cv  
 C = 1 NI/s x bar, b = 0.13  
 Qn = 228 NI/min  
 Qmax = 402 NI/min

Pilot pressure requirements:

Valve number	Minimum pilot pressure	Maximum pilot pressure
<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

**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

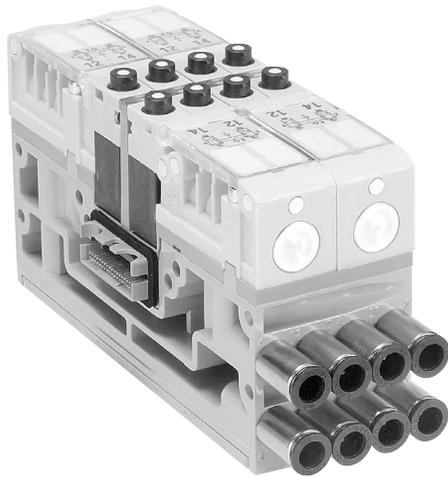
Network Connectivity

DX ISOMAX Series

Valvair II Series



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



**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

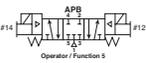
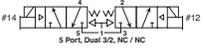
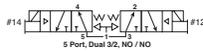
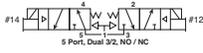
**Manifold Platforms**

- 25 pin D-sub manifolds for control systems with discrete Outputs
- IO-Link Type A & Type B communication modules
- Cost effective moduflex fieldbus manifolds with with Ethernet protocols Ethernet IP, Profinet, Ethercat and Modbus TCP

**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

**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	
		Side Port
<b>Plug-In Valve Manifolds</b>		
Single solenoid outputs only	 <b>PSM21 JAP</b>	 <b>PSM22 JAP</b>
Double or single solenoid outputs	 <b>PSM21 MAP</b>	 <b>PSM22 MAP</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)

**Internal Pilot End Plate Kits**

	Electrical Option	Porting	Side Port	Bottom Port
	25-pin, D-sub	NPT	<b>PSML25AP</b>	<b>PSML26AP</b>
		BSP	<b>PSML21AP</b>	<b>PSML22AP</b>
	Turck fieldbus with valve driver module - 16 outputs	NPT	<b>PSMT15AP</b>	<b>PSMT16AP</b>
		BSP	<b>PSMT11AP</b>	<b>PSMT12AP</b>
	Turck fieldbus with valve driver module - 32 outputs	NPT	<b>PSMT25AP</b>	<b>PSMT26AP</b>
		BSP	<b>PSMT21AP</b>	<b>PSMT22AP</b>
	Moduflex up to 24 outputs	NPT	<b>PSMM45AP</b>	<b>PSMM46AP</b>
		BSP	<b>PSMM41AP</b>	<b>PSMM42AP</b>

 Most popular.

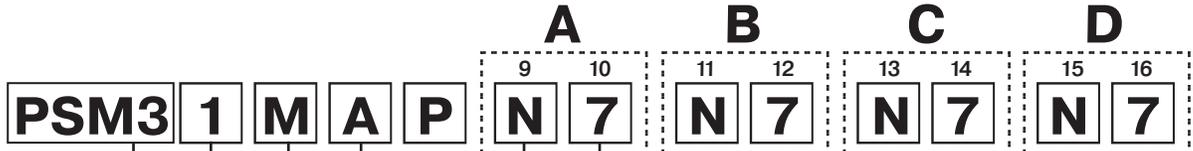


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Ordering Information**

**Simple Manifold Assemblies**

Includes a valve manifold with 4 valves and fittings installed. End Plates must be ordered separately.



Base Style	
4-Station Manifold with Valve and / or Fitting	PSM3

Mounting Style	
Side Ported	1
Bottom Ported	2

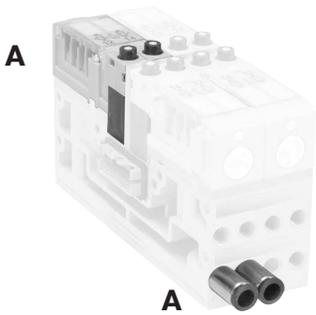
Enclosure / Lead length	
Single Address Circuit Board	J
Double Address Circuit Board	M

Engineering Level	
Current	A

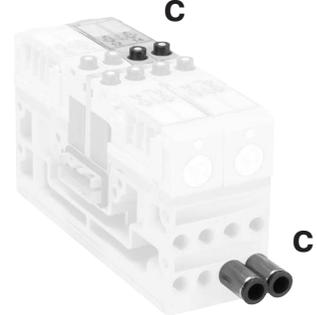
10, 12, 14, 16 Fitting	
0	Without Fitting
4	Straight Fitting for 5/32 Inch or 4mm OD Tube
6	Straight Fitting for 6mm OD Tube
7	Straight Fitting for 1/4 inch OD Tube
P	Plug for Blanking Module

9, 11, 13, 15 Valve Type	
N*	Double Solenoid, Dual 3/2, NC/NC
P*	Double Solenoid, Dual 3/2, NO/NO
Q*	Double Solenoid, Dual 3/2, 14 End NO - 12 End NC
E	Single Solenoid, 2-Position - Air Return, Spring Assist
2*	Double Solenoid, 2-Position
5*	Double Solenoid, 3-Position - APB
B**	Blanking Module
C	Intermediate Air Supply Module

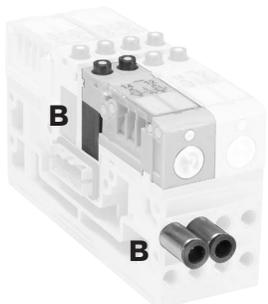
\* Requires double address circuit board, enclosure "M".  
\*\* Requires fitting "P".



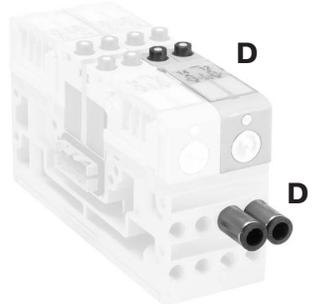
**Valve Position A - Character 9**  
**Fitting Position A - Character 10**



**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.

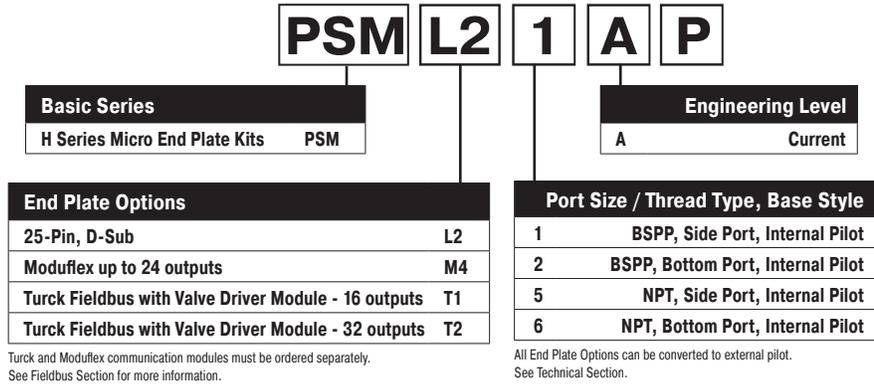
**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series



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

**Plug-in End Plate Kits**

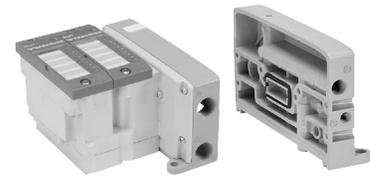
**BOLD OPTIONS ARE MOST POPULAR.**



L2: 25-Pin, D-Sub End Plates



M4: Moduflex Fieldbus End Plates



T1, T2: H Series Micro Turck End Plates

**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)

D7

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

# Ordering Information

# Subbase & Manifold Valve Products H Series Micro

## 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 Simple Manifold Assemblies. List left to right, LOOKING AT THE CYLINDER PORTS on the manifold.

## Maximum Number of Solenoids (Maximum Energized Simultaneously)

	Turck			
	25-pin D-sub	Moduflex	16 Outputs	32 Outputs
24VDC	24 (24)	24 (24)	16 (16)	32 (32)

## 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
Moduflex - Up to 24 Outputs	T

Turck 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.

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		
Internal Pilot End Plate		
0	With Standard Plug	
External Pilot End Plate		
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	

**Note:**  
BSPP fittings can only be used with BSPP Manifolds.  
NPT fittings can only be used with NPT Manifolds.

   Most popular.

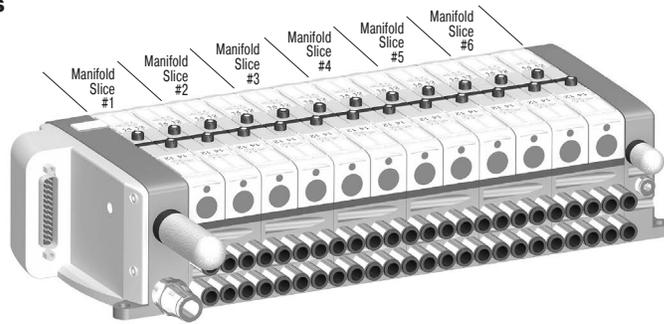


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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**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.

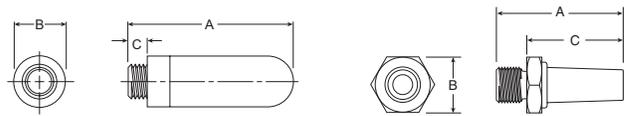
The sandwich regulator passes full pilot pressure from the manifold, allowing the regulated pressure to adjusted down to 5 PSI without affecting valve functionality.

**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**



P6M-PAB1 & P6M-PAB3

P0568800

Port Thread	A	Ø B	C	Weight (grams)	Part Number
 1/8 pilot exhaust – BSP or NPT	1.36 (34.5)	0.50 (12.7)	0.26 (6.7)	0.02	<b>P6M-PAB1</b>
 3/8 main exhaust – BSP or NPT	2.64 (67)	0.79 (20)	0.43 (11)	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**

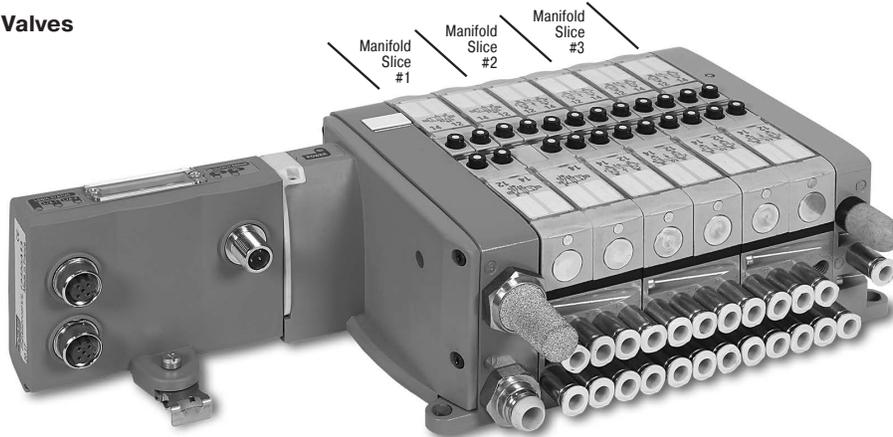
Thread	Tube O.D.	Part Number
<b>Manifold or pilot supply ports – straight</b>		
 M7	4mm or 5/32"	<b>PS567904</b>
M7	6mm	<b>PS567906</b>
M7	1/4"	<b>PS567925</b>
<b>Main inlet or exhaust ports</b>		
 3/8" NPT	1/4"	<b>PS568325</b>
3/8" NPT	3/8"	<b>PS568338</b>
3/8" BSPP	8mm	<b>PS568308</b>
3/8" BSPP	10mm	<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 muffer	<b>P6M-PAB3</b>
07	1	1/8" exhaust muffer	<b>P6M-PAB1</b>

**Additional Components**

**Moduflex Communication Modules  
 Industrial Ethernet – IP65**

Industrial Ethernet Protocol	Maximum Addresses †	Part Number
EtherNet/IP ( <i>Safe Power Capable</i> )	24 †	<b>P2M2HBVE12400</b>
PROFINET ( <i>Safe Power Capable</i> )	24 †	<b>P2M2HBVN12400</b>
EtherCAT ( <i>Safe Power Capable</i> )	24 †	<b>P2M2HBVT12400</b>
Modbus/TCP ( <i>Safe Power Capable</i> )	24 †	<b>P2M2HBVM12400</b>
PowerLink ( <i>Safe Power Capable</i> )	24 †	<b>P2M2HBVW12400</b>

**Industrial Ethernet – IP20**

Industrial Ethernet Protocol	Maximum Addresses †	Part Number
Profinet IO	24 †	<b>P2M2HBVE12400RJ</b>
EtherNet/IP	24 †	<b>P2M2HBVN12400RJ</b>
EtherCAT	24 †	<b>P2M2HBVT12400RJ</b>

† 24 addresses capable when used with H Micro and H ISO only

Most popular.

**IO-Link**

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>

Note: For Safe Power Capable version, add "-SPC" to end of part number

**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

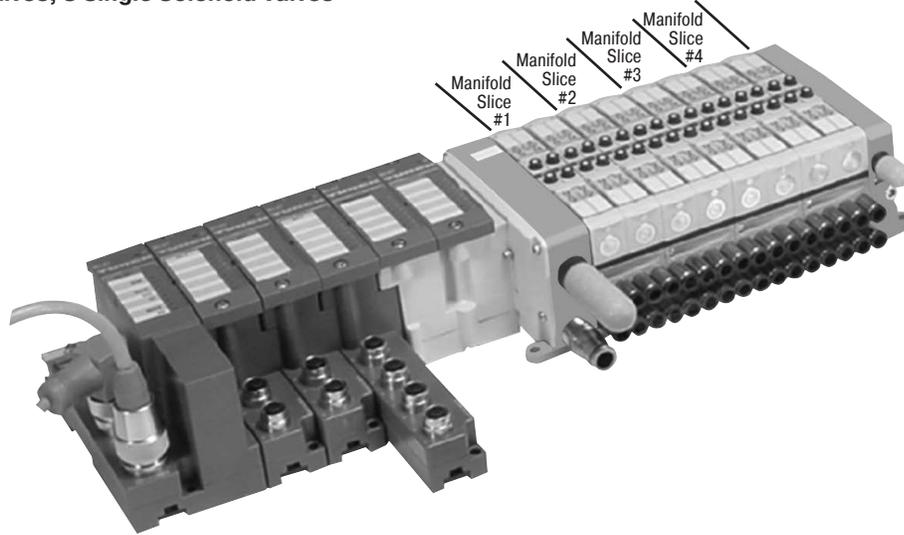
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



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

**Turck 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	16 valve add-a-fold with end plates	<b>AAHMB4169M0M</b>
02	2	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	Turck Communications with 32 output	<b>PSMT25AP</b>
02	12	Double solenoid, dual 3/2, NC/NC	<b>HMN VX2049A</b>
03	3	Manifold, side ported, double address	<b>PSM21MAP</b>
04	4	Single solenoid, 2-position, air return, spring assist	<b>HMEVX2049A</b>
05	1	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>

**Additional Components**

Description	Part Number
Turck Ethernet IP Communications	<b>PSSCDM12A</b>

 Most popular.



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

D11

**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

**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**

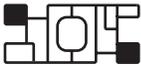
Description	Part Number
 Gasket and mounting screws.	<b>HMCVX00XXA</b>

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>

**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\***

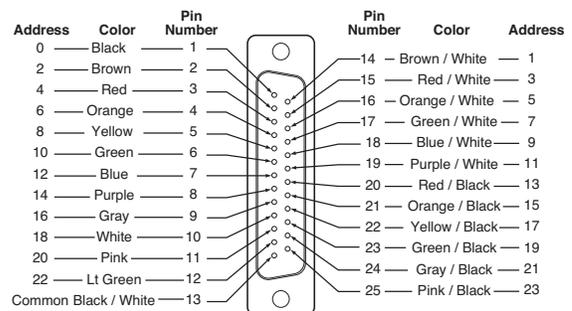
Description	Part Number
Single solenoid diagram	<b>PSM002E</b>
Double solenoid diagram	<b>PSM0022</b>
Double solenoid diagram – APB	<b>PSM0025</b>
Double solenoid diagram – Dual 3/2 NC/NC	<b>PSM002N</b>
Double solenoid diagram – Dual 3/2 NO/NO	<b>PSM002P</b>
Double solenoid diagram – Dual 3/2, 14 end 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  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

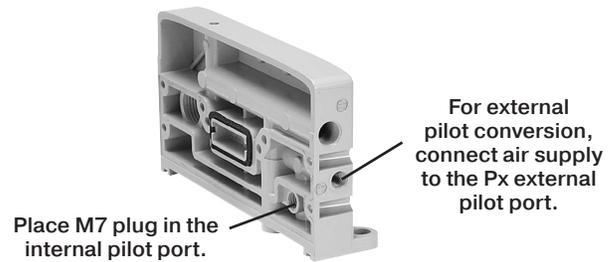


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Pilot Configuration**

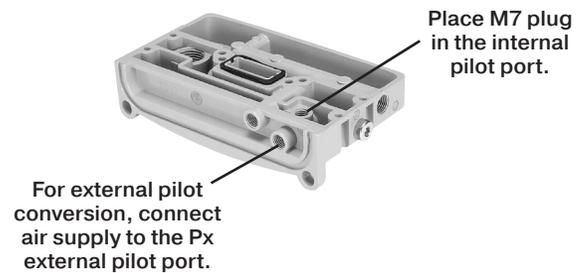
**Side Ported**

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.

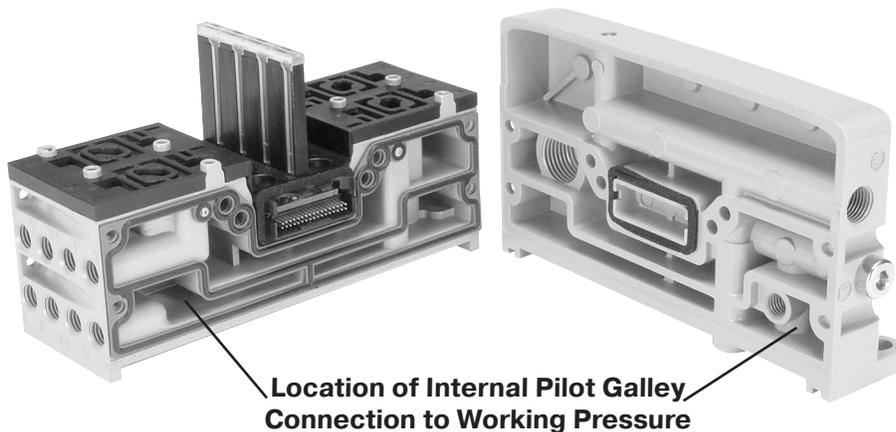


**Pilot Pressure Requirements**

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**



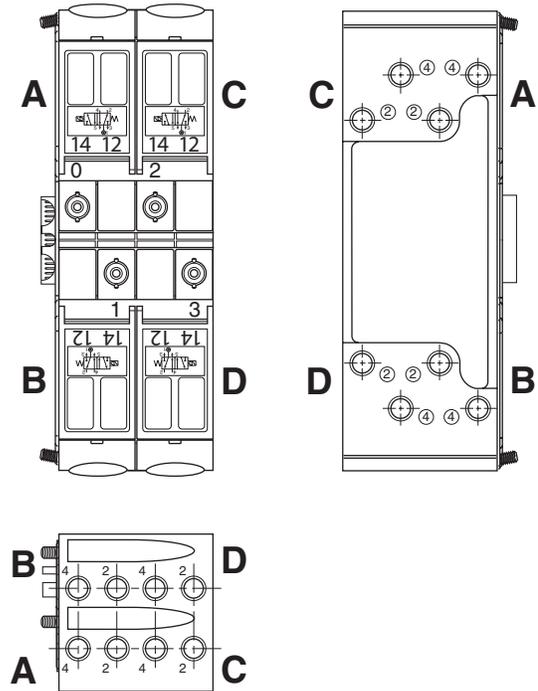
**Single Pressure At Inlet Port 1:**

**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.

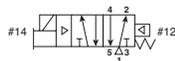
**Energized position** – Solenoid operator # 14 energized. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

**HMEVX2049A - Single Address Manifolds**

Valve Position A		Valve Position C	
<b>Output 0</b>			
<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>
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>			
<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>
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>			
<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>
1→4	1→2	1→4	1→2
3←2	5←4	3←2	5←4



**Single Solenoid - Double Address Manifolds**



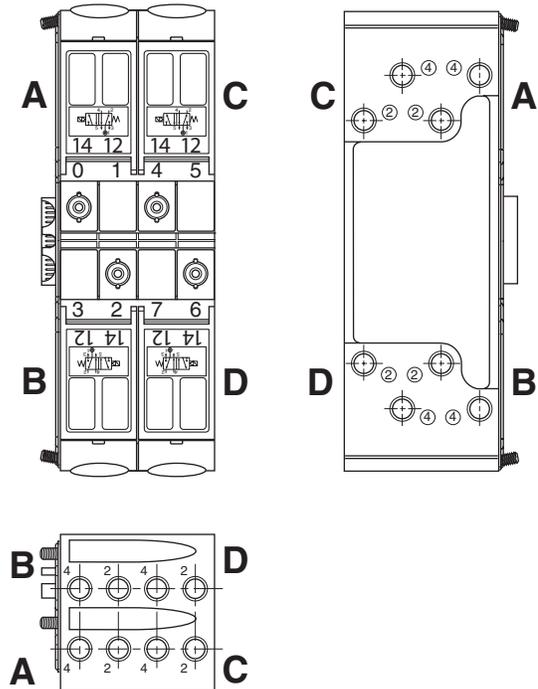
**Single Pressure At Inlet Port 1:**

**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>	
<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>
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
<b>Output Lost</b>				<b>Output Lost</b>			
1→2		1→2		1→2		1→2	
3←2		3←2		3←2		3←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>	
<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>	<b>On</b>	<b>Off</b>
<b>Output Lost</b>		<b>Output Lost</b>		<b>Output Lost</b>		<b>Output Lost</b>	
1→2		1→2		1→2		1→2	
1→2		1→2		1→2		1→2	
3←2		3←2		3←2		3←2	
5←4		5←4		5←4		5←4	



**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

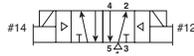
Valvair II Series



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.

**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

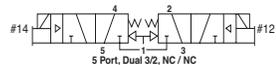
**HM2VX2049A - Double Address Manifolds - Last state #14 Energized**

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.

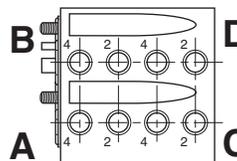
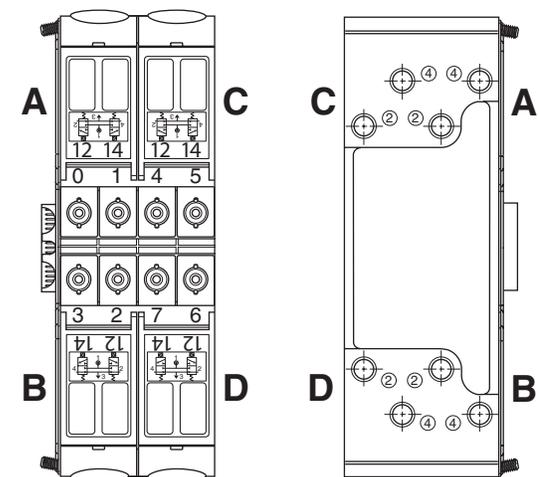
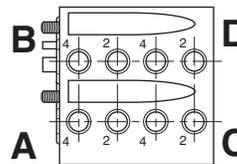
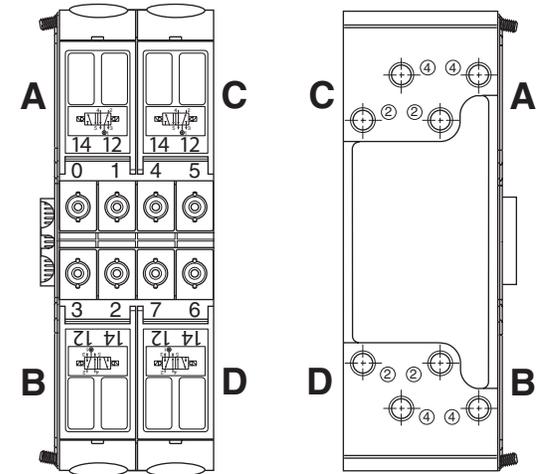
**With #14 & #12 operators both energized** – pressure at inlet port 1 connected to outlet ports 4 & 2, exhaust ports 3 & 5 blocked.

**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

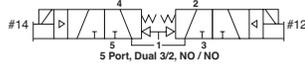
A 2-Position, Double Solenoid Valve is a detented valve. When the output is removed, the spool remains in its position.



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.

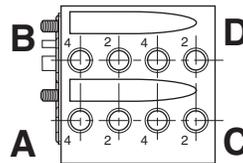
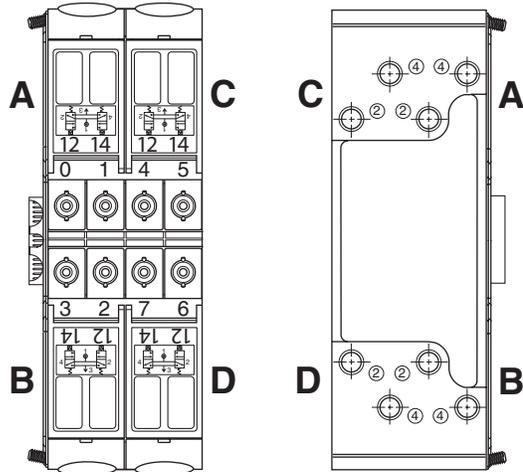
*With #14 & #12 operators both energized* – pressure at inlet port 1 blocked, outlet port 4 connected to exhaust port 5, outlet port 2 connected to exhaust port 3.

**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→

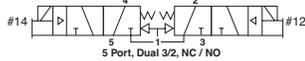
  

Valve Position B				Valve Position D			
Output 3		Output 2		Output 7		Output 6	
On	Off	On	Off	On	Off	On	Off
1→	1→4	1→	1→2	1→	1→4	1→	1→2
5←4	5→	3←2	3→	5←4	5→	3←2	3→



**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.

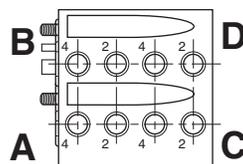
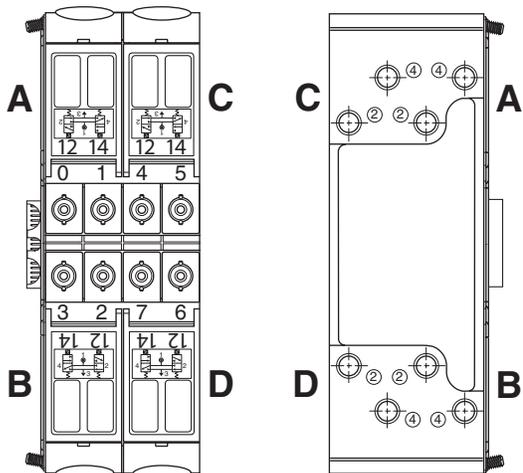
*With #14 & #12 operators both energized* – pressure at inlet port 1 connected to outlet port 2, exhaust port 3 blocked, outlet port 4 connected to exhaust port 5.

**HMVX2049A - 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

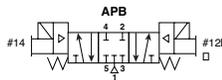


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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.

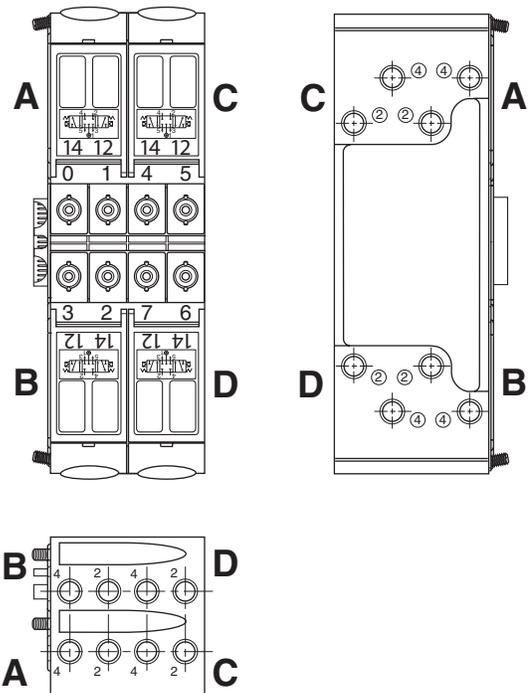
All ports blocked in the center position.

**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

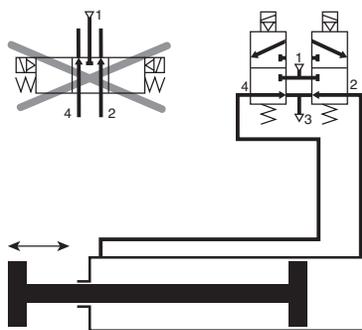
Valve Position B			Valve Position D		
Output 2 On	Output 2 Off	Output 2 Off	Output 6 On	Output 6 Off	Output 6 Off
Output 3 Off	Output 3 On	Output 3 Off	Output 7 Off	Output 7 On	Output 7 Off
5→1	5←4	3→1 1→4	5→1	5←4	3→1 1→4
1→4	1→2	1→1 1→2	1→4	1→2	1→1 1→2
3←2	3→1	5→1	3←2	3→1	5→1



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

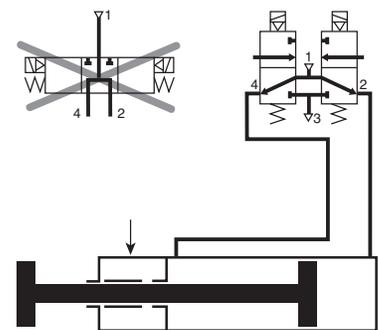
**3-position center exhaust**

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.

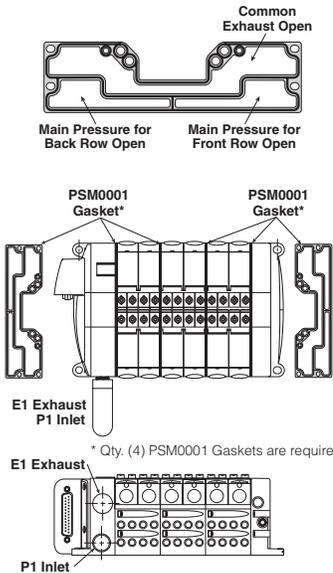


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Multiple Pressure Zones**

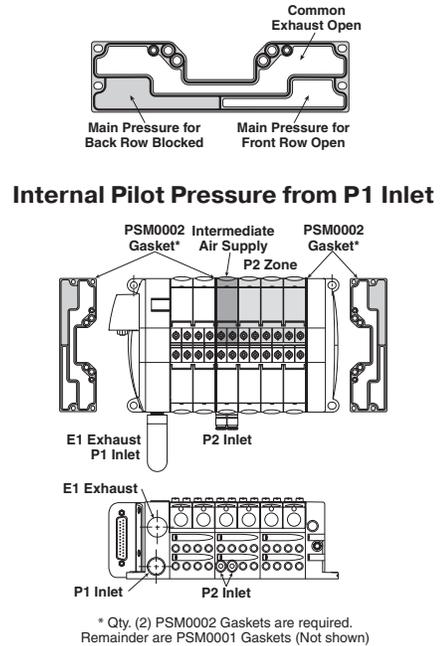
**PSM0001 –**

All ports open. Common pressure for front and rear manifold.  
 Common exhausts.  
 Standard gasket included with each manifold and end plate.



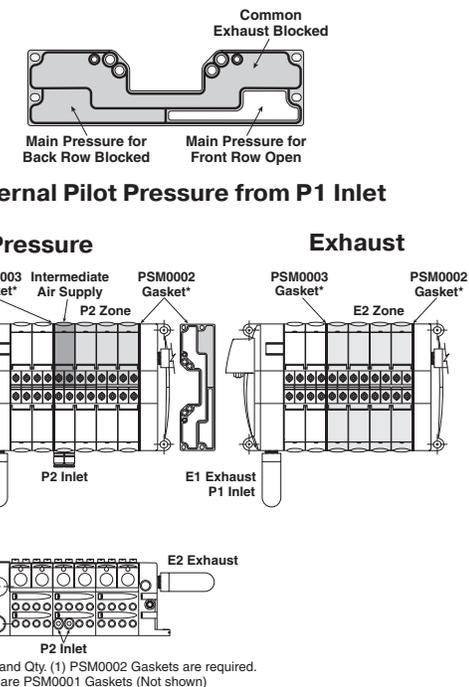
**PSM0002 –**

Rear manifold blocked for separate pressure supply.  
 Common exhausts.  
 Flip gasket to block front of manifold.



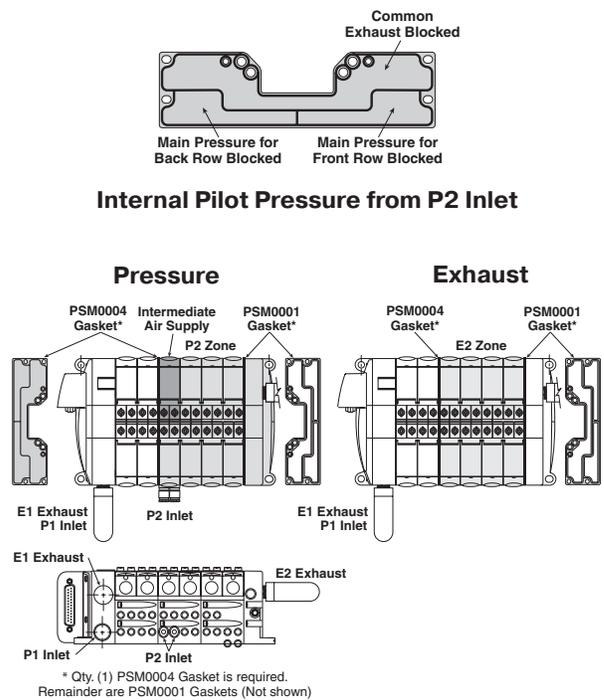
**PSM0003 –**

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  
 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvaire II Series



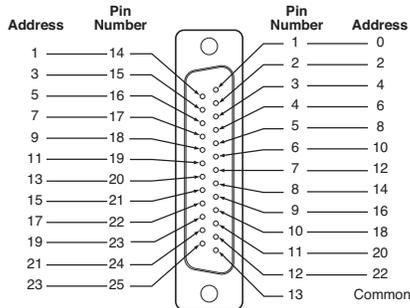
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Maximum Number of Solenoids**  
 (Maximum Energized Simultaneously)

	25-Pin D-Sub	Moduflex	H Series Fieldbus*
24VDC	24 (24)	24 (24)	32 (32)

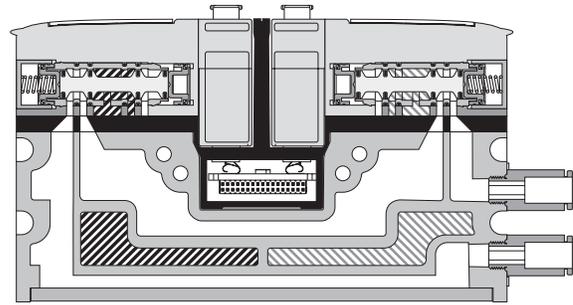
\* Maximum of 32 solenoids per manifold. With Bus Extension functionality, 4 manifolds with up to 32 solenoids each can be connected on the same network.

**25-Pin, D-Sub Connector (Male)**

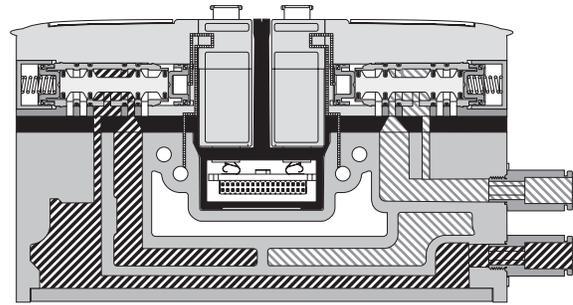


View into End Plate Connector - Male D-Sub, 25-Pin

**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



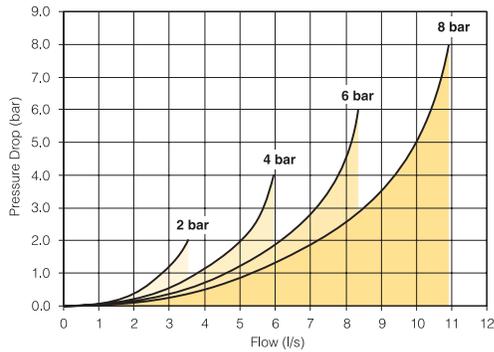
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D20

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

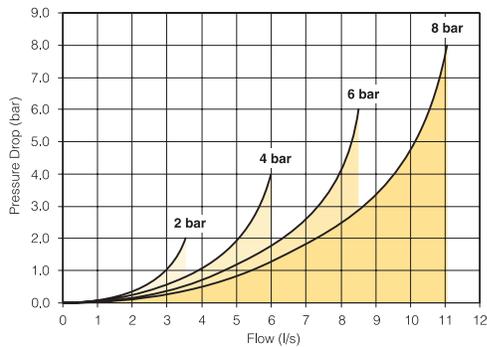
**Flow Characteristics**

**Dual 3/2**



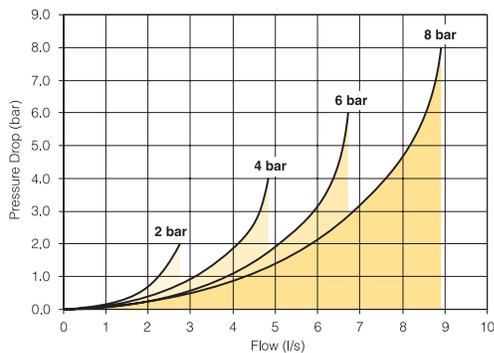
Operating pressure: 39 to 120.3 PSI (2.7 to 8.3 bar)  
 Change-over time (side 14): Actuation 15 ms  
 Return 20 ms P = 6b  
 Change-over time (side 12): 15 ms / 25 ms P = 6b  
 Flow (acc. to ISO 6358):  $c = 1.2 \text{ NI/s} \times \text{bar}$   
 $b = 0.13$   
 $Q_n = 4.6 \text{ NI/s}$   
 $Q_{max} = 8.4 \text{ NI/s}$

**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):  $c = 1.2 \text{ NI/s} \times \text{bar}$   
 $b = 0.13$   
 $Q_n = 4.7 \text{ NI/s}$   
 $Q_{max} = 8.5 \text{ NI/s}$

**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):  $c = 1 \text{ NI/s} \times \text{bar}$   
 $b = 0.14$   
 $Q_n = 3.8 \text{ NI/s}$   
 $Q_{max} = 6.7 \text{ NI/s}$

**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	Operating pressure:	-13 to 120.3 PSI (-0.9 to 8.3 bar) with external pressure 87 PSI (6 bar)
Storage temperature:	104°F to 158°F (-40°C to 70°C)	Piloting pressure:	37 to 120.3 PSI (2.7 to 8.3 bar)
Working temperature:	5°F to 122°F (-15°C to 50°C)	Exhaust collection:	Independent exhaust collection
Vibration:	according to IEC 68-2-6 2G to 150 Hz	Rated coil voltage:	24 VDC -15% / +10%
Shock:	according to IEC 68-2-27 15G 11 ms	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

**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

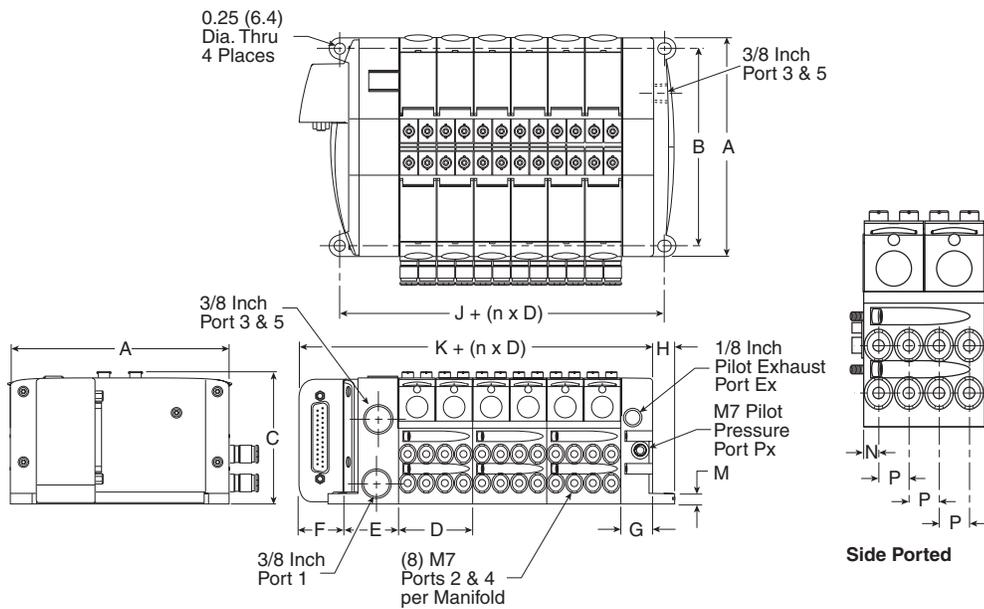
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**25-pin, D-Sub with H Series Micro Valves, Side Ported**



**Dimensions**

A	B	C	D
4.88	4.41	2.95	1.65
(124.0)	(112.0)	(75.0)	(42.0)

E	F	G	H
1.22	1.02	0.71	0.49
(31.0)	(26.0)	(18.0)	(12.5)

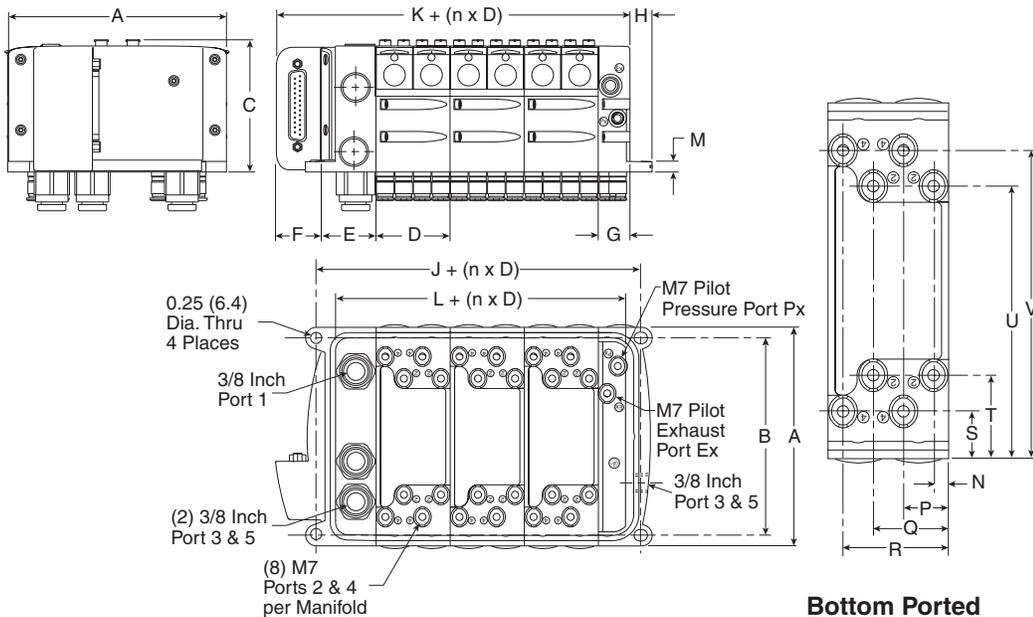
J	K	M	N
2.28	3.44	0.24	0.21
(58.0)	(87.5)	(6.1)	(5.2)

P
0.41
(10.5)

Inches (mm)  
 n = Number of manifolds

**Side Ported**

**25-pin, D-Sub with H Series Micro Valves, Bottom Ported**



**Dimensions**

A	B	C	D
4.88	4.41	2.95	1.65
(124.0)	(112.0)	(75.0)	(42.0)

E	F	G	H
1.22	1.02	0.71	0.49
(31.0)	(26.0)	(18.0)	(12.5)

J	K	L	M
2.28	3.44	1.69	0.24
(58.0)	(87.5)	(43.0)	(6.1)

N	P	Q	R
0.21	0.62	1.03	1.45
(5.3)	(15.8)	(26.3)	(36.8)

S	T	U	V
0.64	1.14	3.73	4.23
(16.40)	(29.0)	(94.9)	(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.



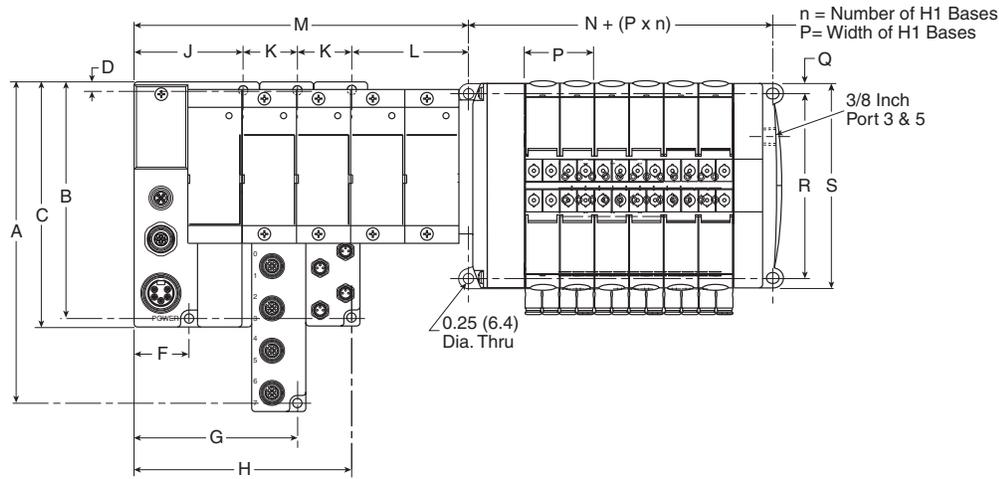
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D22

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

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Turck with H Series Micro Valves, Side Ported**

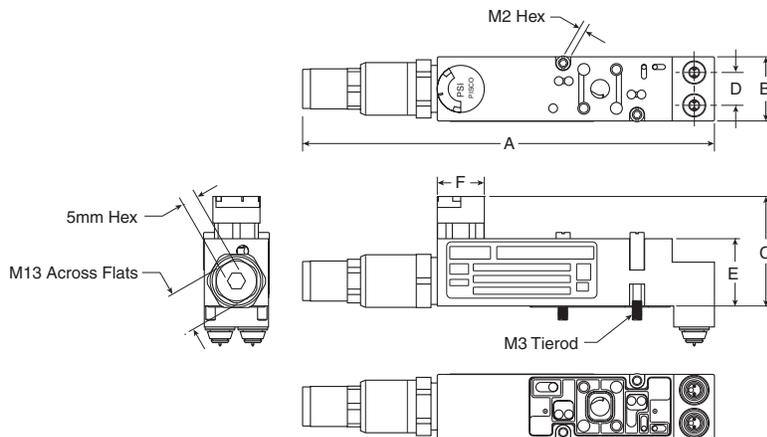


**Dimensions**

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**



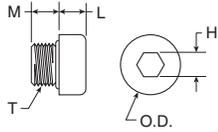
**Dimensions**

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)

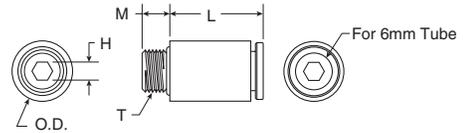
**M7 Fittings**

**PS567900 – Kit PSM0013**



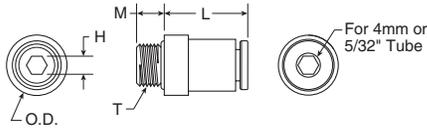
Part no.	L	M	H hex	T thread	O.D.
<b>PS567900</b>	0.18 (4.5)	0.20 (5)	0.16 (4)	M7 x 1	0.39 (10)

**PS567906**



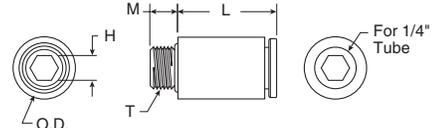
Part no.	Tube size	L	M	H Hex	T thread	O.D.
<b>PS567906</b>	6mm	0.63 (16)	0.20 (5)	0.12 (3)	M7 x 1	0.39 (10)

**PS567904**



Part no.	Tube size	L	M	H Hex	T thread	O.D.
<b>PS567904</b>	4mm or 5/32"	0.55 (14)	0.20 (5)	0.12 (3)	M7 x 1	0.39 (10)

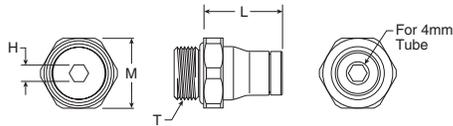
**PS567925**



Part no.	Tube size	L	M	H Hex	T thread	O.D.
<b>PS567925</b>	1/4"	0.65 (16.5)	0.18 (4.6)	0.16 (4)	M7 x 1	0.41 (10.3)

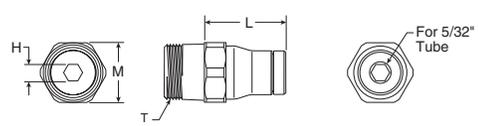
**1/8 Inch Fittings**

**PS568204**



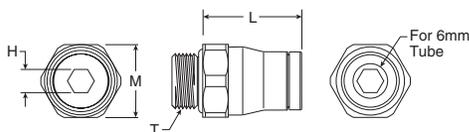
Part No.	Tube Size	L	M Hex	H Hex	T Thread
<b>PS568204</b>	4mm	0.57 (14.5)	0.51 (13)	0.12 (3)	G1/8

**PS568215**



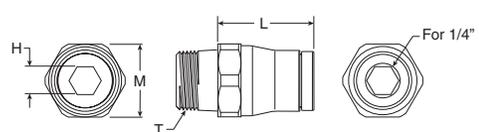
Part No.	Tube Size	L	M Hex	H Hex	T Thread
<b>PS568215</b>	5/32"	0.59 (15)	0.43 (11)	0.12 (3)	1/8 NPT

**PS568206**



Part no.	Tube size	L	M Hex	H Hex	T thread
<b>PS568206</b>	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
<b>PS568225</b>	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

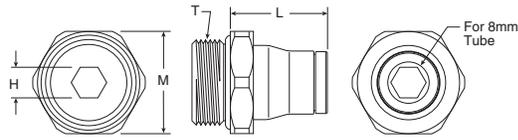
Valvair II  
Series



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

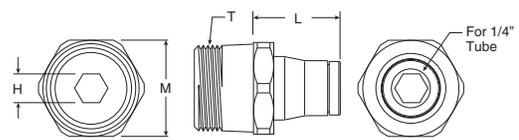
**3/8 Inch Fittings**

**PS568308**



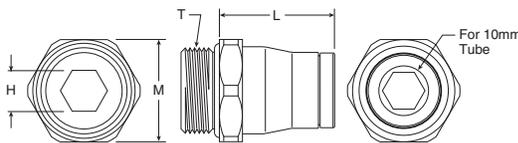
Part no.	Tube size	L	M Hex	H Hex	T thread
<b>PS568308</b>	8mm	0.75 (19)	0.79 (20)	0.24 (6)	G3/8

**PS568325**



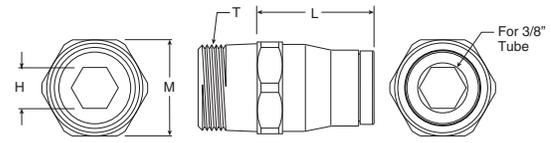
Part no.	Tube size	L	M Hex	H Hex	T thread
<b>PS568325</b>	1/4"	0.67 (17)	0.71 (18)	0.20 (5)	3/8 NPT

**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



**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 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**

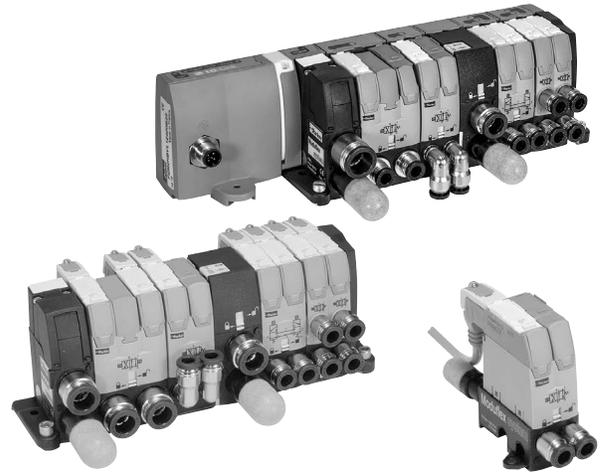
- Industrial Ethernet – EtherNet/IP, PROFINET, Modbus TCP, PowerLink, EtherCAT
- IO-Link – Class A & Class B

**Solenoids**

- 1.0 Watt
- 24 VDC
- Compatible with PNP or NPN outputs

**Certification / approval**

- IP65 rated
- CE, as marked



**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)

**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

Most popular.

D	Subbase & Manifold 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.



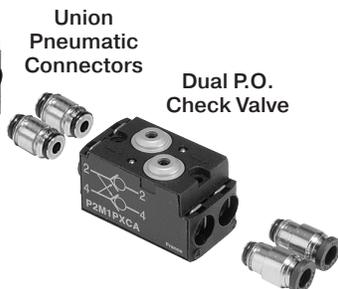
“S” Series Size 1 Single Solenoid



“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

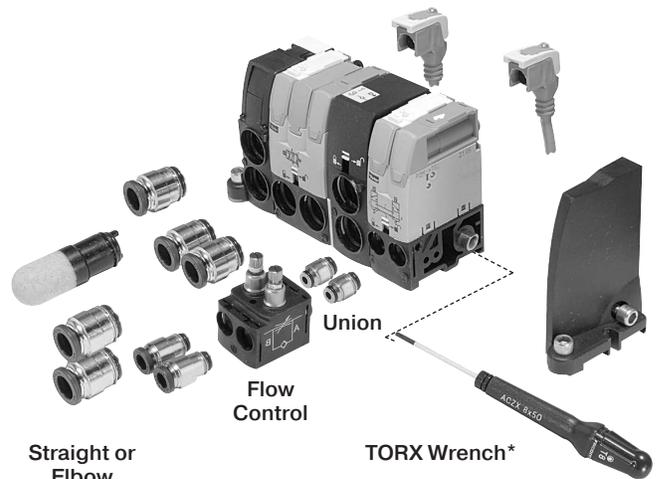
### “T” Series Valve Island Modules with Individual Connectors

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.

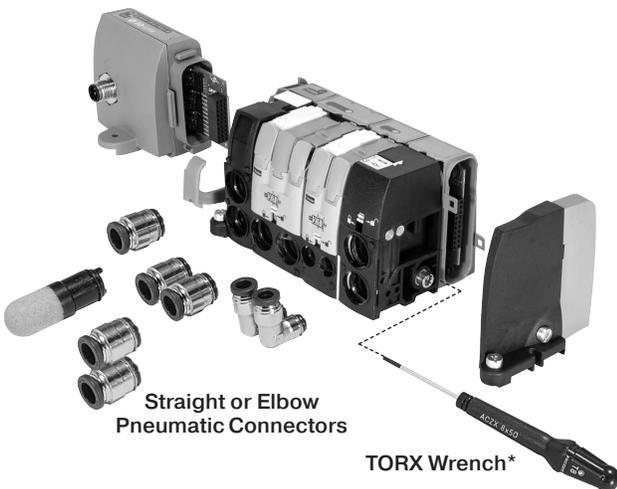


“V” Series with 20-Pin Connector



“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

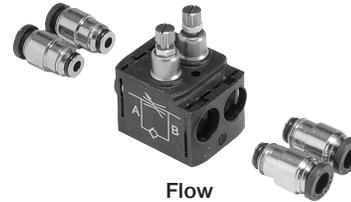
TORX Wrench\*

\* Maximum torque rating 10.6 in. lbs. (1.2 Nm).

## Subbase & Manifold Valve Products “V” & “P” Series

### “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



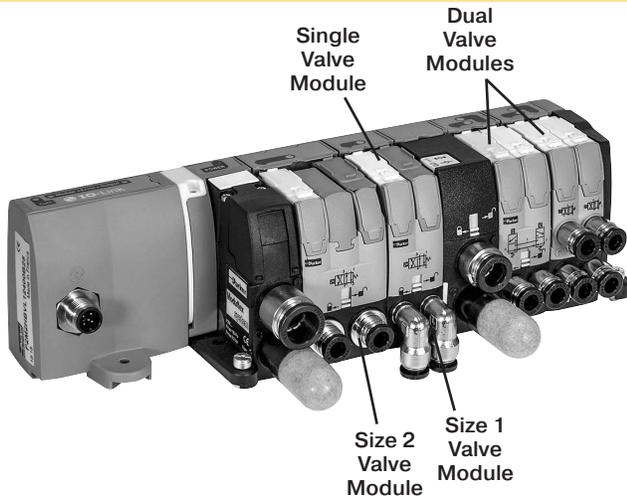
Vacuum Generator

D	Subbase & Manual Valves
	H Series Micro
Modurflex 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**



Moduflex 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 Solenoid, Spring Return Valve	Cv = .32	Cv = .80
		Single Air Pilot, Spring Return Valve	Cv = .32	Cv = .80
		Single Air Pilot, Spring Return Valve	Cv = .32	Cv = .80
		Double Solenoid Valve	Cv = .32	Cv = .80
		Double Solenoid Valve	Cv = .32	Cv = .80
		Double Air Pilot Valve	Cv = .32	Cv = .80
		Double Air Pilot Valve	Cv = .32	Cv = .80
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 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	Cv = .18	N/A
		(2) Single Air Pilot, Spring Return Valve with Exhaust Check. Double Air Pilot Valve Body	Cv = .18	N/A

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

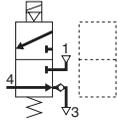
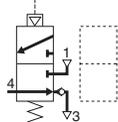
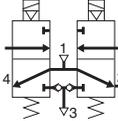
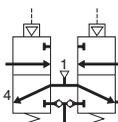
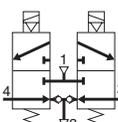
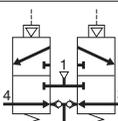


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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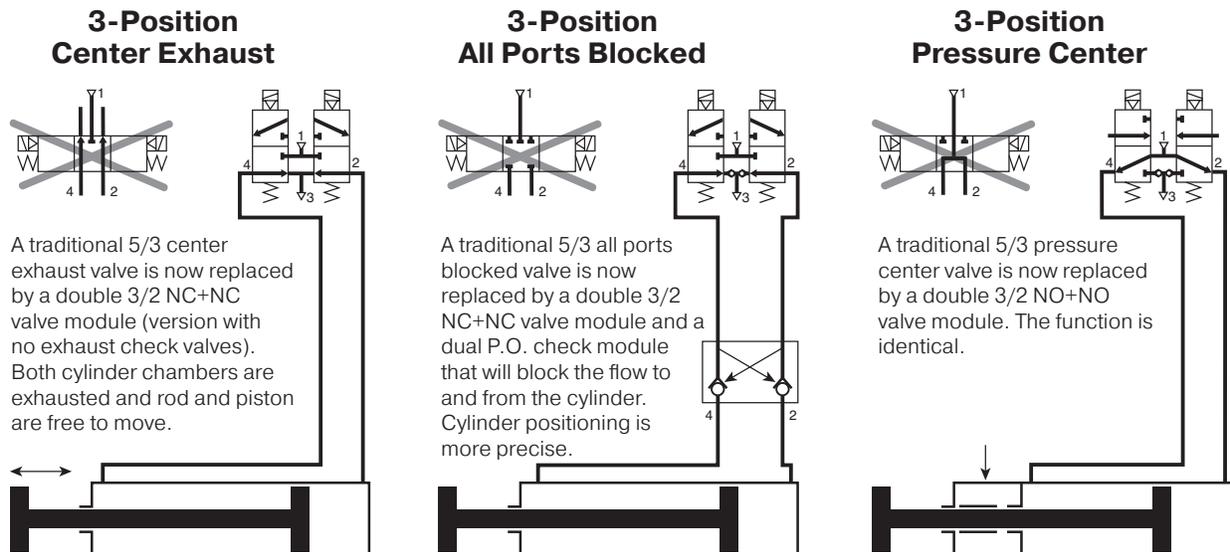
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 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**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**



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

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

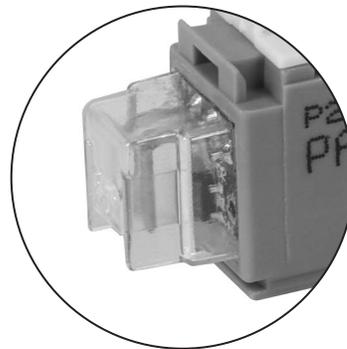
"S" Series Individual Subbase Valves (Valve & Base without Pneumatic Connectors)

	Symbol	Type	Operator	Pilot Connector	Cv	Part Number		
						Size 1	Size 2	
 <b>Single Solenoid</b>		4-way, 2-position	Single solenoid	M8 Lockable	0.32	<b>P2M1S4ES2C</b>	<b>P2M2S4ES2C</b>	
				Clip		P2M1S4ES2CW	P2M2S4ES2CW	
			Single air pilot				<b>P2M1S4PS</b>	<b>P2M2S4PS</b>
		4-way, 2-position	Double solenoid	M8 Lockable	0.32	<b>P2M1S4EE2C</b>	<b>P2M2S4EE2C</b>	
				Clip		P2M1S4EE2CW	P2M2S4EE2CW	
			Double air pilot				<b>P2M1S4PP</b>	<b>P2M2S4PP</b>
 <b>Double Solenoid</b>		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				<b>P2M1SDPP</b>	<b>P2M2SDPP</b>
		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				<b>P2M1SCPP</b>	<b>P2M2SCPP</b>
 <b>Single Air Pilot</b>		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	0.22	<b>P2M1S3ES2C</b>	<b>P2M2S3ES2C</b>	
				Clip		P2M1S3ES2CW	P2M2S3ES2CW	
			Single air pilot				<b>P2M1S3PS</b>	<b>P2M2S3PS</b>
			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)

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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
 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>	<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>	
 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>
 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>

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)**

**P2M 1 S 4ES 2C 00 A F4**

Basic Series	
Moduflex	P2M

Size	
Size 1	1
Size 2	2

Valve Series	
Individual Subbase	S

Valve Type / Function	
<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>	<b>DEE</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

Ports (all ports)	
C0*	10mm 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
<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.

Fitting Configuration	
<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.

**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

Operator Voltage	
24VDC	2C
Remote Pilot - 5/32" (4mm) Tube	00

\* Valve includes peripheral P. O. Check Valve and union fittings.

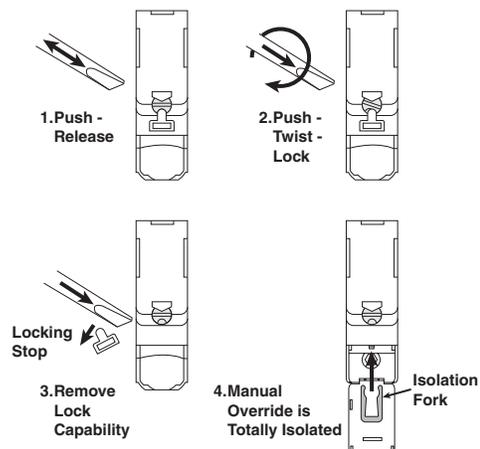
LED / Cable	
<b>00</b>	<b>No Cable, No LED, No Surge Suppression</b>
<b>V2</b>	<b>2 Meter Cable with LED and Surge Suppression</b>
V5	5 Meter Cable with LED and Surge Suppression
V9	9 Meter Cable with LED and Surge Suppression
W0	No Cable / Clip Ready
W1	1 Meter Cable, Clip Connector

**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)

D33

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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	
 <b>Single Solenoid</b>		4-way, 2-position	Single solenoid	M8 Lockable	0.32	<b>P2M1T4ES2C</b>	<b>P2M2T4ES2C</b>	
			Single air pilot	Clip		<b>P2M1T4ES2CW</b>	0.8	<b>P2M2T4ES2CW</b>
			Double solenoid	M8 Lockable		<b>P2M1T4EE2C</b>	<b>P2M2T4EE2C</b>	
		4-way, 2-position	Double solenoid	Clip	0.32	<b>P2M1T4EE2CW</b>	0.8	<b>P2M2T4EE2CW</b>
			Double air pilot		<b>P2M1T4PP</b>	<b>P2M2T4PP</b>		
 <b>Double Solenoid</b>		4-way, 2-position, dual valve w/ exhaust check	Double solenoid	M8 Lockable	0.18	<b>P2M1TJEE2C</b>	--	
			Double air pilot	Clip		<b>P2M1TJEE2CW</b>	--	
						<b>P2M1TJPP</b>	--	
		3-way, 2-position, dual valve, NC/NC w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1TDEE2C</b>	0.44	<b>P2M2TDEE2C</b>
			Double air pilot	Clip		<b>P2M1TDEE2CW</b>	<b>P2M2TDEE2CW</b>	
						<b>P2M1TDPP</b>	<b>P2M2TDPP</b>	
 <b>Single Air Pilot</b>		3-way, 2-position, dual valve, NO/NO w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1TC EE2C</b>	<b>P2M2TC EE2C</b>	
			Double air pilot	Clip		<b>P2M1TC EE2CW</b>	0.44	<b>P2M2TC EE2CW</b>
						<b>P2M1TCPP</b>	<b>P2M2TCPP</b>	
		3-way, 2-position, dual valve, NC/NO w/ exhaust check	Double solenoid	M8 Lockable	0.22	<b>P2M1TEEE2C</b>	0.44	<b>P2M2TEEE2C</b>
			Double air pilot	Clip		<b>P2M1TEEE2CW</b>	<b>P2M2TEEE2CW</b>	
						<b>P2M1T3ES2C</b>	<b>P2M2T3ES2C</b>	
	3-way, 2-position, dual valve, NC/NC	Single solenoid	M8 Lockable	0.22	<b>P2M1T3ES2C</b>	0.44	<b>P2M2T3ES2CW</b>	
		Single air pilot	Clip		<b>P2M1T3ES2CW</b>	<b>P2M2T3ES2CW</b>		
					<b>P2M1T3PS</b>	<b>P2M2T3PS</b>		
			Double solenoid	M8 Lockable	0.22	<b>P2M1TGEE2C</b>	<b>P2M2TGEE2C</b>	
			Clip	<b>P2M1TGEE2CW</b>		0.44	<b>P2M2TGEE2CW</b>	

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



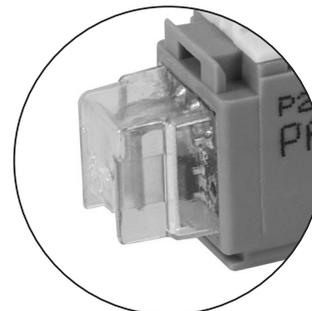
P2M2HXT01



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)

D35

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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 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.

\*\* 12mm OD fittings can not be used with valves. 12mm OD fittings can only be used in pneumatic end plate kit and intermediate air supply module.

**D**

Subbase & Manual Valves

H Series Micro

Moduflex 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)

**"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

Valve Type / Function	
<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**

\* Valve includes peripheral P. O. check valve and union fittings.  
 \*\* Size 1 only.

Ports 2 & 4	
C0*	10mm 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
<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.

Ports 1 & 3	
0	None

LED / Cable	
<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

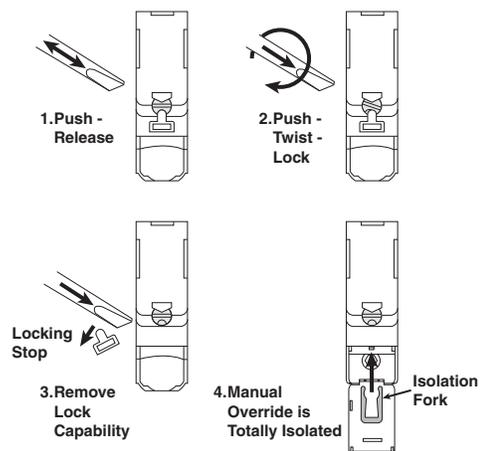
Operator Voltage	
<b>2C</b>	<b>24VDC</b>
00	Remote Pilot - 5/32" (4mm) Tube

**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)

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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 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)

**“V” Series Manifold Valves with Collective Wiring**

	Symbol	Type	Operator	Cv	Part Number		Part Number	
					Size 1	Cv	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>	
 <p><b>Double Solenoid</b></p>		3-way, 2-position, dual valve, NO/NO w/ exhaust check	Double solenoid	0.22	<b>P2M1VCEE2CV</b>	0.44	<b>P2M2VCEE2CV</b>	
		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)

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**“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
			Straight			<b>FMD06-1</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>	
	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>	<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.

\*\* 12mm OD fittings can not be used with valves. 12mm OD fittings can only be used in pneumatic end plate kit and intermediate air supply module.

**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>

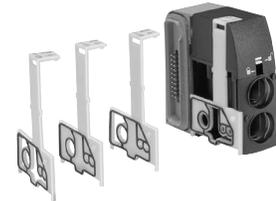
**Manifold Options**

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)

**P2M 1 V 4ES 2C V0 0 F4**

Basic Series	
Valvetronic Modules	P2M

Size	
Size 1	1
Size 2	2

Valve Series	
Collective Wiring	V

Valve Type / Function	
<i>3-Way / 2-Position</i>	
Single Solenoid, NC Spring Return	3ES
<i>4-Way / 2-Position</i>	
Single Solenoid, Spring Return	4es
Double Solenoid	4ee
<i>Dual 3-Way, 2-Position, Spring Return</i>	
Solenoid, NC / NC + PO Check (4/3 APB)	BEE*
Solenoid, NO / NO (4/3 Pressure Ctr.)	CEE
Solenoid, NC / NC with Exhaust Check	DEE
Solenoid, NO / NC with Exhaust Check	EEE
Solenoid, NC / NC without Check (4/3 Exh. Ctr.)	GEE
<i>Dual 4-Way, 2-Position, Spring Return</i>	
Solenoid	JEE**

\* Valve includes peripheral P. O. Check valve and union fittings.  
\*\* Size 1 Only.

Ports 2 & 4	
C0*	10mm 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
<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.

Ports 1 & 3	
0	None

LED / Cable	
V0	No Cable with LED and Surge Suppression

Operator Voltage	
2C	24VDC

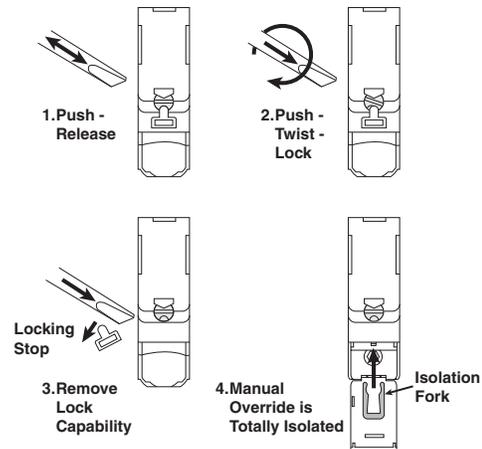
**D**  
Subbase & Manual Valves  
H Series Micro  
Moduflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series

**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)

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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.

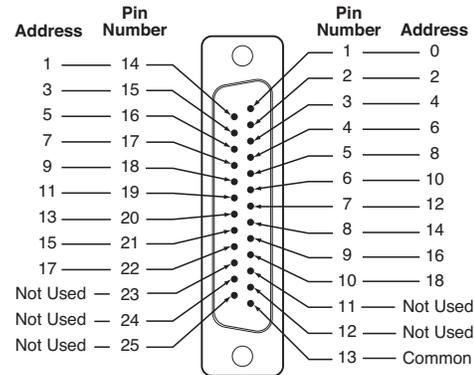
**25-Pin, Multi-Connector Addressing**

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.



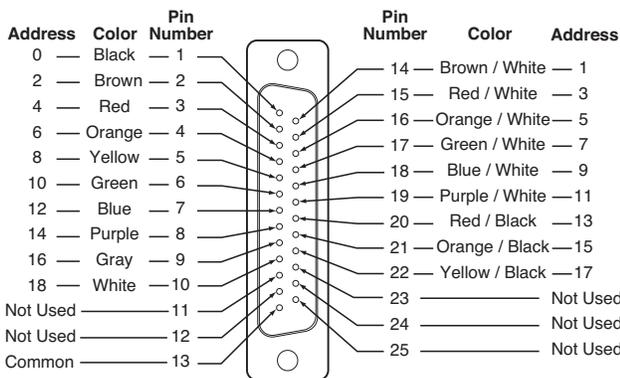
**P8LMH25M3A - Cable**



**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

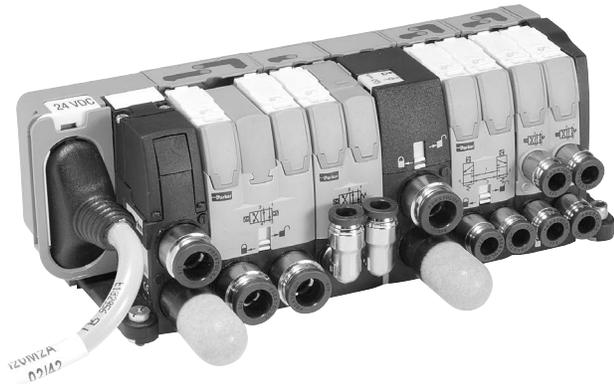
DX ISOMAX Series

Valvaire 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.

**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.

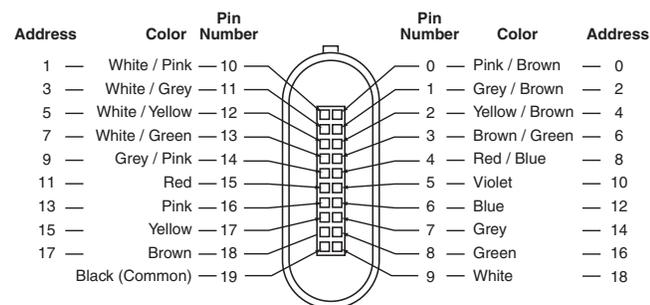
Each wire color code corresponds a solenoid pilot position in the island.



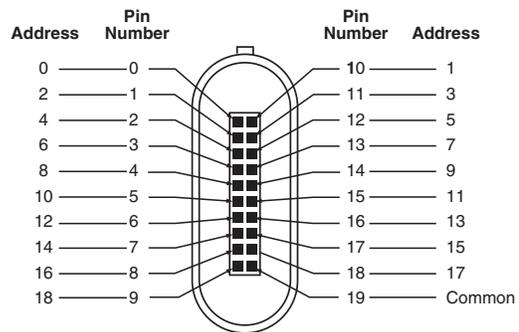
**P8LMH20M2A - Cable**

**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



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

**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 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



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**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**

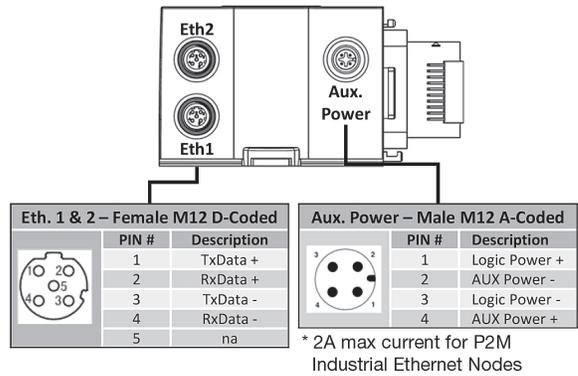
Ethernet ports: 2 x Standard Female M12 D-Coded – 5 pins  
 Auxiliary Power: Standard Male M12 A-Coded – 4 pins

**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.

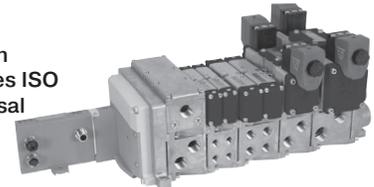
P2M on Moduflex



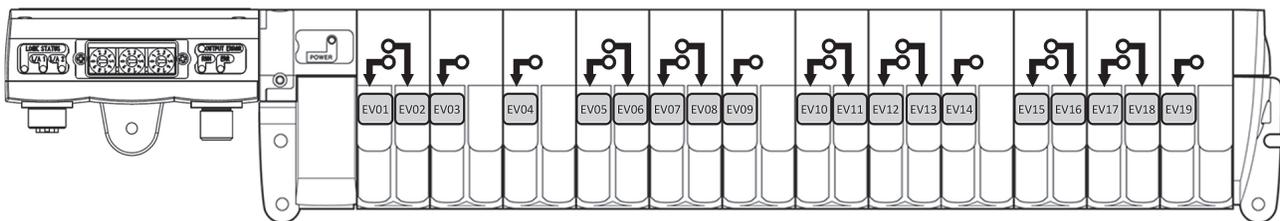
P2M on H Series Micro



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 .....	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  
 Valvaire II Series

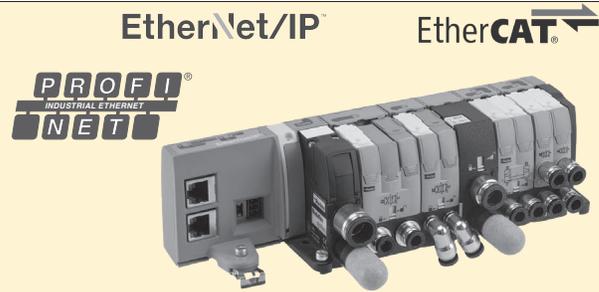


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Valve Island V Series with Industrial Ethernet connection**

The P2M Industrial Ethernet Lite node 24DO allows a very simple and cost efficient connection to the most popular Industrial Ethernet networks.

In its compact IP40 version equipped with two RJ45 Ethernet ports, it saves size in cabinet applications and offers an easy connection to the network in a line topology.



Industrial Ethernet Protocol	Part Number
Profinet IO	<b>P2M2HBVN12400RJ</b>
EtherNet/IP	<b>P2M2HBVE12400RJ</b>
EtherCAT	<b>P2M2HBVT12400RJ</b>

**Product Set-Up**



The P2M Lite Node 24DO is by default in DHCP mode. The module must be assigned to a static IP-Address in order to be controlled via the network.

The Network Configuration settings can be done through the embedded web server of the node as well as "IPconfig", "TIA Portal" or similar methods.

For an application requiring a regular disconnection / reconnection of the node, Profinet and EtherNet/IP protocols allow respectively a Fast Start- Up (FSU) and Quick Connect mode. This mode can be enable or disable .

**Technology / Integrated Ethernet Switch**



The P2M Industrial Ethernet Lite node 24DO offers 2 RJ45 ports allowing a line topology without external switch. The Ring topology can also be supported (enable/disable) for Profinet and EtherNet/IP.

The integrated Ethernet switch support Class C Services allowing used in an isochronous real time (IRT) structure.

**Diagnostic**



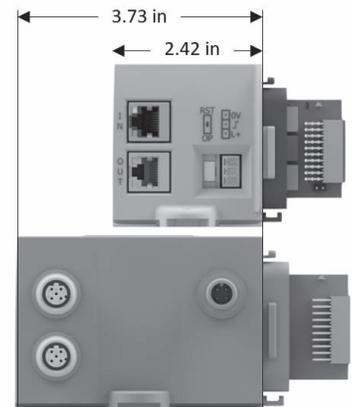
The P2M Industrial Ethernet Lite node 24DO offers a local diagnostic through 5 LED's located on the visible top side and 4 additional on both Ethernet connectors showing:

- Logic status
- Ethernet activity on both ports
- Standard Status due to protocol
- Output error / Power Supply

This local information as well as trouble shooting and predictive maintenance diagnostics (Power monitoring, Life cycle counting, ...) are available in PLC through the network and reported on imbedded web page.

When PLC is in "STOP", the web page allows to force ON/OFF solenoids state. This function has a password protection.

Save 1.31 inches with P2M Lite Node compared to P2M Ethernet Node



**Industrial Ethernet Lite Node Connections and Diagnostic Functions**

**Ethernet and Power Connections**

**Network Communication Ports:**

2 x Standard RJ45 Female connectors  
 Usage of standard manufactured cables available from your usual electrical supplier is recommended.

**Power Supply:**

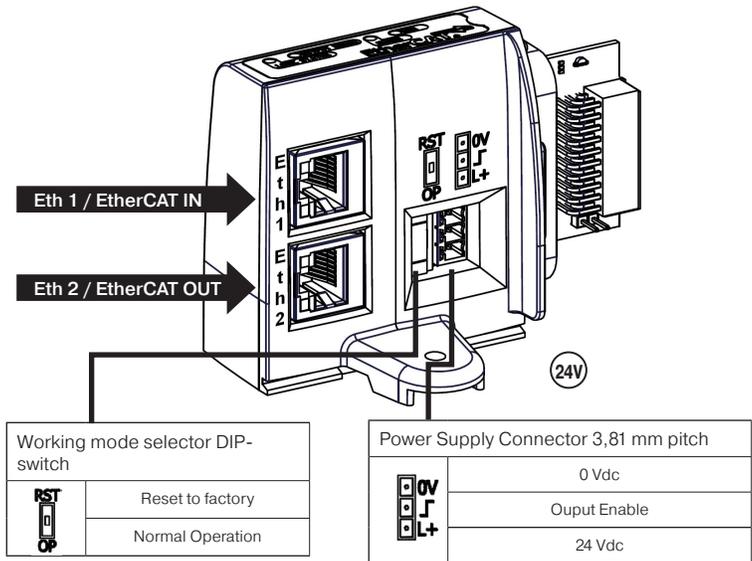
Standard 3-Pin Male Connector - 3,81 mm pitch

**Working mode selector:**

DIP-switch

**Configuration Files**

The configuration files can be download from the product web page: [www.parker.com/pde/P2M\\_IE](http://www.parker.com/pde/P2M_IE)



**IP Address Setting**

For both Profinet IO and EtherNet/IP protocols, the P2M Lite 24DO Node is by default in DHCP mode. The module must be assigned to a static IP-Address in order to be controlled via network. Please, refer to the user manual for IP-Address assignment process.

**Local and Network Diagnostic Functions**

**Local Diagnostic**

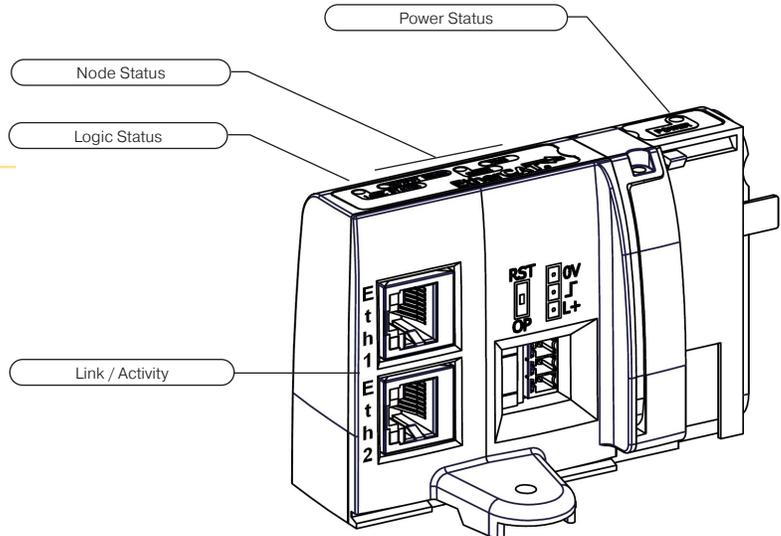
The P2M Lite 24DO node offers a local diagnostic via 9 LED's. Please refer to user manual with interpretation table.

**Network Diagnostic**

The P2M Lite 24DO Node offers additional useful module status information:

- Pilot overload or short circuit
- Power Voltage out of tolerance
- Cycle counter for every pilot
- Module temperature

For detailed technical information on the P2M Lite 24DO Node and a complete interpretation of node's diagnostic functionalities, please refer to the User Manual available from the product web page: [www.parker.com/pde/P2M\\_IE](http://www.parker.com/pde/P2M_IE)



**EtherNet/IP™**



**EtherCAT®**



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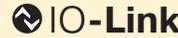
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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modurflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Valve Island V Series with IO-Link connection**

The P2M Moduflex IO-Link 24 DO node allows a very simple and cost efficient connection to any IO-Link master, centralised into the PLC or decentralised through an industrial Ethernet network.

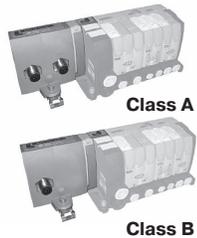
Designed in both Class A and Class B versions with an isolated auxiliary power, it can easily be adapted to all power supply architectures and follow machine directives.



**“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**

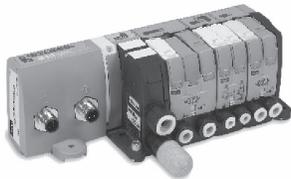


Description	IO-Link class	IO-Link	Aux. power	Aux. power pinout	Weight (g)	Part Number	
						Standard	Safe Power Capable
Class A P2M IO-Link communication module	Class A	3 Pin's	3 Pin's	1 & 3	160	<b>P2M2HBVL12400A13</b>	<b>P2M2HBVL12400A13-SPC</b>
		3 Pin's	3 Pin's	4 & 3	160	<b>P2M2HBVL12400A43</b>	<b>P2M2HBVL12400A43-SPC</b>
		3 Pin's	5 Pin's	4 & 2	160	<b>P2M2HBVL12400A42</b>	<b>P2M2HBVL12400A42-SPC</b>
Class B	Class B	5 Pin's		2 & 5	140	<b>P2M2HBVL12400B25</b>	<b>P2M2HBVL12400B25-SPC</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/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

**Valve Series**

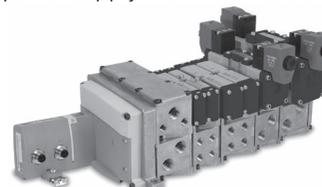
Check the total maximum solenoid current consumption against the limit of the power supply and P2M module (standard version 4A, SPC version 2A).



**Moduflex Valve**  
 Cv: .18 - 0.80  
 19 Solenoids  
 42mA per Sol.



**H Micro**  
 Cv: 0.35  
 24 Solenoids  
 42mA per Sol.



**H ISO 15407-2 & 5599-2**  
 Cv: 0.55 - 6.0  
 24 Solenoids  
 42mA (15407) / 133mA (5599) per Sol.



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:

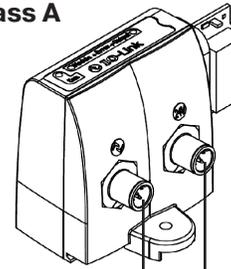
<https://ioddfinder.io-link.com>

[www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

**Class B**



**Class A**



**Legend**

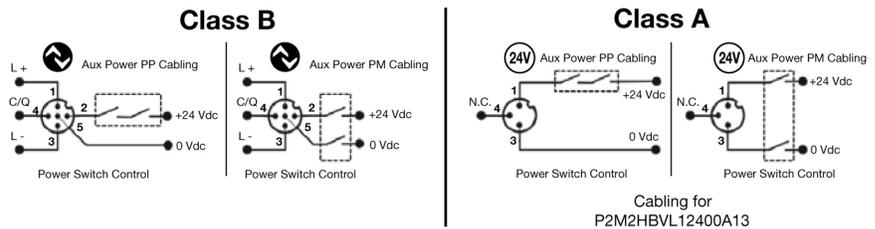
Symbol	Description
L+	IO-Link power supply "+"
L-	IO-Link power supply "-"
C/Q	IO-Link communication
Aux +	Auxiliary power supply 24 VDC
Aux -	Auxiliary power supply 0 VDC

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.



**IO-Link Module Diagnostic Functions**

The P2M IO-Link module offers additional useful module status information:

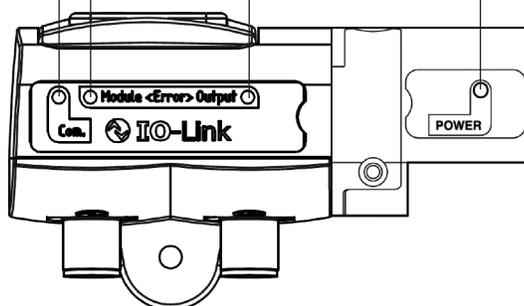
- Solenoid overload or short circuit
- Auxiliary voltage out of tolerance
- Cycle counter for each solenoid
- Module temperature

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)

<b>Green LED</b>	<b>Module-Error Red LED</b>	<b>Error-Output</b> <b>Red LED</b>	<b>Green LED</b>
LED Status	LED Status	LED Status	LED Status
OFF	OFF	OFF	OFF
ON	ON	ON	ON
Blinking			Blinking
Description	Description	Description	Description
Solving	Solving	Solving	Solving

IO-Link Communication      Module Diagnostic      Outputs (valves) Diagnostic      Auxiliary Power Supply



**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvaire 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

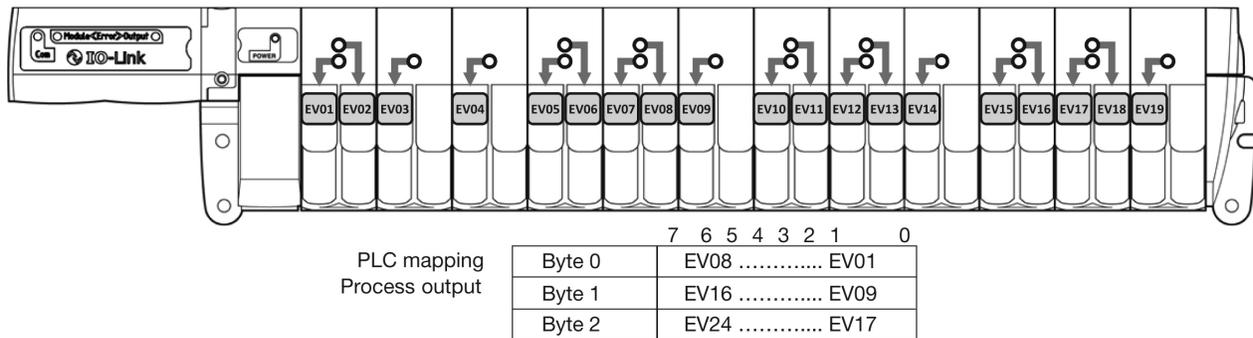
**Process output data (Byte 2)**

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 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:

	7	6	5	4	3	2	1	0	
Byte 0	Diag 7	.....	Diag 0						

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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 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

**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>
			Elbow	<b>CMD06-1</b>	<b>CMD06-2</b>
		6mm OD tube	Straight	<b>FMD06-1</b>	<b>FMD06-2</b>
			Elbow		<b>CMD08-2</b>
		8mm OD tube	Straight		<b>FMD08-2</b>
			Elbow		<b>CMD10-2</b>
	10mm OD tube	Straight		<b>FMD10-2</b>	
		Elbow		<b>CMD10-2</b>	
	Double male union	Connecting peripheral modules	<b>HMDXX1</b>	<b>HMDXX2</b>	
	Muffler for vacuum exhaust port		<b>MMDVA1</b>	<b>MMDVA2</b>	
	Plug		<b>PMDYY1</b>	<b>PMDYY2</b>	

Note: 85 Durometer minimum for pneumatic connectors.

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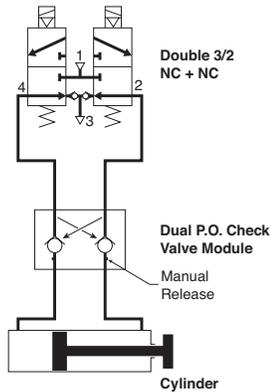
Valvair II Series



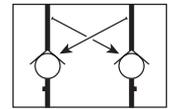
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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.

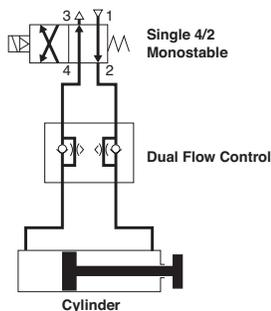
The manual pressure releases may then eventually be used for an adequate machine positioning.

**Dual P.O. Check Valve**

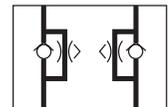
	Part Number
Size 1	<b>P2M1PXCA</b>
Size 2	<b>P2M2PXCA</b>

**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

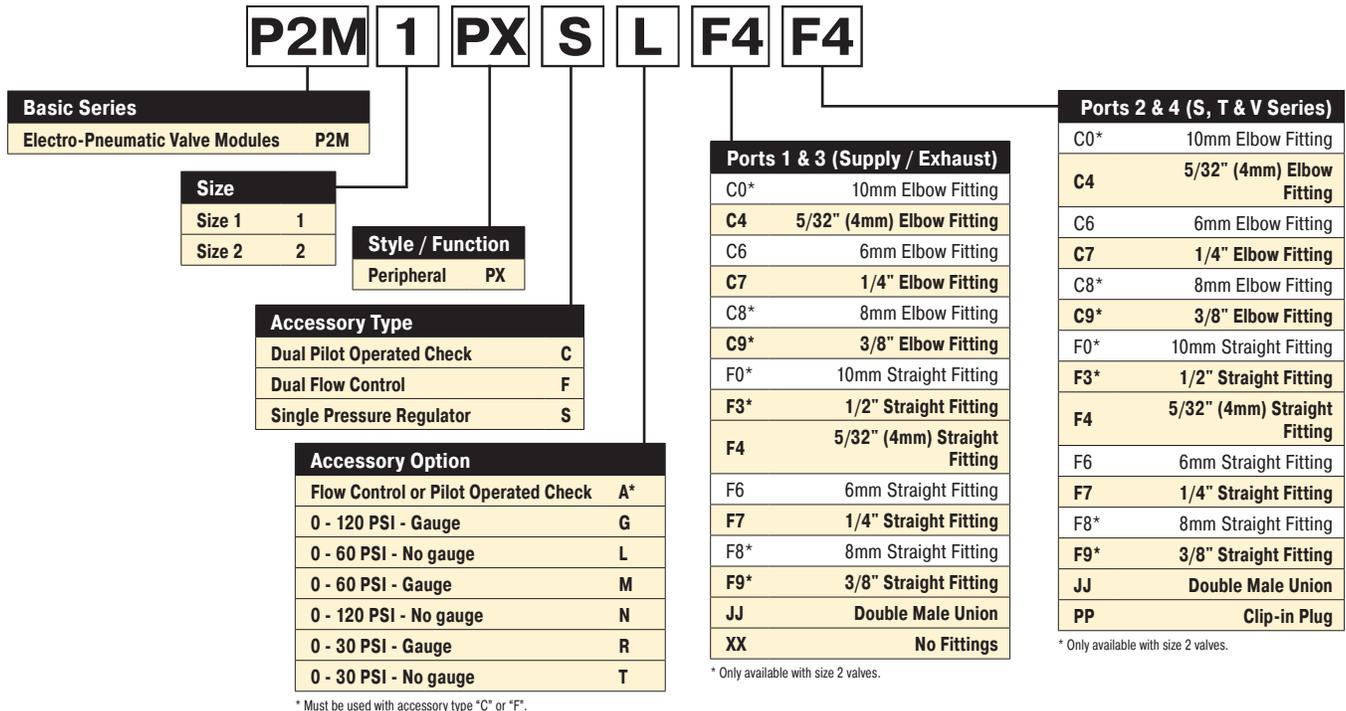
**Dual Flow Control Module**

	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)*



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**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



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**Vacuum Generator Applications**

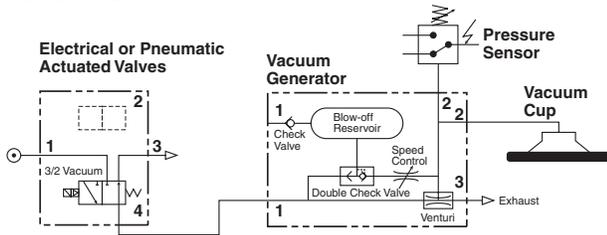
Depending on the application requirements, this vacuum generator may be controlled by single or by a dual 3/2 Moduflex valve. The Vacuum Generator has an integrated blow-off chamber that helps destroy the degree of vacuum. Blow-off can be increased with the addition of a control air input to the blow-off 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>

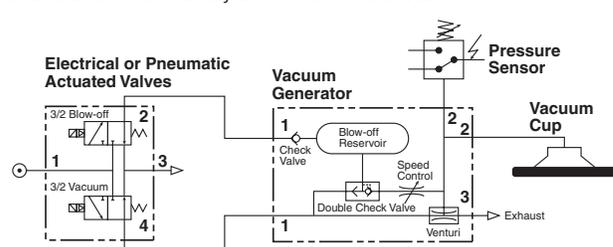
**Single 3/2 NC Air Control Valve**

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	inHg										
	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	
	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.



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**D**  
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 Valvair II Series

**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.

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**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.



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**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>



**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>P2M1XDEE</b>
Double solenoid NO + NO with exhaust check	<b>P2M1XCEE</b>
Double solenoid NC + NO with exhaust check	<b>P2M1XEEE</b>
Single solenoid NC with exhaust check	<b>P2M1X3ES</b>

**Size 2 Valve Without Solenoid Pilot and Without Subbase**

**4-way / 2-position / Dual Valve**



**P2M2X4EE**

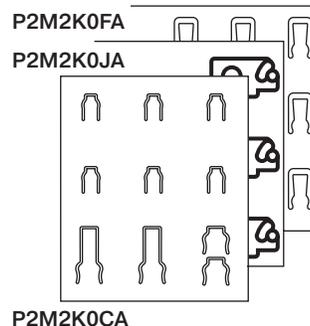
Solenoid	Part Number
Single solenoid (Monostable)	<b>P2M2X4ES</b>
Double solenoid (Bistable)	<b>P2M2X4EE</b>

**3-way / 2-position / Dual Valve**

Solenoid	Part Number
Double solenoid NC + NC with exhaust check	<b>P2M2XDEE</b>
Double solenoid NO + NO with exhaust check	<b>P2M2XCEE</b>
Double solenoid NC + NO with exhaust check	<b>P2M2XEEE</b>
Single solenoid NC with exhaust check	<b>P2M2X3ES</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>



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**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	
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>†</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
<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.

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>

\* Elbow fittings face up.



"V" Series with 20-pin Connector



"V" Series with IO-Link

**D**

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**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>P2M1VGEE2CV</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>P2M1VGEE2CV</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**

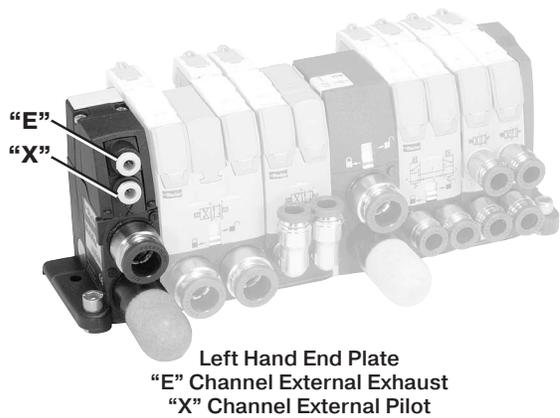
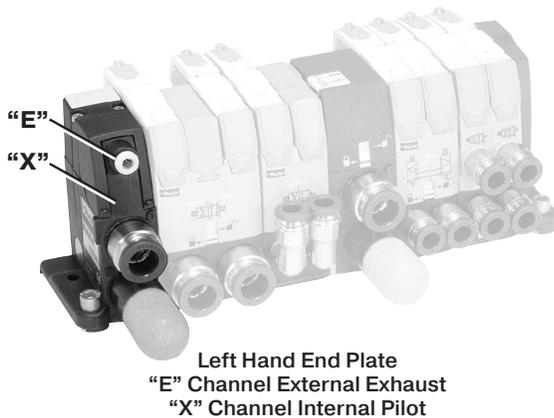
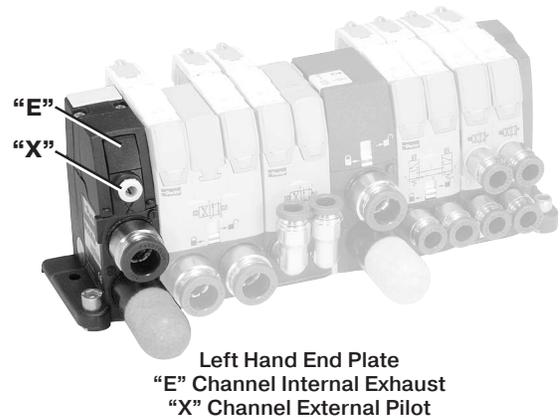
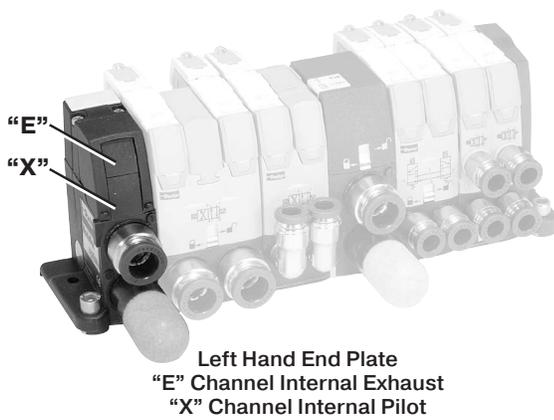
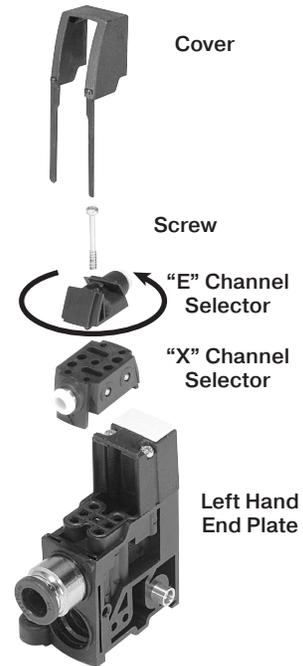
**Internal and external pilot supply options**

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	



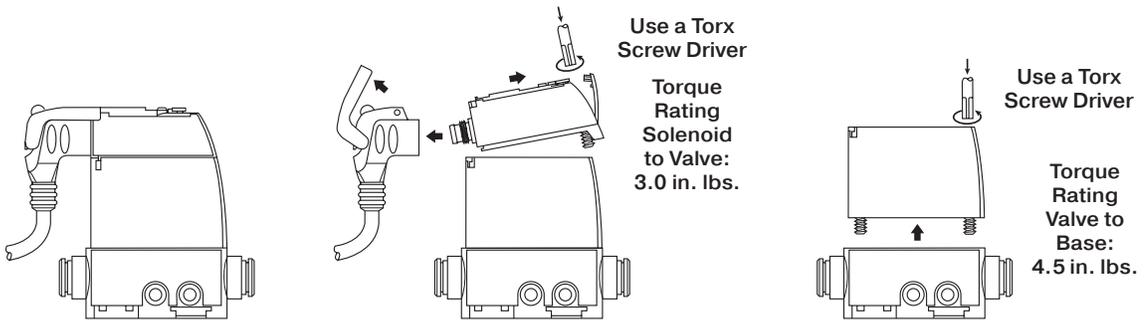
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**“V”, “T” and “S” Series Maintenance**

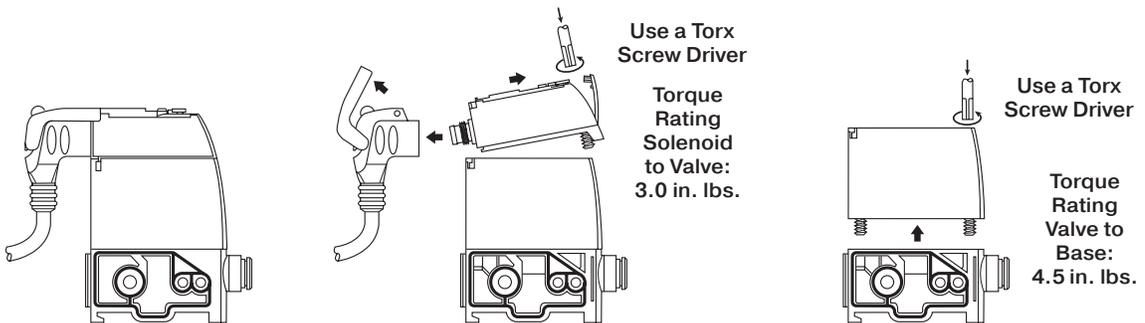
The latest generations of compact pneumatic valves have a life expectancy which generally exceeds the equipment they control. Therefore, maintenance is seldom required. When it is

necessary to change the solenoid pilot, valve or connector, they can be easily replaced without removing the island base, as shown below.

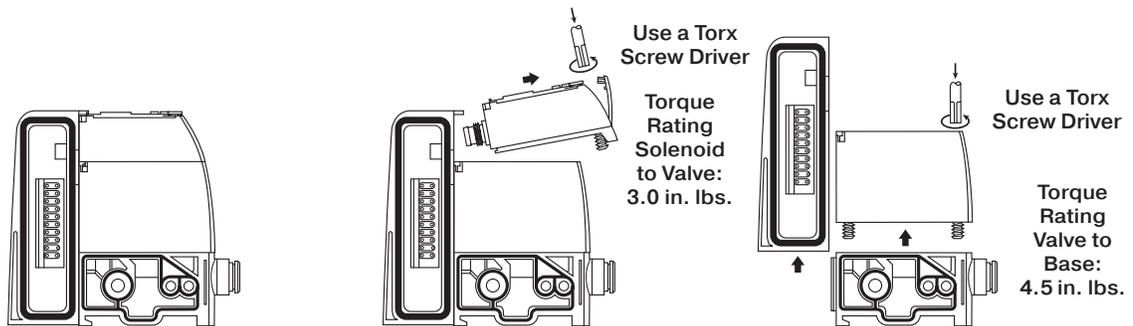
**“S” Series**



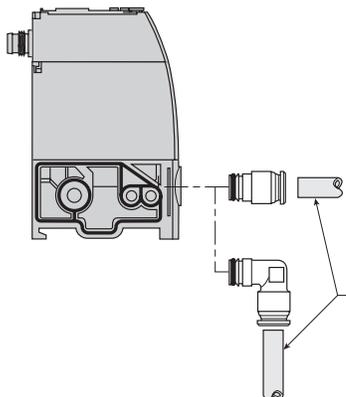
**“T” Series**



**“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. 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	According to ISO 12238	
	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		
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: PVDF – 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

Polyamid HR Body ( Right Angle ), Nickel Plate Brass Body ( Straight ); O-ring: Nitrile (Buna N) lubricated with Silicone lubricant; Sleeve: Polyamide HR Body; Grab Ring: 301 Stainless Steel; One Piece Button Collet: Polyacetal - black

##### 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



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**"S" Series Individual Subbase Valve Dimensions and Mounting**

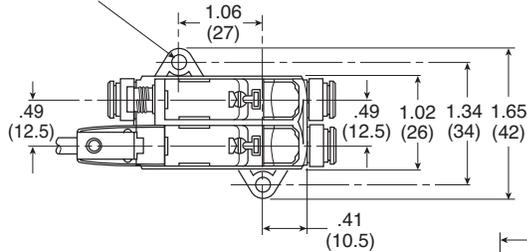
**Subbase Valve Size 1**



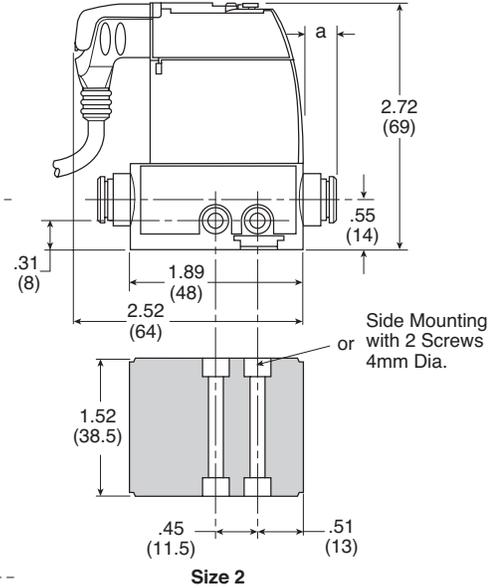
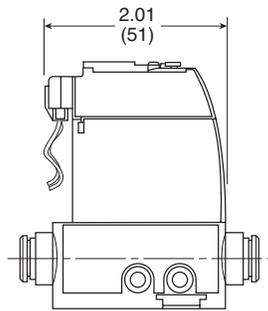
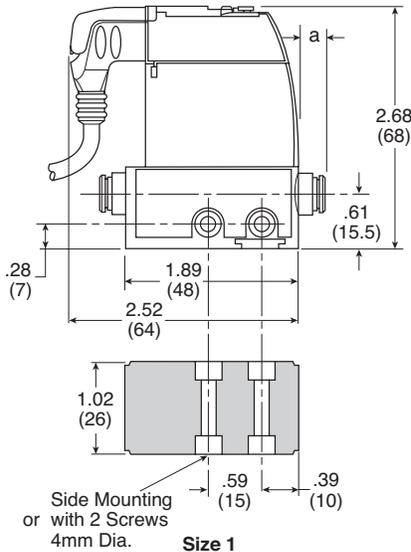
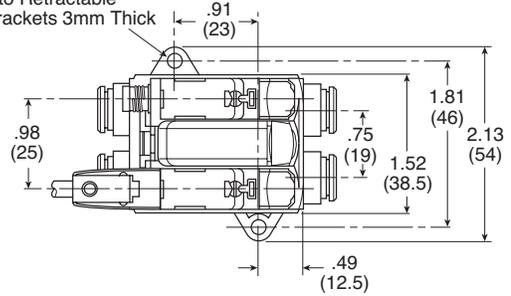
**Subbase Valve Size 2**



Surface Mounting with Screws 4 mm Dia. into Retractable Brackets 3mm Thick



Surface Mounting with Screws 4 mm Dia. into Retractable Brackets 3mm Thick

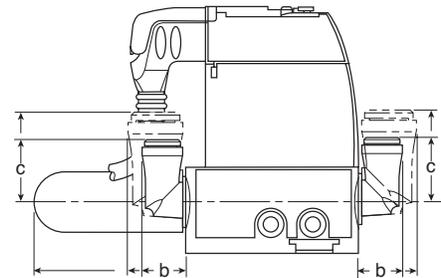


Side Mounting with 2 Screws 4mm Dia.

**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	
<b>Size 2 Valves</b>			
1/4"	12	18	22
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)

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

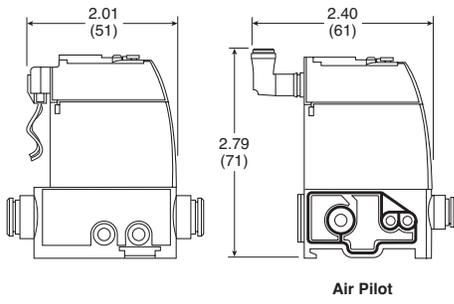
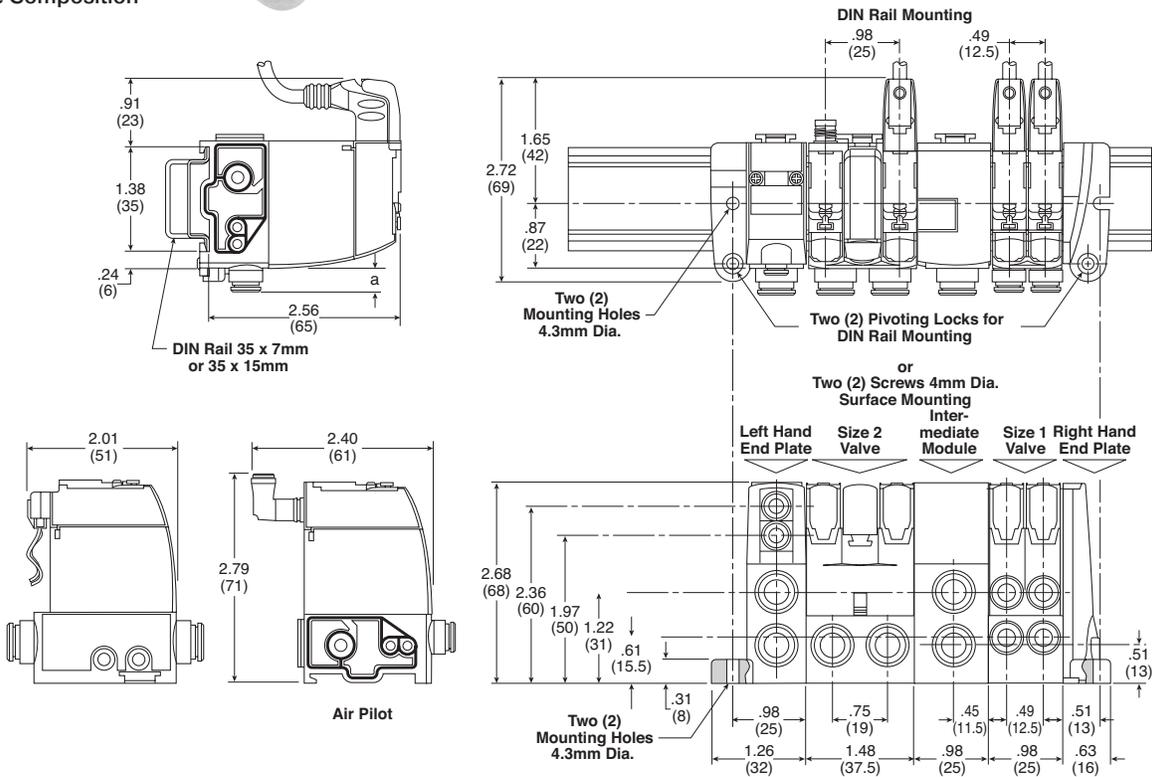
DX ISOMAX Series

Valvair II Series

**"T" Series Manifold Dimensions and Mounting**



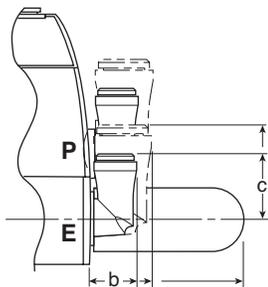
Total Width Depends on Valve Composition



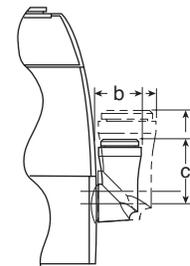
**Special Case:** 4/3 all ports blocked function within island version, add the dimensions of the dual P.O. check valve plugged into the island.

**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
	5/32" (4 mm)	8	10	12
Size 1 Valves	6 mm	8	13	16
	1/4"	15	18	22
Size 2 Valves	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

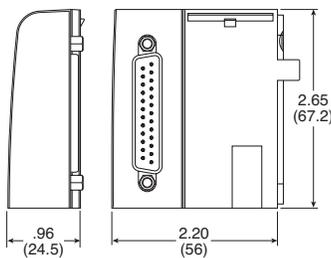
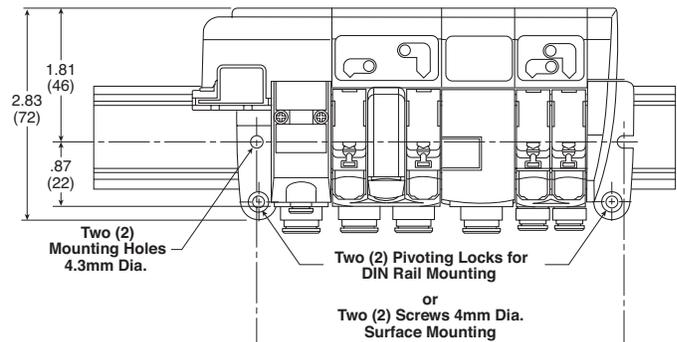
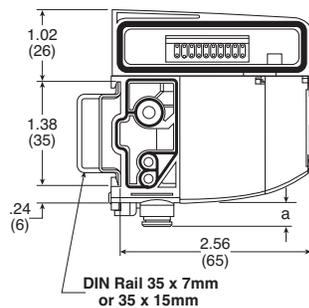


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

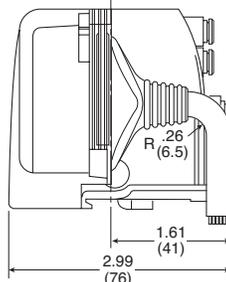
**"V" Series Manifold Dimensions and Mounting**  
 20-pin, Multi-Connector Valve Manifold



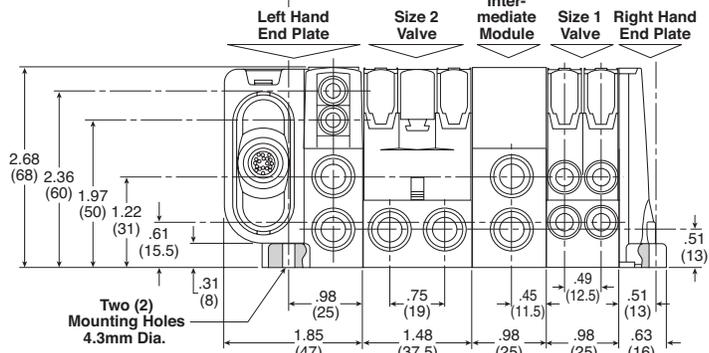
Total Width Depends on Valve Composition



25-pin, D-Sub

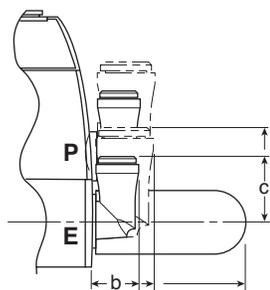


20-pin, Multi-Connector

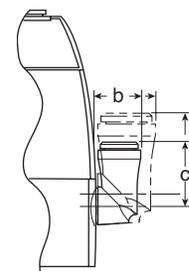


**End Plate and Intermediate Modules**

	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
Size 1 Modules	5/32" (4 mm)	8	10	12
	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



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D

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

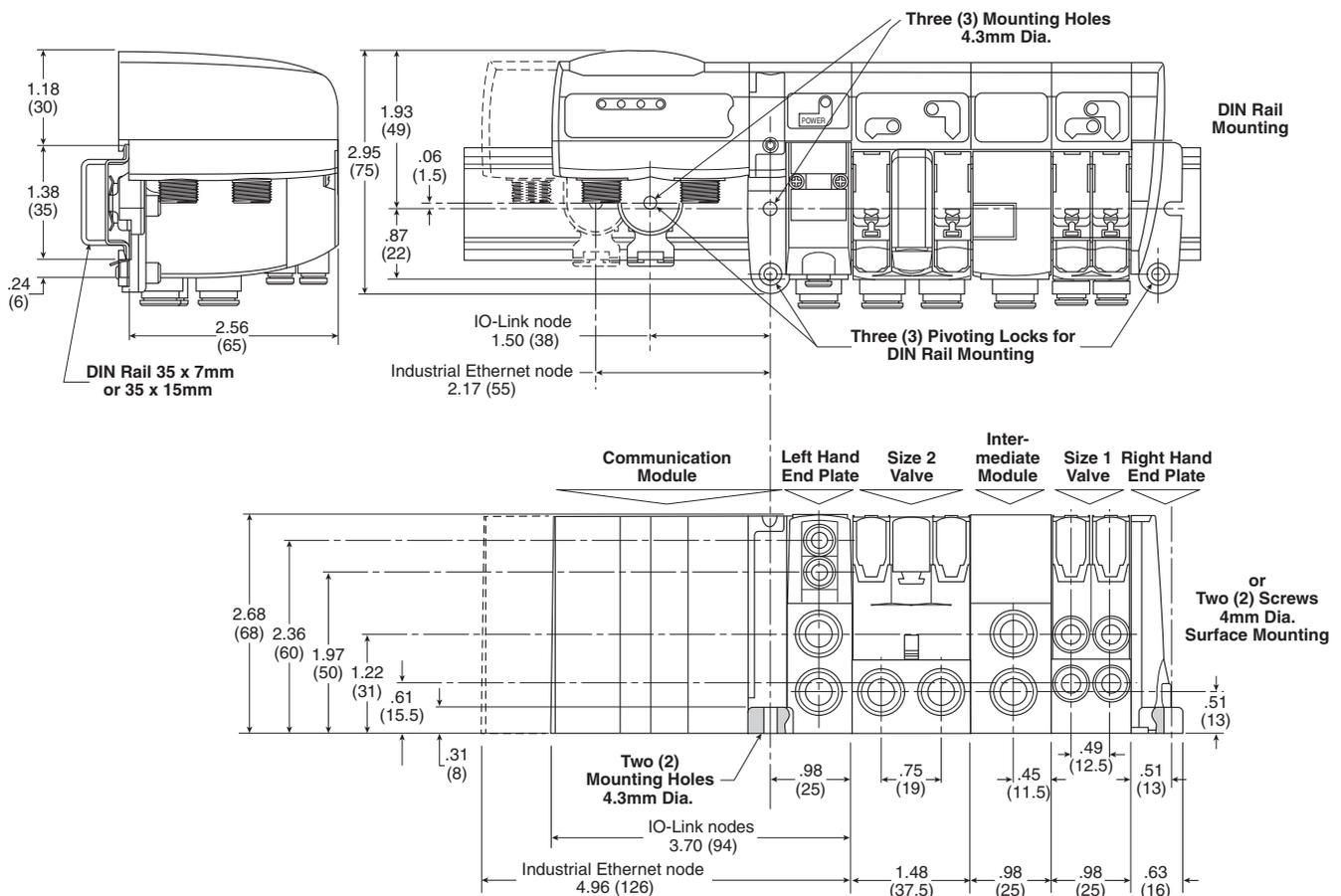
Valvair II Series

**“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**



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)

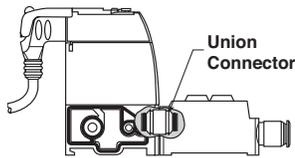
D68

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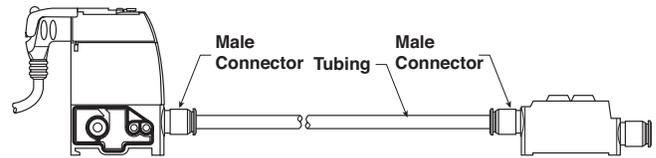
**"P" Series Peripheral Modules Dimensions and Mounting**

**Reminder:** Peripheral modules may either be plugged in the valve output ports or mounted in-line separate from the valve.

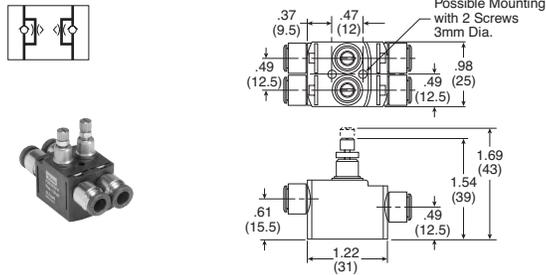
**Peripheral Module Plugged in a Valve**



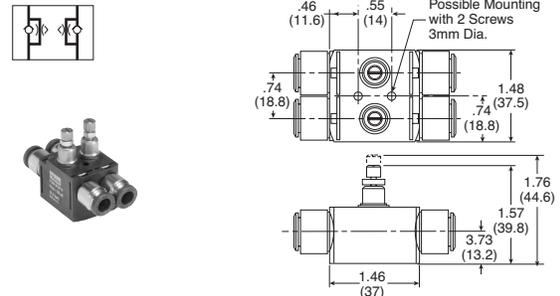
**In-Line Peripheral Modules: Mounting is Required**



**Dual Flow Control Size 1**

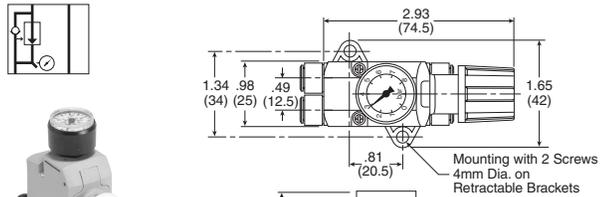


**Dual Flow Control Size 2**



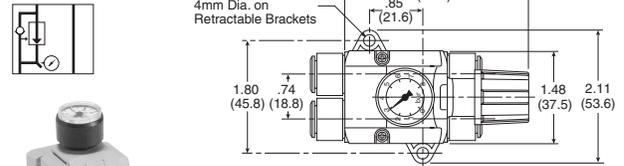
**Pressure Regulator Size 1**

**With Gauge**

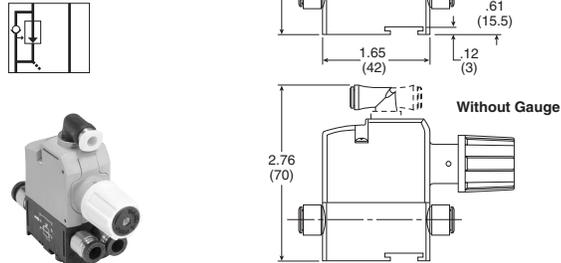


**Pressure Regulator Size 2**

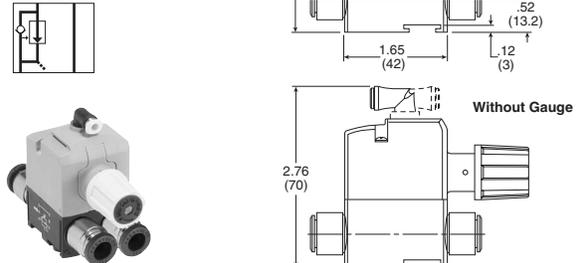
**With Gauge**



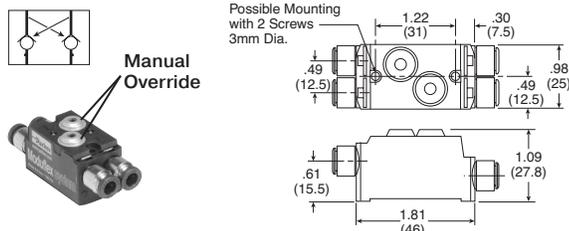
**Without Gauge**



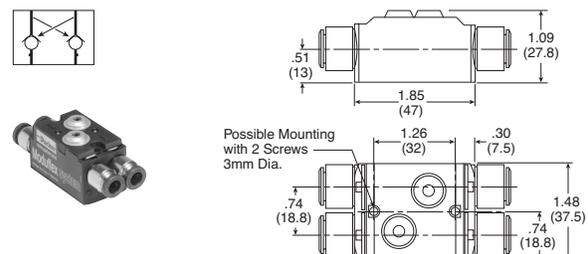
**Without Gauge**



**Dual P.O. Check Valve Size 1**



**Dual P.O. Check Valve Size 2**



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**D**

**Subbase & Manual Valves**

**H Series Micro**

**Moduflex Series**

**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

**Valvair II Series**

D

Subbase & Manual  
Valves

H Series  
Micro

Modurflex  
Series

H Series  
ISO

Network  
Connectivity

DX ISOMAX  
Series

Valvaire II  
Series



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lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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## 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

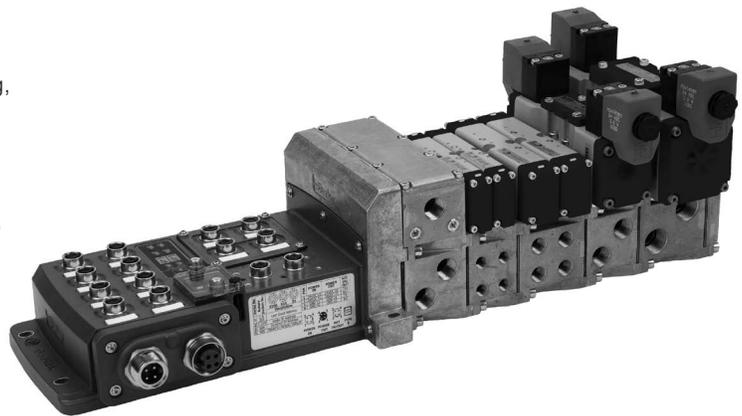
- H Universal Manifold
  - HB: 1/8 inch, 0.55 Cv
  - HA: 1/4 inch, 1.1 Cv
  - H1: 3/8 inch, 1.5 Cv
  - H2: 1/2 inch, 3.0 Cv
- H Classic Manifold (not compatible with H Universal without H3 Transition Kit)
  - H3: 3/4 inch, 6.0 Cv
- NPT and BSPP "G" standard

### 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.



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D

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

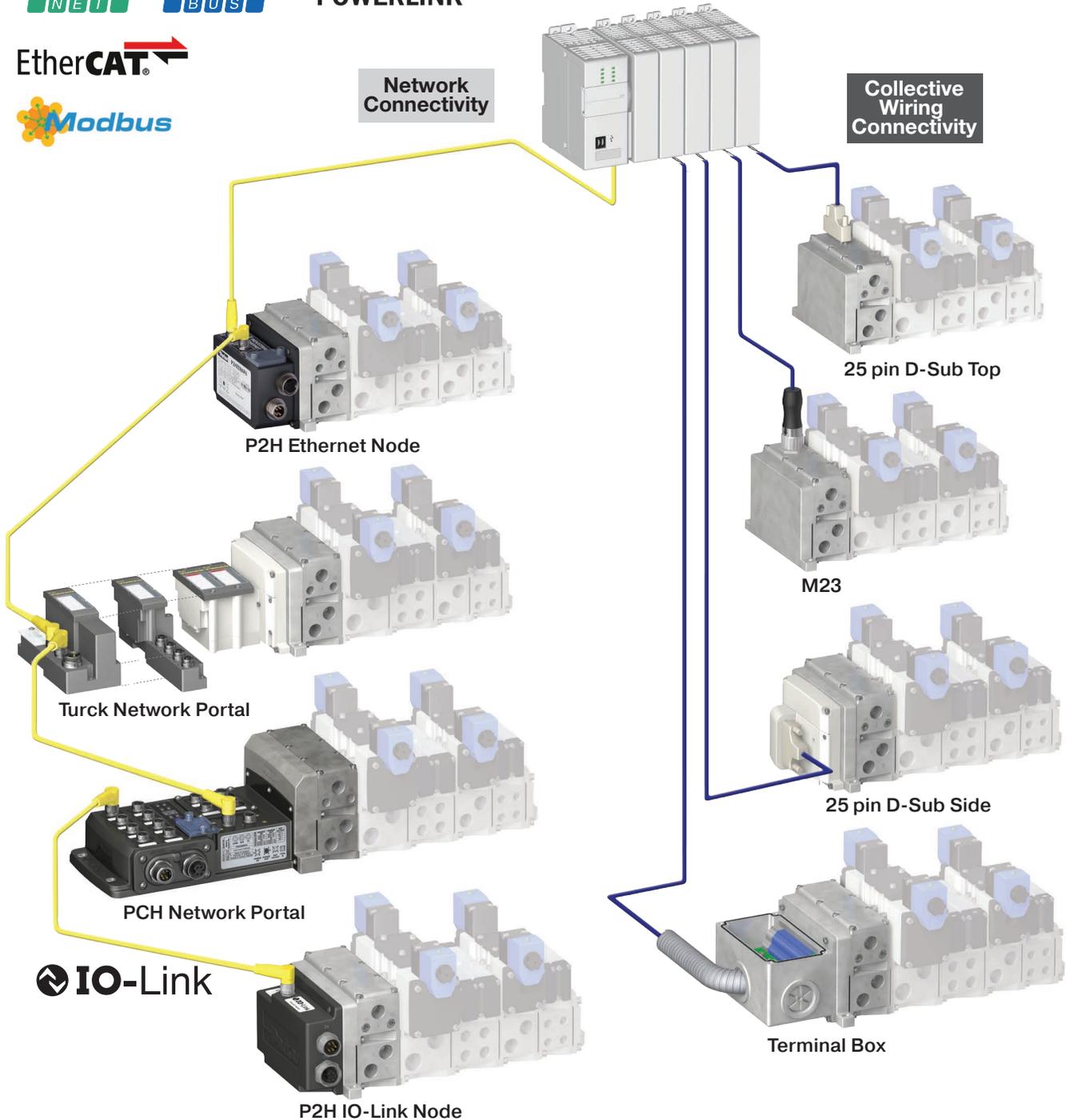
DX ISOMAX Series

Valvair II Series



# Connectivity

EtherNet/IP DeviceNet



<b>D</b>
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series

Industrial Ethernet protocol offerings differ by product line



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D73

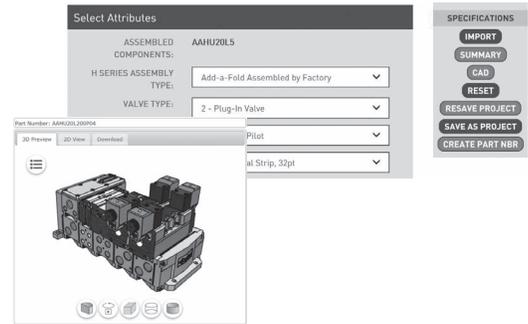
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## Two easy ways to order H Universal

### 1 Online Configuration

Navigate to the landing page  
[www.parker.com/pdn/HSeriesISO](http://www.parker.com/pdn/HSeriesISO)

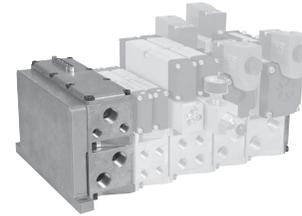
Customize your manifold assembly  
 Create and save a unique assembled part number  
 Generate a CAD model



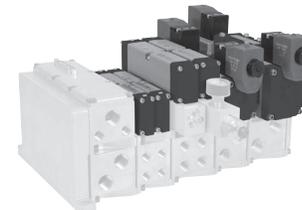
OR

### 2 Order Components

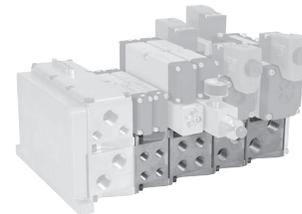
**A Select Endplate Kit**  
 Includes Left and Right Hand Endplate



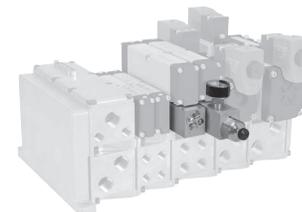
**B Select Valve Stations**  
 Valves (size HB, HA, H1 or H2)  
 Blanking Plate



**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



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**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>
<div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="margin-bottom: 10px;"></div> <div style="margin-bottom: 10px;"></div> <div style="margin-bottom: 10px;"></div> <div></div> </div> <div style="margin-top: 5px;"> <p>Class A</p> <p>Class B</p> </div>	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>
	P2H IO Link Class A, 4-pin safe version, 24 address	<b>PSHU20S400P</b>	<b>PSHU20S401P</b>
	P2H IO Link Class A, 5-pin safe version, 24 address	<b>PSHU20S500P</b>	<b>PSHU20S501P</b>
	P2H Ethernet Node, 32 addresses, EtherNet/IP™	<b>PSHU20P200PE000A-P4</b>	<b>PSHU20P201PE000A-P4</b>
	P2H Ethernet Node, 32 addresses, EtherCAT	<b>PSHU20P200PT000A-P4</b>	<b>PSHU20P201PT000A-P4</b>
	P2H Ethernet Node, 32 addresses, Profinet	<b>PSHU20P200PN000A-P4</b>	<b>PSHU20P201PN000A-P4</b>
	PCH Network Portal, 32 addresses with 2 Modules Variants, EtherNet/IP™	<b>PSHU20P300PEAAN0-P4</b>	<b>PSHU20P301PEAAN0-P4</b>
	PCH Network Portal, 32 addresses, with Modules Variants, EtherNet/IP™	<b>PSHU20P300PEAAB0-P5</b>	<b>PSHU20P301PEAAB0-P5</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>

 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

Modulfex Series

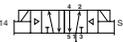
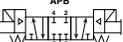
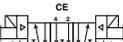
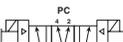
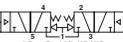
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**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>	<b>HBEVXBH0G9A</b>						
					External	<b>HBEVXLG0G9A</b>	<b>HBEVXLH0G9A</b>						
						4-way, 2-position, air return	0.55	Single solenoid	24 VDC	Internal	<b>HB1VXBG0G9A</b>	<b>HB1VXBH0G9A</b>	
										External	<b>HB1VXLG0G9A</b>	<b>HB1VXLH0G9A</b>	
										120 VAC	Internal	<b>HB1VXBG023A</b>	<b>HB1VXBH023A</b>
											External	<b>HB1VXLG023A</b>	<b>HB1VXLH023A</b>
	4-way, 2-position	0.55	Double solenoid	24 VDC	Internal	<b>HB2VXBG0G9A</b>	<b>HB2VXBH0G9A</b>						
					External	<b>HB2VXLG0G9A</b>	<b>HB2VXLH0G9A</b>						
					120 VAC	Internal	<b>HB2VXBG023A</b>	<b>HB2VXBH023A</b>					
						External	<b>HB2VXLG023A</b>	<b>HB2VXLH023A</b>					
							4-way, 3-position, all ports blocked	0.5	Double solenoid	24 VDC	Internal	<b>HB5VXBG0G9A</b>	<b>HB5VXBH0G9A</b>
											External	<b>HB5VXLG0G9A</b>	<b>HB5VXLH0G9A</b>
120 VAC	Internal	<b>HB5VXBG023A</b>	<b>HB5VXBH023A</b>										
	External	<b>HB5VXLG023A</b>	<b>HB5VXLH023A</b>										
		4-way, 3-position, center exhaust	0.5	Double solenoid	24 VDC						Internal	<b>HB6VXBG0G9A</b>	<b>HB6VXBH0G9A</b>
											External	<b>HB6VXLG0G9A</b>	<b>HB6VXLH0G9A</b>
120 VAC						Internal	<b>HB6VXBG023A</b>	<b>HB6VXBH023A</b>					
						External	<b>HB6VXLG023A</b>	<b>HB6VXLH023A</b>					
							4-way, 3-position, pressure center	0.5	Double solenoid	24 VDC	Internal	<b>HB7VXBG0G9A</b>	<b>HB7VXBH0G9A</b>
											External	<b>HB7VXLG0G9A</b>	<b>HB7VXLH0G9A</b>
120 VAC	Internal	<b>HB7VXBG023A</b>	<b>HB7VXBH023A</b>										
	External	<b>HB7VXLG023A</b>	<b>HB7VXLH023A</b>										
		3-way, 2-position, dual valve, NC/NC	0.45	Double solenoid	24 VDC						Internal	<b>HBNVXBG0G9A</b>	<b>HBNVXBH0G9A</b>
											Internal	<b>HBNVXBG023A</b>	<b>HBNVXBH023A</b>
	3-way, 2-position, dual valve, NO/NO	0.45	Double solenoid	24 VDC	Internal	<b>HBPVXBG0G9A</b>	<b>HBPVXBH0G9A</b>						
					Internal	<b>HBPVXBG023A</b>	<b>HBPVXBH023A</b>						

**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>	<b>PSHU1152J1P</b>
	Circuit board	Double solenoid - 4 addresses	<b>PSHU1151M1P</b>	<b>PSHU1152M1P</b>

**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 Note: Do not use with Independent sandwich regulators	<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>
	2-60 PSIG w/ gauge <b>PS5638166P</b>	<b>PS5638266P</b>
	5-125 PSIG w/ gauge	

 Most popular.

**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series

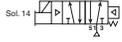
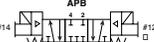
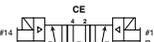


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D76

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**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>	<b>HAEVXBH0G9A</b>
					External	<b>HAEVXLG0G9A</b>	<b>HAEVXLH0G9A</b>
				120 VAC	Internal	<b>HAEVXBG023A</b>	<b>HAEVXBH023A</b>
					External	<b>HAEVXLG023A</b>	<b>HAEVXLH023A</b>
	4-way, 2-position, air return	1.1	Single solenoid	24 VDC	Internal	<b>HA1VXBG0G9A</b>	<b>HA1VXBH0G9A</b>
					External	<b>HA1VXLG0G9A</b>	<b>HA1VXLH0G9A</b>
				120 VAC	Internal	<b>HA1VXBG023A</b>	<b>HA1VXBH023A</b>
					External	<b>HA1VXLG023A</b>	<b>HA1VXLH023A</b>
	4-way, 2-position	1.1	Double solenoid	24 VDC	Internal	<b>HA2VXBG0G9A</b>	<b>HA2VXBH0G9A</b>
					External	<b>HA2VXLG0G9A</b>	<b>HA2VXLH0G9A</b>
				120 VAC	Internal	<b>HA2VXBG023A</b>	<b>HA2VXBH023A</b>
					External	<b>HA2VXLG023A</b>	<b>HA2VXLH023A</b>
				24 VDC	Internal	<b>HA5VXBG0G9A</b>	<b>HA5VXBH0G9A</b>
					External	<b>HA5VXLG0G9A</b>	<b>HA5VXLH0G9A</b>
120 VAC	Internal	<b>HA5VXBG023A</b>	<b>HA5VXBH023A</b>				
	External	<b>HA5VXLG023A</b>	<b>HA5VXLH023A</b>				
	4-way, 3-position, all ports blocked	1.0	Double solenoid	24 VDC	Internal	<b>HA6VXBG0G9A</b>	<b>HA6VXBH0G9A</b>
					External	<b>HA6VXLG0G9A</b>	<b>HA6VXLH0G9A</b>
				120 VAC	Internal	<b>HA6VXBG023A</b>	<b>HA6VXBH023A</b>
					External	<b>HA6VXLG023A</b>	<b>HA6VXLH023A</b>
				24 VDC	Internal	<b>HA7VXBG0G9A</b>	<b>HA7VXBH0G9A</b>
					External	<b>HA7VXLG0G9A</b>	<b>HA7VXLH0G9A</b>
120 VAC	Internal	<b>HA7VXBG023A</b>	<b>HA7VXBH023A</b>				
	External	<b>HA7VXLG023A</b>	<b>HA7VXLH023A</b>				
	4-way, 3-position, center exhaust	1.0	Double solenoid	24 VDC	Internal	<b>HA6VXBG0G9A</b>	<b>HA6VXBH0G9A</b>
					External	<b>HA6VXLG0G9A</b>	<b>HA6VXLH0G9A</b>
				120 VAC	Internal	<b>HA6VXBG023A</b>	<b>HA6VXBH023A</b>
					External	<b>HA6VXLG023A</b>	<b>HA6VXLH023A</b>
				24 VDC	Internal	<b>HA7VXBG0G9A</b>	<b>HA7VXBH0G9A</b>
					External	<b>HA7VXLG0G9A</b>	<b>HA7VXLH0G9A</b>
120 VAC	Internal	<b>HA7VXBG023A</b>	<b>HA7VXBH023A</b>				
	External	<b>HA7VXLG023A</b>	<b>HA7VXLH023A</b>				
	4-way, 3-position, pressure center	1.0	Double solenoid	24 VDC	Internal	<b>HA6VXBG0G9A</b>	<b>HA6VXBH0G9A</b>
					External	<b>HA6VXLG0G9A</b>	<b>HA6VXLH0G9A</b>
				120 VAC	Internal	<b>HA6VXBG023A</b>	<b>HA6VXBH023A</b>
					External	<b>HA6VXLG023A</b>	<b>HA6VXLH023A</b>
				24 VDC	Internal	<b>HA7VXBG0G9A</b>	<b>HA7VXBH0G9A</b>
					External	<b>HA7VXLG0G9A</b>	<b>HA7VXLH0G9A</b>
120 VAC	Internal	<b>HA7VXBG023A</b>	<b>HA7VXBH023A</b>				
	External	<b>HA7VXLG023A</b>	<b>HA7VXLH023A</b>				

**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 Note : Do not use with Independent Port Sandwich Regulators	<b>PS5535P</b>	
	Pilot pressure control, without sensor, 1/8" BSPP	<b>PS55XA0P</b>	
	Sandwich supply module	1/4" NPT	<b>PS552600P</b>
		1/4" BSPP	<b>PS552601P</b>
	Sandwich regulator	Common Pressure	<b>PS5538155P</b>
		Independent Pressure	<b>PS5538255P</b>
	2-60 PSIG w/ gauge	<b>PS5538166P</b>	
	5-125 PSIG w/ gauge	<b>PS5538266P</b>	

 Most popular.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

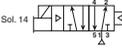
H Series ISO

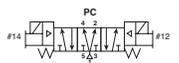
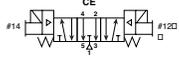
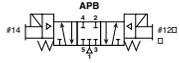
Network Connectivity

DX ISOMAX Series

Valvair II Series

**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>



**D**  
Subbase & Manual Valves

**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. Do not use with Independent Port Sandwich Regulators.

 Most popular.



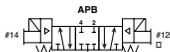
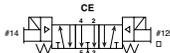
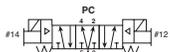
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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H Series Micro  
Modulflex Series  
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 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. Do not use with Independent Port Sandwich Regulators.	<b>PS4135CP</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

Network Connectivity

DX ISOMAX Series

Valvair II Series

**End Plate Kit - Universal Plug-in**

**PSHU20 L1 0 0 P**

Valve Type	
Plug-in (internal pilot)	<b>PSHU20</b>
Plug-in (external pilot)	<b>PSHU2X</b>

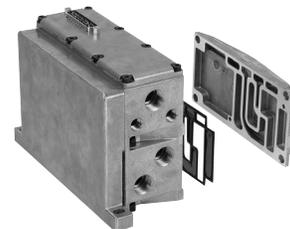
Thread Type	
<b>0</b>	<b>NPT</b>
1*	BSPP "G"

\* BSPP conforms to ISO 1179-1 w 228-1 threads

Left Hand End Plate Type * †	
<b>25-Pin, D-Sub (side)</b>	<b>L1</b>
<b>25-Pin, D-Sub (top)</b>	<b>L2</b>
19-Pin, Round, Brad Harrison	L3
12-Pin, M23	L4
<b>32-Point Terminal Strip</b>	<b>L5</b>
19-Pin, M23	M2
P2H IO Link Class B, 24 Address, Standard Version	N2
P2H IO Link Class B, 24 Address, Safe Version	S2
<b>P2H IO Link Class A, 24 Address, 4-Pin, Safe Version</b>	<b>S4</b>
P2H IO Link Class A, 24 Address, 5-Pin, Safe Version	S5
<b>Turck Network with valve driver module - 16 outputs ‡</b>	<b>T1</b>
<b>Turck Network with valve driver module - 32 outputs ‡</b>	<b>T2</b>
-----For P2H Ethernet Node and PCH Network Portal, see next pages -----	

Right Hand End Plate Type / Port	
<b>0</b>	<b>Low Profile (no ports)</b>
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 communication modules must be ordered separately. See Network Connectivity section for more information.  
 ‡ PSHU11P gaskets included in each end plate kit.

Note: **PSHU20 valve type:** Supply port 1 is internally connected to manifold pilot galley 12 and 14. With valve minimum operating pressure at port 1 of the left end plate, both 12 and 14 manifold pilot galley ways can be used for piloting externally piloted valves without pressure connected to port 12 or 14.  
**PSHU2X valve type:** Supply port 1 is isolated from manifold pilot galley 12 and 14. Pilot pressure port 14 is connected to both manifold pilot galley 12 and 14.  
 Port 14 is the primary pilot port for all externally piloted H Series ISO Valves.

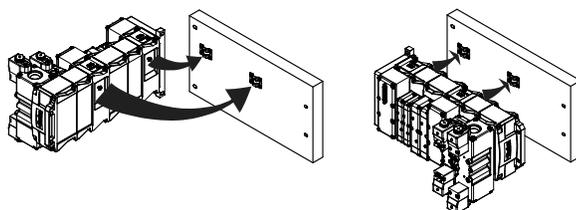
**Right Hand End Plate**

	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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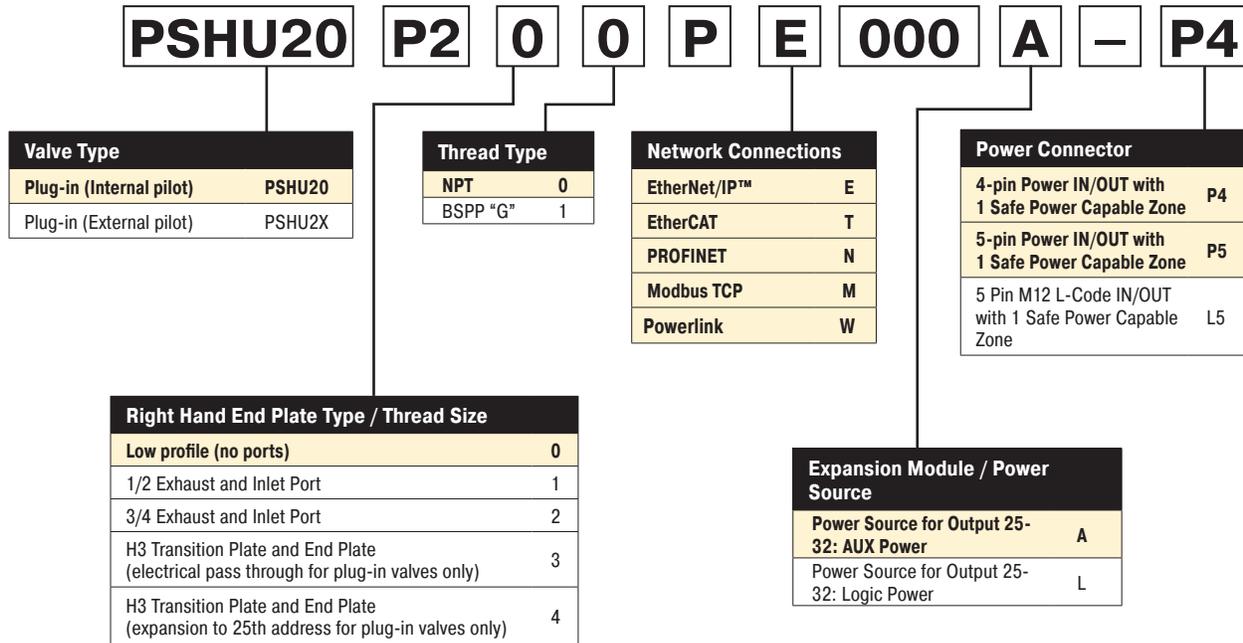
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**D**  
 Subbase & Manual  
 Valves  
 H Series  
 Micro  
 Modflex  
 Series  
 H Series  
 ISO  
 Network  
 Connectivity  
 DX ISOMAX  
 Series  
 Valvair II  
 Series

**End Plate Kit – Universal Plug-in**

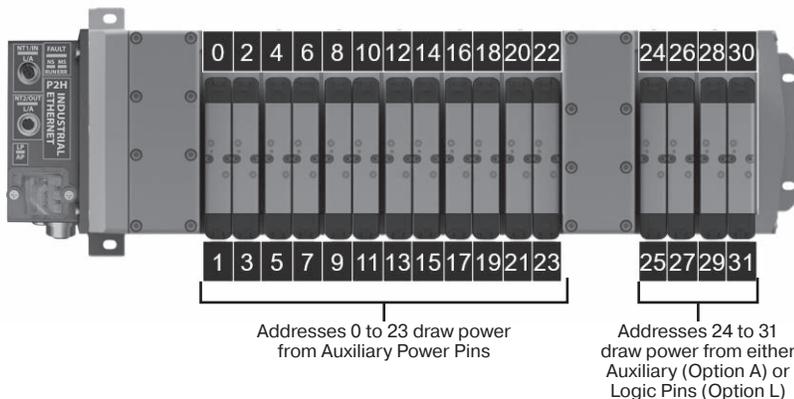
The P2H EtherNet Node is ordered as an endplate kit. This includes the P2H EtherNet Node, left hand air supply module, and right hand end plate. 32 pilot solenoid addresses with two choices of power source configurations.

For fully assembled manifold Add-A-Fold part number, reference page D91



**Power Source Selection**

The P2H Node 32DO has two available power sources for addresses 24 to 31. Addresses 24 to 31 can draw their power from Auxiliary Power Pins (Power Source Option A) or Logic Power Pins (Power Source Option L). Must use Auxiliary Inlet Module with electrical expansion to access addresses 24 to 31. Address 0 to 23 is always auxiliary power source.



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

**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. 32 pilot solenoid addresses with configurable I/O.

For fully assembled manifold Add-A-Fold part number, reference page D92



**PSHU20 P3 0 0 P E AAA 0 – P4**

Valve Type	
Plug-in (Internal pilot)	PSHU20
Plug-in (External pilot)	PSHU2X

Thread Type	
NPT	0
BSPP "G"	1

Network Connections	
EtherNet/IP™	E
EtherCAT	T
PROFINET	N
Modbus TCP	M

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

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

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.

**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)

**Valve - 15407-2 Plug-in, Size 18mm (HB) & 26mm (HA)**

**HB 1 VX B G 0 G9 A 8P**

Basic Series 15407-2	
ISO 15407-2 18mm	HB
ISO 15407-2 26mm	HA

Options	
Blank	No Options
8P	M8, PNP, Spool Sensing
8N	M8, NPN, Spool Sensing
2P	M12, PNP, Spool Sensing

\* Available on HA series with operator functions 1, 2, E only

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 Engineering Level	
A	Current

15407-2 Voltage & Frequency				
	AC		DC	Light & Surge Suppression
	60Hz	50Hz		
G9			24	LED & Suppression
23	120	115		LED & Suppression

\* Available on HB Only, must use Internal Pilot Source Option "B".

Mounting	
15407-2 Valve Less Base	VX

15407-2 Enclosure / Lead Length	
0	Valve Less Base

15407-2 Pilot Source / Pilot Exhaust	
B	Internal Pilot, Port #1 / Vented
L*	External Pilot, Port #14 / Vented

15407-2 Overrides / Lights	
G	Non-Locking, Flush, Push - W/ Light
H	Locking, Flush, Push / Turn - W/ Light

Part Number	Cable Type
RKC 4.4T-2	M12, 4 Pin Female, PVC, 2m
PKG 3M-4/S90	M8, 3 Pin Female, PUR, 4M, flying lead



HB 18mm Valve

**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			

\* Single subbase only. Not available for 5599-2 manifold mount.

5599-2 Mounting	
5599-2 Valve Less Base	VX

5599-2 Enclosure / Lead length	
0	None, valve less base

5599-2 Pilot Source / Pilot Exhaust	
B	Internal Pilot, Port #1 / Vented
X*	External Pilot, Port #12 Or #14 / Vented

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



H1 Valve shown

Most popular.



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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

**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*
HA Manifold with 1/4 NPT End Ports	PSHU1153
HA Manifold with 1/4 BSPP End Ports	PSHU1154*
H1 Manifold with 3/8 NPT End Ports	PSHU1155
H1 Manifold with 3/8 BSPP End Ports	PSHU1156*
H2 Manifold with 1/2 NPT End Ports	PSHU1157
H2 Manifold with 1/2 BSPP End Ports	PSHU1158*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.

Gasket Options	
1	1,3,5 Ports Open And Pilots Open
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	
J	Interconnect, Single Address
M	Interconnect, Double Address



HA manifold shown

**PSHU115A T 1 P**

Mounting Style / Port Size	
Intermediate Air Supply, NPT / Internal Pilot	PSHU115A
Intermediate Air Supply, BSPP / Internal Pilot	PSHU115B*
Intermediate Air Supply, NPT / External Pilot	PSHU115C
Intermediate Air Supply, BSPP / External Pilot	PSHU115D*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.

Gasket Options	
1	1,3,5 Ports Open And Pilots Open
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	
T	With Electrical Pass Through
E	With Electrical Expansion To 25th Address



Intermediate air supply module shown

- D
- Subbase & Manual Valves
- H Series Micro
- Modulflex Series
- H Series ISO
- Network Connectivity
- DX ISOMAX Series
- Valvair II Series

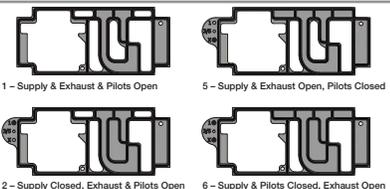
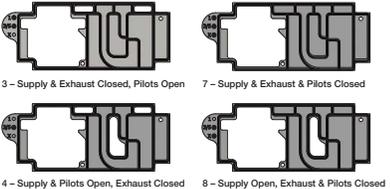


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Pneumatic Zoning**

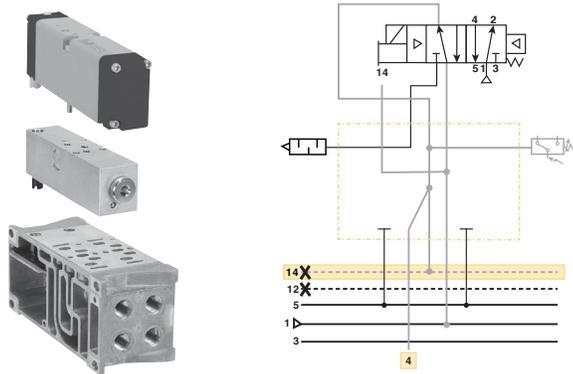
Multiple pressure zones can be created by selecting alternative gaskets between individual manifold segments or an intermediate air supply module. These zones can be designed to meet different application and safety requirements on the machine. Inserting the PXM Pilot Exhaust Module into one of these zones allows control of pilot pressure for the entire zone.

**Gasket Kit - Universal Manifold to Manifold**

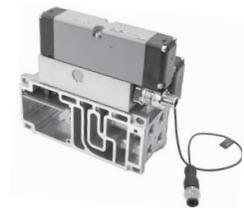
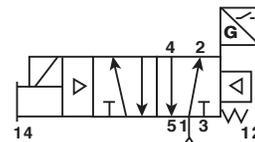
Description		Part Number
 <p>1 – Supply &amp; Exhaust &amp; Pilots Open                      2 – Supply Closed, Exhaust &amp; Pilots Open                      3 – Supply &amp; Exhaust Closed, Pilots Open                      4 – Supply &amp; Pilots Open, Exhaust Closed</p>	Pilots opened	1 – Supply & Exhaust & Pilots Open <b>PSHU11P</b>
		2 – Supply Closed, Exhaust & Pilots Open <b>PSHU12P</b>
		3 – Supply & Exhaust Closed, Pilots Open <b>PSHU13P</b>
		4 – Supply & Pilots Open, Exhaust Closed <b>PSHU14P</b>
 <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	5 – Supply & Exhaust Open, Pilots Closed <b>PSHU15P</b>
		6 – Supply & Pilots Closed, Exhaust Open <b>PSHU16P</b>
		7 – Supply & Exhaust & Pilots Closed <b>PSHU17P</b>
		8 – Supply Open, Exhaust & Pilots Closed <b>PSHU18P</b>

**Pilot Exhaust Module / HA Spool Sensing**

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).



Alternatively, the HA Single Solenoid spool sensing valve can be used in place of the standard HA Valve. The spool sensing option mounts on top of the PXM and provides the added benefit of solid-state sensing of spool position to the PLC via an M8 or M12 connection. The spool sensing can be used without the PXM module for sensing only.

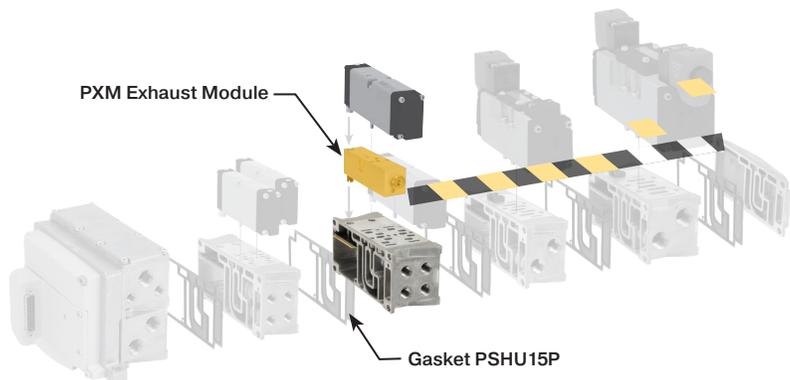


**Gaskets blocking pilot pressure are required at the start of the zone the PXM is controlling.** Special zoning gaskets (shown below) are available to meet any application requirement. In the example below, main pressure and exhaust pass through to the second zone, but pilot pressure is blocked. This results in the PXM providing pilot pressure for the zone after this gasket.

Part Number	Sensor Type
PS55XA0P	No sensing
PS55XM0P	Mechanical pressure switch
PS55XE0P	Solid state pressure switch

Part Number	Cable Type
RKC 4.4T-2	M12, 4 Pin Female, PVC, 2m



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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 - 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*
HB	0.20	0.20	0.41	0.34	0.23	0.19	0.28	0.27
HA	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.

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**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

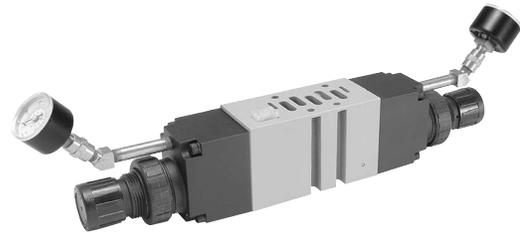
\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)  
 \*\* Pressure Line By-Pass Option can only be used with Independent Pressure Regulators.

**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*
H1	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
H2	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.



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H Series Micro

Moduflex 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 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
19-Pin, M23	M2
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 P2H Ethernet Node and PCH Network Portal, see next pages -----	

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)

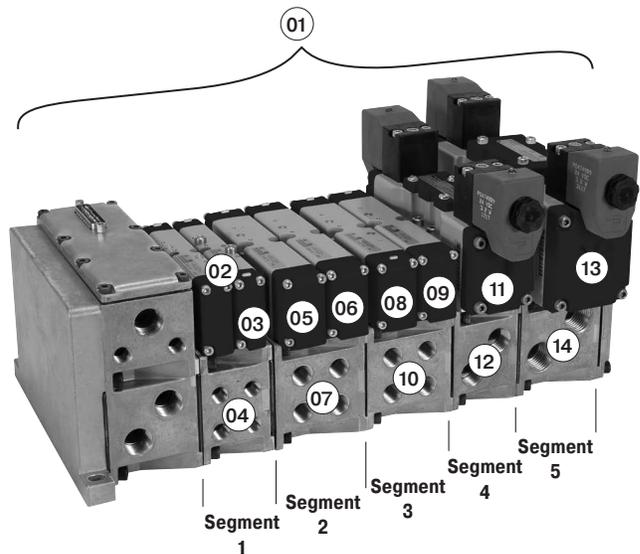
\* 1, 3 & 5 manifold galley blocked at transition plate. 12 & 14 pass through.

\* 120VAC is not CSA certified. Not available with 240VAC coils.  
 ‡ Turck Network communication modules must be ordered separately. See Network Connectivity section for more information.  
 † PSHU11P gaskets included in each end plate kit, galley ports 1, 2, 3, 12 & 14 Open.

**Example**

Application required a 5 segment manifold

Item	Part No.	Location
01	AAHUL200P05	
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	HA1VXBG0G9A	Valve Station 5
09	HA2VXBG0G9A	Segment 3 Valve Station 6
10	PSHU1153M1P	Manifold Base
11	H12VXBG0B9A	Segment 4 Valve Station 7
12	PSHU1155M1P	Manifold Base
13	H22VXBG0B9A	Segment 5 Valve Station 8
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.



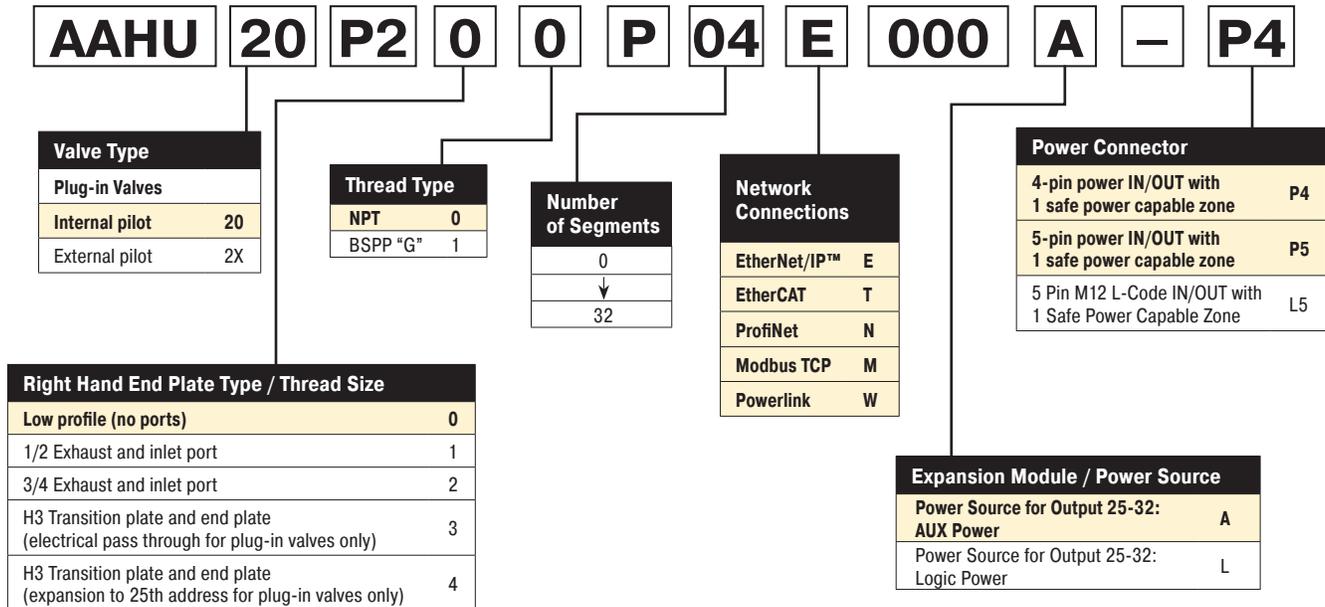
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**Add-A-Fold – Universal Plug-in – P2H Ethernet Node**

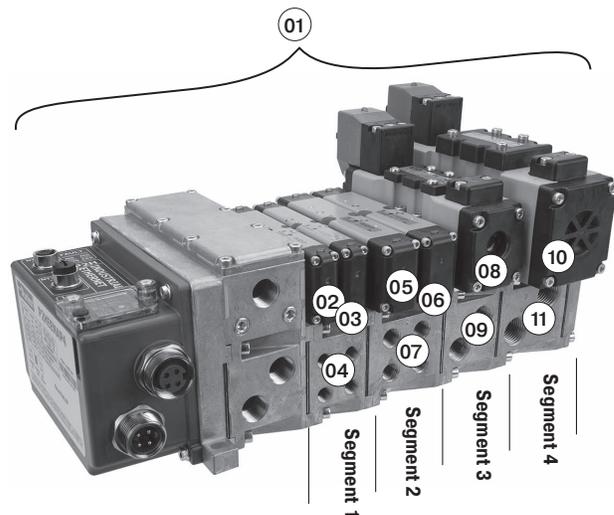
The P2H Industrial EtherNet node is a control unit capable of controlling up to 32 digital outputs (pilot solenoids), through the most popular Industrial Ethernet protocols. The P2H Ethernet is as a low-cost network connection with easy integration and simple to use diagnostics all housed in a robust IP65 weld-resistant housing.



**Example**

Application required a 4 segment manifold

Item	Part No.	Location
01	<b>AAHU20P200P04E000A-P4</b>	
02	<b>HB2VXBG0G9A</b>	Valve Station 1
03	<b>HB2VXBG0G9A</b>	Segment 1 Valve Station 2
04	<b>PSHU1151M1P</b>	Manifold Base
05	<b>HA1VXBG0G9A</b>	Valve Station 3
06	<b>HA2VXBG0G9A</b>	Segment 2 Valve Station 4
07	<b>PSHU1153M1P</b>	Manifold Base
08	<b>H12VXBG0B9A</b>	Valve Station 5
09	<b>PSHU1155M1P</b>	Segment 3 Manifold Base
10	<b>H2222VXBG0B9A</b>	Valve Station 6
11	<b>PSHU1157M1P</b>	Segment 4 Manifold Base



Example:  
 5 segment manifold with (2) HB, (2) HA, (1) H1, and (1) H2 valve on manifold bases with P2H Ethernet Node end plate.



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Subbase & Manual Valves

H Series Micro

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H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**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
BSPP "G"	1

Number of Segments	
	0
↓	
	32

Network Connections	
EtherNet/IP™	E
EtherCAT	T
ProfiNet	N
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

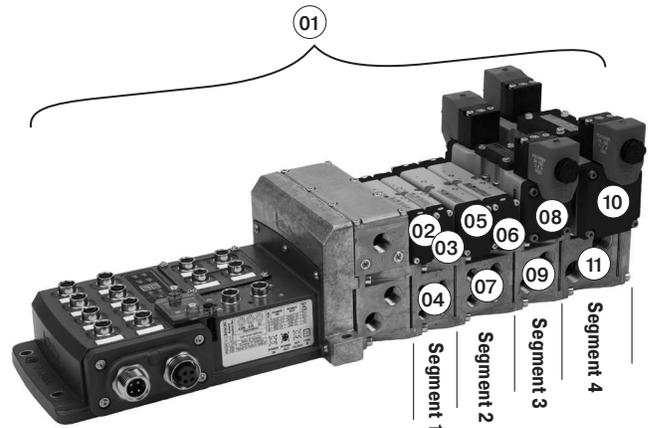
Right Hand End Plate Type / Thread Size	
Low profile (no ports)	0
1/2 Exhaust and inlet port	1
3/4 Exhaust and inlet port	2
H3 Transition plate and end plate (electrical pass through for plug-in valves only)	3
H3 Transition plate and end plate (expansion to 25th address for plug-in valves only)	4

For any module configurations not listed, consult factory.

**Example**

Application required a 4 segment manifold

Item	Part No.	Location
01	<b>AAHU20P300P04EAAA0-P4</b>	
02	<b>HB2VXBG0G9A</b>	Valve Station 1
03	<b>HB2VXBG0G9A</b>	Segment 1 Valve Station 2
04	<b>PSHU1151M1P</b>	Manifold Base
05	<b>HA1VXBG0G9A</b>	Valve Station 3
06	<b>HA2VXBG0G9A</b>	Segment 2 Valve Station 4
07	<b>PSHU1153M1P</b>	Manifold Base
08	<b>H12VXBG0B9A</b>	Segment 3 Valve Station 5
09	<b>PSHU1155M1P</b>	Manifold Base
10	<b>H2222VXBG0B9A</b>	Segment 4 Valve Station 6
11	<b>PSHU1157M1P</b>	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.

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 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
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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	
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*

Wiring Options	
Blank	None
C †	Chrysler
F †	SAE / Ford
G †	General Motors

† Not available on HA series.

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>

\* 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

**D**

Subbase & Manual Valves

H Series Micro

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H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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**End Plate Kit - Plug-in, 5599-2, Size 3 (H3) \* Not compatible with H Universal**

Electrical Option	NPT Port	BSP Port
 No connector - use with individually wired base	<b>PS4231010DP</b>	<b>PS4231011DP</b>
 25-pin, D-sub	<b>PS4220L20DP</b>	<b>PS4220L21DP</b>
 19-pin, round, Brad Harrison	<b>PS4220L30DP</b>	<b>PS4220L31DP</b>
 12-pin, M23	<b>PS4220L40DP</b>	<b>PS4220L41DP</b>
 19-pin, M23	<b>PS4220M20DP</b>	<b>PS4220M21DP</b>
 Turck Network with valve driver module - 16 address	<b>PS4220T10DP</b>	<b>PS4220T11DP</b>
 Turck Network with valve driver module - 24 address	<b>PS4220T20DP</b>	<b>PS4220T21DP</b>
 P2H IO Link Class B, standard version, 24 address	<b>PS4220N20DP</b>	<b>PS4220N21DP</b>
 P2H IO Link Class B, safe version, 24 address	<b>PS4220S20DP</b>	<b>PS4220S21DP</b>
 P2H IO Link Class A, 4-pin safe version, 24 address	<b>PS4220S40DP</b>	<b>PS4220S41DP</b>
 P2H IO Link Class A, 5-pin safe version, 24 address	<b>PS4220S50DP</b>	<b>PS4220S51DP</b>

Turck 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.

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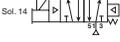
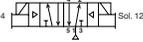
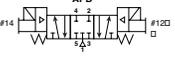
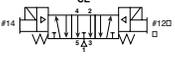
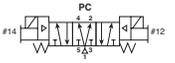


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**Valve - 5599-2, Plug-in, Size 3 (H3)**

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>	<b>H3EVXBH0B9D</b>
					External	<b>H3EVXXG0B9D</b>	<b>H3EVXXH0B9D</b>
				120 VAC	Internal	<b>H3EVXBG023D</b>	<b>H3EVXBH023D</b>
					External	<b>H3EVXXG023D</b>	<b>H3EVXXH023D</b>
	4-way, 2-position, air return	6.0	Single solenoid	24 VDC	Internal	<b>H31VXBG0B9D</b>	<b>H31VXBH0B9D</b>
					External	<b>H31VXXG0B9D</b>	<b>H31VXXH0B9D</b>
				120 VAC	Internal	<b>H31VXBG023D</b>	<b>H31VXBH023D</b>
					External	<b>H31VXXG023D</b>	<b>H31VXXH023D</b>
	4-way, 2-position	6.0	Double solenoid	24 VDC	Internal	<b>H32VXBG0B9D</b>	<b>H32VXBH0B9D</b>
					External	<b>H32VXXG0B9D</b>	<b>H32VXXH0B9D</b>
				120 VAC	Internal	<b>H32VXBG023D</b>	<b>H32VXBH023D</b>
					External	<b>H32VXXG023D</b>	<b>H32VXXH023D</b>
	4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	Internal	<b>H35VXBG0B9D</b>	<b>H35VXBH0B9D</b>
					External	<b>H35VXXG0B9D</b>	<b>H35VXXH0B9D</b>
				120 VAC	Internal	<b>H35VXBG023D</b>	<b>H35VXBH023D</b>
					External	<b>H35VXXG023D</b>	<b>H35VXXH023D</b>
	4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC	Internal	<b>H36VXBG0B9D</b>	<b>H36VXBH0B9D</b>
					External	<b>H36VXXG0B9D</b>	<b>H36VXXH0B9D</b>
				120 VAC	Internal	<b>H36VXBG023D</b>	<b>H36VXBH023D</b>
					External	<b>H36VXXG023D</b>	<b>H36VXXH023D</b>
	4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	Internal	<b>H37VXBG0B9D</b>	<b>H37VXBH0B9D</b>
					External	<b>H37VXXG0B9D</b>	<b>H37VXXH0B9D</b>
				120 VAC	Internal	<b>H37VXBG023D</b>	<b>H37VXBH023D</b>
					External	<b>H37VXXG023D</b>	<b>H37VXXH023D</b>

**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>PS42119CCP</b>	<b>PS421110CCP</b>
	6" flying leads	Double solenoid - 2 addresses	<b>PS421119ACP</b>	<b>PS421110ACP</b>

**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>	<b>PS421160MCP</b>
	Terminal strip in base	Double solenoid - 2 address	<b>PS421169CCP</b>	<b>PS421160CCP</b>
	6" flying leads	Double solenoid - 2 addresses	<b>PS421169ACP</b>	<b>PS421160ACP</b>
	Circuit board	Double solenoid - 2 addresses	<b>PS421159MCP</b>	<b>PS421150MCP</b>
	Terminal strip in base	Double solenoid - 2 address	<b>PS421159CCP</b>	<b>PS421150CCP</b>
	6" flying leads	Double solenoid - 2 addresses	<b>PS421159ACP</b>	<b>PS421150ACP</b>

 Most popular.



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Subbase & Manual Valves

H Series Micro

Modulflex Series

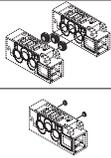
H Series ISO

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. Do not use with Independent Port Sandwich Regulators.		<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)

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**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

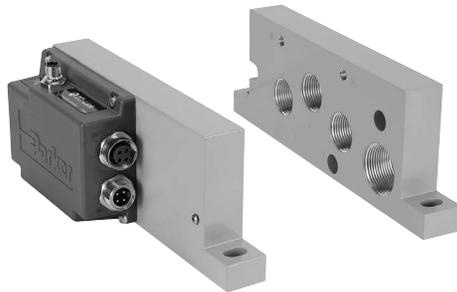
Engineering Level	
D	Current

Options †	
25-Pin, D-Sub	20L2*
19-Pin, Round, Brad Harrison	20L3
12-Pin, M23	20L4
19-Pin, M23	20M2
<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
Turck Network with Valve Driver Module - 16 Outputs	20T1
Turck Network with Valve Driver Module - 24 Outputs	20T2

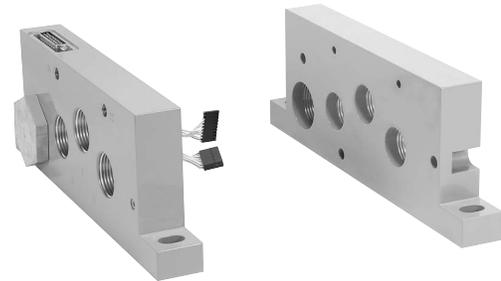
Thread Type	
0	NPT
1*	BSPP "G"

\* BSPP Conforms to ISO 1179-1 w 228-1 Threads

\* 120VAC is Not CSA Rated.  
 † Manifold bases must have a circuit board.  
 Turck Network, 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	
B9			24	LED & suppression, 3.2 watt
F9			24	LED & suppression, 1.3 watt
23	120	115		LED & suppression
57	240			

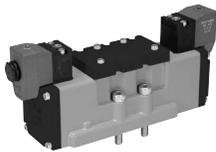
5599-2 Mounting	
5599-2 Valve less base	VX

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
G	B9, F9, 23	Non-locking, flush, push - w/ light
H	B9, 23	Locking, flush, push / turn - w/ light



H3 Valve shown

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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**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*
<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*

\* 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	
<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>
<b>Collective Wired Base</b>	
<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.



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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 - 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

**Ordering Components**

- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.

**D**

Subbase & Manual Valves

H Series Micro Series Modulflex Series H Series ISO Network Connectivity DX ISOMAX Series Valvair II Series

**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*
H3	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.

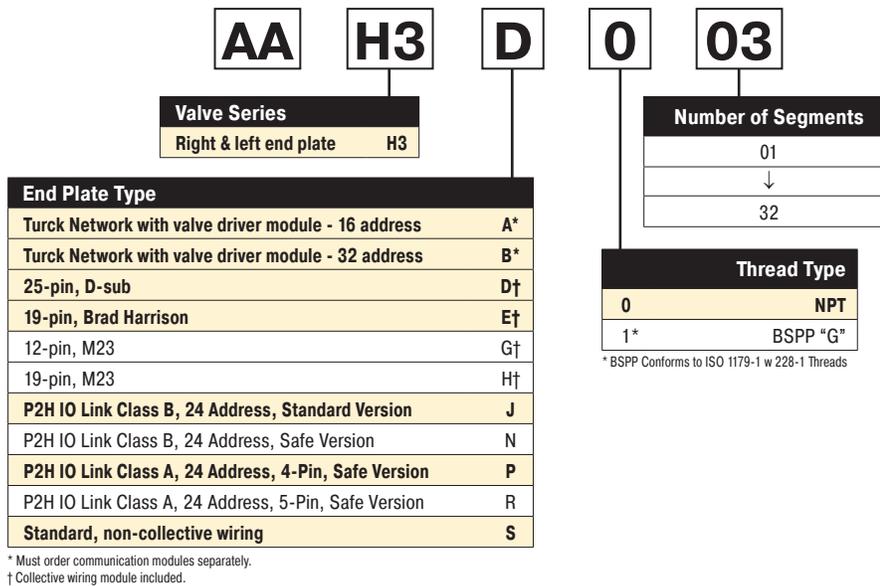


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**Add-A-Fold Assembly - Plug-in, 5599-2, Size 3 \* Not compatible with H Universal**



**How To Order Plug-in Add-A-Fold Assemblies**

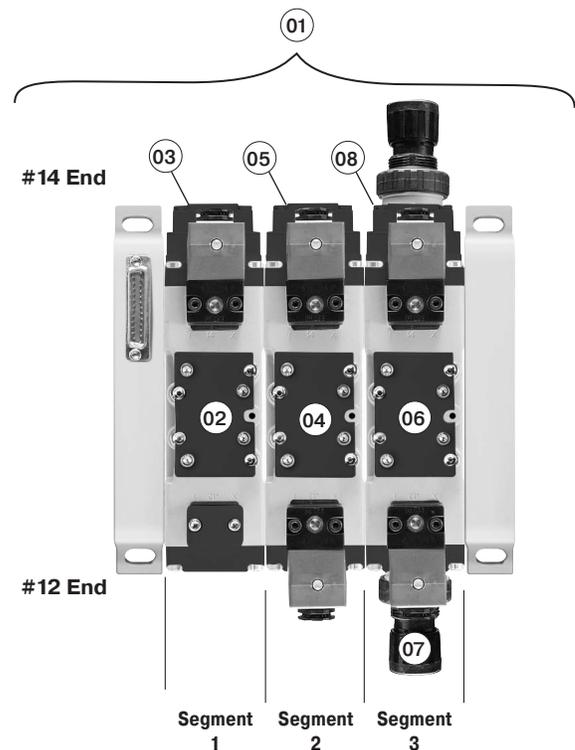
- List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
- List complete valve, regulator, flow control and manifold base kit. List left to right, looking at the cylinder ports on the # 12 end of the manifold. The left most segment is segment 1. (If a blank station is needed, list the blanking plate part number and the individual manifold part numbers for the required segment.)

**Example**

Application requires a 3 segment manifold and regulator on segment 3.

Item	Part No.	Location	
01	<b>AAH3D003</b>		
02	<b>H31VXBG0B9D</b>	Segment 1	Valve Station 1
03	<b>PS421159MCP</b>		Manifold Base
04	<b>H32VXBG0B9D</b>	Segment 2	Valve Station 2
05	<b>PS421159MCP</b>		Manifold Base
06	<b>H32VXXG0B9D</b>	Segment 3	Valve Station 3
07	<b>PS4238166CP</b>		Sandwich regulator
08	<b>PS421159MCP</b>	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.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

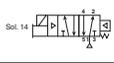
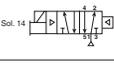
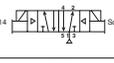
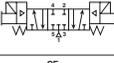
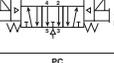
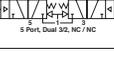
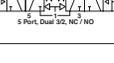
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

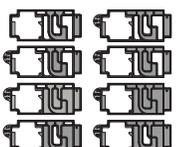
**Valve - 15407-1, Non Plug-in, Size 18mm (HB)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	0.55	Single solenoid	24 VDC	Internal	<b>HBEXWBG2G9000FA</b>	<b>HBEXWBH2G9000FA</b>
					External	<b>HBEXWLG2G9000FA</b>	<b>HBEXWLH2G9000FA</b>
	4-way, 2-position, air return	0.55	Single solenoid	24 VDC	Internal	<b>HB1WXBG2G9000FA</b>	<b>HB1WXBH2G9000FA</b>
					External	<b>HB1WXLG2G9000FA</b>	<b>HB1WXLH2G9000FA</b>
	4-way, 2-position	0.55	Double solenoid	24 VDC	Internal	<b>HB2WXBG2G9000FA</b>	<b>HB2WXBH2G9000FA</b>
					External	<b>HB2WXLG2G9000FA</b>	<b>HB2WXLH2G9000FA</b>
	4-way, 3-position, all ports blocked	0.5	Double solenoid	24 VDC	Internal	<b>HB5WXBG2G9000FA</b>	<b>HB5WXBH2G9000FA</b>
					External	<b>HB5WXLG2G9000FA</b>	<b>HB5WXLH2G9000FA</b>
	4-way, 3-position, center exhaust	0.5	Double solenoid	24 VDC	Internal	<b>HB6WXBG2G9000FA</b>	<b>HB6WXBH2G9000FA</b>
					External	<b>HB6WXLG2G9000FA</b>	<b>HB6WXLH2G9000FA</b>
	4-way, 3-position, pressure center	0.5	Double solenoid	24 VDC	Internal	<b>HB7WXBG2G9000FA</b>	<b>HB7WXBH2G9000FA</b>
					External	<b>HB7WXLG2G9000FA</b>	<b>HB7WXLH2G9000FA</b>
	3-way, 2-position, dual valve, NC/NC	0.45	Double solenoid	24 VDC	Internal	<b>HBNWXBG2G9000FA</b>	<b>HBNWXBH2G9000FA</b>
					External	<b>HBNWXLG2G9000FA</b>	<b>HBNWXLH2G9000FA</b>
	3-way, 2-position, dual valve, NO/NO	0.45	Double solenoid	24 VDC	Internal	<b>HBPWXBG2G9000FA</b>	<b>HBPWXBH2G9000FA</b>
					External	<b>HBPWXLG2G9000FA</b>	<b>HBPWXLH2G9000FA</b>
	3-way, 2-position, dual valve, NC/NO	0.45	Double solenoid	24 VDC	Internal	<b>HBQWXBG2G9000FA</b>	<b>NA</b>
					External	<b>HBQWXLG2G9000FA</b>	<b>NA</b>

**Base / End Plate - 15407-1, Non Plug-in, Size 18mm (HB)**

Description	NPT	BSP
 Universal manifold base 2 station, end ported	<b>PSHU115101P</b>	<b>PSHU115201P</b>
 Universal end plate Non-collective wiring	<b>PSHU31L000P</b>	<b>PSHU31L001P</b>

**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	Do not use with Independent Port Sandwich Regulators.	<b>PS5642P</b>
 Sandwich supply module	1/8" NPT	<b>PS562600P</b>
	1/8" BSP	<b>PS562601P</b>
 Sandwich regulator	2-60 PSIG w/ gauge	<b>PS5637155P</b>
	5-125 PSIG w/ gauge	<b>PS5637166P</b>
 Manifold to manifold gasket kits	Pilot Open	<b>PSHU11P</b>
	Pilot Blocked	<b>PSHU15P</b>
	#1, 3, 5 ports open	<b>PSHU12P</b>
	Blocked #1 port	<b>PSHU16P</b>
 Manifold to manifold gasket kits	Blocked #1, 3, 5, ports	<b>PSHU13P</b>
	Blocked #3, 5 ports	<b>PSHU14P</b>

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

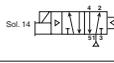
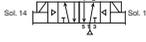
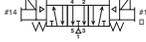


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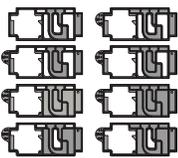
**Valve - 15407-1, Non Plug-in, Size 26mm (HA)**

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	BSPP
	Single subbase	Side ported base, 1/4" port	<b>PS551130P</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. Do not use with Independent Port Sandwich Regulators.			
	Pilot pressure control, without sensor, 1/8" BSPP	<b>PS55XXA0P</b>		
	Sandwich supply module	1/4" NPT	<b>PS552600P</b>	
		1/4" BSPP	<b>PS552601P</b>	
	Sandwich regulator	Common Pressure	Independent Pressure	
		2-60 PSIG w/ gauge	<b>PS5537155P</b>	<b>PS5537255P</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>	<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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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

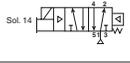
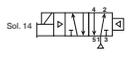
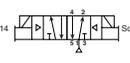
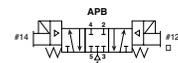
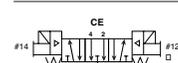
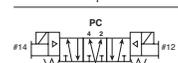
H Series ISO

Network Connectivity

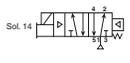
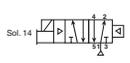
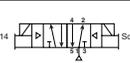
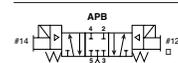
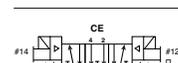
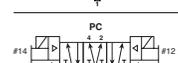
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Valvair II Series

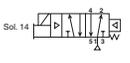
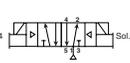
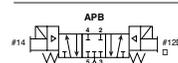
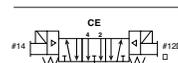
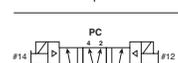
**Valve with Central Connector - 5599-1, Non Plug-in, Size 1 (H1)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
<b>4-Pin Central M12 Connector, 24 VDC</b>							
	4-way, 2-position, spring return	1.5	Single solenoid	24 VDC	Internal	<b>H1EWXBG2B9000FD</b>	H1EWXBH2B9000FD
						External	H1EWXXG2B9000FD
	4-way, 2-position, air return	1.5	Single solenoid	24 VDC	Internal	<b>H11WXBG2B9000FD</b>	H11WXBH2B9000FD
						External	H11WXXG2B9000FD
	4-way, 2-position	1.5	Double solenoid	24 VDC	Internal	<b>H12WXBG2B9000FD</b>	H12WXBH2B9000FD
						External	H12WXXG2B9000FD
	4-way, 3-position, all ports blocked	1.2	Double solenoid	24 VDC	Internal	<b>H15WXBG2B9000FD</b>	H15WXBH2B9000FD
						External	H15WXXG2B9000FD
	4-way, 3-position, center exhaust	1.2	Double solenoid	24 VDC	Internal	<b>H16WXBG2B9000FD</b>	H16WXBH2B9000FD
						External	H16WXXG2B9000FD
	4-way, 3-position, pressure center	1.2	Double solenoid	24 VDC	Internal	<b>H17WXBG2B9000FD</b>	H17WXBH2B9000FD
						External	H17WXXG2B9000FD

**5-Pin Central 7/8" Mini Connector, 120 VAC**

	4-way, 2-position, spring return	1.5	Single solenoid	120 VAC	Internal	<b>H1EWXBG323000FD</b>	H1EWXBH323000FD
						External	H1EWXXG323000FD
	4-way, 2-position, air return	1.5	Single solenoid	120 VAC	Internal	<b>H11WXBG323000FD</b>	H11WXBH323000FD
						External	H11WXXG323000FD
	4-way, 2-position	1.5	Double solenoid	120 VAC	Internal	<b>H12WXBG323000FD</b>	H12WXBH323000FD
						External	H12WXXG323000FD
	4-way, 3-position, all ports blocked	1.2	Double solenoid	120 VAC	Internal	<b>H15WXBG323000FD</b>	H15WXBH323000FD
						External	H15WXXG323000FD
	4-way, 3-position, center exhaust	1.2	Double solenoid	120 VAC	Internal	<b>H16WXBG323000FD</b>	H16WXBH323000FD
						External	H16WXXG323000FD
	4-way, 3-position, pressure center	1.2	Double solenoid	120 VAC	Internal	<b>H17WXBG323000FD</b>	H17WXBH323000FD
						External	H17WXXG323000FD

**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>							
	4-way, 2-position, spring return	1.5	Single solenoid	24 VDC	Internal	<b>H1EWXBBL49D</b>	H1EWXBCL49D
						External	H1EWXXBL49D
	4-way, 2-position, air return	1.5	Single solenoid	24 VDC	Internal	<b>H11WXBBL49D</b>	H11WXBCL49D
						External	H11WXXBL49D
	4-way, 2-position	1.5	Double solenoid	24 VDC	Internal	<b>H12WXBBL49D</b>	H12WXBCL49D
						External	H12WXXBL49D
	4-way, 3-position, all ports blocked	1.2	Double solenoid	24 VDC	Internal	<b>H15WXBBL49D</b>	H15WXBCL49D
						External	H15WXXBL49D
	4-way, 3-position, center exhaust	1.2	Double solenoid	24 VDC	Internal	<b>H16WXBBL49D</b>	H16WXBCL49D
						External	H16WXXBL49D
	4-way, 3-position, pressure center	1.2	Double solenoid	24 VDC	Internal	<b>H17WXBBL49D</b>	H17WXBCL49D
						External	H17WXXBL49D

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 H Series Micro  
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 Network Connectivity  
 DX ISOMAX Series  
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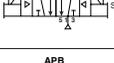
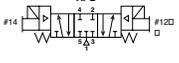
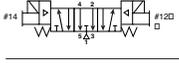
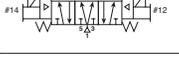


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**Valve with 3-Pin DIN Connector - 5599-1, Non Plug-in, Size 1 (H1) (continued)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>3-Pin DIN Connector, 120 VAC</b>								
	Sol. 14 	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>
	Sol. 14 	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>
	Sol. 14 	4-way, 2-position	1.5	Double solenoid	120 VAC	Internal	<b>H12WXBBL53D</b>	<b>H12WXBCL53D</b>
						External	<b>H12WXXBL53D</b>	<b>H12WXXCL53D</b>
	#14 	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>
	#14 	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>
	#14 	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>
	Universal manifold base	End ported	<b>PSHU115501P</b>
	Universal end plate	Non-collective wiring	<b>PSHU31L000P</b>

**Accessories - 5599-1, Non Plug-in, Size 1 (H1)**

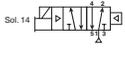
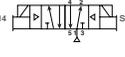
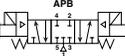
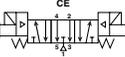
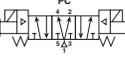
Accessory	Description	Part Number
	Common pressure	<b>PS4037166CP</b>
	Independent pressure	<b>PS4037266CP</b>
	Blanking plate kit	<b>PS4034CP</b>
	Sandwich flow control	<b>PS4042CP</b>
Sandwich Flow Control and Common Port Sandwich Regulator may be sandwiched together on a manifold or subbase. The Sandwich Flow Control MUST be located between the manifold/subbase and the Common Port Sandwich Regulator. Do not use with Independent Port Sandwich Regulators.		

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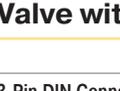
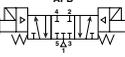
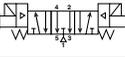
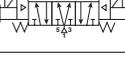


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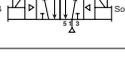
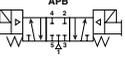
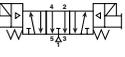
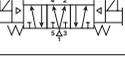
**Valve with Central Connector - 5599-1, Non Plug-in, Size 2 (H2)**

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

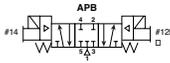
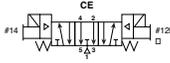
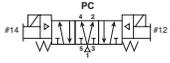
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**Valve with 3-Pin DIN Connector - 5599-1, Non Plug-in, Size 2 (H2) (continued)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>3-Pin DIN connector on coil, 120 VAC</b>								
	Sol. 14 	4-way, 2-position, spring return	3.0	Single solenoid	120 VAC	Internal	<b>H2EWXBBL53D</b>	<b>H2EWXBCL53D</b>
						External	<b>H2EWXXBL53D</b>	<b>H2EWXXCL53D</b>
	Sol. 14 	4-way, 2-position, air return	3.0	Single solenoid	120 VAC	Internal	<b>H21WXBBL53D</b>	<b>H21WXBCL53D</b>
						External	<b>H21WXXBL53D</b>	<b>H21WXXCL53D</b>
	Sol. 14 	4-way, 2-position	3.0	Double solenoid	120 VAC	Internal	<b>H22WXBBL53D</b>	<b>H22WXBCL53D</b>
						External	<b>H22WXXBL53D</b>	<b>H22WXXCL53D</b>
	#14 	4-way, 3-position, all ports blocked	2.8	Double solenoid	120 VAC	Internal	<b>H25WXBBL53D</b>	<b>H25WXBCL53D</b>
						External	<b>H25WXXBL53D</b>	<b>H25WXXCL53D</b>
	#14 	4-way, 3-position, center exhaust	2.8	Double solenoid	120 VAC	Internal	<b>H26WXBBL53D</b>	<b>H26WXBCL53D</b>
						External	<b>H26WXXBL53D</b>	<b>H26WXXCL53D</b>
	#14 	4-way, 3-position, pressure center	2.8	Double solenoid	120 VAC	Internal	<b>H27WXBBL53D</b>	<b>H27WXBCL53D</b>
						External	<b>H27WXXBL53D</b>	<b>H27WXXCL53D</b>

**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>	<b>PS4111180CP</b>
 Universal manifold base	End ported	<b>PSHU115701P</b>	<b>PSHU115801P</b>
 Universal end plate	Non-collective wiring	<b>PSHU31L000P</b>	<b>PSHU31L001P</b>

**Accessories - 5599-1, Non Plug-in, Size 2 (H2)**

Accessory	Description	Part number
 Sandwich regulator	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. Do not use with Independent Port Sandwich Regulators.

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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 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

Thread Type	
0	NPT
1*	BSPG "G"

\* BSPG Conforms to ISO 1179-1 w 228-1 Threads

Left Hand End Plate Type	
Non Plug-in	L0

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.

**Note: PSHU31 valve type:** Supply port 1 is internally connected to manifold pilot galley 12 and 14. With valve minimum operating pressure at port 1 of the left end plate, both 12 and 14 manifold pilot galley ways can be used for piloting externally piloted valves without pressure connected to port 12 or 14.  
**PSHU3X valve type:** Supply port 1 is isolated from manifold pilot galley 12 and 14. Pilot pressure port 14 is connected to both manifold pilot galley 12 and 14.  
 Port 14 is the primary pilot port for all externally piloted H Series ISO Valves.

**Right Hand End Plate**



Low Profile



High Flow

Description	NPT Port	BSPG 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      PSHU7301P

**Valve - Non Plug-in, 15407-1, Size 18mm (HB) & 26mm (HA)**

**HB E WX B G 2 G9 000F A 8P**

Basic Series 15407-1	
ISO 15407-1 18mm	HB
ISO 15407-1 26mm	HA

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†

† Available on HB Only, must use Internal Pilot Source Option "B".

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

\* Must be specified when using Sandwich Regulators.

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

Options	
Blank	No Options
8P	M8, PNP, Spool Sensing
8N	M8, NPN, Spool Sensing
2P	M12, PNP, Spool Sensing

\* Available on HA series with operator functions 1, 2, E only

15407-1 Engineering level	
A	Current

15407-1 Central Connector Wiring Options	
000F	SAE / Ford, ISO 20401

15407-1 Voltage & Frequency	
G9	24VDC LED & suppression

Part Number	Cable Type
RKC 4.4T-2	M12, 4 Pin Female, PVC, 2m
PKG 3M-4/S90	M8, 3 Pin Female, PUR, 4M, flying lead

Most popular.



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

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 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**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 G 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)

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D  
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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)**

**H1** **4** **WX000XX** **D**

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

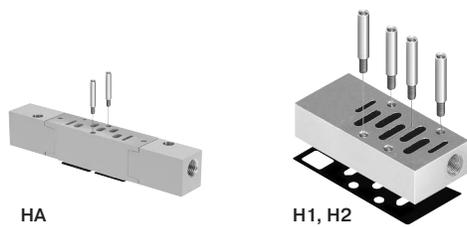
15407-1 Operator / Function	
Single remote pilot, 2-position - air return	3
Double remote pilot, 2-position	4
Double remote pilot, 3-position - APB	8
Double remote pilot, 3-position - CE	9
Double remote pilot, 3-position - PC	0
Single remote pilot, 2-position - air return, spring assist	F

**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**  
Subbase & Manual Valves

**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)

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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.



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

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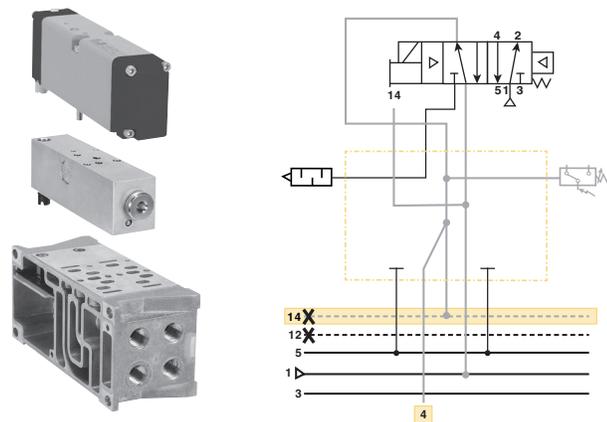
**Pneumatic Zoning**

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	<b>PSHU11P</b>
		<b>PSHU12P</b>
		<b>PSHU13P</b>
		<b>PSHU14P</b>
<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	<b>PSHU15P</b>
		<b>PSHU16P</b>
		<b>PSHU17P</b>
		<b>PSHU18P</b>

**Pilot Exhaust Module**



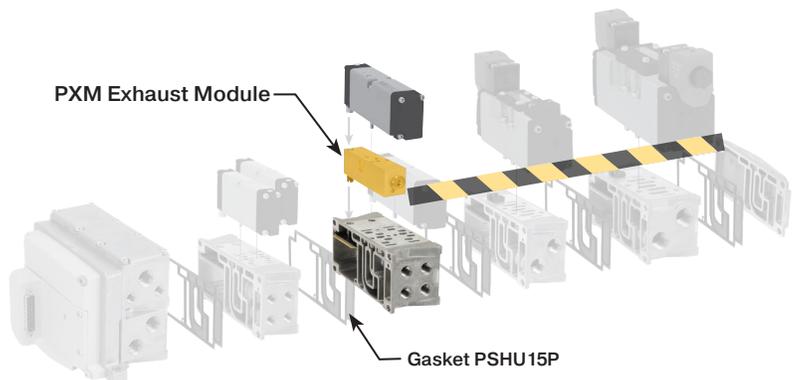
PXM Pilot Exhaust Module enables an H Series HA Single Solenoid valve to control the pilot pressure to other externally piloted H Series ISO valves in the same manifold zone. The HA valve in conjunction with the PXM will remove pilot pressure to all externally piloted valves in the manifold zone when 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
<b>PS55XA0P</b>	No sensing
<b>PS55XM0P</b>	Mechanical pressure switch
<b>PS55XE0P</b>	Solid state pressure switch

Part Number	Cable Type
<b>RKC4.4T-2</b>	M12 cable, PVC, 2m



**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*
HB	0.20	0.20	0.41	0.34	0.23	0.19	0.28	0.27
HA	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.



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**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*
H1	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
H2	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.



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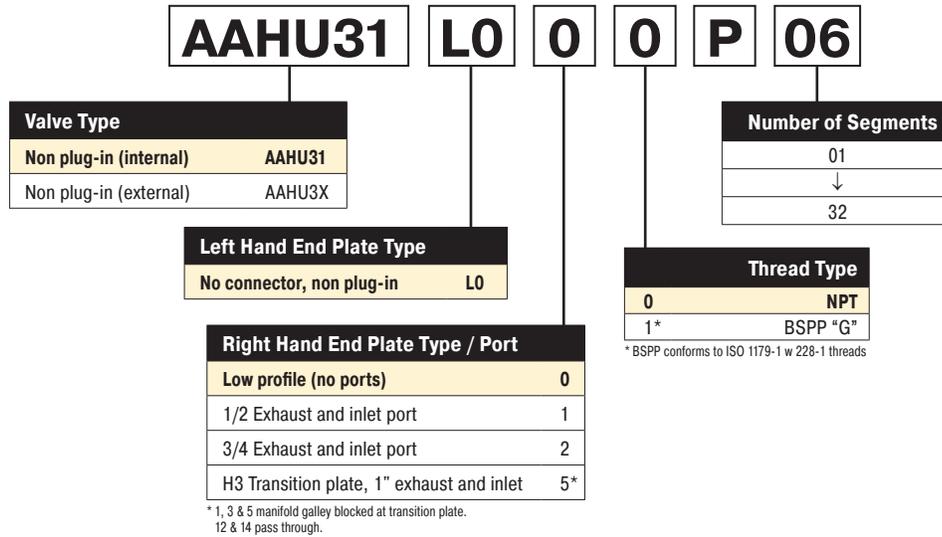
D  
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 Valvair II Series

**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**



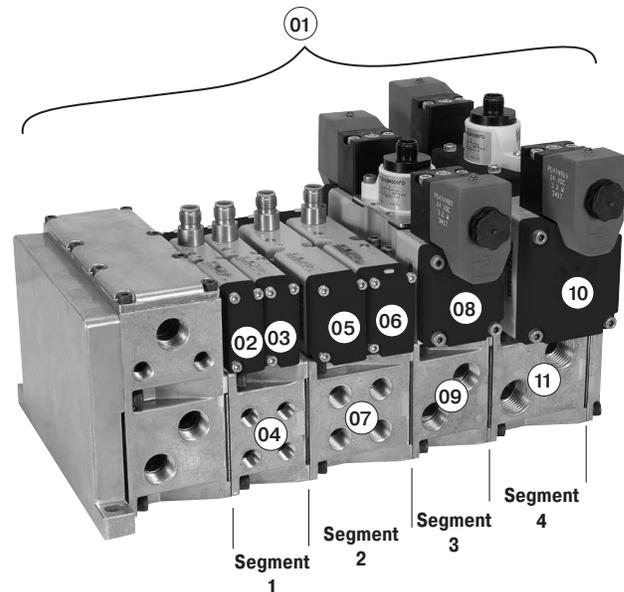
**How To Order Plug-in Add-A-Fold Assemblies**

- 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 blanking plate 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
03	HB2WXBG2G9000FA	
04	PSHU115101P	Manifold base
05	HA1WXBG2G9000FA	Segment 2
06	HA2WXBG2G9000FA	
07	PSHU115301P	Manifold base
08	H12WXBG2B9000FD	Segment 3
09	PSHU115501P	
10	22WXBG2B9000FD	Valve station 6
11	PSHU115701P	Manifold base



Example:  
 4 segment manifold with (2) HB, (2) HA, (1) H1, and (1) H2 valve on manifold bases with low profile, NPT end plate.

Most popular.



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

**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

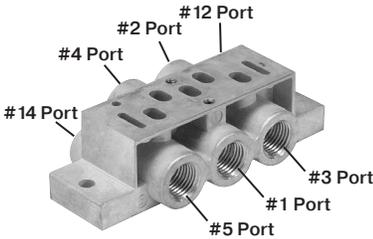
Engineering Level	
Blank	HA Series
D	H1 Series
C	H2 Series

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.

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

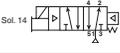
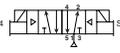
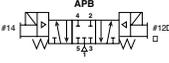
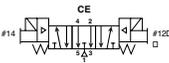
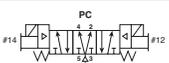
DX ISOMAX Series

Valvair II Series

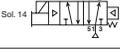
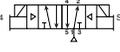
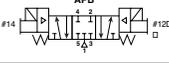
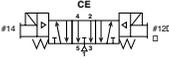
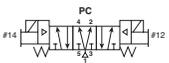


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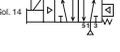
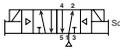
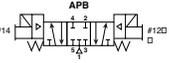
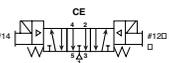
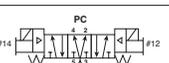
**Valve with Central Connectors - 5599-1, Non Plug-in, Size 3 (H3)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>4-Pin Central M12 Connector, 24 VDC</b>								
		4-way, 2-position, spring return	6.0	Single solenoid	24 VDC	Internal	<b>H3EWXBG2B9000FD</b>	<b>H3EWXBH2B9000FD</b>
						External	H3EWXXG2B9000FD	H3EWWXH2B9000FD
		4-way, 2-position, air return	6.0	Single solenoid	24 VDC	Internal	<b>H31WXBG2B9000FD</b>	<b>H31WXBH2B9000FD</b>
						External	H31WXXG2B9000FD	H31WXXH2B9000FD
		4-way, 2-position	6.0	Double solenoid	24 VDC	Internal	<b>H32WXBG2B9000FD</b>	<b>H32WXBH2B9000FD</b>
						External	H32WXXG2B9000FD	H32WXXH2B9000FD
		4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	Internal	<b>H35WXBG2B9000FD</b>	<b>H35WXBH2B9000FD</b>
						External	H35WXXG2B9000FD	H35WXXH2B9000FD
		4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC	Internal	<b>H36WXBG2B9000FD</b>	<b>H36WXBH2B9000FD</b>
						External	H36WXXG2B9000FD	H36WXXH2B9000FD
		4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	Internal	<b>H37WXBG2B9000FD</b>	<b>H37WXBH2B9000FD</b>
						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>	<b>H3EWXBH323000FD</b>
						External	H3EWXXG323000FD	H3EWWXH323000FD
		4-way, 2-position, air return	6.0	Single solenoid	120 VAC	Internal	<b>H31WXBG323000FD</b>	<b>H31WXBH323000FD</b>
						External	H31WXXG323000FD	H31WXXH323000FD
		4-way, 2-position	6.0	Double solenoid	120 VAC	Internal	<b>H32WXBG323000FD</b>	<b>H32WXBH323000FD</b>
						External	H32WXXG323000FD	H32WXXH323000FD
		4-way, 3-position, all ports blocked	5.0	Double solenoid	120 VAC	Internal	<b>H35WXBG323000FD</b>	<b>H35WXBH323000FD</b>
						External	H35WXXG323000FD	H35WXXH323000FD
		4-way, 3-position, center exhaust	5.0	Double solenoid	120 VAC	Internal	<b>H36WXBG323000FD</b>	<b>H36WXBH323000FD</b>
						External	H36WXXG323000FD	H36WXXH323000FD
		4-way, 3-position, pressure center	5.0	Double solenoid	120 VAC	Internal	<b>H37WXBG323000FD</b>	<b>H37WXBH323000FD</b>
						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	
<b>3-Pin DIN Connector on Coil, 24 VDC</b>								
		4-way, 2-position, spring return	6.0	Single solenoid	24 VDC	Internal	<b>H3EWXBBL49D</b>	<b>H3EWXBCL49D</b>
						External	H3EWXXBL49D	H3EWWXCL49D
		4-way, 2-position, air return	6.0	Single solenoid	24 VDC	Internal	<b>H31WXBBL49D</b>	<b>H31WXBCL49D</b>
						External	H31WXXBL49D	H31WXXCL49D
		4-way, 2-position	6.0	Double solenoid	24 VDC	Internal	<b>H32WXBBL49D</b>	<b>H32WXBCL49D</b>
						External	H32WXXBL49D	H32WXXCL49D
		4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	Internal	<b>H35WXBBL49D</b>	<b>H35WXBCL49D</b>
						External	H35WXXBL49D	H35WXXCL49D
		4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC	Internal	<b>H36WXBBL49D</b>	<b>H36WXBCL49D</b>
						External	H36WXXBL49D	H36WXXCL49D
		4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	Internal	<b>H37WXBBL49D</b>	<b>H37WXBCL49D</b>
						External	H37WXXBL49D	H37WXXCL49D

 Most popular.



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H Series Micro

Modulflex Series

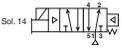
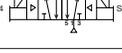
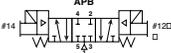
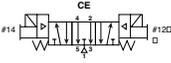
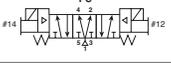
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

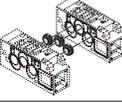
**Valve with 3-Pin DIN Connectors - 5599-1, Non Plug-in, Size 3 (H3)**

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
<b>3-Pin DIN Connector on Coil, 120 VDC</b>								
	Sol. 14 	4-way, 2-position, spring return	6.0	Single solenoid	120 VAC	Internal	<b>H3EWXBBL53D</b>	H3EWXBCL53D
						External	H3EWXXBL53D	H3EWXXCL53D
	Sol. 14 	4-way, 2-position, air return	6.0	Single solenoid	120 VAC	Internal	<b>H31WXBBL53D</b>	H31WXBCL53D
						External	H31WXXBL53D	H31WXXCL53D
	Sol. 14 	4-way, 2-position	6.0	Double solenoid	120 VAC	Internal	<b>H32WXBBL53D</b>	H32WXBCL53D
						External	H32WXXBL53D	H32WXXCL53D
	#14 	4-way, 3-position, all ports blocked	5.0	Double solenoid	120 VAC	Internal	<b>H35WXBBL53D</b>	H35WXBCL53D
						External	H35WXXBL53D	H35WXXCL53D
	#14 	4-way, 3-position, center exhaust	5.0	Double solenoid	120 VAC	Internal	<b>H36WXBBL53D</b>	H36WXBCL53D
						External	H36WXXBL53D	H36WXXCL53D
	#14 	4-way, 3-position, pressure center	5.0	Double solenoid	120 VAC	Internal	<b>H37WXBBL53D</b>	H37WXBCL53D
						External	H37WXXBL53D	H37WXXCL53D

**Base / End Plate - 5599-1, Non Plug-in, Size 3 (H3) \* Not compatible with H Universal**

	Description	NPT	BSPP
 Single subbase	Side ported base, 3/4" port	<b>PS4211190CP</b>	<b>PS4211100CP</b>
 Manifold base	End ported bases	<b>PS4211590CP</b>	<b>PS4211500CP</b>
	Bottom / end ported bases	<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
 Sandwich regulator	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 <b>MUST</b> be located between the manifold/subbase and the Common Port Sandwich Regulators. Do not use with Independent Port Sandwich Regulators.	
 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.



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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**

**G**

**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.



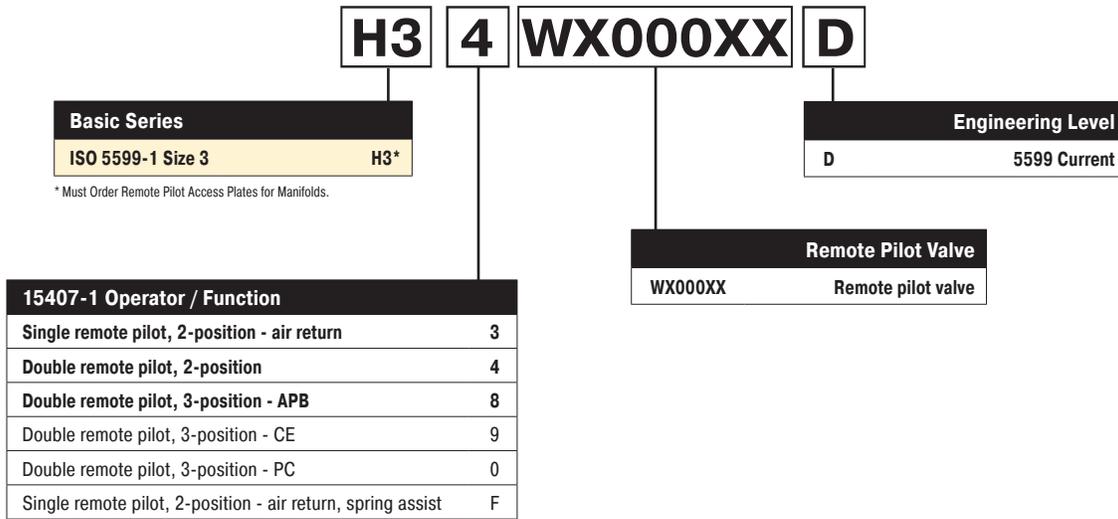
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**Remote Pilot - Size 3 (H3)**



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.

Most popular.



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**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*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.

Engineering Level	
C	H3

Enclosures / Lead Length	
0	None, No Electrical Plug - 5599-1



H3 Subbase shown



H3 Manifold shown

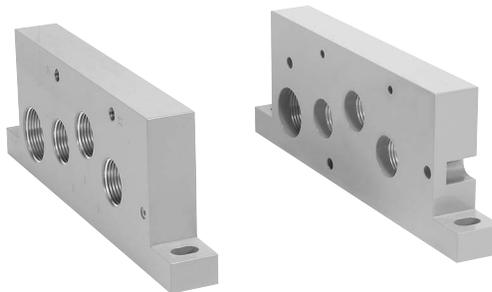
**End Plate Kit - Non plug-in, 5599-1 \* Not compatible with H Universal**

**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

 Most popular.



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H Series Micro

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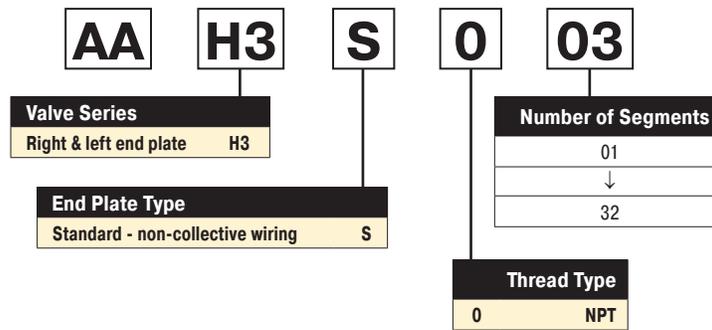
H Series ISO

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DX ISOMAX Series

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**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**

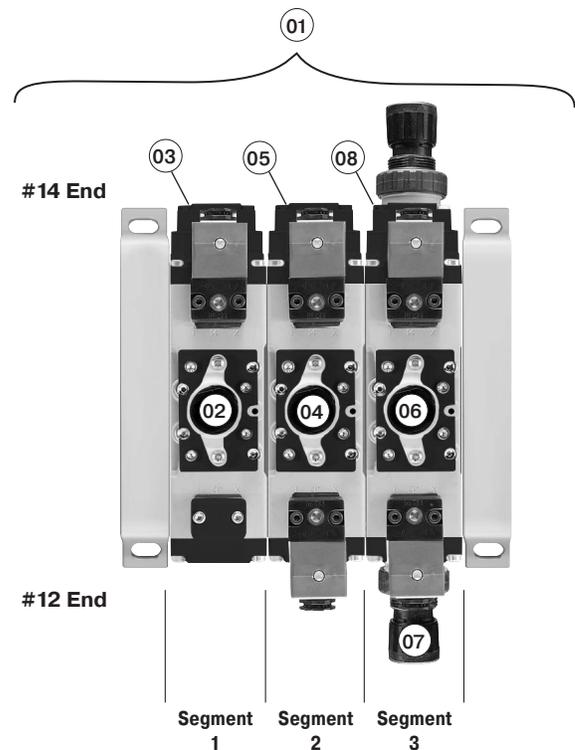
- List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
- List complete valve, regulator, flow control and manifold base kit. List left to right, looking at the cylinder ports on the # 12 end of the manifold. The left most segment is segment 1. (If a blank station is needed, list the blanking plate part number and the individual manifold part numbers for the required segment.)

**Example**

Application requires a 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.

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Most popular.



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**Sandwich Regulator - Non Plug-in, 5599-1, Size 3 (H3)**

<b>Basic Series</b>	
H3 5599-1, Non Plug-in	PS4237

<b>Regulator Function</b>	
Common Pressure Regulator	1
Independent Pressure Regulator	2

<b>PS4237</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>C</b>	<b>P</b>
---------------	----------	----------	----------	----------	----------

<b>#2 Port Regulator / Gauge*</b>	
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.

<b>#4 Port Regulator / Gauge*</b>	
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.

**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.

**Note: Do not use Independent Port Sandwich Regulators with Sandwich Flow Controls.**

Independent Port Sandwich Port Regulators combine the #3 and #5 valve exhaust ports into the #5 exhaust at the manifold/subbase interface. The #3 port flow control will control both #3 and #5 exhaust. #5 port flow control is ineffective.

**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*
H3	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

Moduflex Series

H Series ISO

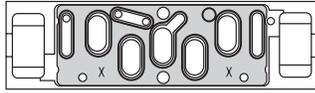
Network Connectivity

DX ISOMAX Series

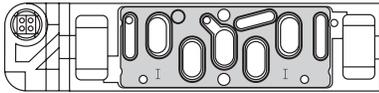
Valvair II Series

**ISO Pneumatic Valve Standard Definitions**

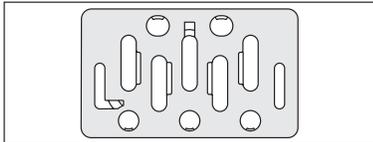
**15407-1:** Non-Plug-in Standards for Size 01 (26mm) & Size 02 (18mm) Wide Valves



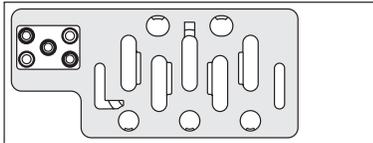
**15407-2:** Plug-in Standards for Size 01 (26mm) & Size 02 (18mm) Wide Valves



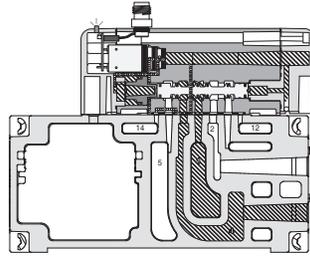
**5599-1:** Non-Plug-in Standards for Sizes 1, 2, 3



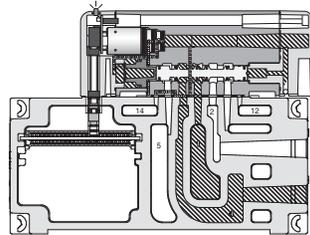
**5599-2:** Plug-in Standards for Size 1, 2, 3



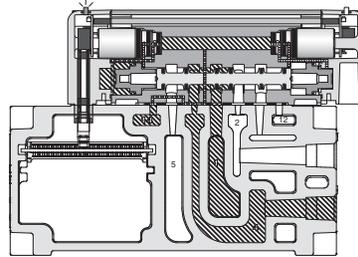
**HB / HA Series**



**15407-1:** 18mm Single Solenoid Internal Pilot Manifold Mounted



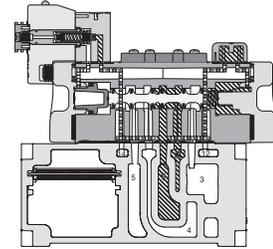
**15407-2:** 18mm Single Solenoid Internal Pilot Manifold Mounted



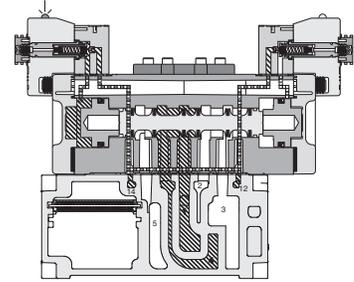
**15407-2:** 26mm Double Solenoid External Pilot Manifold Mounted

▨ Pressure □ Exhaust

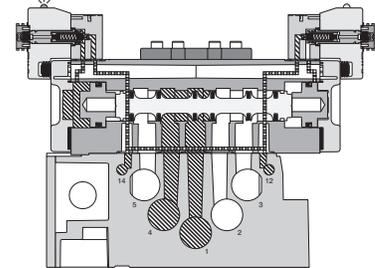
**H1, H2, H3 Series**



**H1 5599-2:** Single Solenoid Internal Pilot Manifold Mounted



**H2 5599-2:** Double Solenoid External Pilot Manifold Mounted



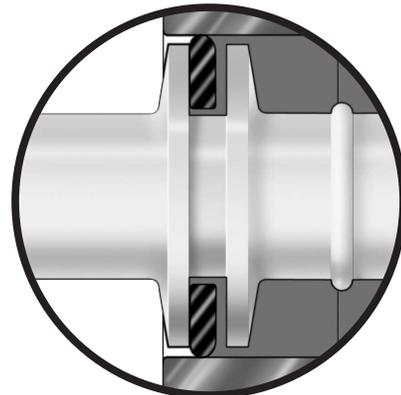
**H3 5599-2:** Double Solenoid External Pilot Subbase Mounted

▨ 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**

Valve Size	Port Size	Fill	Exhaust	Fill	Exhaust
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

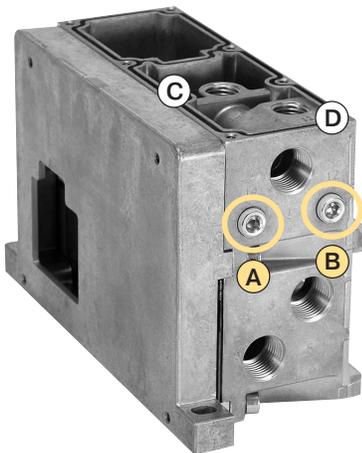
**Left End Plate Field Conversion**

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

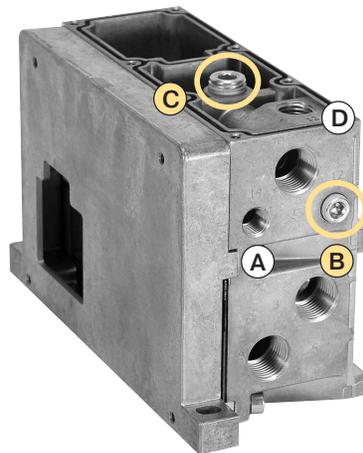
Blocking off the pilot supply ports will configure the left end plate as internally piloted. Pilot pressure required to operate the H Series valves will be drawn from the supply or #1 port and no additional connections are required. Port locations C & D must be left unplugged for this option to function 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.

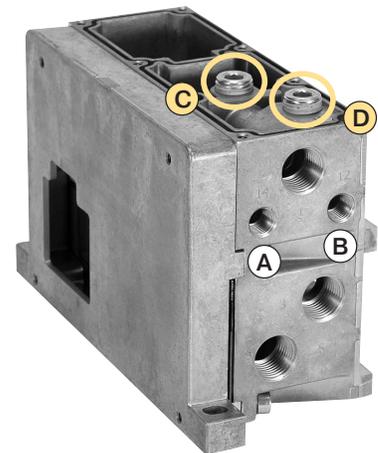
Pilot pressure required to operate the H Series valves must be supplied to the 14 port only at location A which is internally connected to the 12 pilot.



**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

Modulflex Series

H Series ISO

Network Connectivity

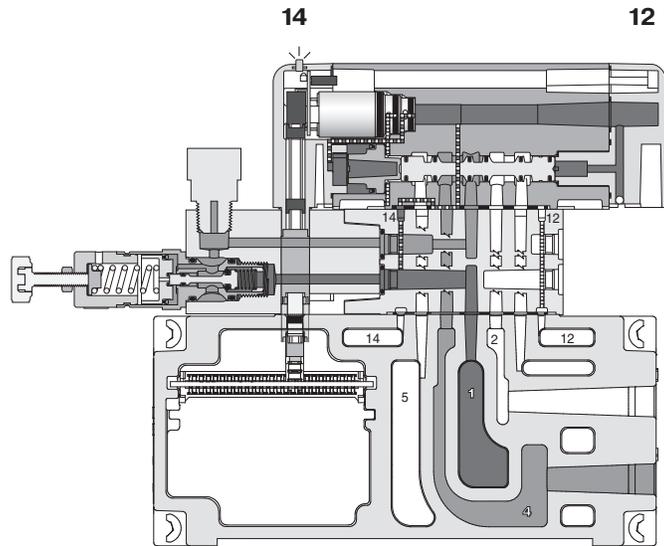
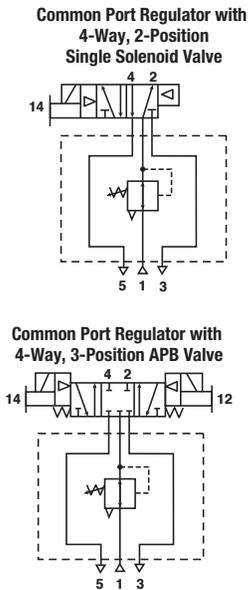
DX ISOMAX Series

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**

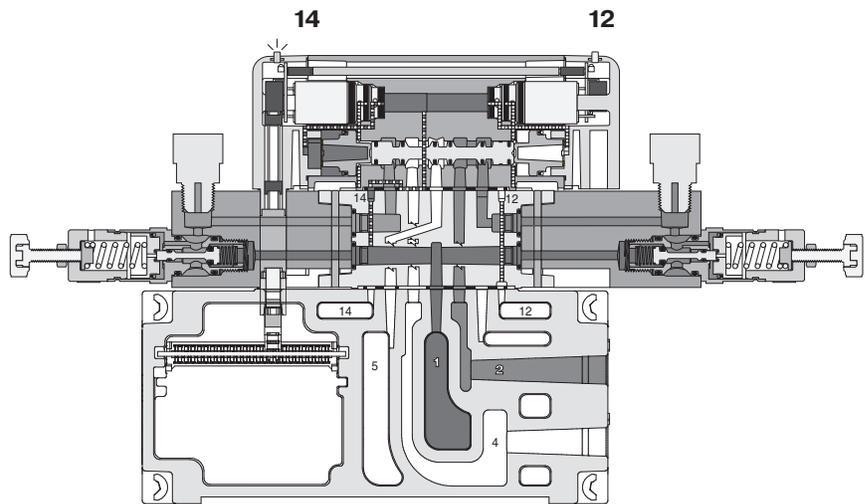
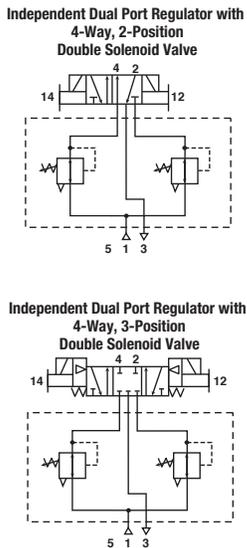


**Independent Dual Port Regulation - Plug-in, HB & HA**

**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. Do not use with Sandwich Flow Controls. Independent Port Sandwich Port Regulators combine the #3 and #5 valve exhaust ports into the #5 exhaust at the manifold/subbase interface. The #3 port flow control will control both #3 and #5 exhaust. #5 port flow control is ineffective. (See schematics above.)*

D	Subbase & Manual Valves
	H Series Micro
Modulflex Series	
H Series ISO	
Network Connectivity	
DX ISOMAX Series	
Valvair II Series	

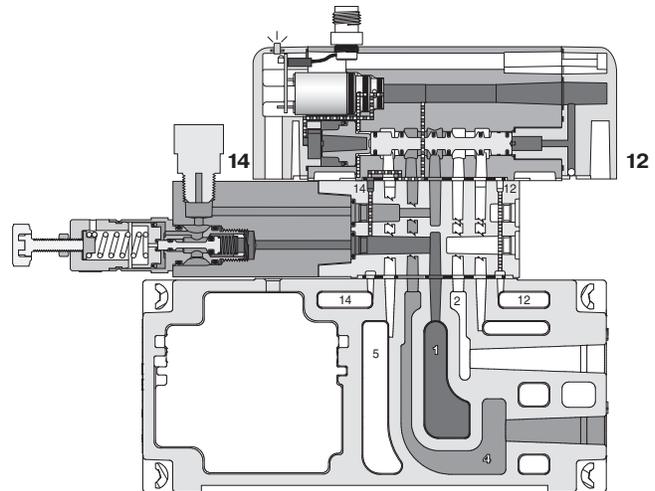
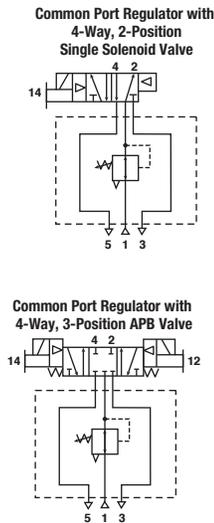


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**Common Port Regulation - Non Plug-in, HB & HA**

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**

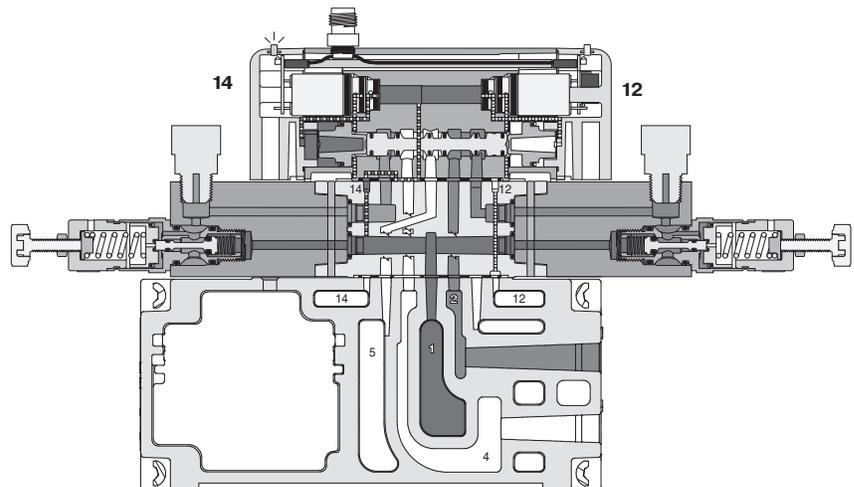
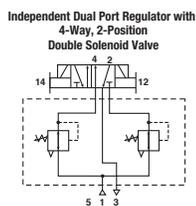


**Independent Dual Port Regulation - Non Plug-in, HB & HA**

**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. Do not use with Sandwich Flow Controls. Independent Port Sandwich Port Regulators combine the #3 and #5 valve exhaust ports into the #5 exhaust at the manifold/subbase interface. The #3 port flow control will control both #3 and #5 exhaust. #5 port flow control is ineffective. (See schematics on above.)

Most popular.



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D125

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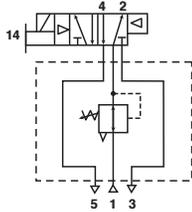
D	Subbase & Manual Valves
	H Series Micro
	Moduflex Series
	H Series ISO
Network Connectivity	
DX ISOMAX Series	
Valvair II Series	

**Common Port Regulation - Plug-in, H1, H2, H3**

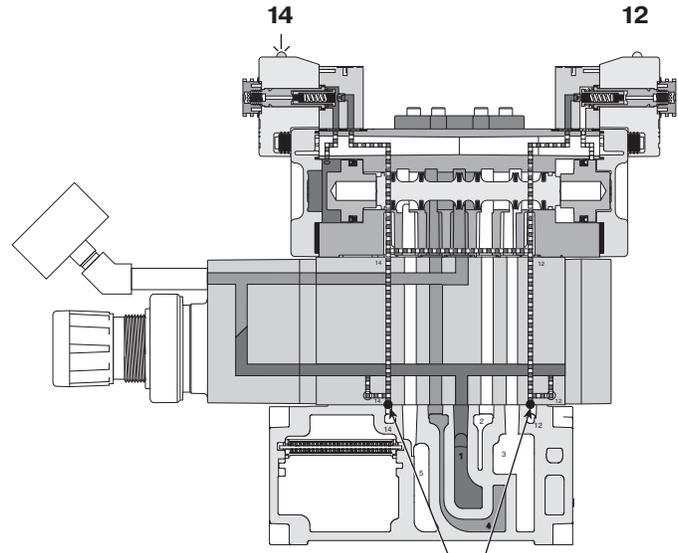
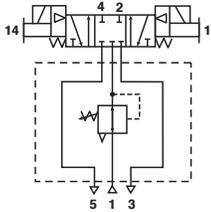
Provides adjustable regulated air pressure to the valve's #1 port which gives the same regulated pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.

**H2 Common Port Regulator Shown - Double Solenoid, 14 Energized, Internal Pilot**

Common Port Regulator with 4-Way, 2-Position Single Solenoid Valve



Common Port Regulator with 4-Way, 3-Position APB Valve



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.

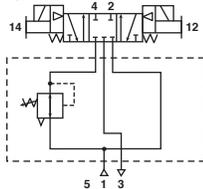
**Independent Port Regulation - Plug-in, H1, H2, H3**

**Single Port Regulator**

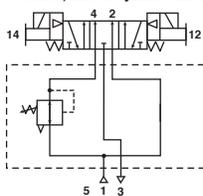
Provides regulated pressure to one of the ports and full line pressure to the other by use of the Line Pressure By-Pass Plate. Pressure regulation can occur out of the #4 port of the valve.

**H1 Independent Port Regulator Shown - Double Solenoid, De-energized, Internal Pilot**

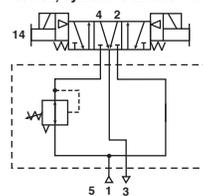
Independent Port Regulator with 4-Way, 3-Position All Ports Blocked Valve



Independent Port Regulator with 4-Way, 3-Position, Inlet to Cylinder Function

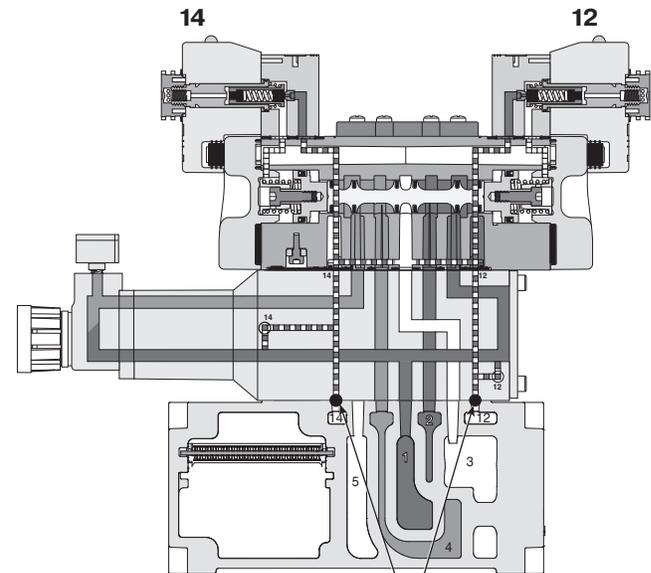


Independent Port Regulator with 4-Way, 3-Position, Cylinder to Exhaust Function



⚠ CAUTION: Requires 4-Way, 3-Position, Inlet to Cylinder Valve

⚠ CAUTION: Requires 4-Way, 3-Position, Cylinder to Exhaust Valve



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.

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. Do not use with Sandwich Flow Controls. Independent Port Sandwich Port Regulators combine the #3 and #5 valve exhaust ports into the #5 exhaust at the manifold/subbase interface. The #3 port flow control will control both #3 and #5 exhaust. #5 port flow control is ineffective. (See schematics above.)

D	Subbase & Manual Valves
H Series Micro	
Modulflex Series	
H Series ISO	
Network Connectivity	
DX ISOMAX Series	
Valvair II Series	



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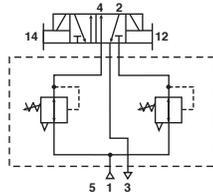
**Independent Dual Port Regulation - Plug-in, H1, H2, H3**

**Dual Port Regulator**

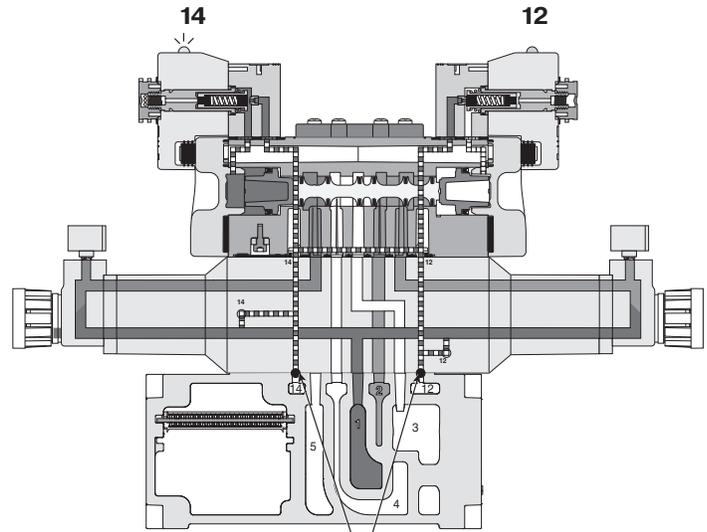
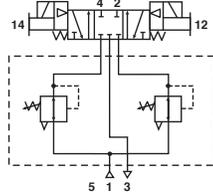
Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve.

**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. Do not use with Sandwich Flow Controls. Independent Port Sandwich Port Regulators combine the #3 and #5 valve exhaust ports into the #5 exhaust at the manifold/subbase interface. The #3 port flow control will control both #3 and #5 exhaust. #5 port flow control is ineffective. (See schematics on above.)

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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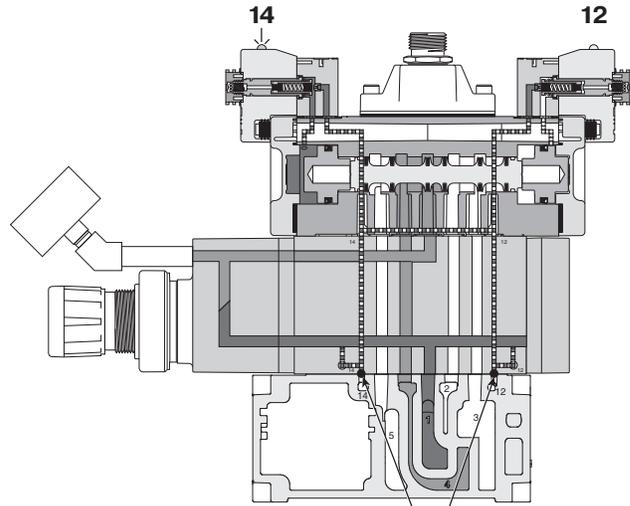
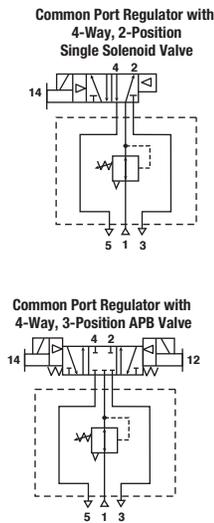
D127

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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.

**H2 Common Port Regulator Shown - Double Solenoid, 14 Energized, Internal Pilot**



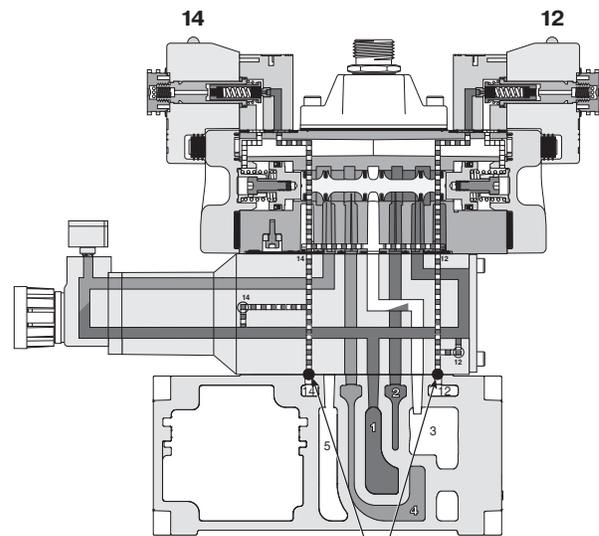
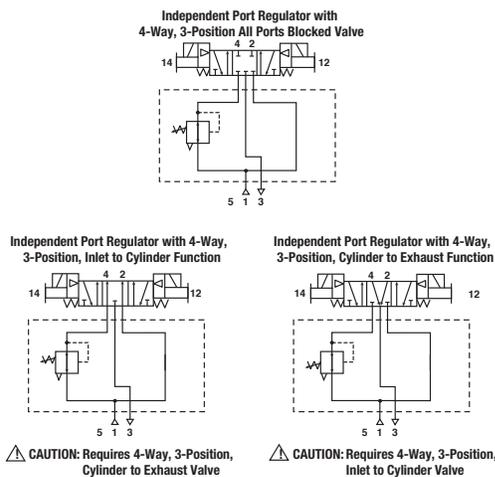
Sandwich Regulator has standard configuration of Internal Pilot with the Pilot Plug in the bottom of the I & E Pilot Holes which prevents line pressure from escaping through the manifold.

**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.

**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. Do not use with Sandwich Flow Controls. Independent Port Sandwich Port Regulators combine the #3 and #5 valve exhaust ports into the #5 exhaust at the manifold/subbase interface. The #3 port flow control will control both #3 and #5 exhaust. #5 port flow control is ineffective. (See schematics on above.)

D	Subbase & Manual Valves
	H Series Micro
D	Modulflex Series
	H Series ISO
D	Network Connectivity
	DX ISOMAX Series
D	Valvair II Series



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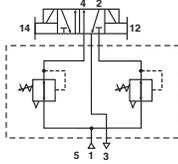
**Independent Dual Port Regulation - Non Plug-in, H1, H2, H3**

**Dual Port Regulator**

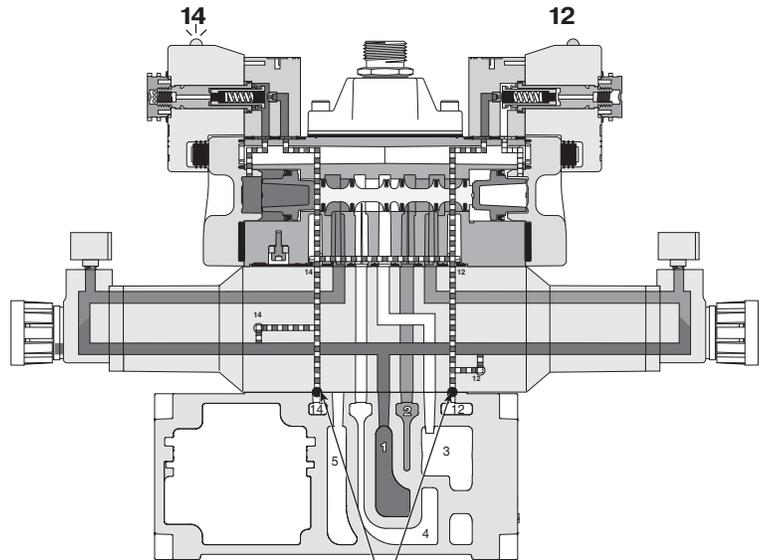
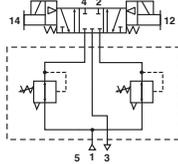
Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve.

**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. Do not use with Sandwich Flow Controls. Independent Port Sandwich Port Regulators combine the #3 and #5 valve exhaust ports into the #5 exhaust at the manifold/subbase interface. The #3 port flow control will control both #3 and #5 exhaust. #5 port flow control is ineffective. (See schematics on above.)

D	Subbase & Manual Valves
H Series Micro	Modulflex Series
H Series ISO	Network Connectivity
DX ISOMAX Series	Valvair II Series



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**Minimum Operating Voltage**

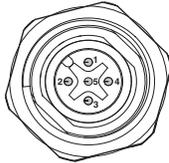
	HB	HA	H1	H2	H3
MOV (24VDC)	20.4	20.4	20.4	20.4	20.4
MOV (120VAC)	102*	102*	102	102	102

\* 120VAC coils have a dropout voltage of 10VAC when used with solid state relays. A pull-down resistor may be necessary.

**P2H IO-Link**

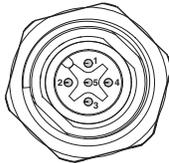
**Class B, M12 pin**

Pin Number	Address
1	L+
2	AUX+
3	L-
4	C/Q
5	AUX-



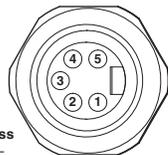
**Class A, M12 pin**

Pin Number	Address
1	L+
2	L-
3	L-
4	C/Q
5	L-



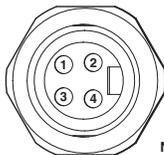
**Class A, Power IN / OUT 7/8 pin**

**Class A, 5-Pin**



Pin Number	Address
1	AUX-
2	*L-
3	Earth
4	*L+
5	AUX+

**Class A, 4-Pin**



Pin Number	Address
1	AUX+
2	*L+
3	*L-
4	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).

**19-Pin Connector, Round Brad Harrison**

**Male, face view**

Pin Number	Address
1	0
2	1
3	2
4	3
5	N/A
6	4
7	Common
8	5
9	6
10	7



Pin Number	Address
11	8
12	Ground
13	9
14	10
15	11
16	12
17	13
18	14
19	15

**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.

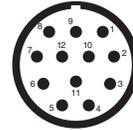
**Example:** 8 segment manifold, 16 solenoids, 120VAC - 16 x .039 amps = .63 total amp rating.

NEMA 4 rated with properly assembled NEMA 4 rated cable.

**M23, Round Connector**

**Male 12-pin connector, face view**

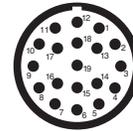
Pin Number	Address
1	0
2	1
3	2
4	3
5	4
6	5



Pin Number	Address
7	6
8	7
9	Ret (Common)
10	Ret (Common)
11	Not Used
12	Ground

**Male 19-pin connector, view into end plate**

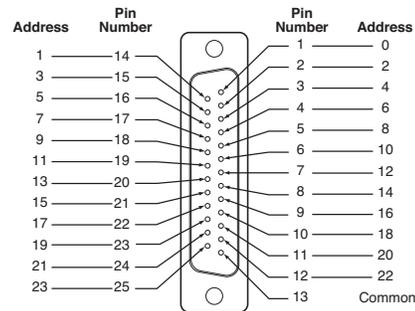
Pin Number	Address
1	0
2	1
3	2
4	3
5	4
6	Common
7	5
8	6
9	7



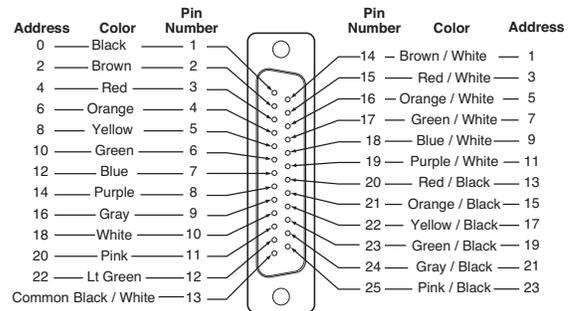
Pin Number	Address
10	8
11	9
12	Not Used
13	10
14	11
15	12
16	13
17	14
18	15
19	Not Used

**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>

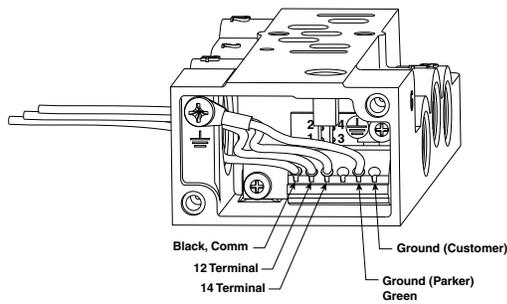


**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvaire II Series



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

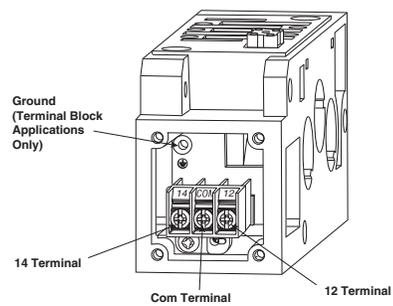
**Subbase Wiring**



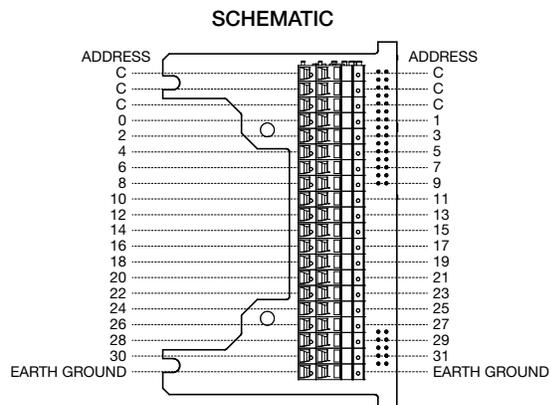
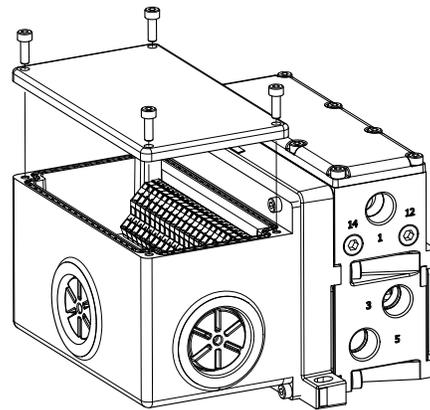
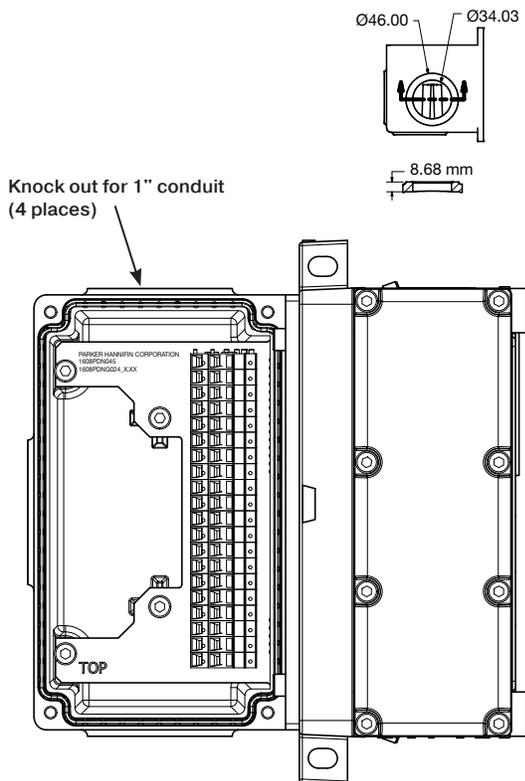
All commons internally connected on terminal strip

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

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



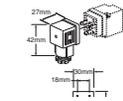
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D131

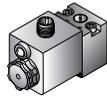
**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Electrical Connectors - Size 1, 2 & 3**

**5599-1 CNOMO**



30mm 3-Pin ISO 4400  
(DIN 43650A)



2-Pin M12 Euro

**5599-2**



Manifold Auto Connector  
(H3 Only)



Subbase Auto Connector

**5599-1 AUTO**



3-Pin Mini

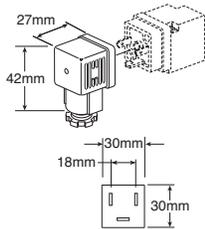


4-Pin Micro



5-Pin Mini

**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>
RKM Female Socket 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>
RSM Male Pins 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>
WKM Female Socket 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
RKC Female Sockets 4-pin female to flying lead cable, PVC	<b>RKC 4.4T-1</b>
RKC Female Sockets 4-pin male to flying lead cable, PVC	<b>RSC 4.4T-*</b>
RKC Female Sockets 4-pin male to female cable, PVC	<b>RKC 4.4T-*/RSC 4.4T</b>
RKC Female Sockets 5-pin female to flying lead cable, TPE	<b>RKC 4.5T-*/S1587</b>
RKC Female Sockets 5-pin male to flying lead cable, TPE	<b>RSC 4.5T-4/S1587</b>
RKC Female Sockets 5-pin male to female cable, TPE	<b>RKC 4.5T-*/RSC 4.5T/S1587</b>

Where \* = 1, 2, 3, 4 meter standard lengths

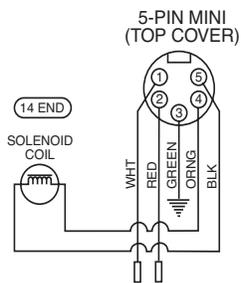


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

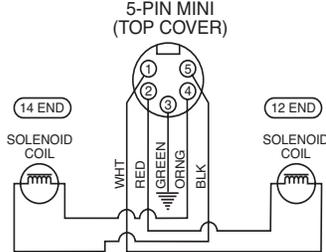
**Automotive Connection – Wiring Options**

**‘C’ Chrysler Connection**

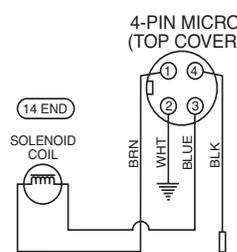
**5-Pin Male / Single Solenoid**  
 (Encl. Option 3, Auto Option C)



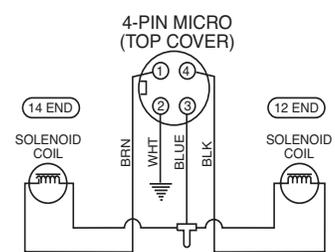
**5-Pin Male / Double Solenoid**  
 (Encl. Option 3, Auto Option C)



**4-Pin Male / Single Solenoid**  
 (Encl. Option 2, Auto Option C)

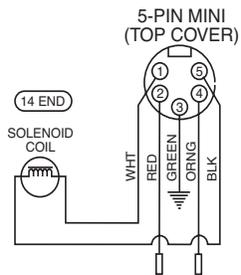


**4-Pin Male / Double Solenoid**  
 (Encl. Option 2, Auto Option C)

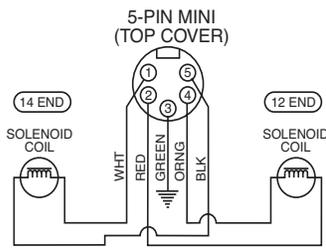


**‘F’ SAE / Ford Wiring**

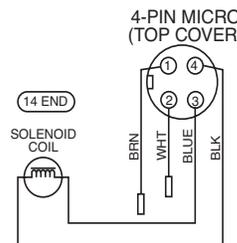
**5-Pin Male / Single Solenoid**  
 (Encl. Option 3, Auto Option F)



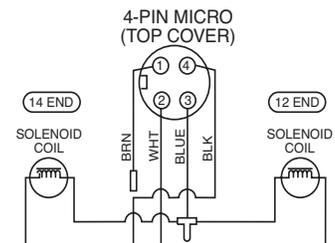
**5-Pin Male / Double Solenoid**  
 (Encl. Option 3, Auto Option F)



**ISO 20401**  
**4-Pin Male / Single Solenoid**  
 (Encl. Option 2, Auto Option F)

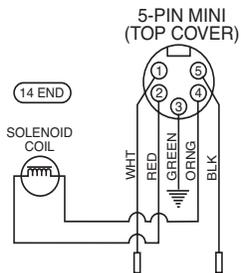


**ISO 20401**  
**4-Pin Male / Double Solenoid**  
 (Encl. Option 2, Auto Option F)

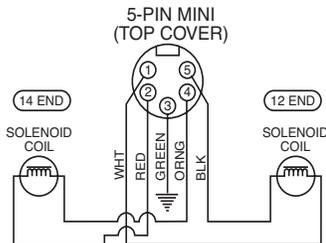


**‘G’ GM Wiring**

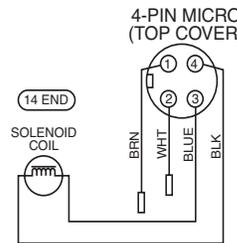
**5-Pin Male / Single Solenoid**  
 (Encl. Option 3, Auto Option G)



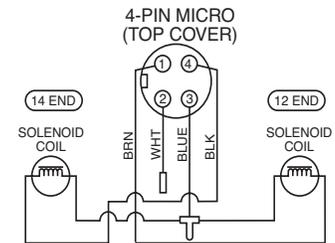
**5-Pin Male / Double Solenoid**  
 (Encl. Option 3, Auto Option G)



**4-Pin Male / Single Solenoid**  
 (Encl. Option 2, Auto Option G)

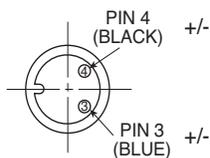


**4-Pin Male / Double Solenoid**  
 (Encl. Option 2, Auto Option G)

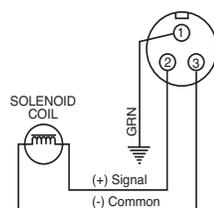


**CNOMO Connection - Wiring Options**

**2-Pin Male / Single Solenoid**  
 (Encl. Option 6, Auto Option F)



**3-Pin Male / Single Solenoid**  
 (Encl. Option 1, Auto Options C, F & G)



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

**Maximum Number of Solenoids**  
**(Maximum energized simultaneously)**

	Voltage Code	25-pin D-sub	19-pin Brad Harrison	12-Pin M23	19-pin M23	P2H IO-Link Node	P2H Ethernet Node	PCH 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)	32 (32)	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)†	32 (32)	32 (32)	16 (16)	32 (32)
24VDC	F9 (1.3 watt)	24 (24)	16 (16)	8 (8)	16 (16)	24 (24)†	32 (32)	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)†	32 (32)**	N/A	16 (16)	24 (21)
24VDC	F9 (1.3 watt)	24 (24)	16 (16)	8 (8)	16 (16)	24 (24)†	32 (32)**	N/A	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.

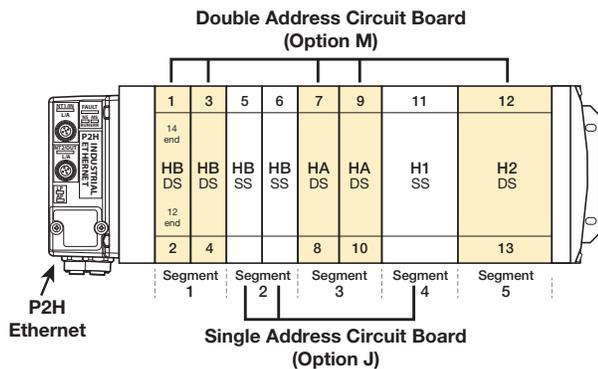
\*\* Must use H Universal manifold end plate kit with transition kit to H3 manifold segments.

† Use Type A IO-Link module for 24 outputs simultaneously.

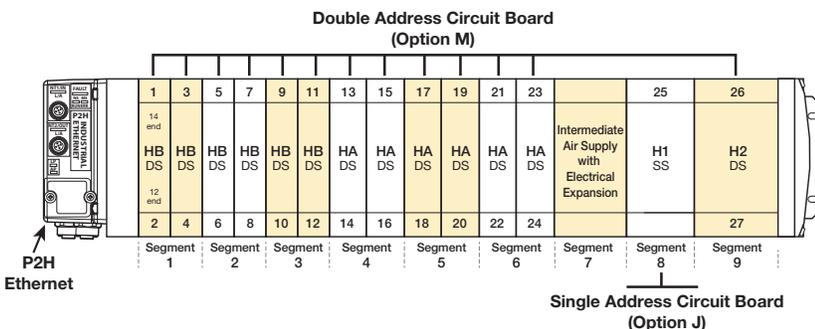
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**I/O Addressing Examples**

**HB, HA, H1, H2 - Five 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.



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

## Accessories

### 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

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

## H Series ISO & Network Connectivity H Series ISO 15407 & 5599

### 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

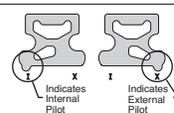
Valve Size	2-Position	3-Position		
		APB	CE	PC
HB	<b>PS5601P</b>	<b>PS5602P</b>	<b>PS5603P</b>	<b>PS5604P</b>
HA	<b>PS5501P</b>	<b>PS5502P</b>	<b>PS5503P</b>	<b>PS5504P</b>
H1	<b>PS4001CP</b>	<b>PS4002CP</b>	<b>PS4003CP</b>	<b>PS4004CP</b>
H2	<b>PS4101CP</b>	<b>PS4102CP</b>	<b>PS4103CP</b>	<b>PS4104CP</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>

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)

**Accessories**

**H Series ISO & Network Connectivity  
H Series ISO 15407 & 5599**

**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

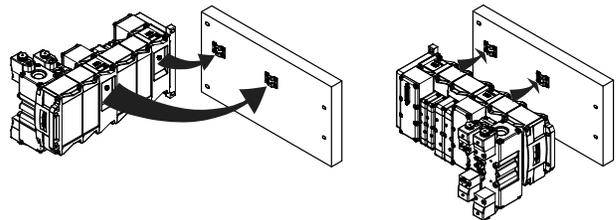
**Pilot By-Pass Plate**

Valve Size	Part Number
H1, H2, H3	<b>PS4051CP</b>

Quantity 10

**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

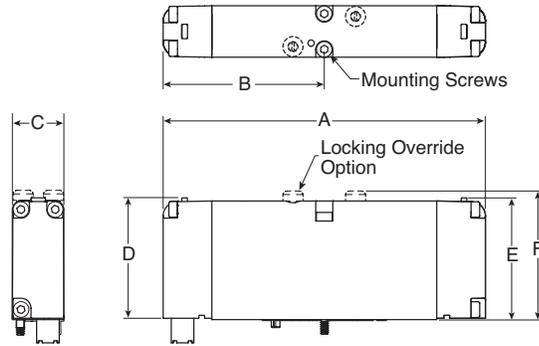
DX ISOMAX  
Series

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)**



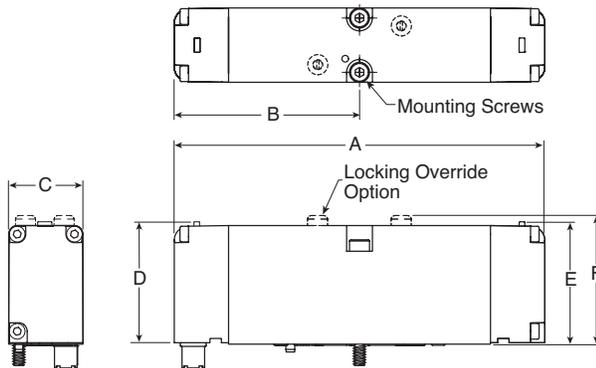
**18mm Dimensions**

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)**



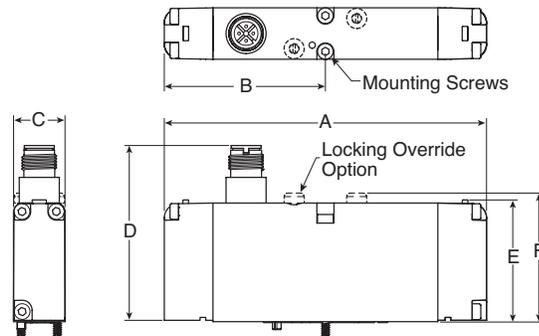
**26mm Dimensions**

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)**



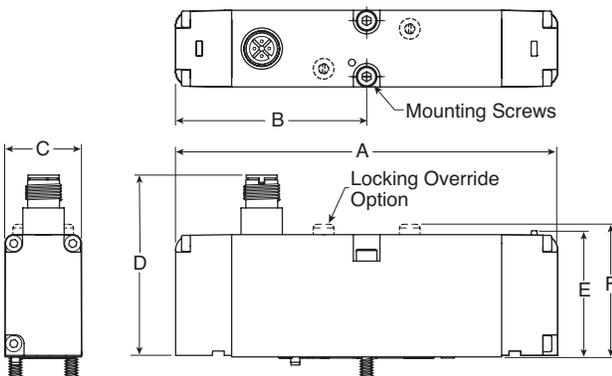
**18mm Dimensions**

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

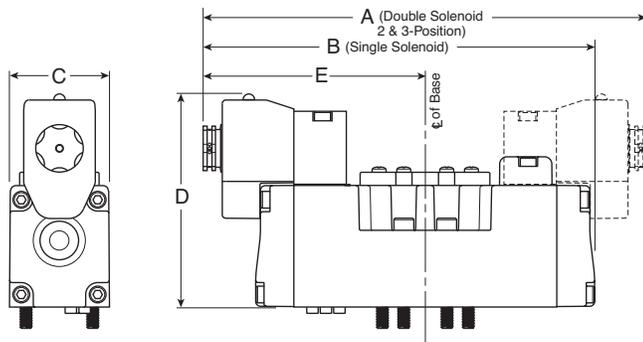
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**H Series ISO 5599-2**



**H1 Valves Shown**

**H1 Dimensions**

A	A1	B	C
7.32 (186)	5.59 (142)	6.46 (164)	1.65 (42)
D	D1	D2	D3
3.54 (90)	4.29 (109)	4.29 (109)	2.50 (63.5)
D4	E	E1	
2.48 (63)	3.66 (93)	2.80 (71)	

Inches  
(mm)

**H2 Dimensions**

A	A1	B	C
8.35 (212)	6.62 (168)	7.48 (190)	2.17 (55)
D	D1	D2	D3
4.05 (103)	4.80 (122)	4.57 (116)	2.99 (76)
E	E1		
4.17 (106)	3.31 (84)		

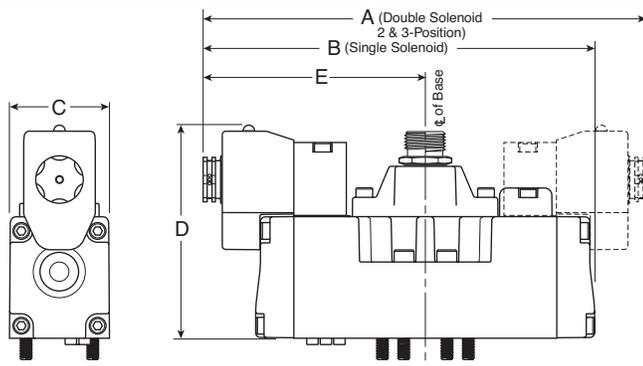
Inches  
(mm)

**H3 Dimensions**

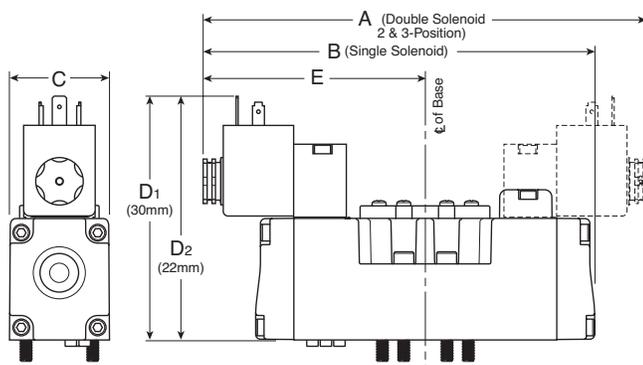
A	A1	B	C
9.68 (246)	6.98 (196.7)	8.68 (220)	2.17 (65.5)
D	D1	D2	D3
4.05 (103)	4.80 (122)	4.57 (116)	2.99 (76)
E	E1		
4.74 (121)	3.49 (89)		

Inches  
(mm)

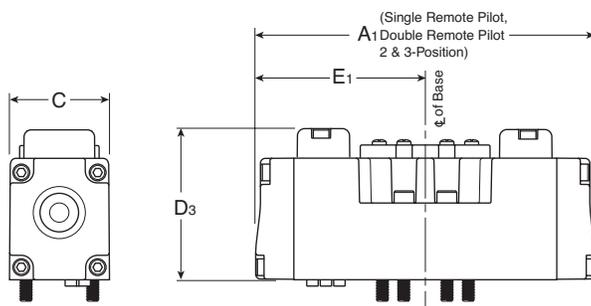
**H Series ISO 5599-1 Auto**



**H Series ISO 5599-1 CNOMO**



**H Series ISO 5599-2 / 5599-1 Remote Pilot**

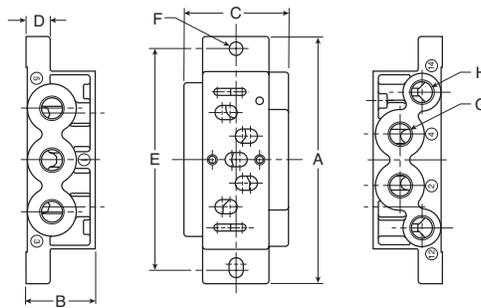


**D**  
 Subbase & Manual Valves  
 H Series Micro Series  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



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

**HB Series ISO 15407-1, Size 18mm (HB) Single Subbase**

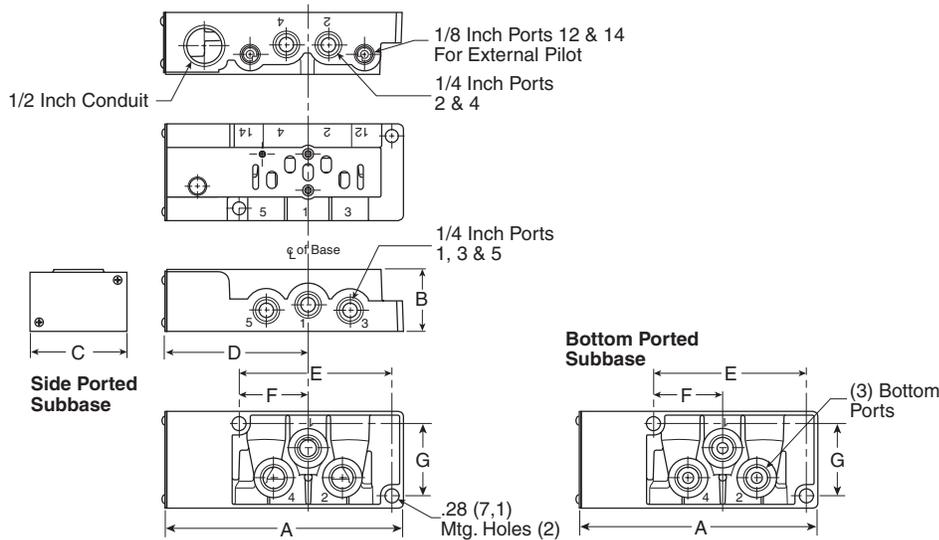


**HB Dimensions (PL02)**

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)

**D**

Subbase & Manual  
Valves

H Series  
Micro

Modulflex  
Series

H Series  
ISO

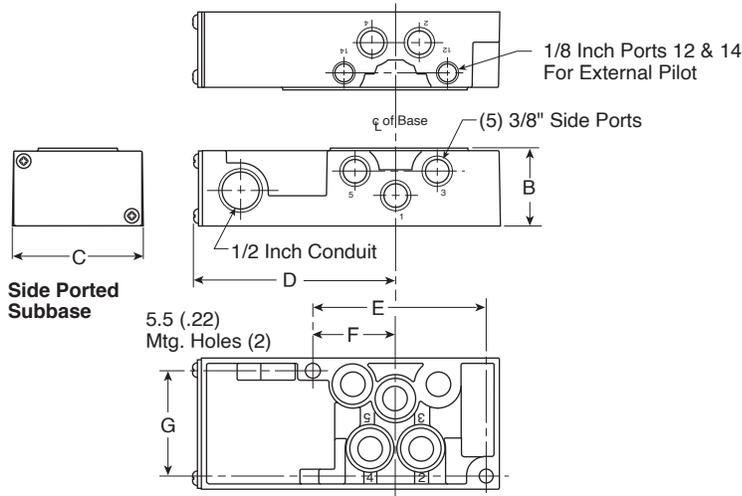
Network  
Connectivity

DX ISOMAX  
Series

Valvair II  
Series



**H Series ISO 5599-1 Size H1, PS4011 Subbase**

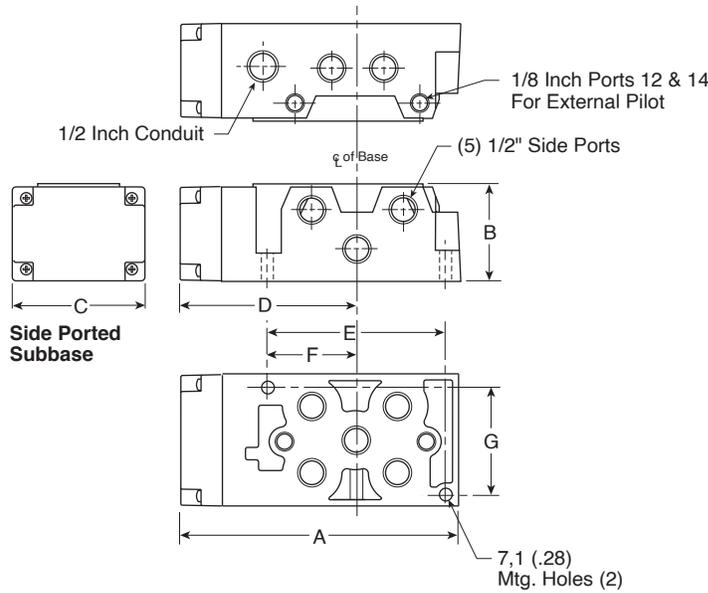


**PS4011 Subbase Dimensions**

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)	

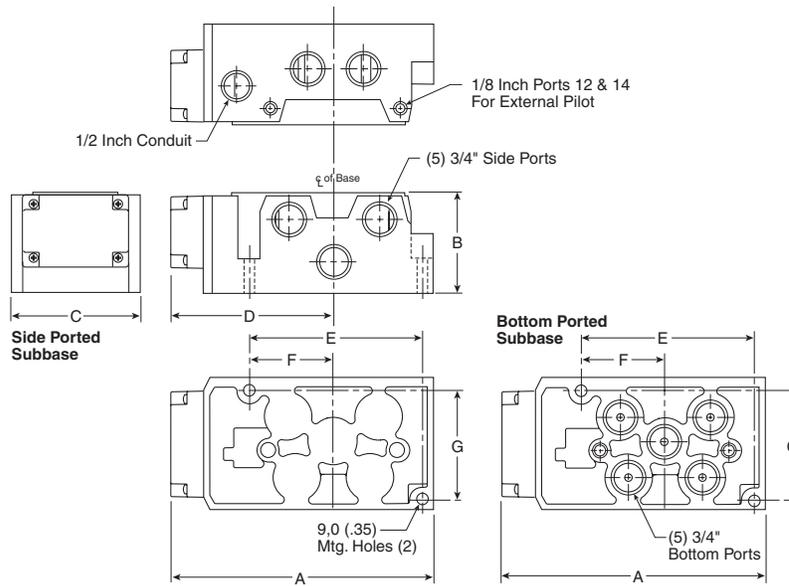
Inches  
(mm)

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**

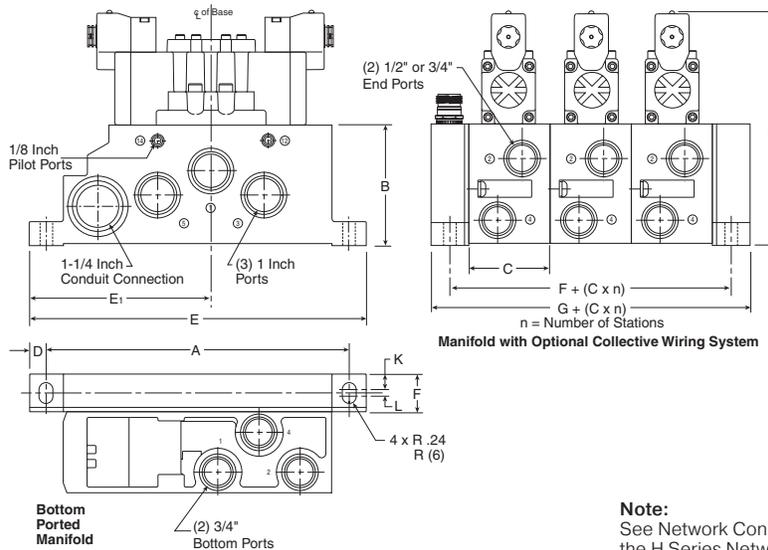


**PS4211 Subbase Dimensions**

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)
E1	F	G	H	
6.26 (159)	1.30 (33)	2.60 (63)	8.19 (208)	
K	L			
.53 (13.5)	.24 (6)			

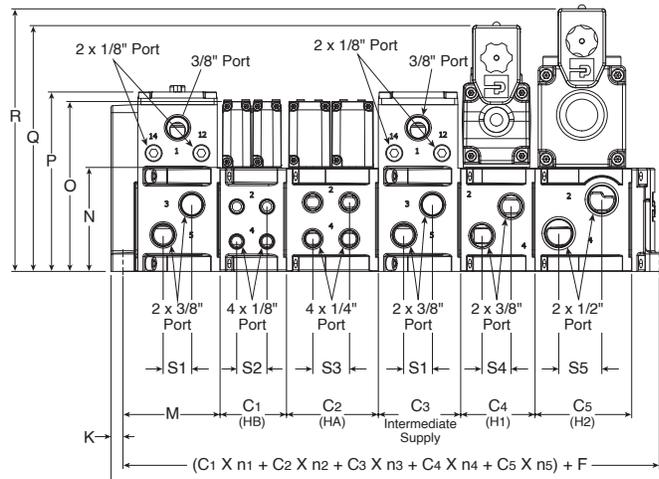
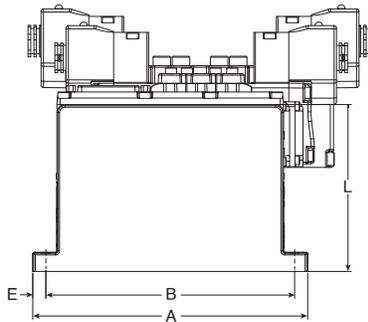
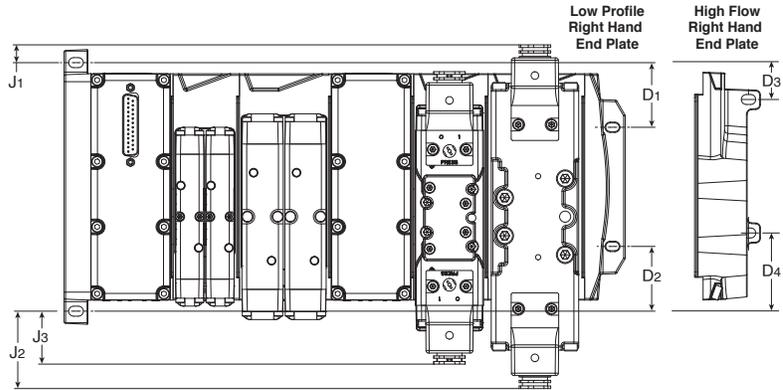
Inches  
(mm)

$n = \text{Number of Stations}$

**Note:**  
 See Network Connectivity Section for the dimensions of manifolds utilizing the H Series Network, Turck Network, or P2M Network Node end plate type.

**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>	<b>S1</b>	<b>S2</b>	<b>S3</b>
4.21 (107)	4.45 (113)	6.09 (154.77)	6.51 (165.32)	0.71 (18)	0.75 (19)	0.91 (23)
<b>S4</b>	<b>S5</b>					
0.72 (18.3)	1.07 (27.1)					

Inches  
(mm)

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

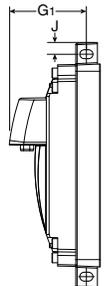
Valvair II Series



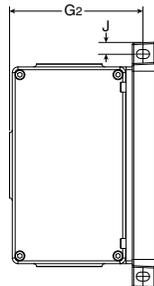
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**H Series ISO Universal Manifold with H3 Transition**

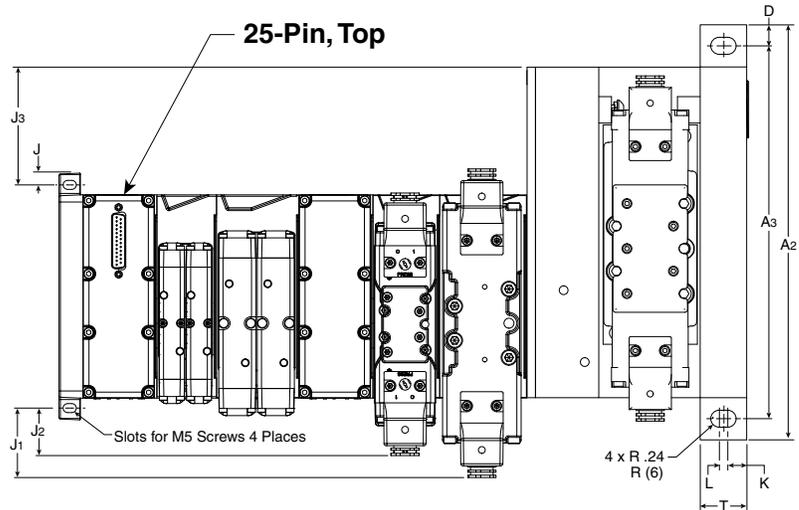
Network Connectivity dimensions (P2H, PCH and Turck Network) are located at the end of the Network Connectivity Section.



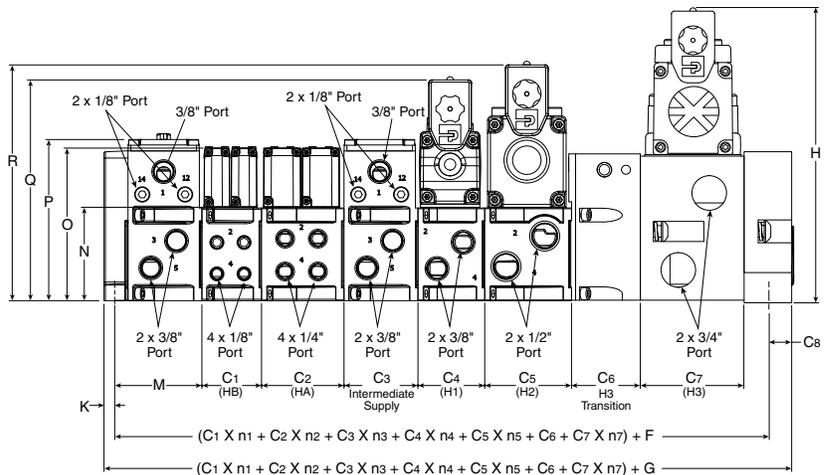
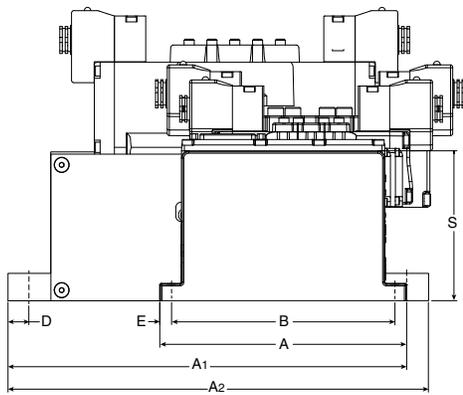
25-Pin, Side Profile



Terminal Block Profile



25-Pin, Top



<b>A</b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>B</b>	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>C7</b>
6.81 (172.95)	12.34 (313.43)	14.0 (365.3)	10.41 (265)	6.16 (156.5)	1.65 (41.79)	2.28 (57.79)	2.04 (51.79)	1.84 (46.79)	2.39 (60.79)	2.00 (51.0)	2.80 (71.0)
<b>C8</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>G1</b>	<b>G2</b>	<b>H</b>	<b>J</b>	<b>J1</b>	<b>J2</b>	<b>J3</b>
0.95 (16.5)	0.59 (15.0)	0.32 (8.0)	3.05 (77.58)	4.00 (101.6)	2.13 (54.0)	3.69 (93.8)	8.19 (208)	0.33 (8.3)	1.92 (48.7)	1.31 (33.3)	3.47 (88.25)
<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>		
0.30 (7.5)	0.24 (6.0)	2.40 (61.08)	1.92 (48.7)	4.21 (107)	4.45 (113)	6.09 (154.77)	6.51 (165.32)	4.14 (105.08)	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

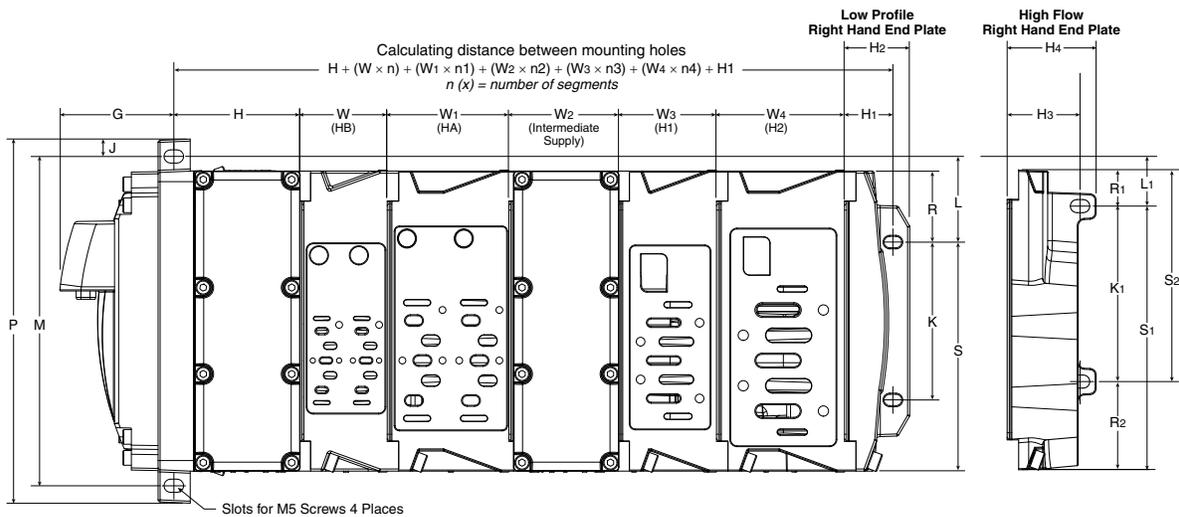


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**25-Pin Side with H Series ISO Valves**

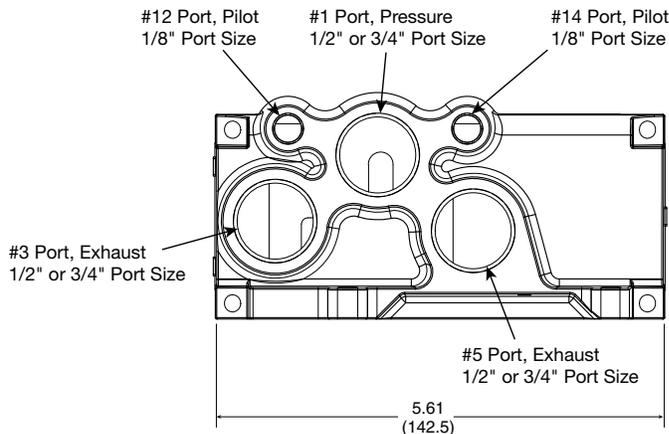


n (x) = number of segments

<b>G</b>	<b>H</b>	<b>H1</b>	<b>H2</b>	<b>H3</b>	<b>H4</b>	<b>J</b>	<b>K</b>	<b>K1</b>	<b>L</b>	<b>L1</b>	<b>M</b>
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)
<b>P</b>	<b>S</b>	<b>S1</b>	<b>S2</b>	<b>R</b>	<b>R1</b>	<b>R2</b>	<b>W</b>	<b>W1</b>	<b>W2</b>	<b>W3</b>	<b>W4</b>
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**



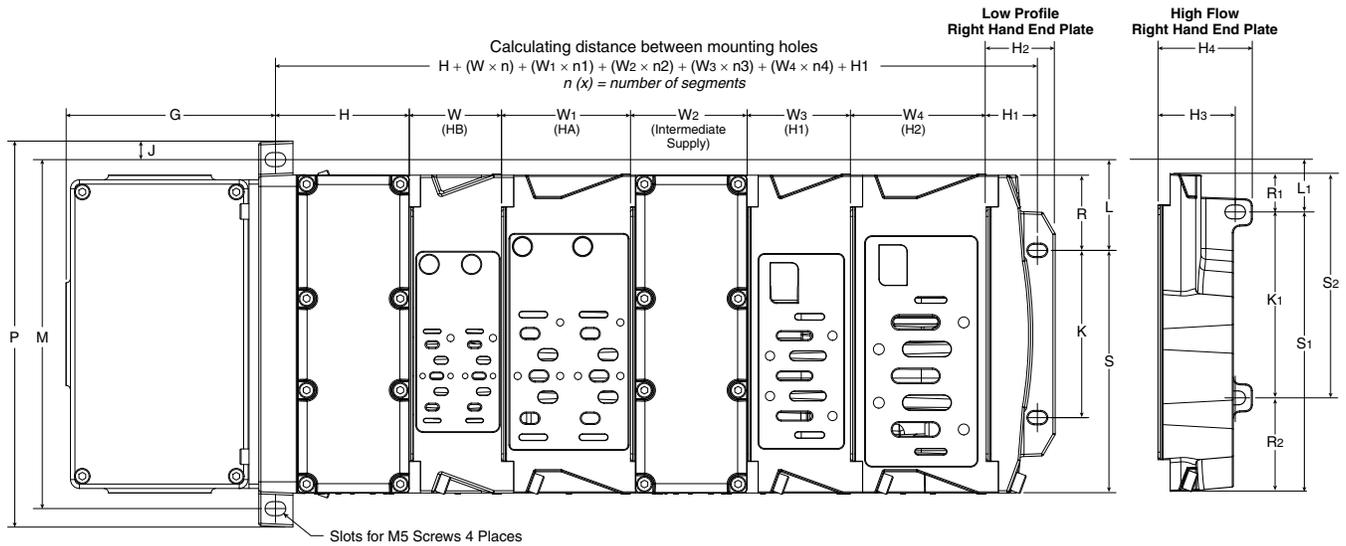
**Hi-Flow Right Hand End Plate**

**PSHU41** 1/2" port size

**PSHU42** 3/4" port size

Inches (mm)

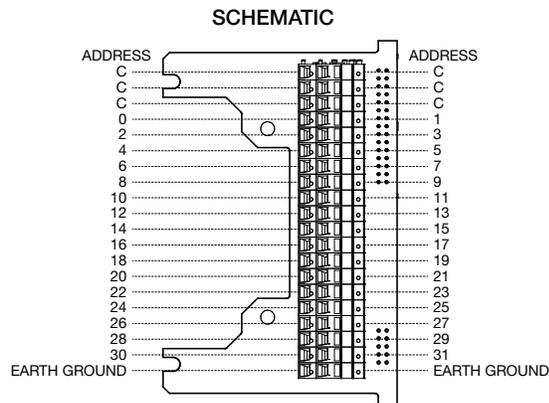
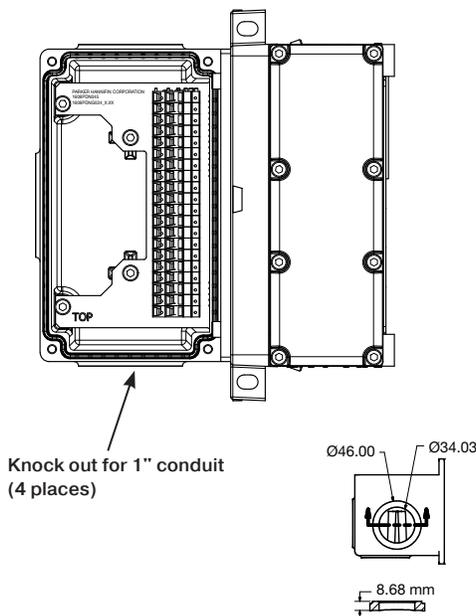
**Terminal Block with H Series ISO Valves**



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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 Richland, Michigan  
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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

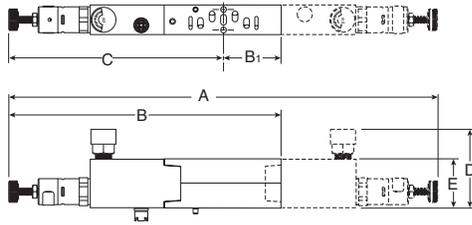
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**H Series ISO 15407, HB / HA Sandwich Regulator**

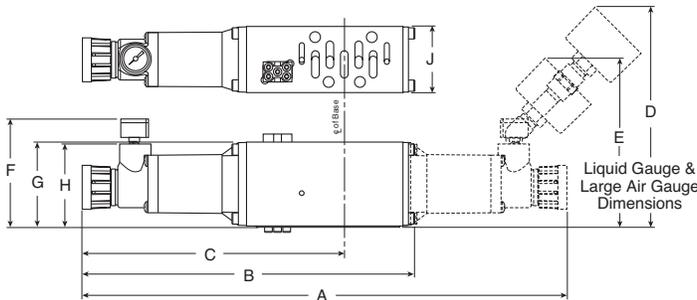


**HB / HA Series Sandwich Regulator, Dimensions**

	A	B	B1	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**



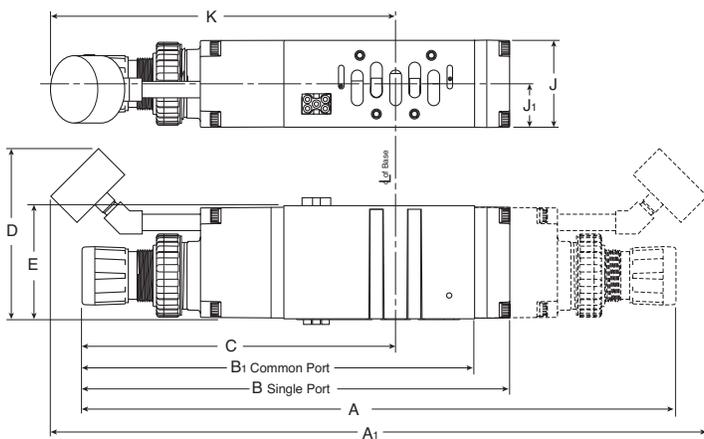
**H1 Series Sandwich Regulator, Dimensions**

	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>						
	G	H	J			
	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	A1	B	B1	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>						
	E	J	J1	K		
	2.80 (71)	2.15 (55)	1.07 (27)	8.50 (216)		
<b>H3</b> (PS4237)	A	A1	B	B1	C	D
<b>(PS4238)</b>	15.67 (398)	17.15 (436)	11.53 (293)	10.67 (271)	8.37 (213)	4.20 (107)
	E	J	J1	K		
	2.93 (75)	2.50 (64)	1.25 (32)	9.10 (231)		

Inches  
(mm)

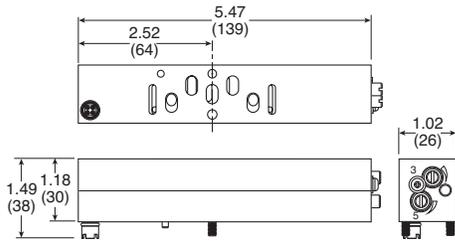
- D
- Subbase & Manual Valves
- H Series Micro
- Modulflex Series
- H Series ISO
- Network Connectivity
- DX ISOMAX Series
- Valvair II Series



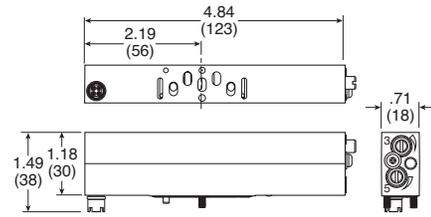
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**H Series ISO 15407, Size 18mm (HB) & 26mm (HA), Flow Control**

**HA Flow Control**

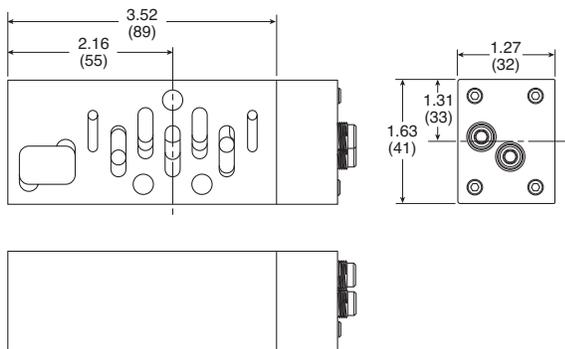


**HB Flow Control**

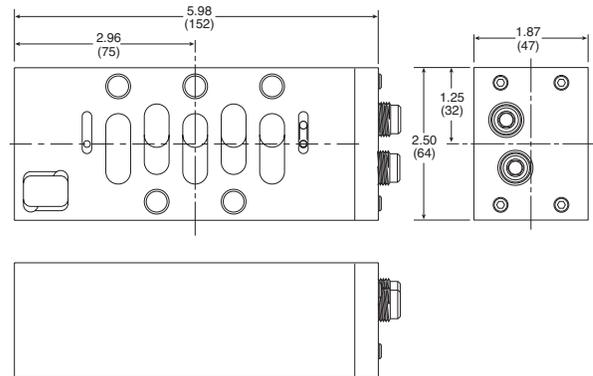


**H Series ISO 5599, Size H1, H2 & H3, Flow Control**

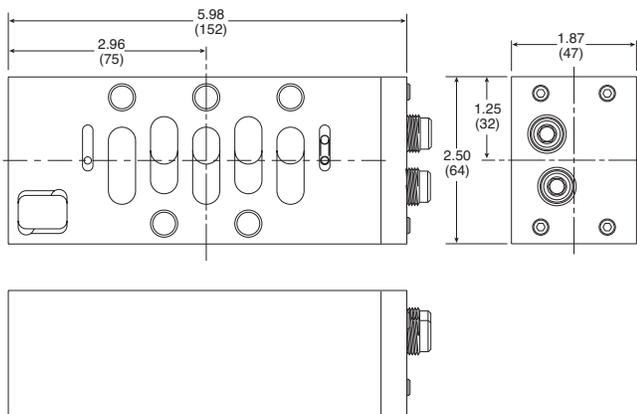
**H1 Flow Control**



**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)

D147

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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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[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

## Network Connectivity

### Offering

Valve series	P2M	P2H IO-Link	P2H Ethernet	PCH	Turck BL67
Moduflex	X				
H Series Micro	X				X
H Series ISO		X	X	X	X

Protocol	P2M	P2H IO-Link	P2H Ethernet	PCH	Turck BL67
IO-Link	X	X		X	
DeviceNet					X
EtherNet/IP™	X		X	X	X
Profibus-DP					X
Profinet	X		X	X	X
Modbus/TCP	X		X	X	X
EtherCAT	X		X	X	
PowerLink	X		X		
CANopen					X

Options	P2M	P2H IO-Link	P2H Ethernet	PCH	Turck BL67
24 Solenoid control	X*	X			X
32 Solenoid control			X	X	X
Digital inputs / outputs				X	X
Analog inputs / outputs					X
Class A IO-Link master module				X	X
Class B IO-Link Master module				X	
Short circuit protection on inputs				X	X
Current sensing outputs				X	X
DeviceNet subnet					X
Power over DeviceNet / CANopen					X
CANopen expansion					X

\* Only 19 usable when used with Moduflex Valve

### P2M Network Nodes (shown on H Micro & Moduflex)



Moduflex



H Micro

### P2H Network Node: IO-Link (shown on H Series ISO)

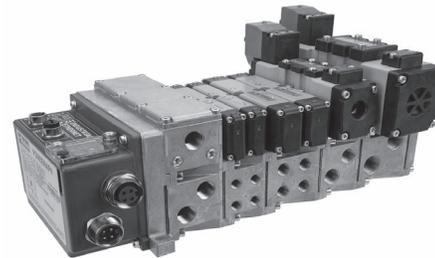


Class A

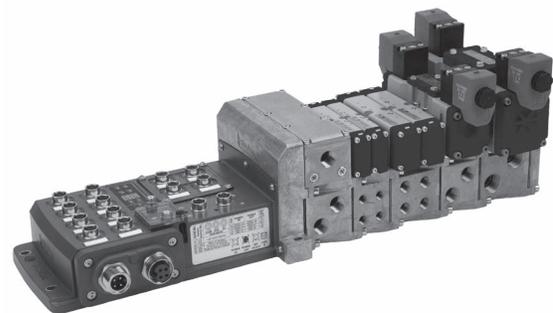


Class B

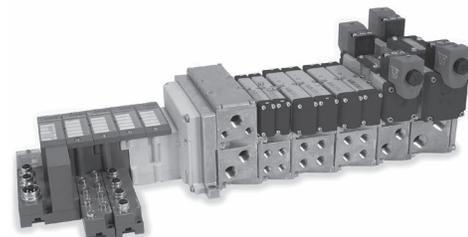
### P2H Network Node: Industrial Ethernet (shown on H Series ISO)



### PCH 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

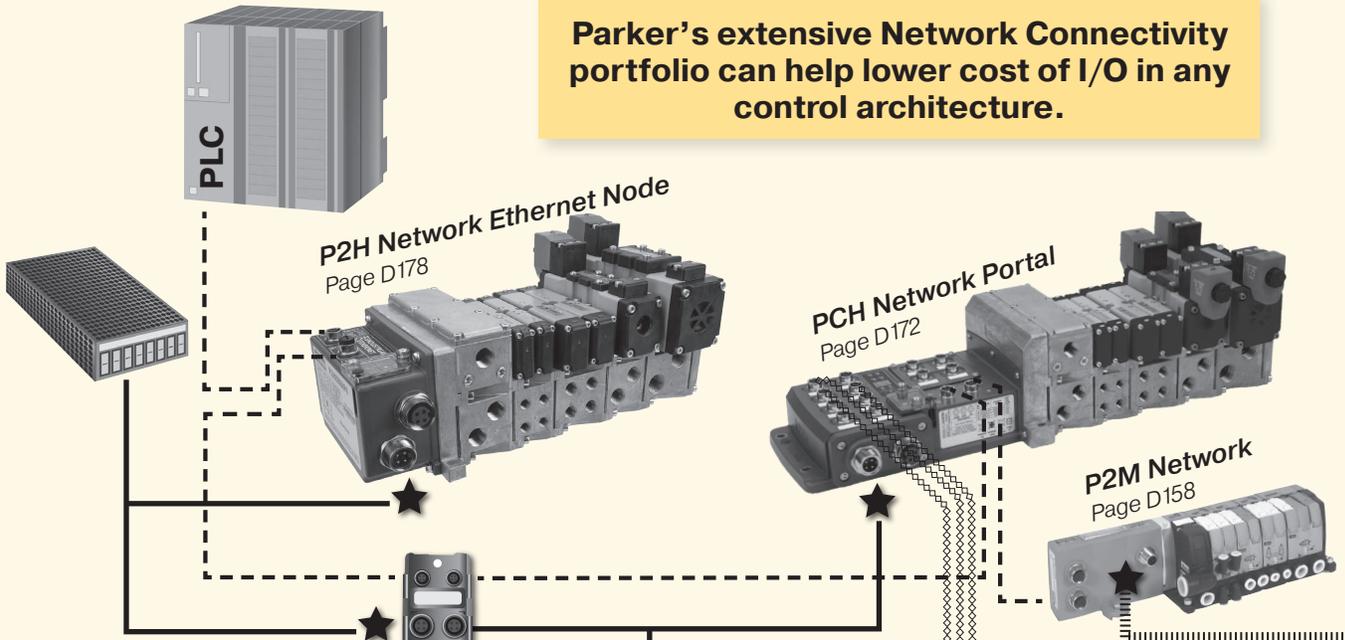
DX ISOMAX Series

Valvair II Series

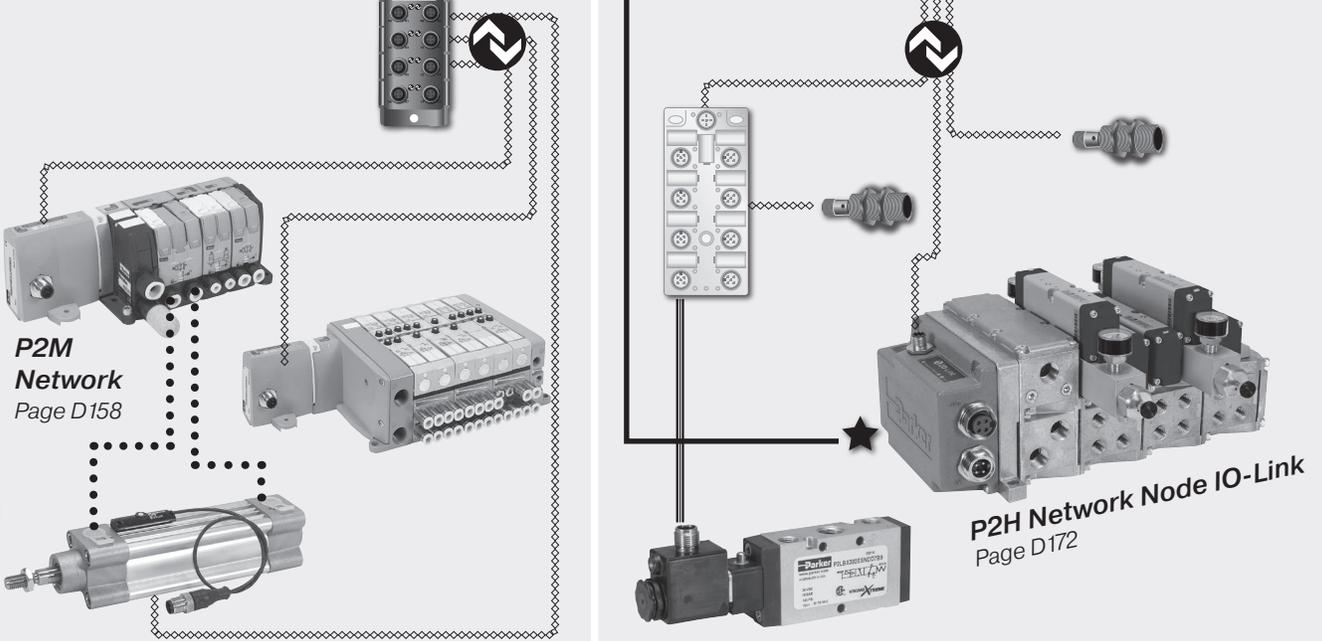


# Industrial Ethernet

**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)

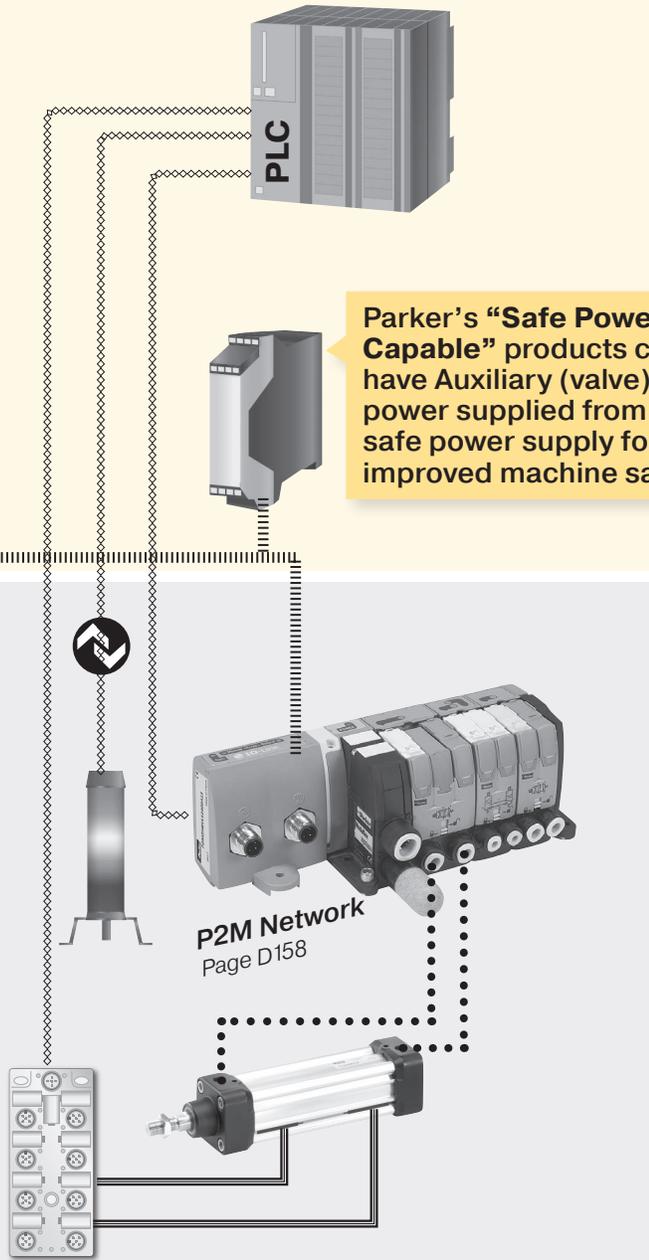
**Node Expansion Using IO-Link**  
 Reduce node count by adding an IO-Link Master module onto Turck Network manifold

- \* 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)



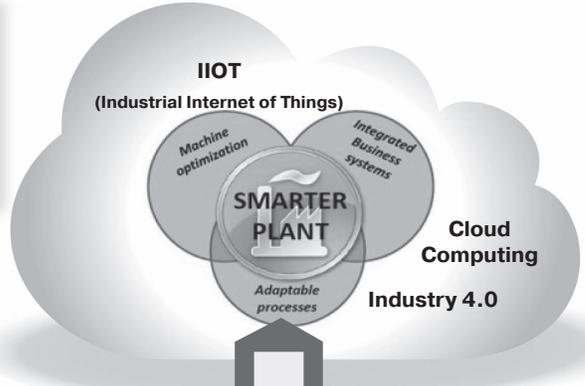
Parker's "Safe Power Capable" products can have Auxiliary (valve) power supplied from a safe power supply for improved machine safety.

**P2M Network**  
 Page D158

**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

---	Industrial Network
⋄⋄⋄⋄⋄	IO-Link
====	Discrete Wired Input / Output
—★	24 VDC Power
★	24 VDC SAFE Power
•••••	Pneumatic



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

- 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



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

**System Overview - Discrete Wiring**

- Up to 24 solenoids per manifold (19 when used with Moduflex Valve)
- 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

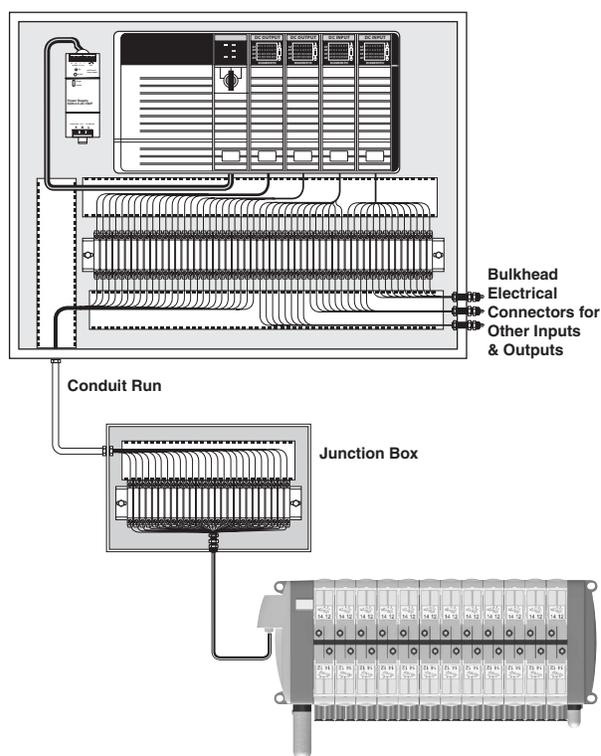
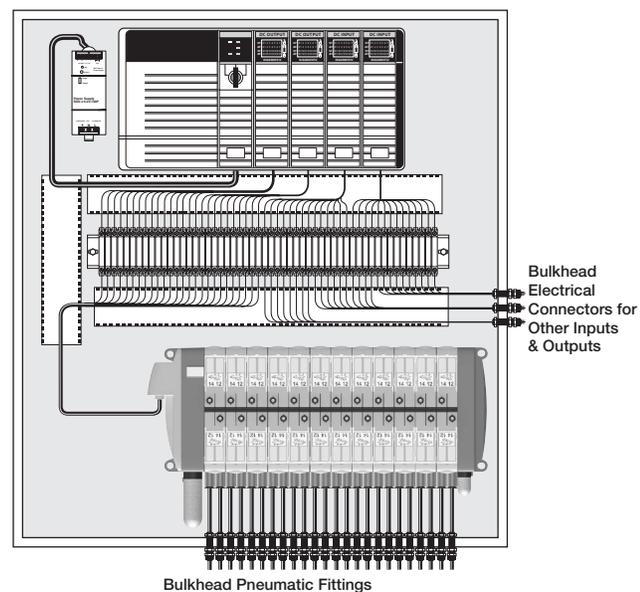
**De-centralized Application**

**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	Moduflex 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 - P2M Network Node**

- Up to 24 solenoids per manifold ( 19 when used with Moduflex Valve)
- 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

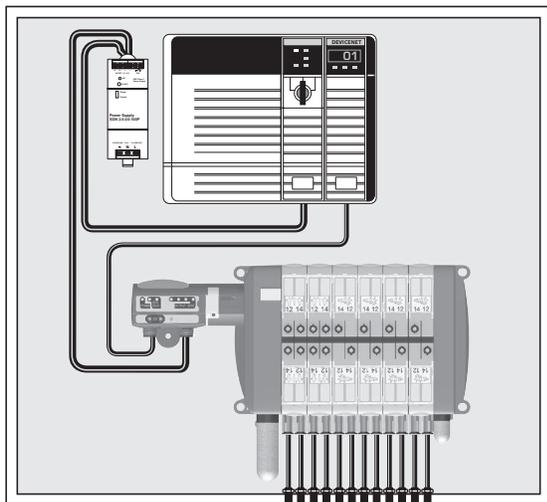
**De-centralized Application**

**H Series Micro Outside Control Cabinet**

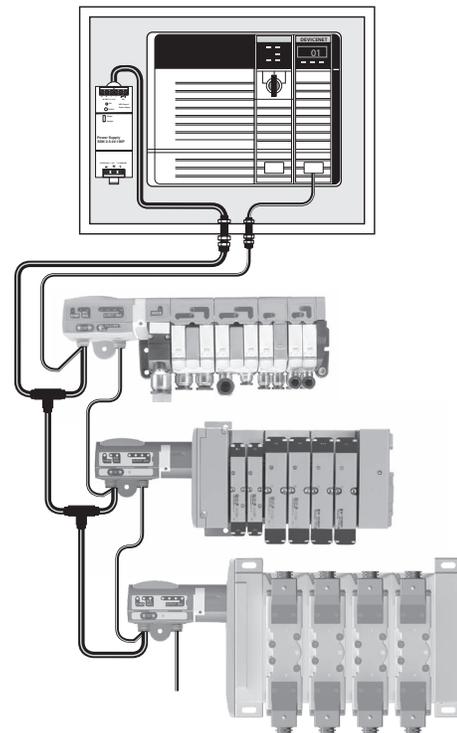
- Valves located near application - ready for machine mounting
- IP65 rating suitable for dusty and wet environments
- Additional inputs and outputs are not directly attached to valve manifold

**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 - Turck Network Portal**

**General Product Features**

- Turck Network Portal with up to 256 inputs / outputs and up to 16 or 32 solenoids per manifold
- Digital inputs / outputs, IO-Link Class A Master 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™

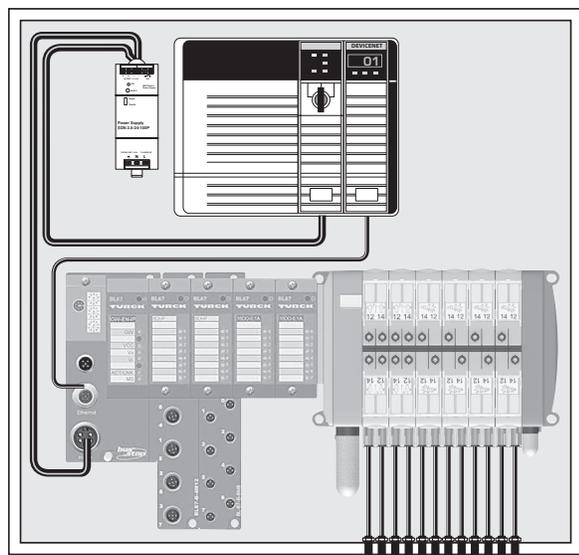


Modbus/TCP™

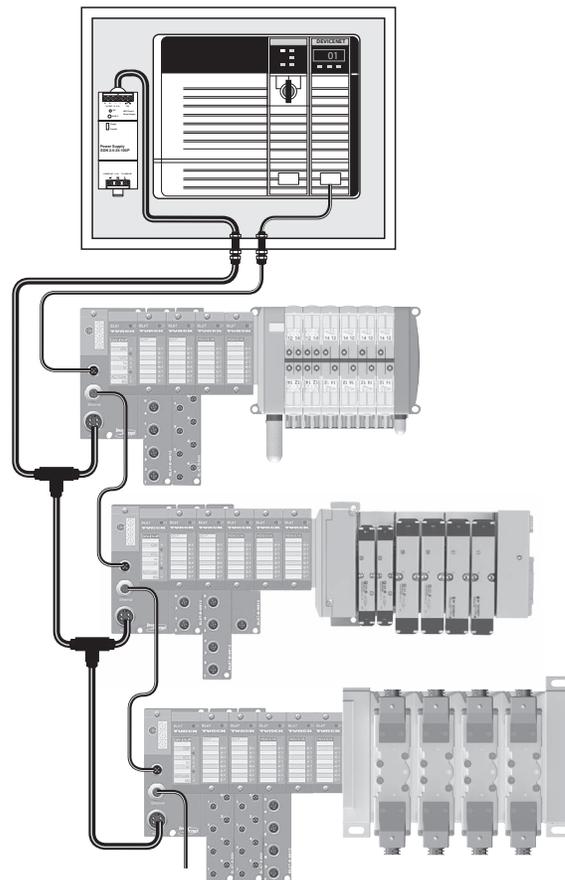
DeviceNet™



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 up to 16 or 32 solenoids per manifold
- Digital inputs / outputs, IO-Link Class A Master 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

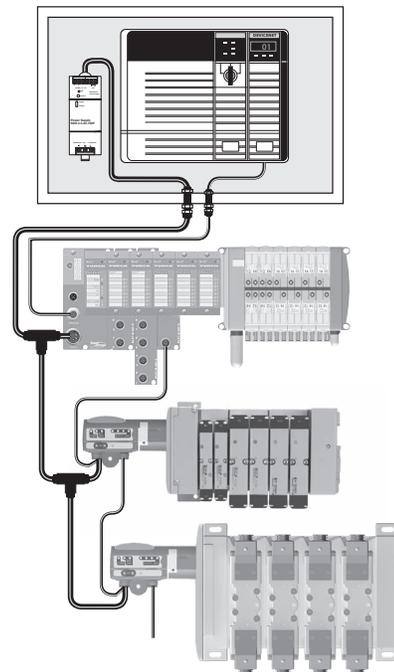
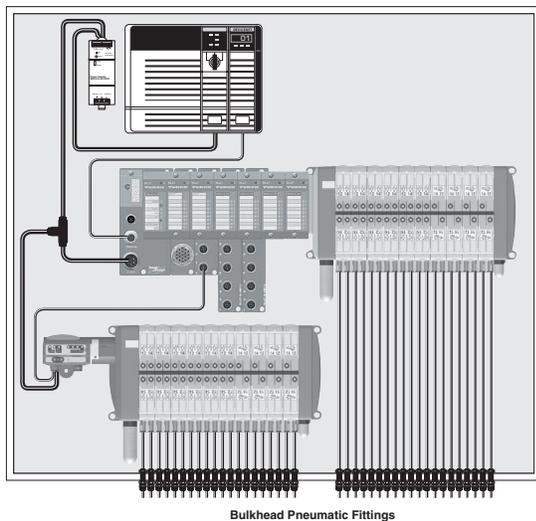
**De-centralized Application**

**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



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

**System Overview - Turck Network Portal with BL Remote DeviceNet Subnet**

**General Product Features**

- Turck Network Portal with up to 256 inputs / outputs and up to 16 or 32 solenoids per manifold
- Digital inputs / outputs, IO-Link Class A Master 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

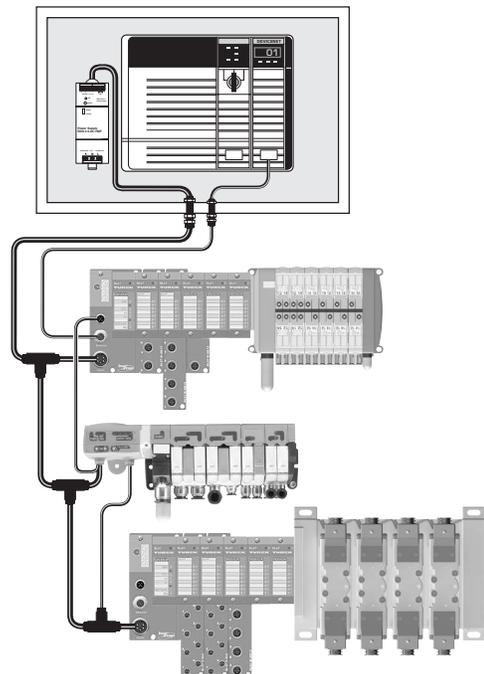
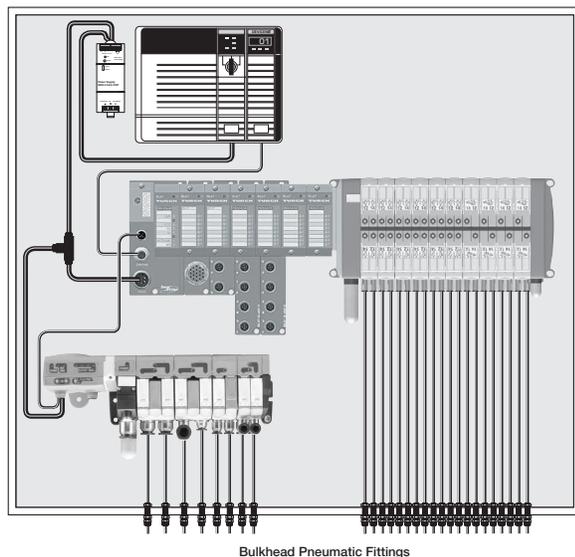
**De-centralized Application**

**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
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)

**System Overview - Turck Network Portal with Stand Alone Control using CoDeSys**

**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

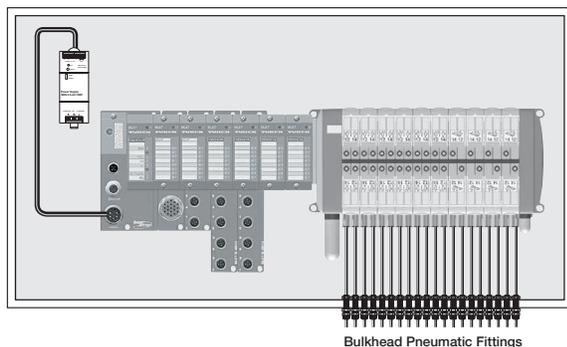
**Centralized Application Valves**

**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



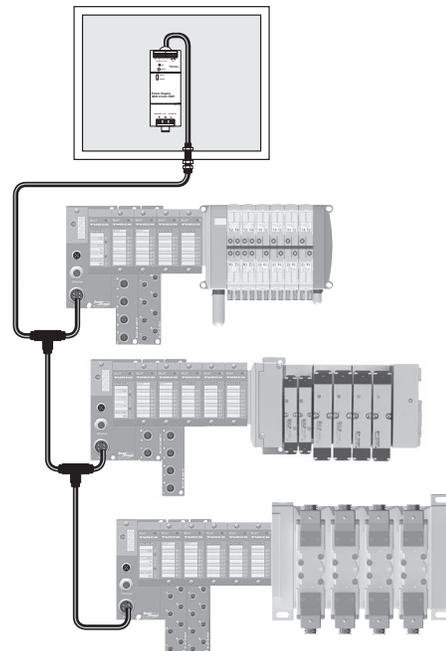
**De-centralized Application**

**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

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  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**P2M Network Nodes**

P2M communication modules directly attach to the Moduflex valve series as well as the P2M endplates of the H Series Micro. It offers a compact and low cost network solution.

**Features**

- Small, compact product design
- IO-Link Class A & Class B nodes
- Ethernet Communications
  - EtherNet/IP™
  - Profinet
  - EtherCat
  - Powerlink
  - ModbusTCP
- 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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[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**P2M Network Nodes**

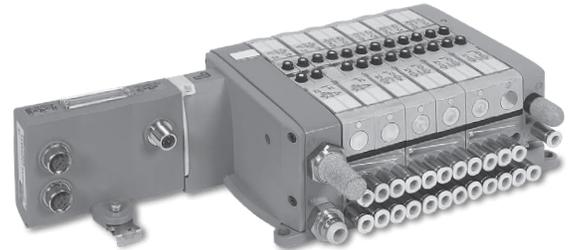
P2M communication module attaches directly to the end plate. It offers a compact and low cost network solution.

**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

	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>

H Series Micro

	IO-Link Class		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>
						<b>P2M2HBVL12400A43</b>	<b>P2M2HBVL12400A43-SPC</b>
						<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 Moduflex valves, maximum solenoid addresses limit is 19.

Further details: [www.parker.com/pdn/P2M\\_IOL](http://www.parker.com/pdn/P2M_IOL)

Most popular.

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  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**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.

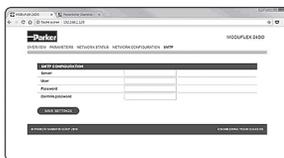
**Topology / Integrated Ethernet Switch**



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)

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 Connections & Configuration**

**Ethernet ports and Auxiliary power connection**

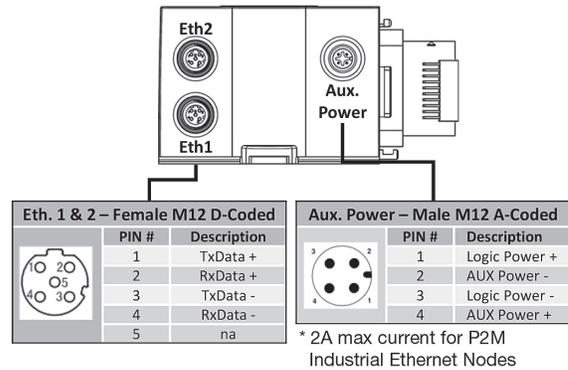
Ethernet ports: 2 x Standard Female M12 D-Coded – 5 pins  
 Auxiliary Power: Standard Male M12 A-Coded – 4 pins

**Configuration file**

The configuration files (.EDS, .GDS, etc) can be download from the product web page.

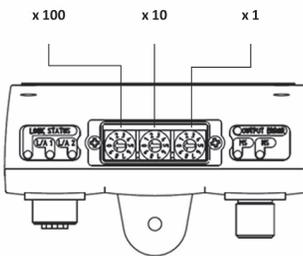
**Add on Instructions & Function Blocks**

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
IP-Address setting stored into the NV-memory of the P2M node	000	000	N/A
IP-Address setting determined by the 3 rotary switches:			
• IP Address: 192.168.1.xxx	001 – 254	001 – 239	N/A
• 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 obtains its address via DHCP	888	N/A	N/A
Reset to factory status	999	999	999
Invalid, the module will not start	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.

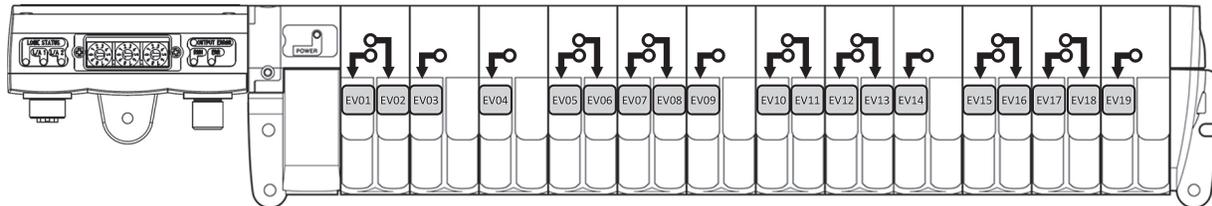
P2M on Moduflex



P2M on H Series Micro



**P2M 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		



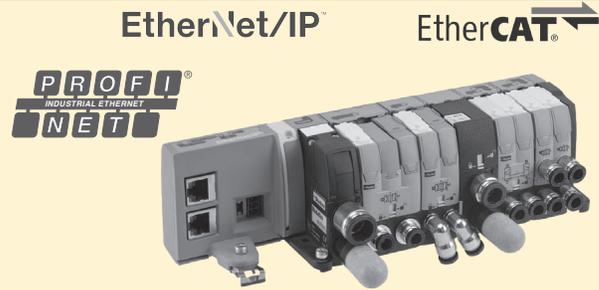
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Valve Island V Series with Industrial Ethernet connection**

The P2M Industrial Ethernet Lite node 24DO allows a very simple and cost efficient connection to the most popular Industrial Ethernet networks.

In its compact IP40 version equipped with two RJ45 Ethernet ports, it saves size in cabinet applications and offers an easy connection to the network in a line topology.



Industrial Ethernet Protocol	Part Number
Profinet IO	<b>P2M2HBVE12400RJ</b>
EtherNet/IP™	<b>P2M2HBVN12400RJ</b>
EtherCAT	<b>P2M2HBVT12400RJ</b>

**Product Set-Up**



The P2M Lite Node 24DO is by default in DHCP mode. The module must be assigned to a static IP-Address in order to be controlled via the network.

The Network Configuration settings can be done through the embedded web server of the node as well as "IPconfig", "TIA Portal" or similar methods.

For an application requiring a regular disconnection / reconnection of the node, Profinet and EtherNet/IP™ protocols allow respectively a Fast Start- Up (FSU) and Quick Connect mode. This mode can be enable or disable .

**Technology / Integrated Ethernet Switch**



The P2M Industrial Ethernet Lite node 24DO offers 2 RJ45 ports allowing a line topology without external switch. The Ring topology can also be supported (enable/disable) for Profinet and EtherNet/IP™.

The integrated Ethernet switch support Class C Services allowing used in an isochronous real time (IRT) structure.

**Diagnostic**



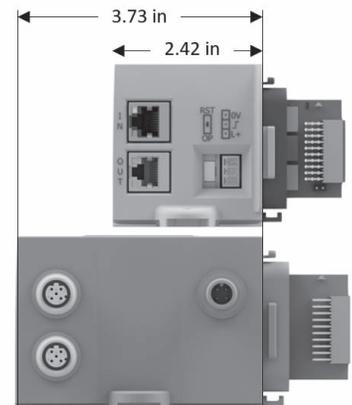
The P2M Industrial Ethernet Lite node 24DO offers a local diagnostic through 5 LED's located on the visible top side and 4 additional on both Ethernet connectors showing:

- Logic status
- Ethernet activity on both ports
- Standard Status due to protocol
- Output error / Power Supply

This local information as well as trouble shooting and predictive maintenance diagnostics (Power monitoring, Life cycle counting, ...) are available in PLC through the network and reported on imbedded web page.

When PLC is in "STOP", the web page allows to force ON/OFF solenoids state. This function has a password protection.

Save 1.31 inches with P2M Lite Node compared to P2M Ethernet Node



**Industrial Ethernet Lite Node Connections and Diagnostic Functions**

**Ethernet and Power Connections**

**Network Communication Ports:**

2 x Standard RJ45 Female connectors

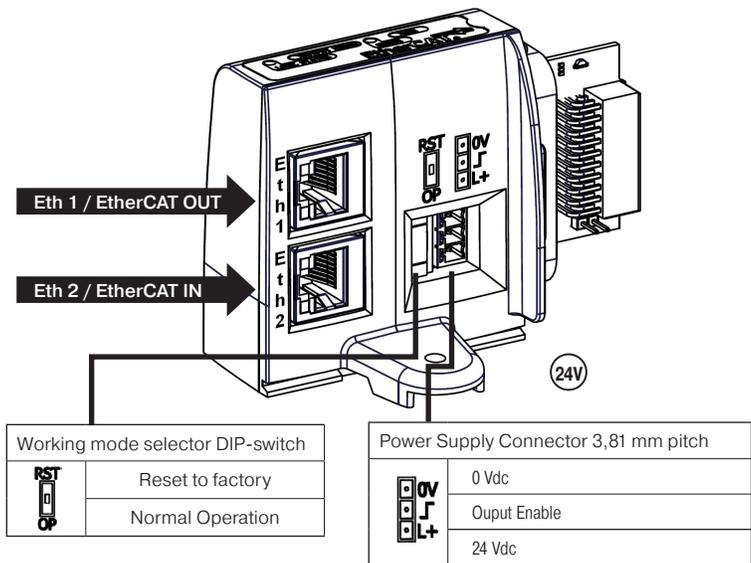
Usage of standard manufactured cables available from your usual electrical supplier is recommended.

**Power Supply:**

Standard 3-Pin Male Connector - 3,81 mm pitch

**Working mode selector:**

DIP-switch



**Configuration Files**

The configuration files can be download from the product web page: [www.parker.com/pde/P2M\\_IE](http://www.parker.com/pde/P2M_IE)

**IP Address Setting**

For both Profinet IO and EtherNet/IP™ protocols, the P2M Lite 24DO Node is by default in DHCP mode. The module must be assigned to a static IP-Address in order to be controlled via network. Please, refer to the user manual for IP-Address assignment process.

**Local and Network Diagnostic Functions**

**Local Diagnostic**

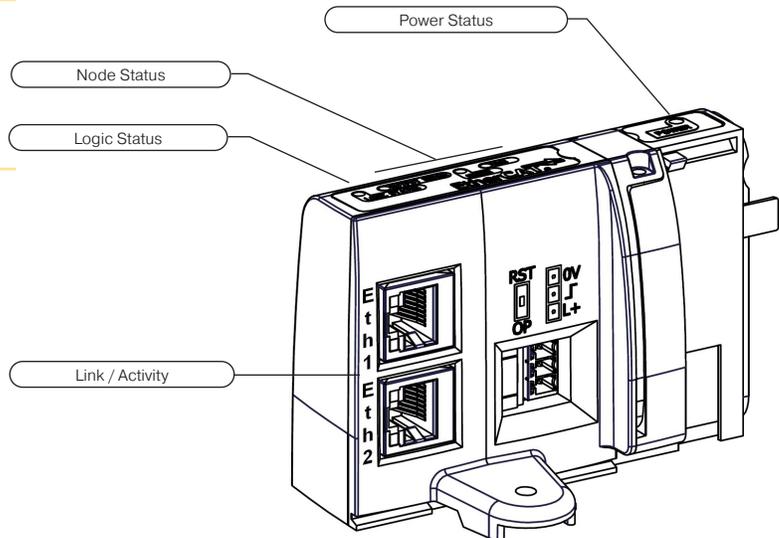
The P2M Lite 24DO node offers a local diagnostic via 9 LED's. Please refer to user manual with interpretation table.

**Network Diagnostic**

The P2M Lite 24DO Node offers additional useful module status information:

- Pilot overload or short circuit
- Power Voltage out of tolerance
- Cycle counter for every pilot
- Module temperature

For detailed technical information on the P2M Lite 24DO Node and a complete interpretation of node's diagnostic functionalities, please refer to the User Manual available from the product web page: [www.parker.com/pde/P2M\\_IE](http://www.parker.com/pde/P2M_IE)



**EtherNet/IP™**



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 Valvair II Series



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

**Valve Island V Series with IO-Link connection**

The P2M Moduflex IO-Link 24 DO node allows a very simple and cost efficient connection to any IO-Link master, centralised into the PLC or decentralised through an industrial Ethernet network.

Designed in both Class A and Class B versions with an isolated auxiliary power, it can easily be adapted to all power supply architectures and follow machine directives.



**“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)

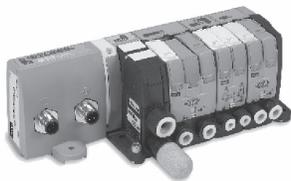


		M12 A Coded Connector Connection					Part Number	
	Description	IO-Link Class	IO-Link	Aux. Power	Weight (g)	Standard	Safe Power Capable	
 <b>Class A</b>	P2M IO-Link communication module	Class A	3 Pin's	3 Pin's	1 & 3	160	<b>P2M2HBVL12400A13</b>	<b>P2M2HBVL12400A13-SPC</b>
			3 Pin's	3 Pin's	4 & 3	160	<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>		Class B	5 Pin's		2 & 5	140	<b>P2M2HBVL12400B25</b>	<b>P2M2HBVL12400B25-SPC</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/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**



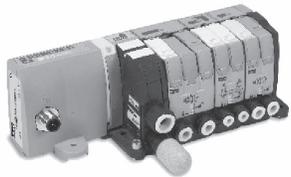
The P2M IO-Link Class A module can handle a Moduflex valve manifold having up to 19 solenoid outputs, or H Series Micro / ISO up to 24 solenoid outputs.

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

**Valve Series**

Check the total maximum solenoid current consumption against the limit of the power supply and P2M module (standard version 4A, SPC version 2A).



**Moduflex Valve**  
 Cv: .18 - 0.80  
 19 Solenoids  
 42mA per Sol.



**H Micro**  
 Cv: 0.35  
 24 Solenoids  
 42mA per Sol.



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

D165

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 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

**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.

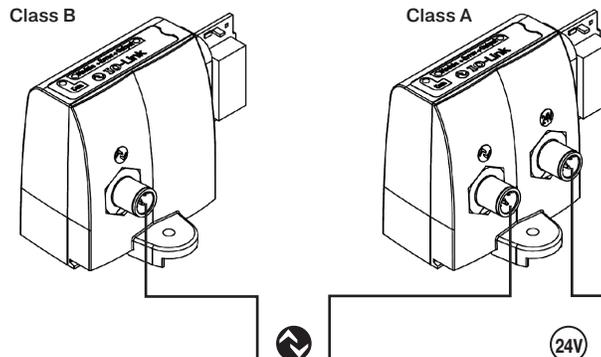
Note: Auxiliary power for solenoids can be wired allowing the user to turn outputs off while the communications remains on.

**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)



**Legend**

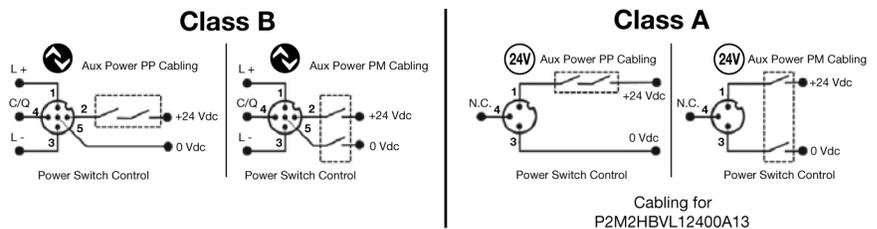
Symbol	Description
L+	IO-Link power supply "+"
L-	IO-Link power supply "-"
C/Q	IO-Link communication
Aux +	Auxiliary power supply 24 VDC
Aux -	Auxiliary power supply 0 VDC

M12 pin's	Class A		
	3 pin's	5 pin's	5 pin's
	P2M...A13	P2M...A43	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 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.



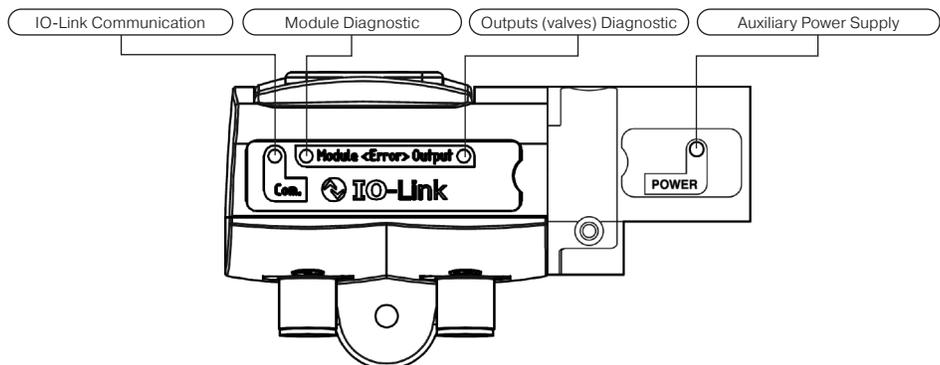
**IO-Link Module Diagnostic Functions**

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  
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 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvaire 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

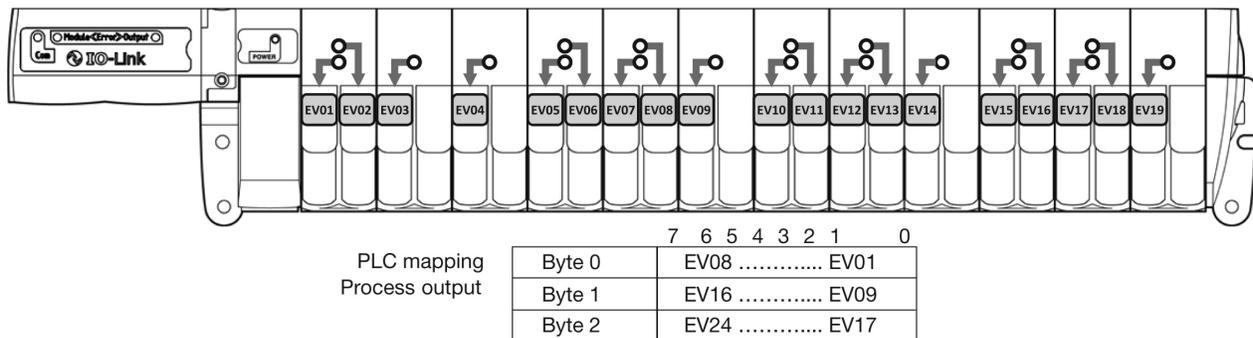
**Process Output Data (Byte 2)**

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 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**

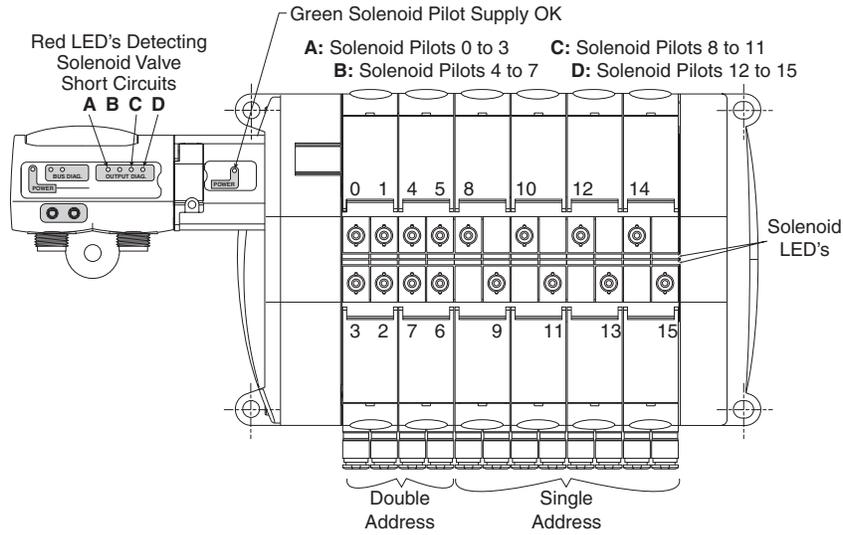
- Diag 0 ..... Fail-safe status ..... Acknowledgement required
- Diag 1 ..... Auxiliary voltage warning ..... Check auxiliary power
- Diag 2 ..... Auxiliary voltage failure ..... Check auxiliary power
- Diag 3 ..... Module failure ..... Module HS. must be replaced
- Diag 4 ..... Module over-temperature
- 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)



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

**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  
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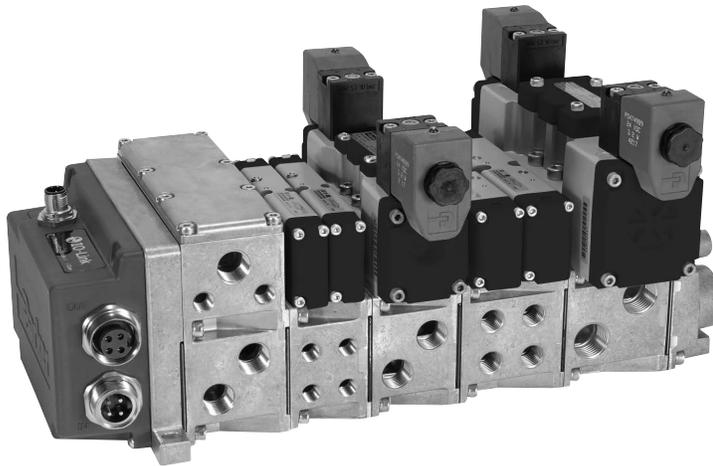
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[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**P2H IO-Link Node 24 DO**

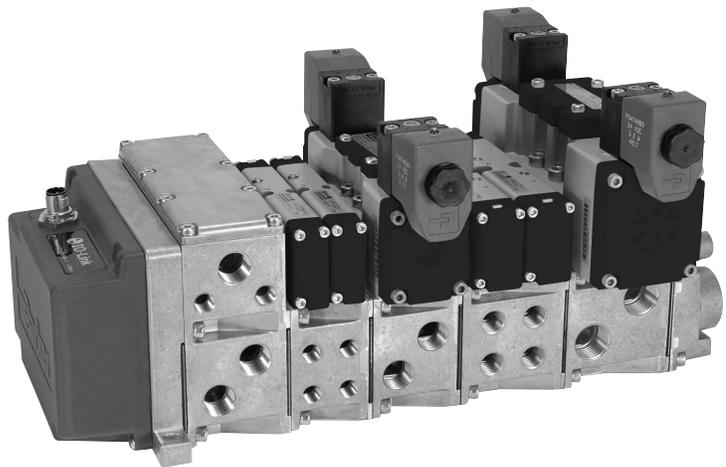
The P2H Network Node is available with IO-Link connectivity for the industries first connection of ISO valves (5599 & 15407) to the low cost IO-Link network.

**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 (i.e., 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**

**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)

D169

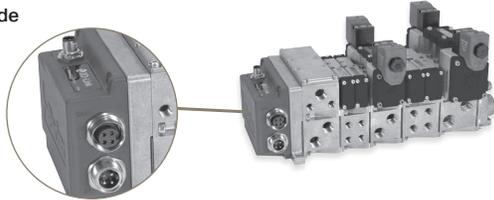
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Pneumatic Division  
Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**Overview - P2H IO-Link Node 24 DO**

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.

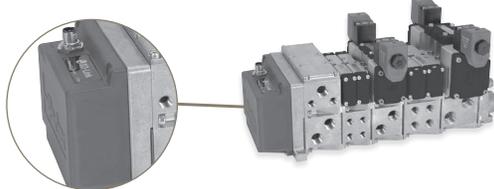
**Connection Types and Power:**

**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>
	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>
	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  
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 Valvair II Series

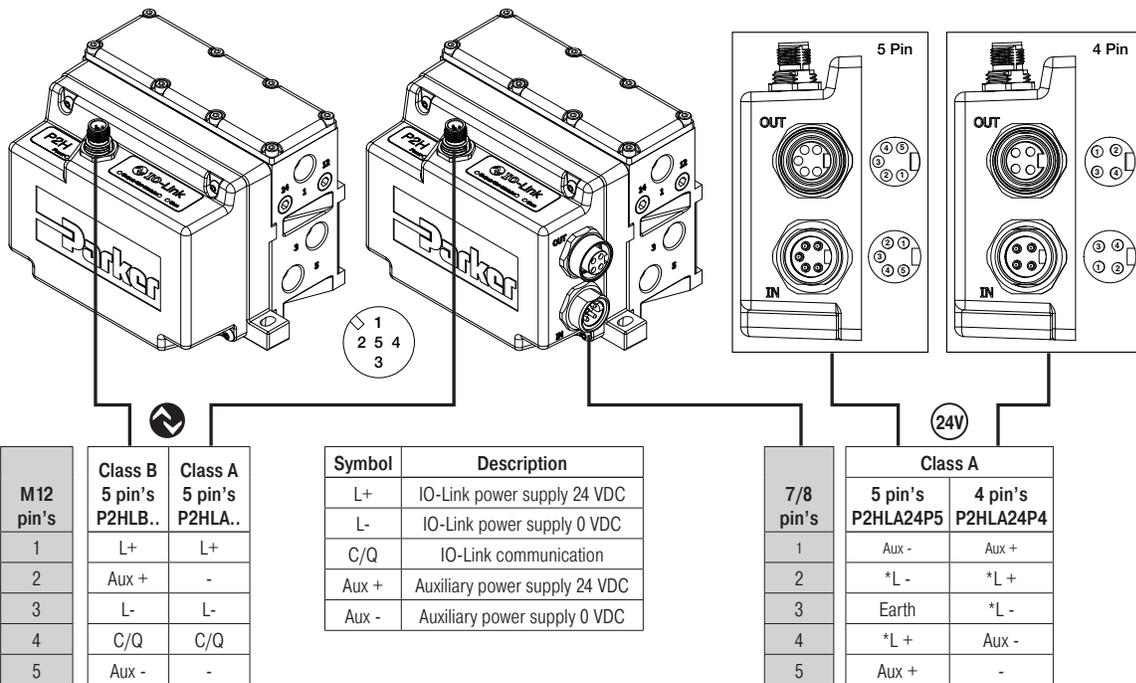


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**P2H IO-Link Node 24 DO – 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:**

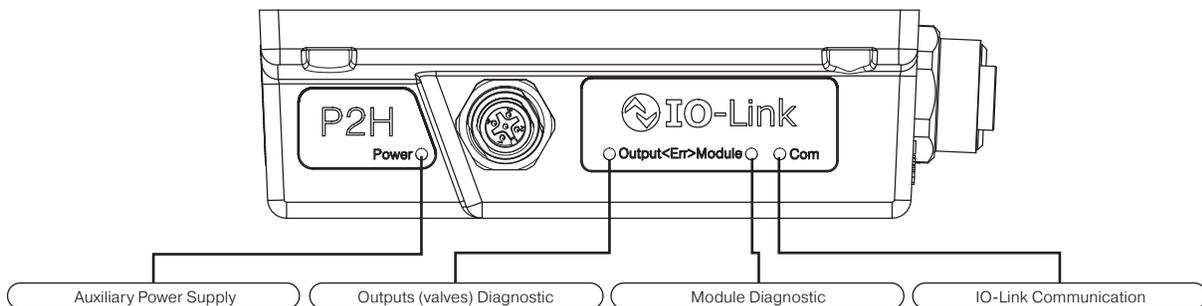
The P2H IO-Link Node offers a local diagnostic through 4 LED's status with interpretation described in the table below:

Power  Green LED		
LED Status	Description	Solving
OFF	Auxiliary power failure < 18V or > 28.5V	Check auxiliary power supply
ON	Standard mode (auxiliary power within normal range 20.4V* to 26.4V*)	N/A
Blinking	Auxiliary power out of range (warning level*)	Check auxiliary power supply, check/reset adjusted values

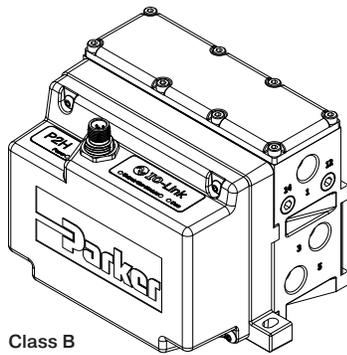
Output<Err> Red LED		
LED Status	Description	Solving
OFF	Standard mode (No error active)	N/A
ON	Any outputs driver error (auxiliary power error, overload, short circuit, over temperature, ...)	If auxiliary power OK (see Power LED status), check error messages and related troubleshooting

<Err>Module  Red LED		
LED Status	Description	Solving
OFF	Standard mode (No error active)	N/A
ON	24 VDC auxiliary power missing or any active malfunction	Check Auxiliary power supply. If auxiliary power supply OK, module must be replaced

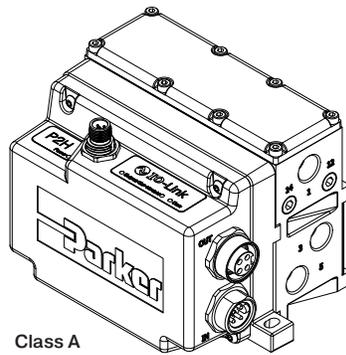
Com Green LED		
LED Status	Description	Solving
OFF	IO-Link L+ / L- line not powered	Check IO-Link power supply from IO-Link Master (pin's 1 & 3)
ON	IO-Link L+ / L- line powered IO-Link master port set as SIO mode	Set IO-Link master channel in IO-Link mode
Blinking	IO-Link communication active	N/A



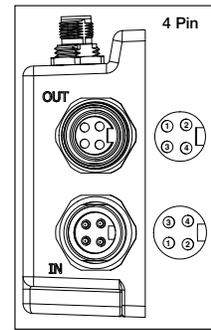
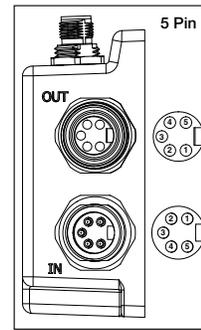
**P2H IO-Link Node 24 DO – Connections and LED Diagnostics**



Class B



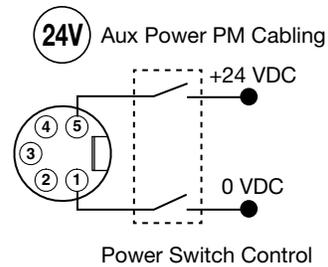
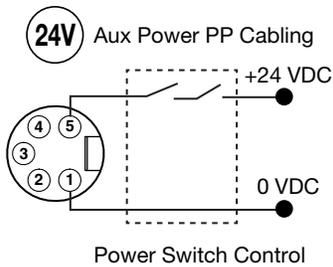
Class A



**P2H IO-Link 24DO Node connection to SAFE Power PP / PM mode for valve control**

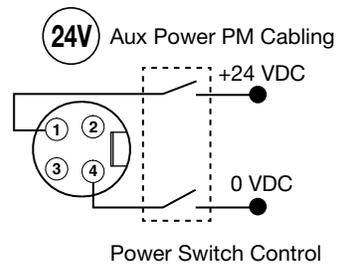
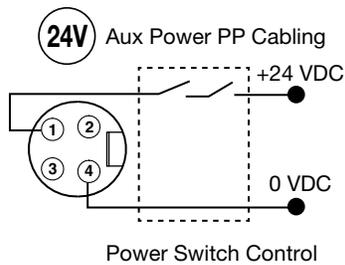
The P2H IO-Link 24DO node can be powered from a SAFE 24 VDC auxiliary source in PP or PM mode as grounds are isolated. Auxiliary power for solenoids can be wired allowing the functionality to turn outputs OFF while communications remain active.

**Class A – 5 Pin**



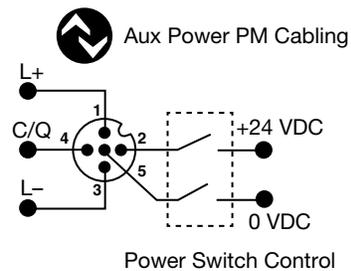
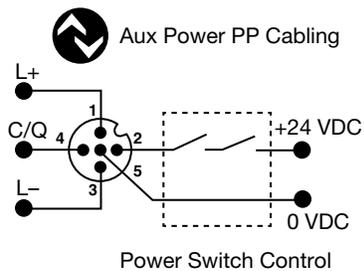
Pin Number	Address
1	AUX-
2	*L-
3	Earth
4	*L+
5	AUX+

**Class A – 4 Pin**



Pin Number	Address
1	AUX+
2	*L+
3	*L-
4	AUX-

**Class B**



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 carry over 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  
 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)

**P2H IO-Link Node 24 DO – 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)**

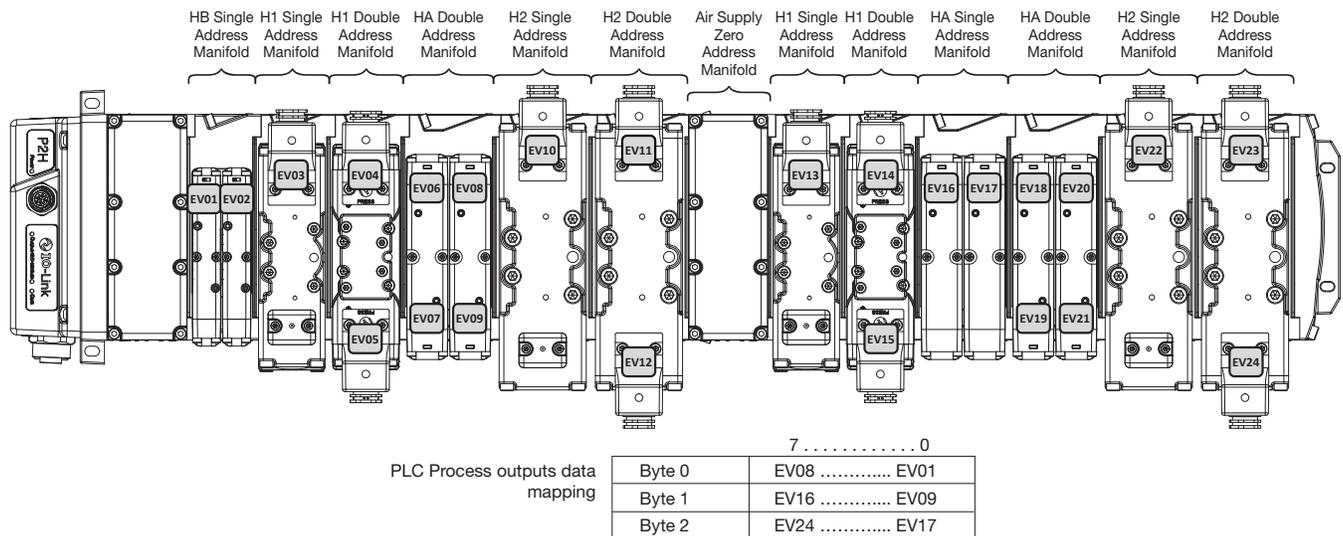
7	6	5	4	3	2	1	0
EV8	EV7	EV6	EV5	EV4	EV3	EV2	EV1

**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



**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)



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

**Features**

**P2H Ethernet Node 32 DO**

The P2H Ethernet Node has been designed to be connected to a many popular Ethernet Networks. It can be used with Parker's H-Universal ISO 15407-2 (size 02 & 01) and 5599-2 (sizes 1, 2 & 3) valve series. It can control up to 32 pilot solenoid addresses with different power configuration options available and provides local visual and remote diagnostics through the Network. Designed for industrial environments, the P2H Ethernet Node is constructed of PBT material, which is glass-filled and offers weld splatter resistance, UV stability and has significant flame-retardant properties making it suitable for the durability required in industrial applications with high heat and welding applications.

**Features**

**Industrial Ethernet Protocols:**

- EtherNet/IP
- Profinet
- EtherCAT
- Modbus TCP
- Powerlink

**Power Options:**

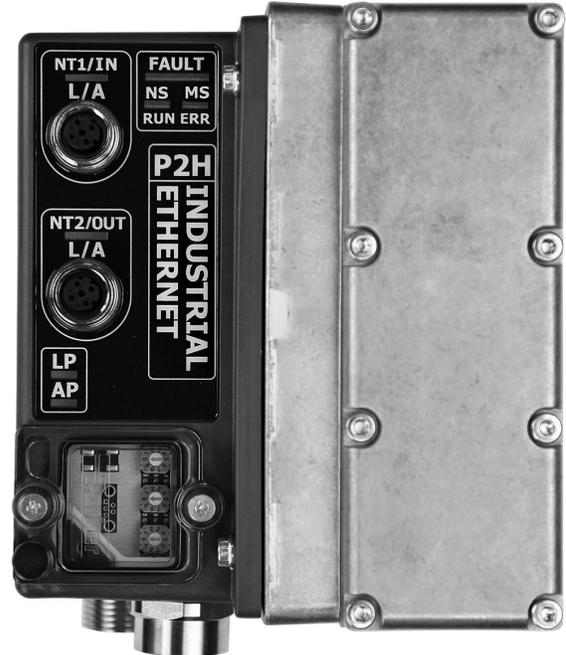
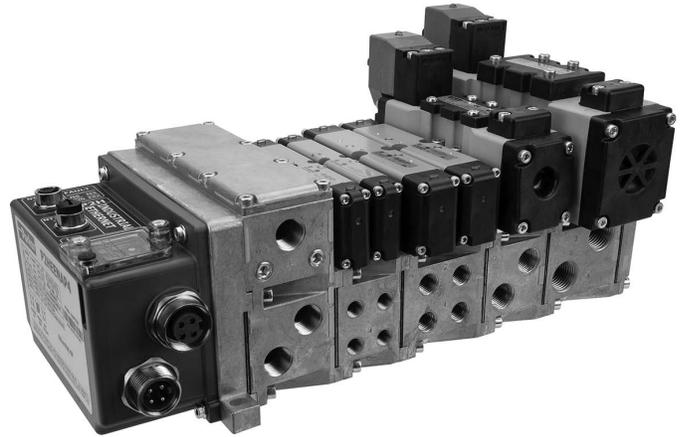
- Power IN/OUT Connection
- 7/8 4 pin
- 7/8 5 pin
- L- Code M12 5 pin
- Safe Power Capable
- OSSD Compatible

**Environment:**

- IP65
- Weld Spatter Resistant
- Weld Noise Immune

**Diagnostics:**

- PLC
- Web Interface
- Network Specific LED's



D	Subbase & Manual Valves
	H Series Micro
	Modulflex Series
	H Series ISO
	Network Connectivity
	DX ISOMAX Series
	Valvair II Series



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**P2H Ethernet Node 32 DO - 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	Power Source for Output 25-32	Power Connector	End Plate Part Number
Internal	NPT	Aux Power	7/8" 4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PE000A-P4</b>
Internal	NPT	Logic Power Isolated from Aux Power	7/8" 4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PE000L-P4</b>
Internal	NPT	Aux Power	7/8" 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PE000A-P5</b>
Internal	NPT	Logic Power Isolated from Aux Power	7/8" 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PE000L-P5</b>
Internal	NPT	Aux Power	M12 L-Coded, 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PE000A-L5</b>
Internal	NPT	Logic Power Isolated from Aux Power	M12 L-Coded, 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PE000L-L5</b>



Popular Part Number Configurations				
Pilot Type	Thread Type	Power Source for Output 25-32	Power Connector	End Plate Part Number
Internal	NPT	Aux Power	7/8" 4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PN000A-P4</b>
Internal	NPT	Logic Power Isolated from Aux Power	7/8" 4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PN000L-P4</b>
Internal	NPT	Aux Power	7/8" 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PN000A-P5</b>
Internal	NPT	Logic Power Isolated from Aux Power	7/8" 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PN000L-P5</b>
Internal	NPT	Aux Power	M12 L-Coded, 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PN000A-L5</b>
Internal	NPT	Logic Power Isolated from Aux Power	M12 L-Coded, 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PN000L-L5</b>

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
**Network Connectivity**  
 DX ISOMAX Series  
 Valvair II Series

**EtherCAT®**

Popular Part Number Configurations				
Pilot Type	Thread Type	Power Source for Output 25-32	Power Connector	End Plate Part Number
Internal	NPT	Aux Power	7/8" 4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PT000A-P4</b>
Internal	NPT	Logic Power Isolated from Aux Power	7/8" 4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PT000L-P4</b>
Internal	NPT	Aux Power	7/8" 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PT000A-P5</b>
Internal	NPT	Logic Power Isolated from Aux Power	7/8" 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PT000L-P5</b>
Internal	NPT	Aux Power	M12 L-Coded, 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PT000A-L5</b>
Internal	NPT	Logic Power Isolated from Aux Power	M12 L-Coded, 5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P200PT000L-L5</b>



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**Ordering Information**

**P2H Ethernet Node 32 DO - Overview**

Designed to integrate directly with all H Series ISO valve sizes, the P2H Ethernet Network Node provides a compact, robust and cost-efficient solution for industrial ethernet connectivity to a PLC or other controls device that supports industrial ethernet protocols. The P2H Ethernet 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 Ethernet Network Node is suitable for use on a valve manifold with up to 32 solenoid outputs. P2H Ethernet Node connects to a network with two standard M12 D-coded connections. These two connections function as a switch to enable the network to be connected to another network device.

Power connectors are available in three styles:

- 7/8 4-pin
- 7/8 5-pin
- M12 L-Code 5-pin

The power connectors are arranged in an IN/OUT design, and this allows the flexibility to connect power to another down stream device, instead of running two separate cables from a power supply. Each power connector can supply up to 12 A of current on both Logic and Auxiliary power pins. All power connections support (OSSD) test pulsing if the P2H Ethernet Node is connected to a safety rated output device that uses test pulses to detect faults in a safety system.



**PSHU20 P2 0 0 P E 000 A - P4**

Valve Type	
Plug-in (Internal pilot)	PSHU20
Plug-in (External pilot)	PSHU2X

Thread Type	
NPT	0
BSPP "G"	1

Network Connections	
EtherNet/IP™	E
EtherCAT	T
PROFINET	N
Modbus TCP	M
Powerlink	W

Power Connector	
7/8 4-pin Power IN/OUT with 1 Safe Power Capable Zone	P4
7/8 5-pin Power IN/OUT with 1 Safe Power Capable Zone	P5
M12 L-Code 5-pin IN/OUT with 1 Safe Power Capable Zone	L5

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

Expansion Module / Power Source	
Power Source for Output 25-32: AUX Power	A
Power Source for Output 25-32: Logic Power	L

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



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**P2H Ethernet Node 32 DO - Expansion Module**

Note: An optional intermediate air supply module must be installed to the manifold for expansion from 25 – 32 solenoids, 24 to 31 addresses.

**PSHU115A** **E** **1** **P**

Mounting Style / Port Size	
Intermediate Air Supply, NPT / Internal Pilot	PSHU115A
Intermediate Air Supply, BSPP / Internal Pilot	PSHU115B*
Intermediate Air Supply, NPT / External Pilot	PSHU115C
Intermediate Air Supply, BSPP / External Pilot	PSHU115D*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.

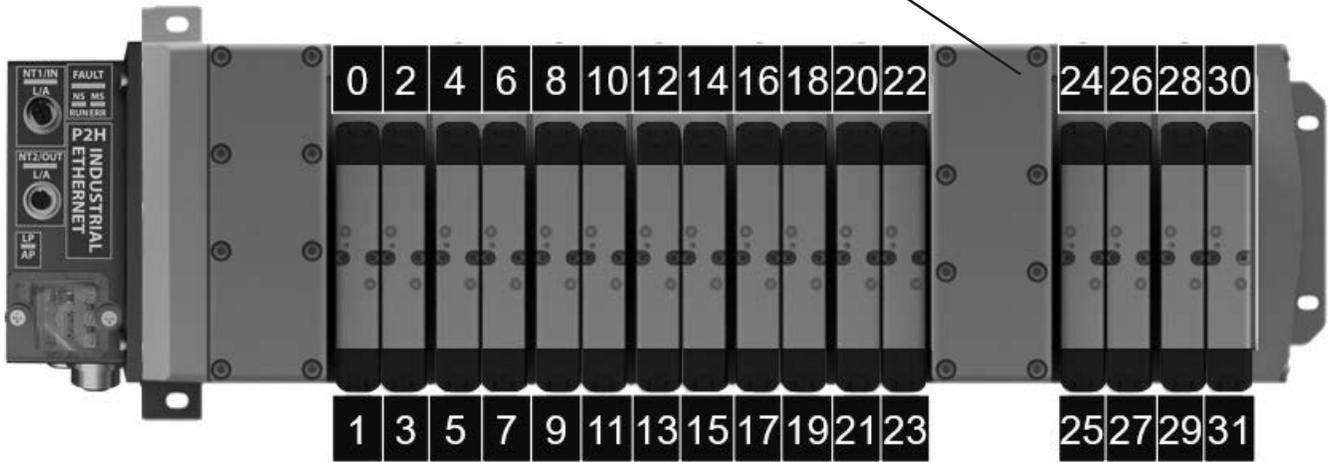
Gasket Options	
1	1,3,5 Ports Open And Pilots Open
2	1,3,5 Ports Closed And Pilots Open
3	1 Closed, 3,5 Ports Open And Pilots Open
4	1 Port Open, 3,5 Ports Closed And Pilots Open
5	1,3,5 Ports Open And Pilots Closed
6	1,3,5 Ports Closed And Pilots Closed
7	1 Closed, 3,5 Ports Open And Pilots Closed
8	1 Port Open, 3,5 Ports Closed And Pilots Closed

Circuit Board Address Configuration	
E	With Electrical Expansion To 24th Address



Intermediate air supply module shown

**Address Numbers**

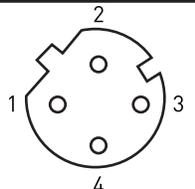


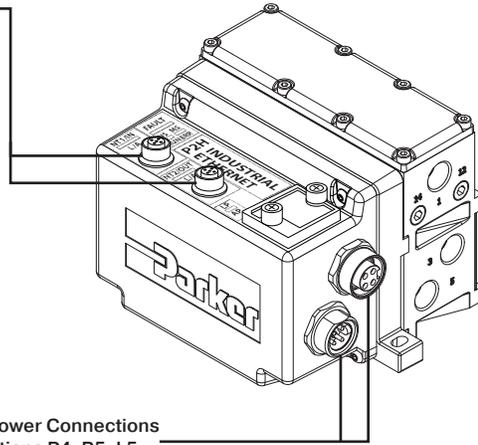
<b>D</b>
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series

**Ordering Information**

**P2H Ethernet Node 32 DO - Network Interface**

The P2H Node 32DO allows connection to an industrial Ethernet Network via two M-12 D-Coded connectors (NT1 and NT2). An embedded switch allows for daisy-chaining ethernet communications. The connectors pin assignments are as follows:

M12, D-coded, Female	Pin No.	Function
	1	Tx+
	2	Rx+
	3	Tx-
	4	Rx-



7/8 Power Connections  
Options P4, P5, L5

**D**

**Industrial Ethernet Options**



Network Connections	
EtherNet/IP™	<b>E</b>
EtherCAT	T
PROFINET	N
Modbus TCP	M
Powerlink	W

- Subbase & Manual Valves
- H Series Micro
- Modurflex 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 Ethernet Node 32 DO - Power Options**

- The P2H Ethernet Network Node has 3 available power connectors
- There are two power schemes that can be achieved detailed below
- 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	12A

Left over power that is not used by the P2H Ethernet Node can be passed on to other devices in the system through the power OUT connector



Power Connector *	
7/8 4-pin power in/out with 1 safe power capable zone	P4
7/8 5-pin power in/out with 1 safe power capable zone	P5
M12 L-Code 5-Pin in/out with 1 Safe Power Capable zone	L5

**Power Connection Layout**

The following three types of power connectors are available based on the end user's requirement. Current considerations should be used in the power connection selection process. Each power connection type can support a maximum of 12 A of current on each channel (VAUX and VLOG). When daisy chaining power is used, care must be taken in knowing the downstream current draw in order not to overload the maximum current rating of the pins.

	P4 - 7/8", 4-pin	P5 - 7/8", 5-pin	L5 - L-Coded, M12
<b>TOP CONNECTOR</b>	<b>Power OUT</b>		
	Pin	Function	Description
	1	+ 24 V	V2 (VAUX)
	2	+ 24 V	V1 (VLOG)
	3	0 V	GND V1 (VLOG)
	4	0 V	GND V2 (VAUX)
<b>BOTTOM CONNECTOR</b>	<b>Power IN</b>		
	Pin	Function	Description
	1	+ 24 V	V2 (VAUX)
	2	+ 24 V	V1 (VLOG)
	3	0 V	GND V1 (VLOG)
	4	0 V	GND V2 (VAUX)
<b>TOP CONNECTOR</b>	<b>Power OUT</b>		
	Pin	Function	Description
	1	0 V	GND V2 (VAUX)
	2	0 V	GND V1 (VLOG)
	3	PE	Protective Earth
	4	+ 24 V	V1 (VLOG)
	5	+ 24 V	V2 (VAUX)
<b>BOTTOM CONNECTOR</b>	<b>Power IN</b>		
	Pin	Function	Description
	1	0 V	GND V2 (VAUX)
	2	0 V	GND V1 (VLOG)
	3	PE	Protective Earth
	4	+ 24 V	V1 (VLOG)
	5	+ 24 V	V2 (VAUX)
<b>TOP CONNECTOR</b>	<b>Power OUT</b>		
	Pin	Function	Description
	1	+ 24 V	V1 (VLOG)
	2	0 V	GND V2 (VAUX)
	3	0 V	GND V1 (VLOG)
	4	+ 24 V	V2 (VAUX)
	5	PE	Protective Earth
<b>BOTTOM CONNECTOR</b>	<b>Power IN</b>		
	Pin	Function	Description
	1	+ 24 V	V1 (VLOG)
	2	0 V	GND V2 (VAUX)
	3	0 V	GND V1 (VLOG)
	4	+ 24 V	V2 (VAUX)
	5	PE	Protective Earth

\*PE – Protective Earth



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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

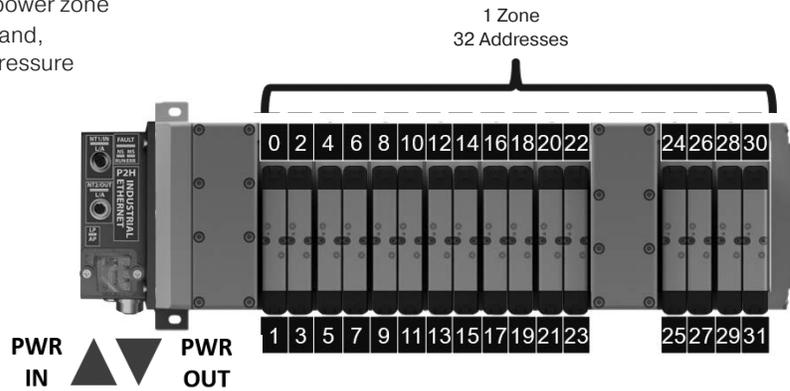
DX ISOMAX Series

Valvair II Series

**Ordering Information**

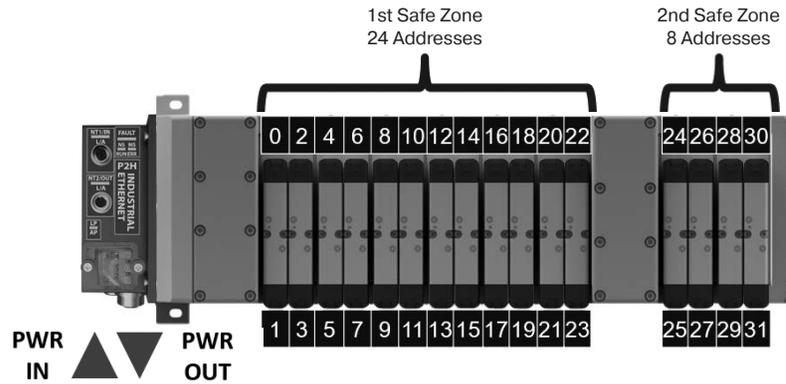
**P2H Ethernet Node 32 DO - Power Scheme 1 Option "A"**

- 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



**Power Scheme 2 Option "L"**

- The 1st 24 addresses are supplied by auxiliary voltage power. The last 8 addresses are supplied by the logic voltage 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. NOTE: You can treat each zone as a separate power zone/safe zone. Be aware that the last 8 addresses will be supplied by logic power. If power is shut down to this zone the P2H Ethernet module loses power and communication. This may cause extra time to reconnect to the network when power is restored.



**Industrial Ethernet Options**



Expansion Module / Power Source	
Power Source for Output 25-32: AUX Power	A
Power Source for Output 25-32: Logic Power	L

D	Subbase & Manual Valves
	H Series Micro
	Modulflex Series
	H Series ISO
	Network Connectivity
	DX ISOMAX Series
	Valvair II Series



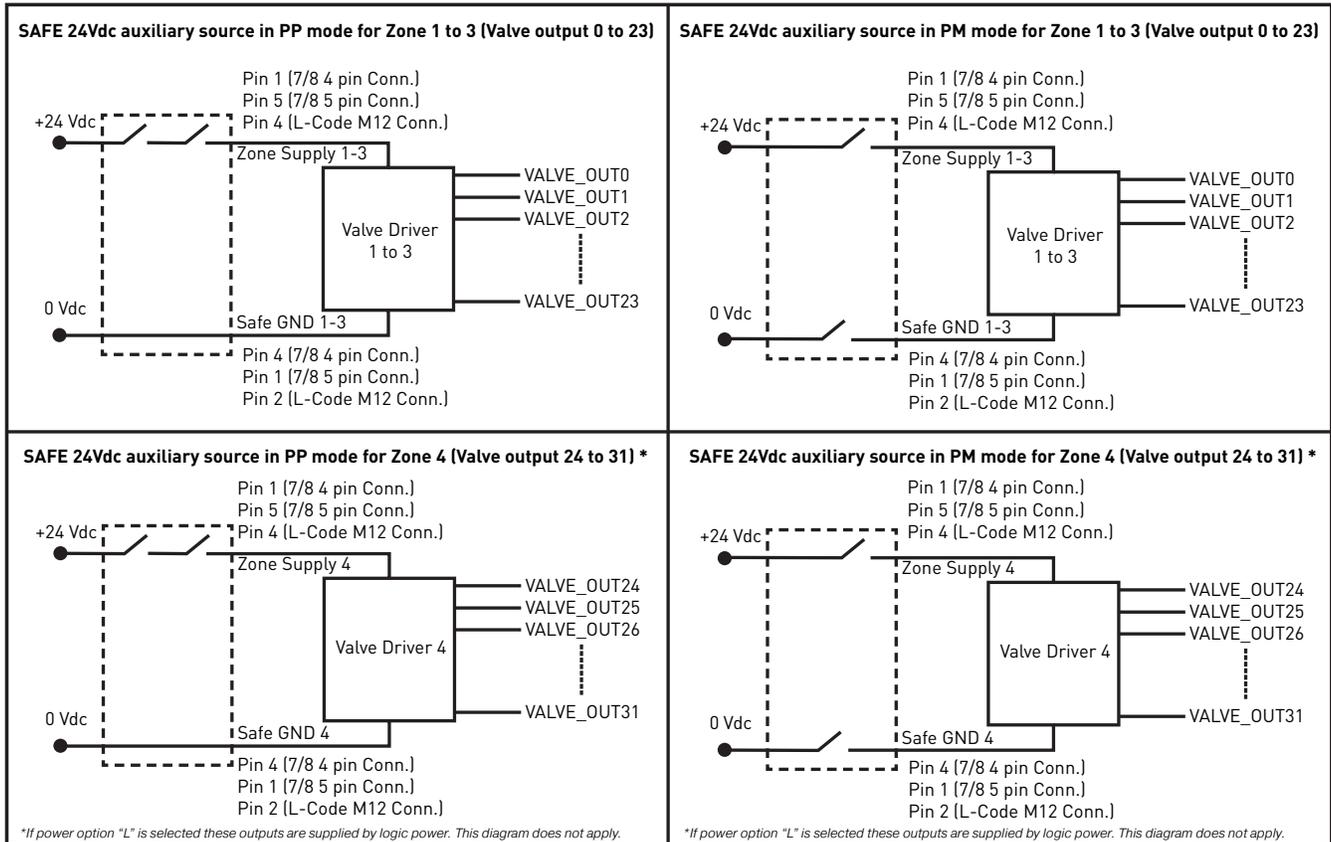
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**P2H Ethernet Node 32 DO - Safe Power Connectivity**



**P2H Ethernet Node connection to SAFE Power PP / PM mode for valve control**

The P2H Ethernet Node 32DO Auxiliary Power for valves can be supplied from an OSSD (Output Signal Switching Device) 24 VDC safe output power source in PP (plus plus) or PM (plus minus) configurations. The connection diagram below represents power option "A". For power option "L" valve driver number 4 power would be supplied from the logic pins of the connection selected (please reference the power pinout diagram).



Note: Please check max. power available from the source. Refer to the ["Auxiliary power consumption calculation"](#) section.

\* 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
Modulflex Series	
H Series ISO	
Network Connectivity	
DX ISOMAX Series	
Valvair II Series	



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**P2H Ethernet Node 32 DO - Auxiliary Power Consumption Calculation**

The P2H Node 32DO auxiliary power consumption calculation depends on the combination of the valves selected and the number of coils used. The table below can be used for power consumption calculation by valve type and the number of each type used. Take note that there are two types of coils for sizes 1,2,3. An energy efficient coil and standard coil.

Valve Range	Number of Pilots Simultaneously powered	Power	Total
H ISO - 15407-2 - Sizes 02 & 01	___	x 40 mA	= ___ mA
H ISO - 5599-2 - Sizes 1, 2 & 3 (Energy Efficiency Coils) *	___	x 54 mA	= ___ mA
H ISO - 5599-2 - Sizes 1, 2 & 3 (Standard Coils) **	___	x 133 mA	= ___ mA
		Total :	___ mA

\* F9 Valve Voltage Code

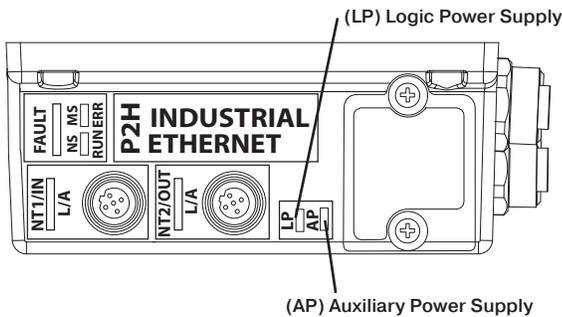
\*\* B9 Valve Voltage Code

**Power Supply Diagnostics**

**Power Supply Diagnostics through LED**

The P2H Node 32DO monitors the logic and auxiliary power supply voltages and manages two levels of diagnostics: warning and error range. Status is indicated via LEDs located on the device. The range limits can be modified through parameter data.

To restore default value (factory setting), refer to "Factory Reset Section" in the manual.



LP and AP (Green / Yellow) LEDs		
LED Status	Description	Troubleshooting
OFF	Logic and/or Aux lines not powered	Check power supply (see Power Supply section for pin assignments)
ON (Green)	Voltage in normal range	N/A
ON (Red)	Voltage in error range (too low or too high)	Check power supply (see Power Supply section for pin assignments)
Blinking (Red)	Voltage in warning range (out of normal range, not in error range)	Check power supply (see Power Supply section for pin assignments)
Blinking (Yellow)	Invalid rotary switch setting	Check rotary switch setting
Blinking (Red / Yellow)	Firmware version error or Completed "Reset to Factory" procedure	If switches setting different from "999" and no "Reset to Factory" performed via webpage, then contact technical support

**LED function details:**

- "Logic power" or "Aux power" error is active from 9.6 to 19.4 VDC or above 28.5 VDC
- When "Logic power error" or "Aux power error" is active, LED is solid red

**Power Supply Diagnostics through Network and Process Data Mapping**

Diagnostics are available in Process Input data (byte 0) to indicate whether Logic and Auxiliary voltages are within range. There is a warning range (normal operation with fault indication) and an error range (module enters Failsafe state).

The default warning range is set as 20.4 VDC < power supply < 26.4 VDC. These limits can be modified via acyclic data, objects # 11 and #12. The error range is set as 19.4 VDC < power supply < 28.5 VDC. These limits cannot be modified.

The voltage measured by the module, both Logic and Auxiliary, can be accessed via acyclic data, in Object #4. The displayed value is in mV.

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**P2H Ethernet Node 32 DO - Process Data mapping - Inputs**

The following tables describes the input mapping for P2H Ethernet Node. The byte mapping order varies by protocol please reference the manual for specific byte order arrangement.

**Channel Error – Input Mapping**

Byte #	Input Bits								Description
	7	6	5	4	3	2	1	0	
1	EV07	EV06	EV05	EV04	EV03	EV02	EV01	EV00	
2	EV15	EV14	EV13	EV12	EV11	EV10	EV9	EV08	Valve Error Data
3	EV23	EV22	EV21	EV20	EV19	EV18	EV17	EV16	EVxx = Output on Valve range is 0 to 31
4	EV31	EV30	EV29	EV28	EV27	EV26	EV25	EV24	

**Module Info Flags - Input Mapping**

Byte #	Module Info Flags		
	Output Bits	Error Name	Error Description
1	0	Heartbeat not toggling AUX 1	Heartbeat is currently not toggling
	1	Heartbeat not toggling AUX 2	
	2	SPI COM Error AUX 1	Error in SPI Communication between AUX and Logic. Outputs are switched off
	3	SPI COM Error AUX 2	
	4	SPI COM Lost AUX 1	Communication not possible. Outputs are switched off
	5	SPI COM Lost AUX 2	
	6	Output Interconnect Error	Short circuit between outputs detected. Affected outputs switched off.
7	SPI NP40 Error	Error in communication between Logic and Comm	
2	0	NP40 Version Error	Comm Module Version error. Outputs are switched off
	1-7	Reserved	These bits will be always set as 0

**Module Error Input – Input Mapping**

Byte #	Module Error Input		
	Output Bits	Error Name	Error Description
1	0	AUX Voltage Warning	Set if Auxiliary Voltage in warning range. Module keeps normal operation
	1	AUX Voltage Error	Auxiliary Voltage in Error range. Outputs are switched OFF
	2	Logic Voltage Warning	Set if Logic voltage is out of range for warning.
	3	Logic Voltage Error	Set if Logic voltage is out of range for error. Outputs are switched OFF
	4	Temperature Warning	Set if a temperature increase above warning levels is detected by the output drivers
	5	Output Driver Channel Error	Set if a major fault is detected at the output stage – solenoid short circuit. Outputs are switched OFF
	6	Module Error	Set if an internal communication error is active
2	7	Auxiliary Power Not Available	Auxiliary Power is off
	0 - 7	Reserved	These bits will be always set as 0

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Modulflex	Series
H Series	ISO
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**P2H Ethernet Node 32 DO - Process Data mapping - Outputs**

The following tables describes the input mapping for P2H Ethernet Node. The byte mapping order varies by protocol please reference the manual for specific byte order arrangement.

**System Command – Output Mapping**

Byte #	System Command Module								Description
	Output Bits	7	6	5	4	3	2	1	
1	System Command Value								One Byte that accepts the system command value see table below for values

Command Value	Command Name	Description
0X02	Store Switching Cycle Counters	When this command is executed, the current values of the switching cycle counters are stored into EEPROM. This command is intended to be used before powering off the device.
0X03	Store Diagnostic Log	When this command is executed, the diagnostic log is stored to the EEPROM.
0X04	Delete Diagnostic Log	Removes all diagnostic log entries in EEPROM (required by webpage).

**Solenoids – Output Mapping**

Byte #	Solenoid Module								Description
	Output Bits	7	6	5	4	3	2	1	
1	EV07	EV06	EV05	EV04	EV03	EV02	EV01	EV00	Valve Output Data EVxx -> Output on Valve range is 0 to 31
2	EV15	EV14	EV13	EV12	EV11	EV10	EV9	EV08	
3	EV23	EV22	EV21	EV20	EV19	EV18	EV17	EV16	
4	EV31	EV30	EV29	EV28	EV27	EV26	EV25	EV24	

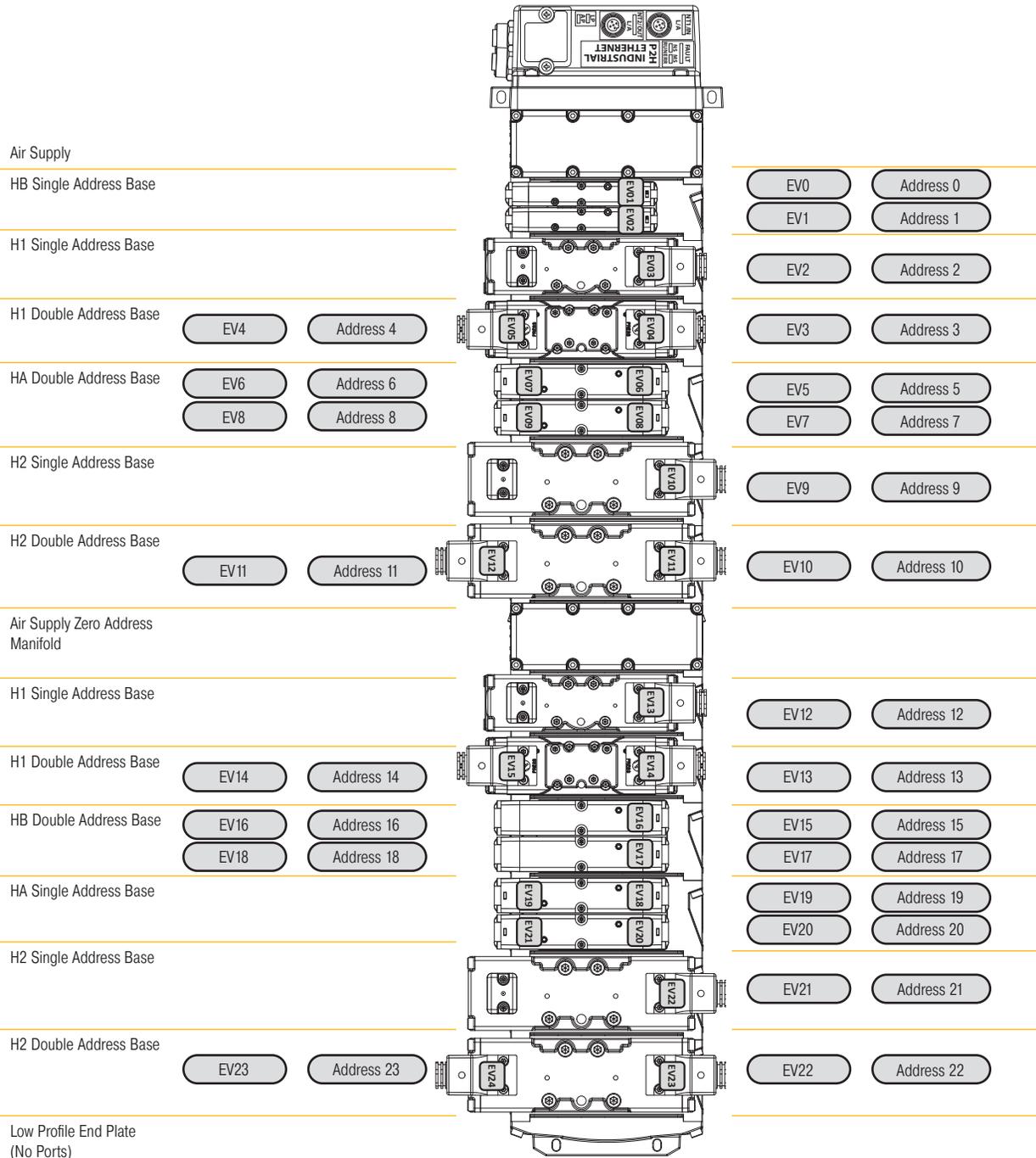
**D**  
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 H Series ISO  
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 DX ISOMAX Series  
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**P2H Ethernet Node 32 DO - Solenoid Addressing**

- The P2H Ethernet Network Node can support up to 32 addresses as shown
- Addresses 25-31 can be accessed using an Intermediate Air Supply with Electric Expansion
- Each address is one solenoid



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**P2H Ethernet Node 32 DO - Technical Data**

**Mechanical Data**

Housing Material	Housing /Enclosure: PBT with 33% GF and UL94-V0 Base Cover (plate): Aluminium 380
Enclosure rating	IP 65 (only when plugged-in and threaded-in)
Power Connectors	7/8" 4 pin or 7/8" 5 pin or L-Coded M12 5-pin male and female pin connector
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
-------------------	------------------------

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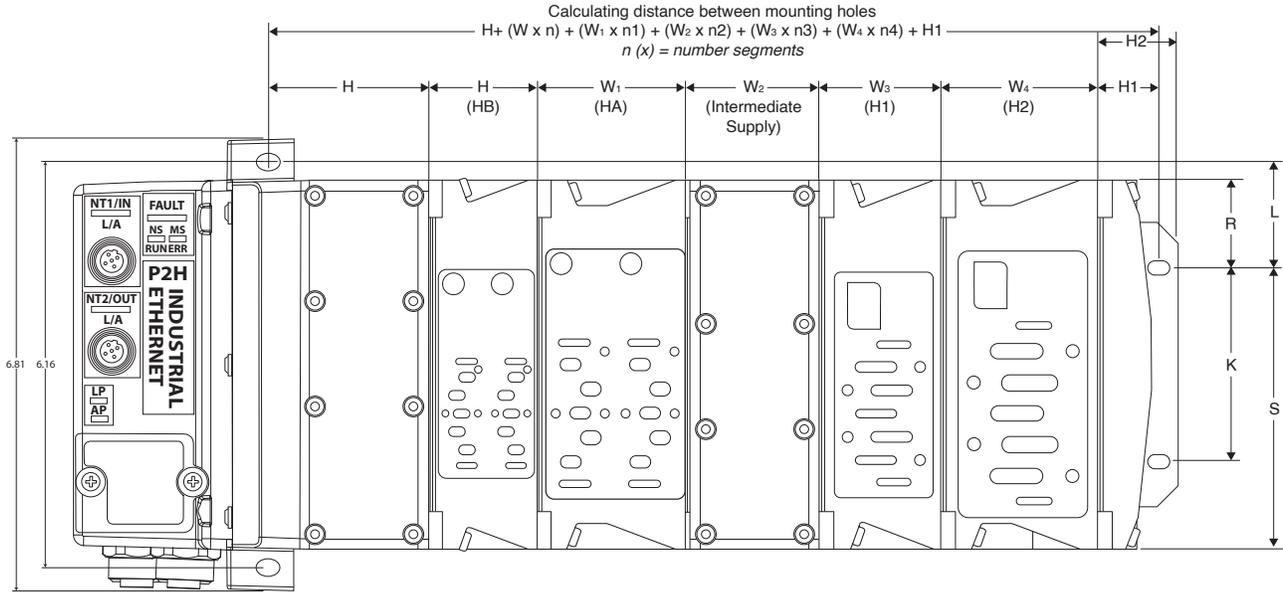


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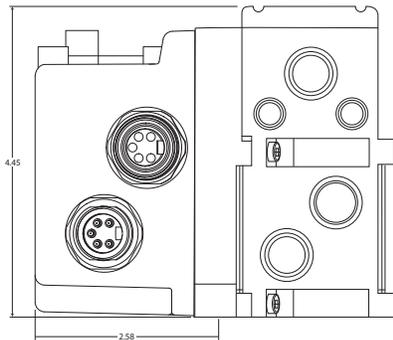
**P2H Ethernet Node 32 DO - H Series ISO Valves**



*n (x) = number of segments*

A	B	C	D	E	F	G	H	H1	H2	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	W1	W2	W3	W4	
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**

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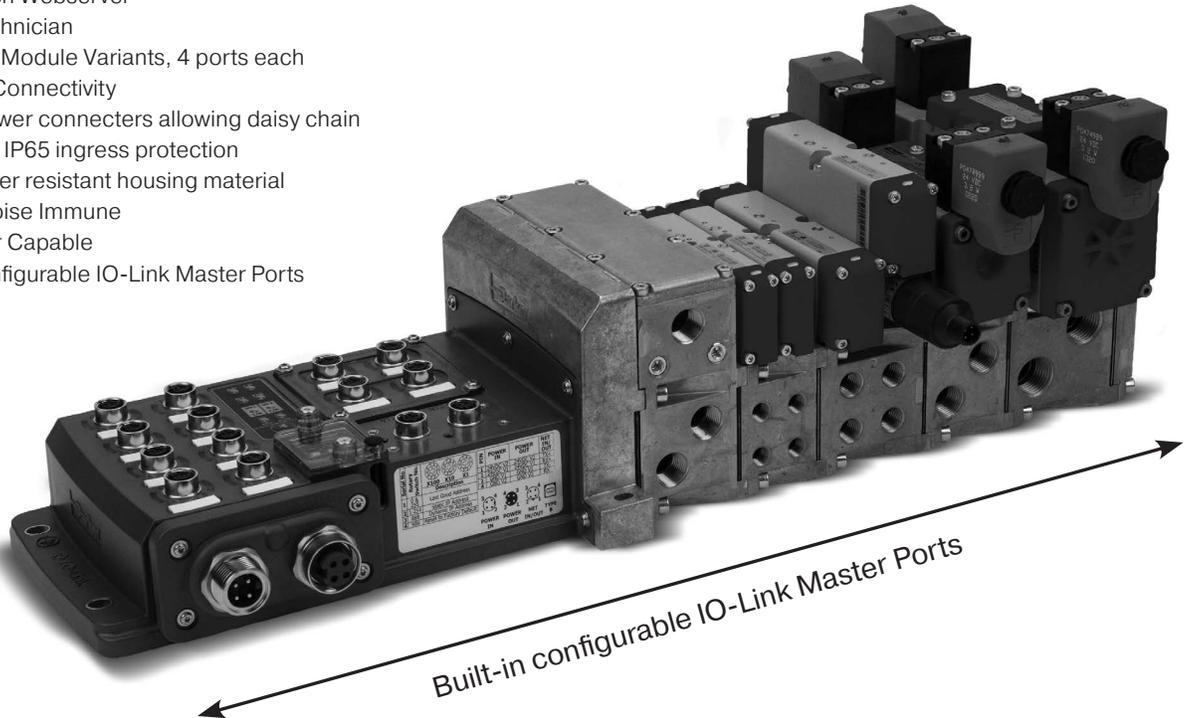
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**Features**

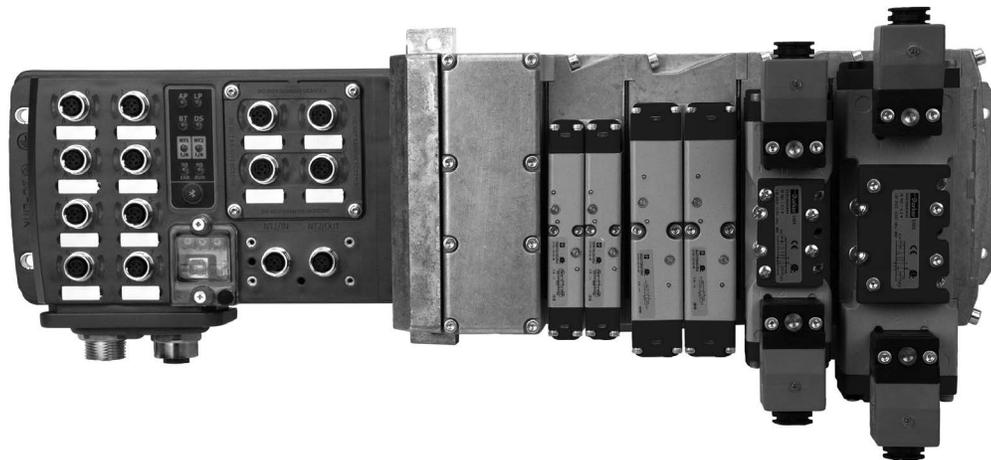
**PCH Network Portal**

**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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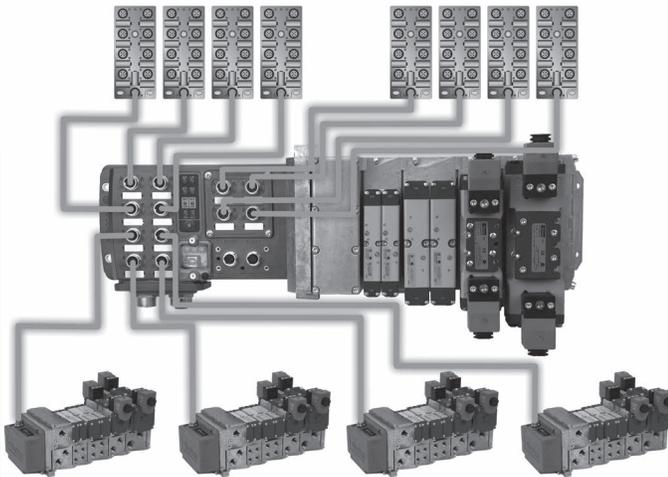
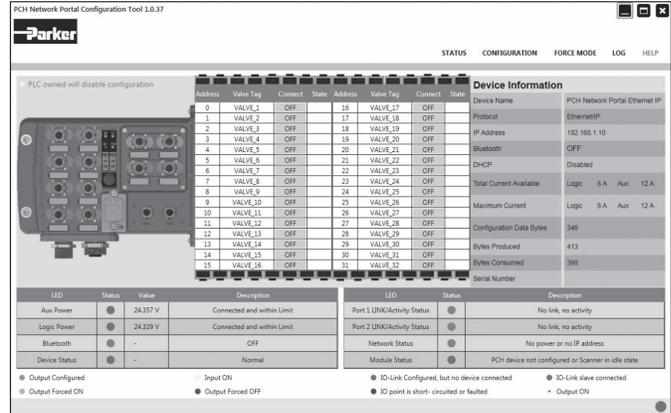
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**Intuitive Interfaces**

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.



**IO-Link**

**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.

**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

**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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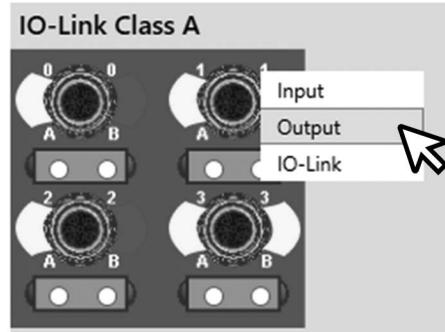
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**Truly Configurable I/O**

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.

**Port Config**

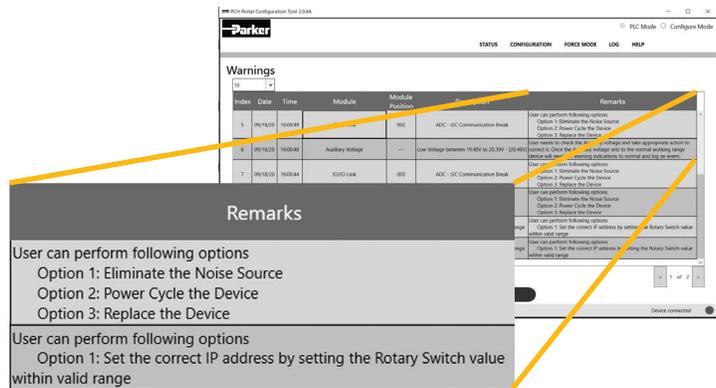


**Tools Designed for Productivity**

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.



**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

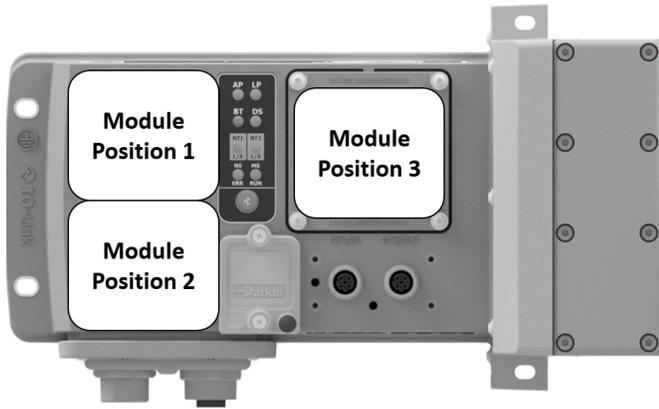
DX ISOMAX Series

Valvair II Series



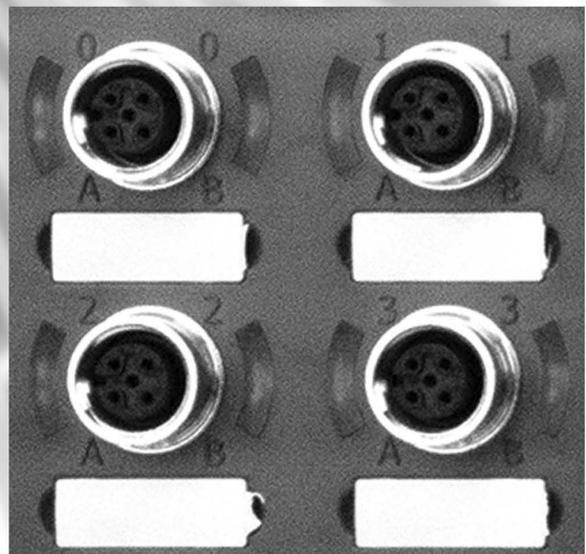
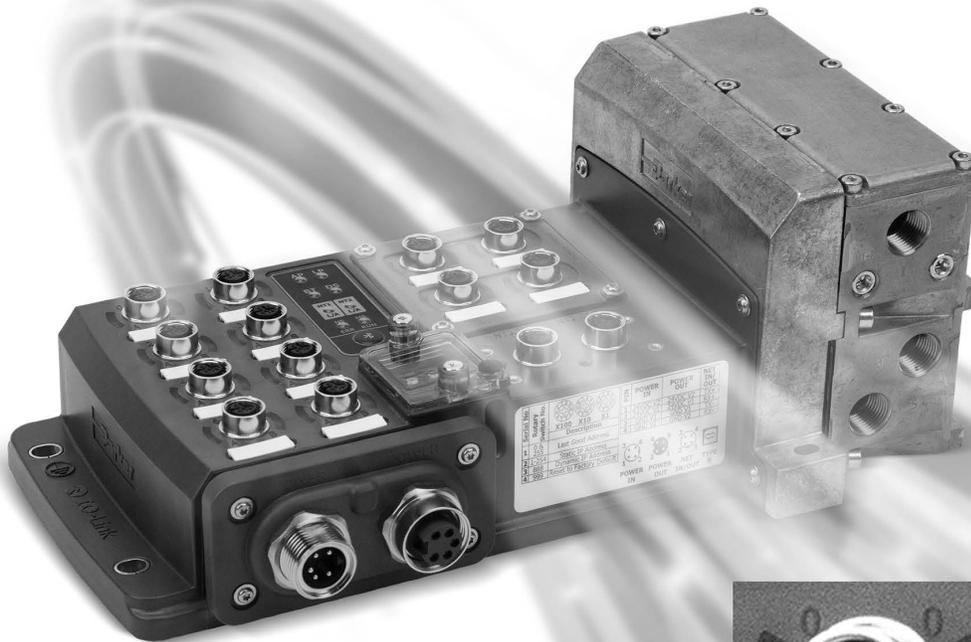
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**Value Redefined**



**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 Variants 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

<b>D</b>	Subbase & Manual Valves
H Series Micro	Modulflex Series
H Series ISO	Network Connectivity
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**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**

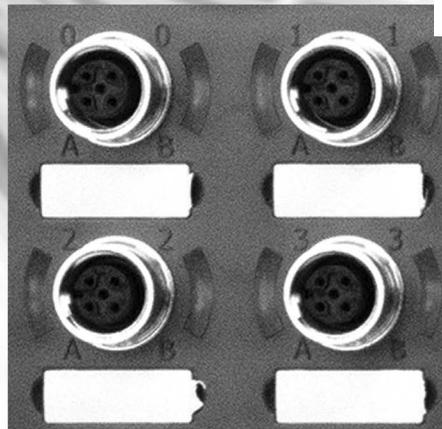
- Each port is capable of the following behavior listed below
- Through software, the user can click and change how the port behaves on the fly
- The A Module Variant gives the user access to IO-Link Class A Master ports



**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\*

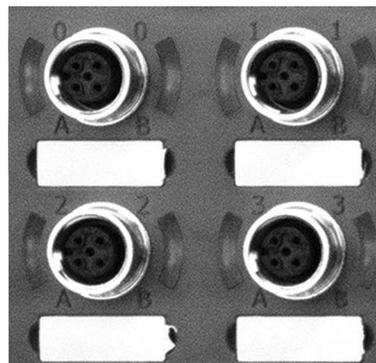
\*Digital Output draws current from logic power

**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  
**2 x Digital Inputs**  
 2 x Digital Outputs

IO-Link, Class A Master or  
 2 x Digital Inputs or  
**2 x Digital Outputs**



**IO-Link, Class A Master**  
 2 x Digital Inputs or  
 2 x Digital Outputs

IO-Link, Class A Master or  
 2 x Digital Inputs or  
**2 x Digital Outputs**

Features

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

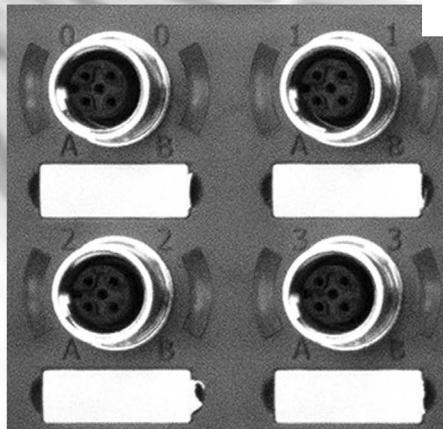
Port Behavior

- 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\*



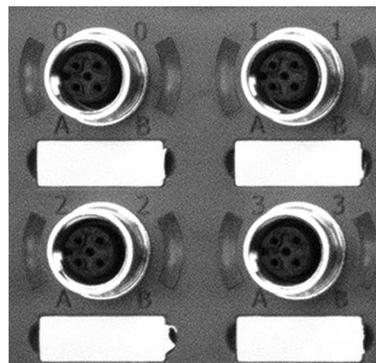
- IO-Link, Class B Master or  
1 x Digital Input or  
1 x Digital Output\*
- IO-Link, Class B Master or  
1 x Digital Input or  
1 x Digital Output\*

\*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**
- IO-Link, Class B Master or  
1 x Digital Input or  
**1 x Digital Output**



- IO-Link, Class B Master**
- 1 x Digital Input or  
1 x Digital Output
- IO-Link, Class B Master or  
1 x Digital Input or  
**1 x Digital Output**

**D**

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H Series Micro

Modulflex Series

H Series ISO

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DX ISOMAX Series

Valvair II Series



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**PCH Network Portal**

**Module Variants**

**Module**

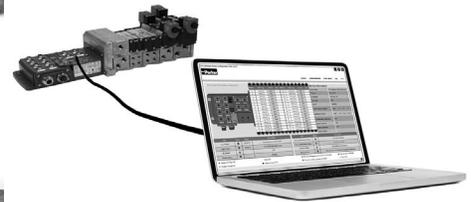
**C**

**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**

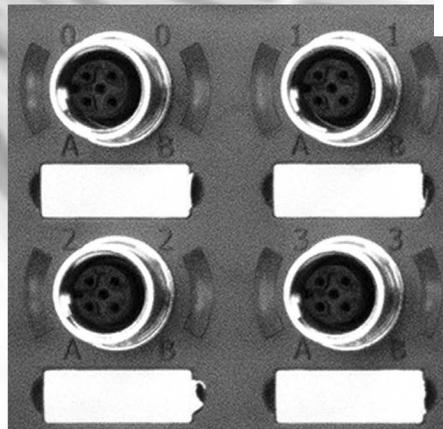
- Each port is capable of the following behavior listed below
- Through software, the user can click and change how the port behaves on the fly
- The C Module Variant gives the user access to IO-Link Class B Master ports and fixed high current outputs



**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\*

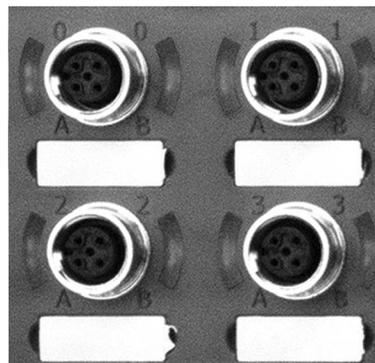
¥ Digital Outputs draw current from auxiliary power  
 \* Digital Output draws current from logic power

**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**

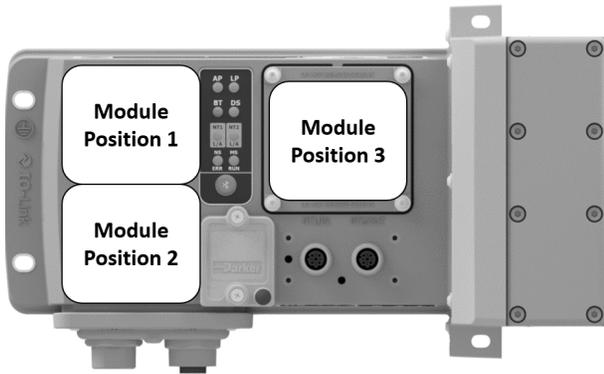
IO-Link, Class B Master or  
 1 x Digital Input or  
**1 x Digital Output**



**2 x Digital Outputs, 500 mA each, Fixed**

**IO-Link, Class B Master**  
 1 x Digital Input or  
 1 x Digital Output

**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

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

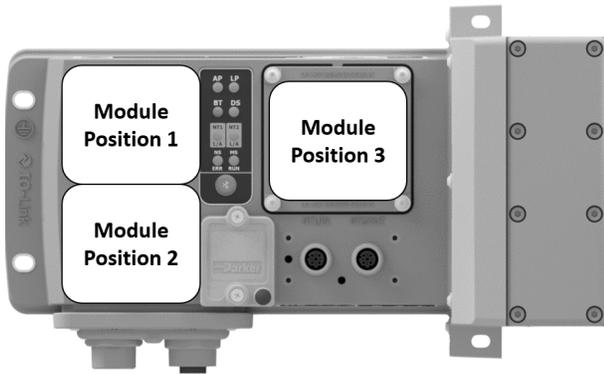
DX ISOMAX Series

Valvair II Series

**Module Variants**

<b>Module A</b>		IO-Link, Class A Master <b>OR</b> 2 Inputs, PNP/NPN <b>OR</b> 2 Outputs, 250 mA ea		IO-Link, Class A Master <b>OR</b> 2 Inputs, PNP/NPN <b>OR</b> 2 Outputs, 250 mA ea
		IO-Link, Class A Master <b>OR</b> 2 Inputs, PNP/NPN <b>OR</b> 2 Outputs, 250 mA ea		IO-Link, Class A Master <b>OR</b> 2 Inputs, PNP/NPN <b>OR</b> 2 Outputs, 250 mA ea
<b>Module B</b>		IO-Link, Class B Master <b>OR</b> 1 Input, PNP/NPN <b>OR</b> 1 Output, 250 mA ea		IO-Link, Class B Master <b>OR</b> 1 Input, PNP/NPN <b>OR</b> 1 Output, 250 mA ea
		IO-Link, Class B Master <b>OR</b> 1 Input, PNP/NPN <b>OR</b> 1 Output, 250 mA ea		IO-Link, Class B Master <b>OR</b> 1 Input, PNP/NPN <b>OR</b> 1 Output, 250 mA ea
<b>Module C</b>		2 Outputs, 500 mA ea		2 Outputs, 500 mA ea
		IO-Link, Class B Master <b>OR</b> 1 Input, PNP/NPN <b>OR</b> 1 Output, 250 mA ea		IO-Link, Class B Master <b>OR</b> 1 Input, PNP/NPN <b>OR</b> 1 Output, 250 mA ea
<b>Module N</b>	Blank Cover, No Ports, Only available in Position 3			

**I/O Module Combinations**



- Below are 16 standard module combinations
- For simplicity, similar combinations of modules are consolidated into one combination

For Example:



**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.

**D**

- Subbase & Manual Valves
- H Series Micro
- Moduflex Series
- H Series ISO
- Network Connectivity
- DX ISOMAX Series
- Valvair II Series



**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**

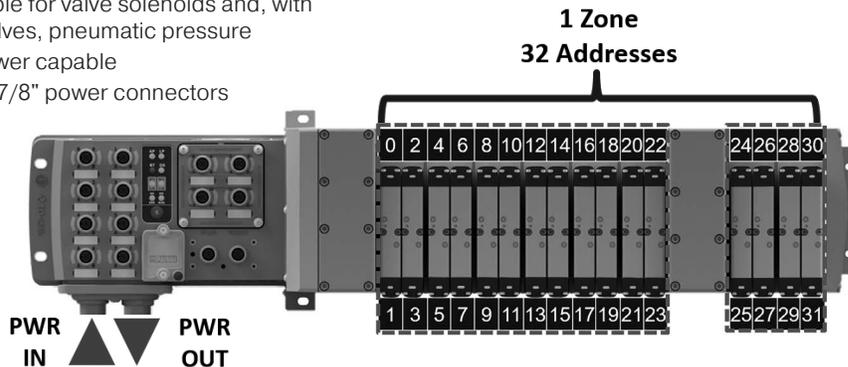
Any power left over can be passed on to other devices on the network



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/in with 2 safe power zones	S4
5-pin power in/in with 2 safe power zones	S5

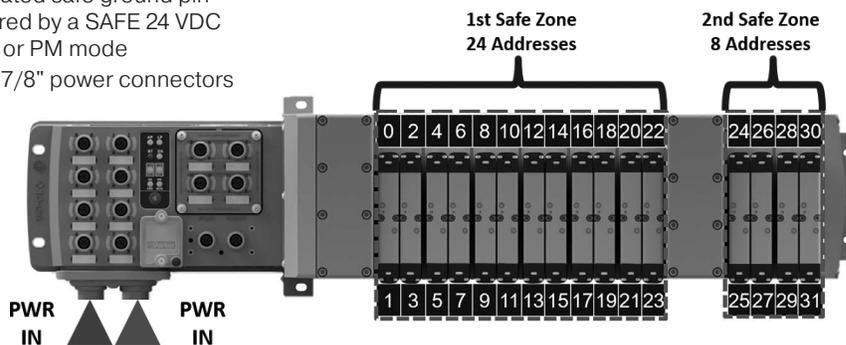
**Power Scheme 1**

- 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



**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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**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	<b>PSHU20P300PEAAA0-P4</b>
Internal	NPT	A	A	B	4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PEAAB0-P4</b>
Internal	NPT	A	B	C	4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PEABC0-P4</b>
Internal	NPT	A	A	N	4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PEAAN0-P4</b>
Internal	NPT	A	A	A	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PEAAA0-P5</b>
Internal	NPT	A	A	B	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PEAAB0-P5</b>
Internal	NPT	A	A	C	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PEAAC0-P5</b>
Internal	NPT	A	A	N	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PEAAN0-P5</b>
Internal	NPT	A	A	A	4-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PEAAA0-S4</b>
Internal	NPT	A	A	N	5-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PEAAN0-S5</b>



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	<b>PSHU20P300PNAAA0-P5</b>
Internal	NPT	A	A	B	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PNAAB0-P5</b>
Internal	NPT	A	B	C	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PNABC0-P5</b>
Internal	NPT	A	A	N	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PNAAN0-P5</b>
Internal	NPT	A	A	A	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PNAAA0-P5</b>
Internal	NPT	A	A	B	5-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PNAAB0-S5</b>
Internal	NPT	A	A	C	5-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PNAAC0-S5</b>
Internal	NPT	A	A	N	5-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PNAAN0-S5</b>
Internal	NPT	A	A	A	5-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PNAAA0-S5</b>
Internal	NPT	A	A	N	5-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PNAAN0-S5</b>

**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	<b>PSHU20P300PTAAA0-P4</b>
Internal	NPT	A	A	B	4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PTAAB0-P4</b>
Internal	NPT	A	B	C	4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PTABC0-P4</b>
Internal	NPT	A	A	N	4-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PTAAN0-P4</b>
Internal	NPT	A	A	A	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PTAAA0-P5</b>
Internal	NPT	A	A	B	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PTAAB0-P5</b>
Internal	NPT	A	A	C	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PTAAC0-P5</b>
Internal	NPT	A	A	N	5-pin power IN/OUT with 1 safe power capable zone	<b>PSHU20P300PTAAN0-P5</b>
Internal	NPT	A	A	A	4-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PTAAA0-S4</b>
Internal	NPT	A	A	N	5-pin power IN/IN with 2 safe power zones	<b>PSHU20P300PTAAN0-S5</b>



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

D199

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex 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)	PSHU20
Plug-in (External pilot)	PSHU2X

Thread Type	
NPT	0
BSPP "G"	1

Network Connections	
EtherNet/IP™	E
EtherCAT	T
PROFINET	N
Modbus TCP	M

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

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

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.

**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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D200

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**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



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

**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
A		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
*Applies to ports 1-4 of this module			
B		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 1-4 of this module			
C		1	Not Connected
		2	Output +24VAUX (V2), 500mA
		3	GND (V2)
		4	Output +24VAUX (V2), 500mA
		5	Not Connected
*Applies to ports 1-2 of this module			
D		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 3-4 of this module			

**Power Conector Pin Outs**

- The PCH Network Portal uses 7/8" ports for its left IN and right OUT or IN 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
P4		1	+24 V	V2 (VAUX), 12A		1	+24 V	V2 (VAUX), 3.8A
		2	+24 V	V1 (VLOG), 8A		2	+24 V	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)
P5		1	0 V	GND V2 (VAUX)		1	0 V	GND V2 (AUX)
		2	0 V	GND V1 (VLOG)		2	0 V	GND V1 (VLOG)
		3	Protective Earth	Protective Earth		3	Protective Earth	Protective Earth
		4	+24 V	V1 (VLOG), 8A		4	+24 V	V1 (VLOG)
		5	+24 V	V2 (VAUX), 12A		5	+24 V	V2 (VAUX)
S4		1	+24 V	V2 (VAUX), 12A		1	+24 V	V2 (VAUX), 3.8A
		2	+24 V	V1 (VLOG), 8A		2	+24 V	V1 (VAUX), 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*
S5		1	0 V	GND V2 (VAUX)		1	+24 V	V2 (VAUX), 3.8A
		2	0 V	GND V1 (VLOG)		2	+24 V	V1 (VAUX), 1.28A
		3	Protective Earth	Protective Earth		3	Protective Earth	Protective Earth
		4	+24 V	V1 (VLOG), 8A		4	0 V	Safe GND 1-3*
		5	+24 V	V2 (VAUX), 12A		5	0 V	Safe GND 4*

\*Safe GND 1-3\* refers to solenoid addresses 0-23 and "Safe GND 4\*" refers to solenoid addresses 24-31



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D202

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Subbase & Manual  
 Valves

H Series  
 Micro

Modulflex  
 Series

H Series  
 ISO

Network  
 Connectivity

DX ISOMAX  
 Series

Valvaire 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

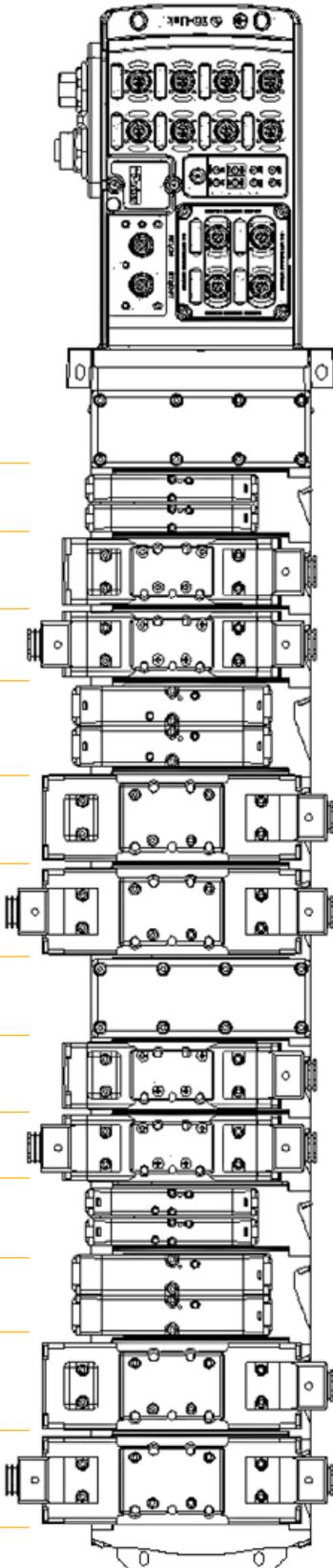
EV11 Address 11

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

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

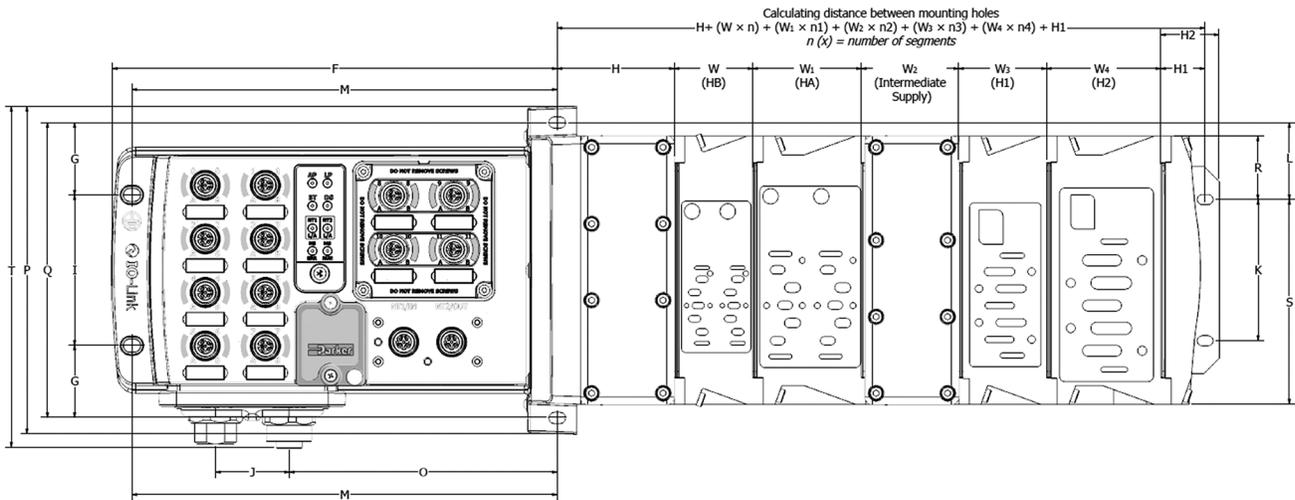


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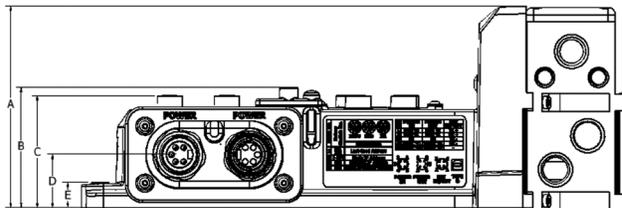
**PCH Network Portal with H Series ISO Valves**



n (x) = number of segments

A	B	C	D	E	F	G	H	H1	H2	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	W1	W2	W3	W4	
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  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series



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D204

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**Product Support**

- The PCH Network Portal Product Landing page can be accessed at the following:
- The PCH Network Portal support material can be accessed at the following:



[www.parker.com/pdn/PCHPortal](http://www.parker.com/pdn/PCHPortal)



[www.parker.com/pdn/networkconnectivity](http://www.parker.com/pdn/networkconnectivity)

- The PCH Connect - Bluetooth App



**User Manuals**

- The PCH Network Portal User Manuals can be accessed at the following website. Click on QR code for hyperlink.

**EtherNet/IP™** EtherNet/IP™ User Manual



Profinet User Manual



**EtherCAT®** EtherCAT User Manual



Modbus User Manual



For more information on IO-link

 [www.io-link.com](http://www.io-link.com)

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Network Connectivity	
DX ISOMAX Series	
Valvair II Series	



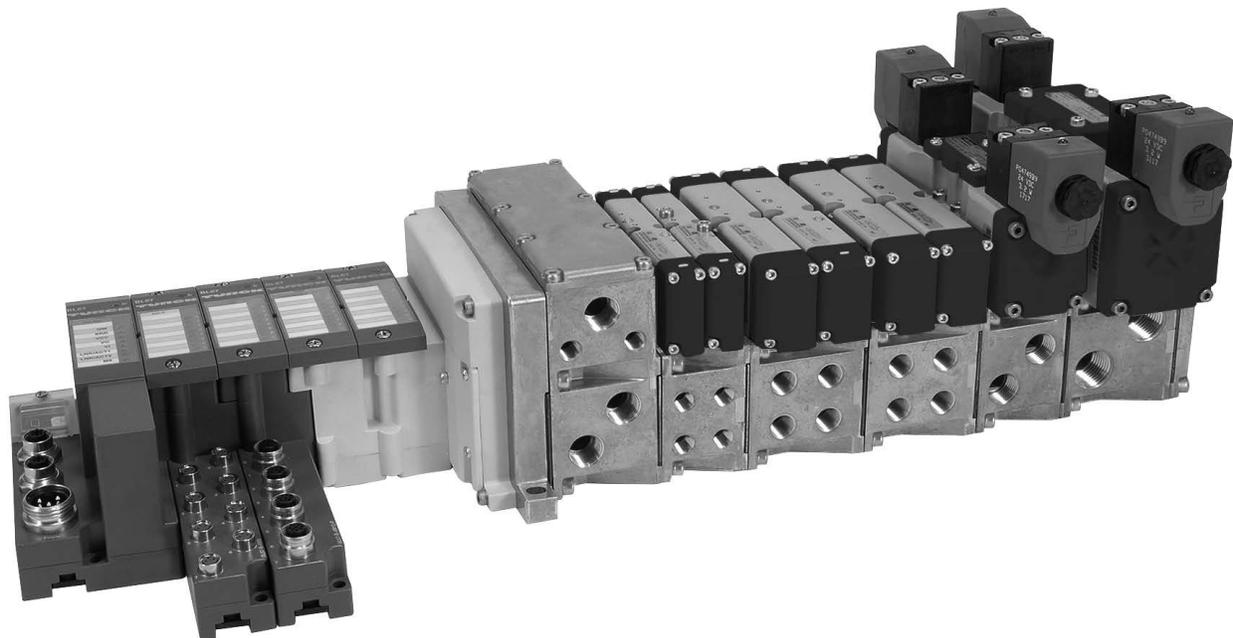
**The Turck Network Portal**

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

**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 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)

D206

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**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™

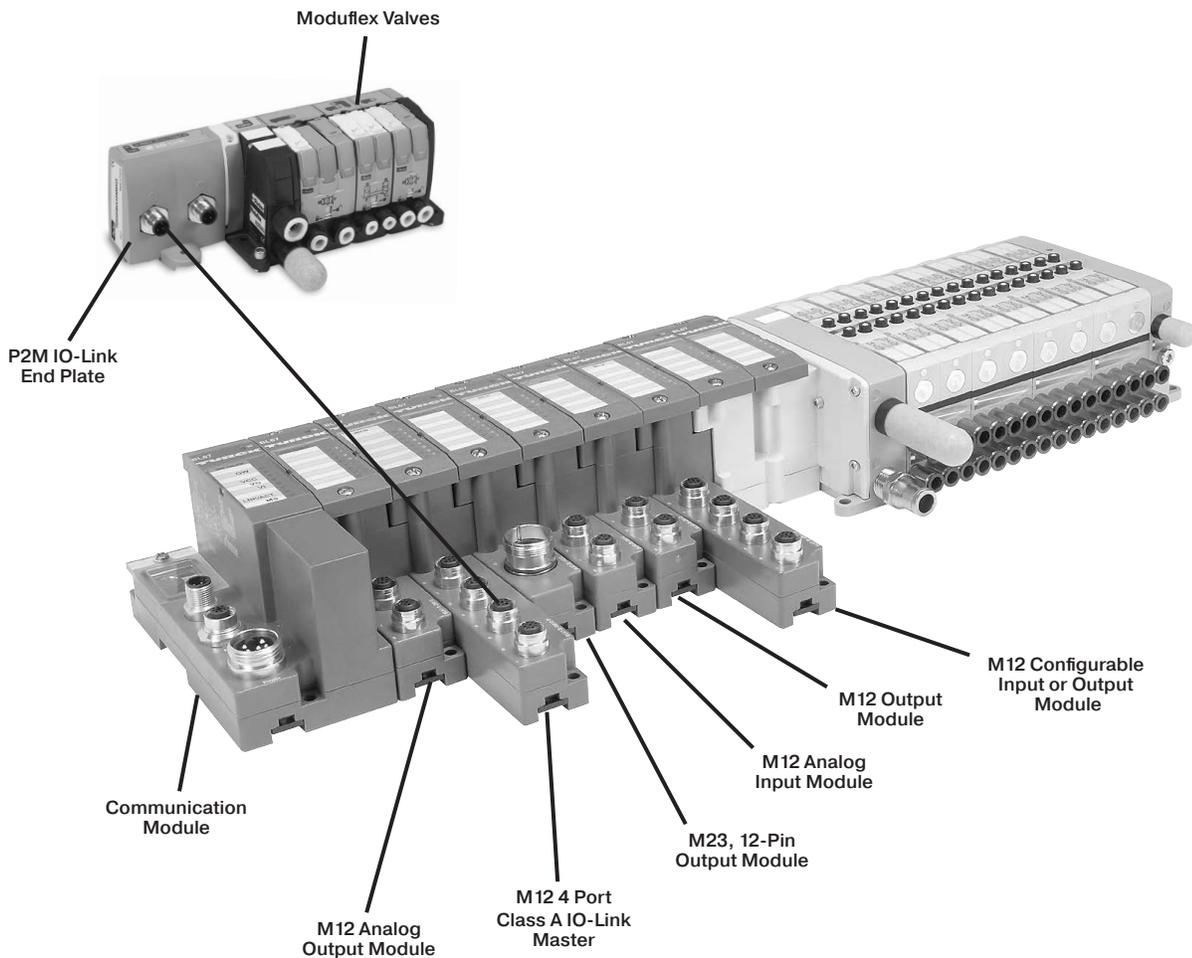
DeviceNet™

PROFI®  
 PROCESS FIELD BUS

PROFI®  
 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)

D207

**Parker Hannifin Corporation**  
 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

EtherNet/IP™

DeviceNet

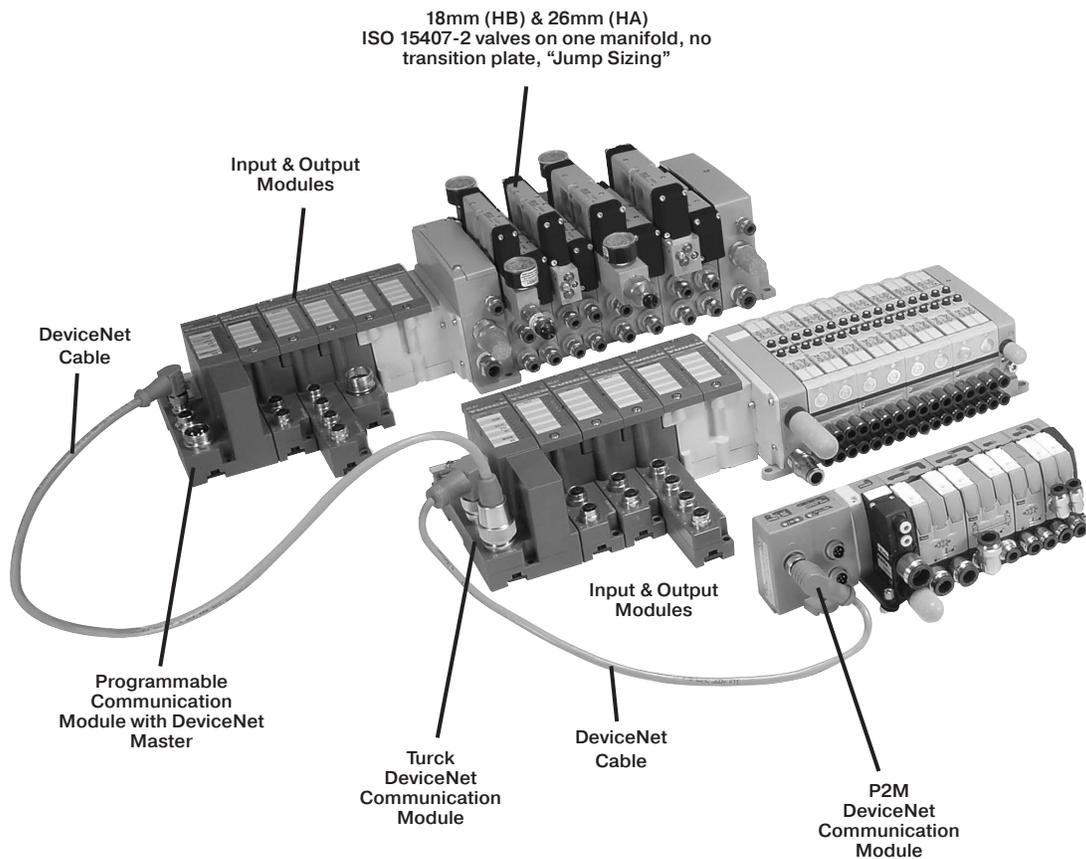
PROFIBUS  
PROCESS FIELD BUS

PROFIBUS  
INDUSTRIAL ETHERNET

Modbus/TCP™

CANopen

D
Subbase & Manual Valves
H Series Micro
Modulflex Series
H Series ISO
Network Connectivity
DX ISOMAX Series
Valvair II Series

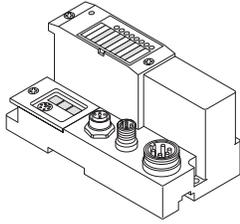


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D208

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

**Communications Module**

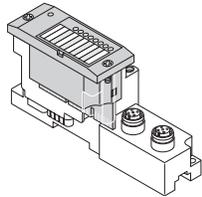


BL67 communication modules are the heart of a BL67 station. They are designed to connect the modular nodes to the higher level network (PROFIBUS-DP, DeviceNet, CANopen, Ethernet).

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.

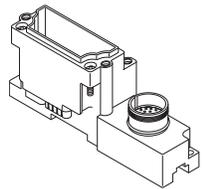
**Electronic Module**



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.

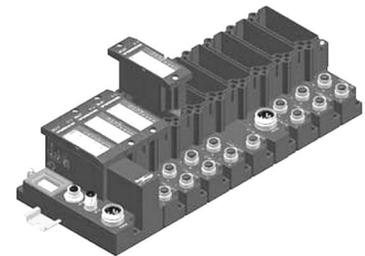
The base modules serve for connection of the field devices and are available with different connection types (M8, M12, M23 and 7/8).

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



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

D209

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

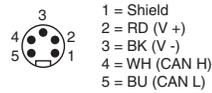
Valvair II Series

**BL67-GW-DN**

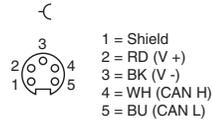
**DeviceNet Communication  
Module with Power Over  
the Network**



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.

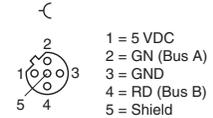
With the Power over the Network feature, it is only necessary to connect one cable to the communication module. For networks requiring additional power, a Bus Power Tee can be installed to combine separate network and power feeds into the communication module. See the Cables and Cordsets section for additional information.

**BL67-GW-DPV1**

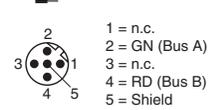
**Profibus Communication  
Module**



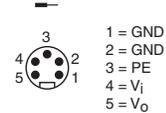
M12 B-code bus out Wiring,  
view into female connector



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-CO**

**CANopen Communication  
Module**



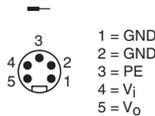
M12 A-code bus out Wiring,  
view into female connector



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-EN**

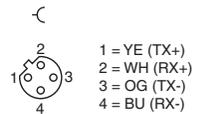
**Modbus/TCP, EtherNet/IP™, and ProfiNet**

**BL67-GW-EN-PN**

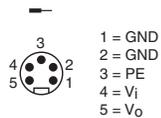
**PROFINET Communication Module**



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
H Series Micro	Valves
Modulflex Series	Valves
H Series ISO	Valves
Network Connectivity	Valves
DX ISOMAX Series	Valves
Valvair II Series	Valves



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

**BL67-GW-EN-DN**

**Modbus/TCP Communication Module with DeviceNet Subnet**

**BL67-GW-EN-IP-DN**

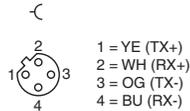
**EtherNet/IP™ Communication Module with DeviceNet Subnet**



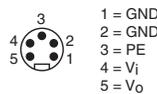
**DeviceNet OUT**



**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**

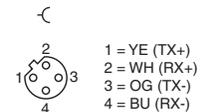
**EtherNet/IP™ Programmable Communication Module with DeviceNet Subnet**



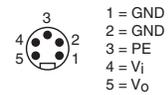
**DeviceNet OUT**



**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**

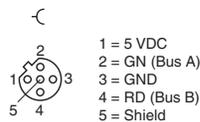
**BL67-PG-EN-IP**

**EtherNet/IP™ Programmable Communication Module**

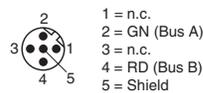


**Profibus Wiring**

**M12 B-code bus out Wiring, view into female connector**

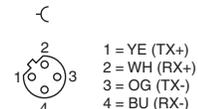


**M12 B-code bus in Wiring, view into female connector**

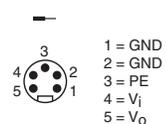


**Ethernet Wiring**

**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

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX 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

**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>

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>

**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.



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

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

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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
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 8 x M8, 3 pole, female	<b>BL67-B-8M8</b>
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 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>
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 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12-P</b>
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**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
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 4 x M12, 5 pole, female, A-code	<b>BL67-B-4M12</b>
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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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### 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.

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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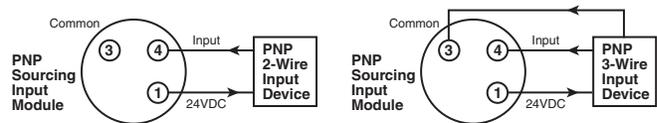
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**Digital PNP Input Modules**

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.

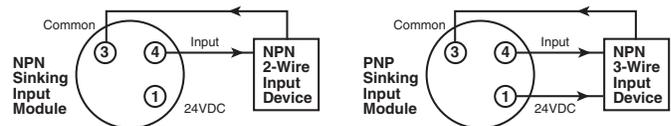


**Digital NPN Input Modules**

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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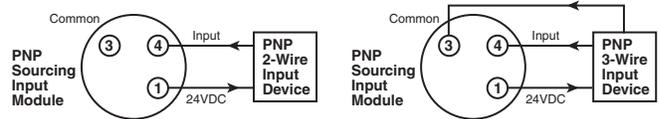
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**Digital PNP Output Modules**

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.

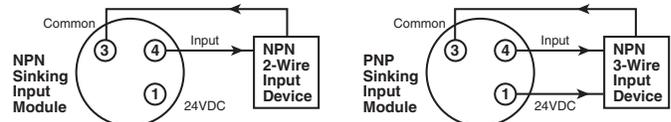


**Digital NPN Output Modules**

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

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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 impedance	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



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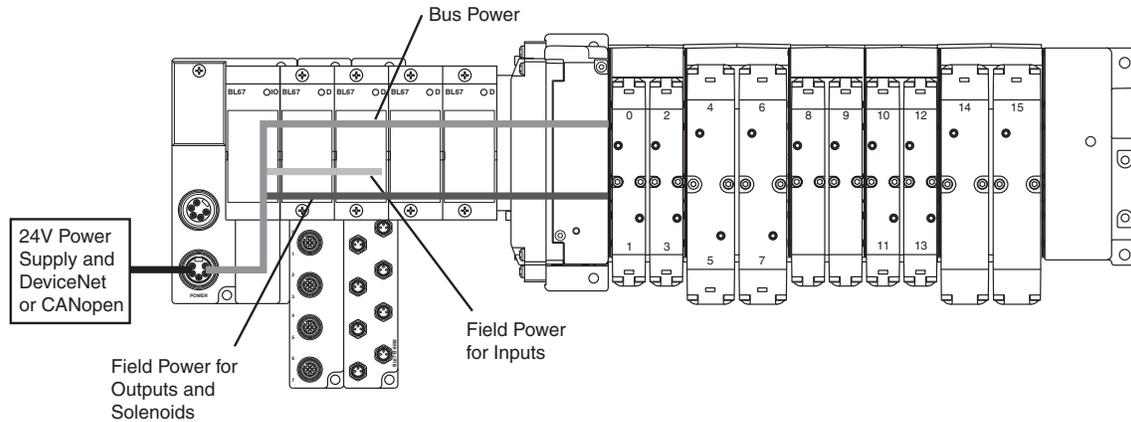
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**Power Distribution Options for Turk Network Portal**

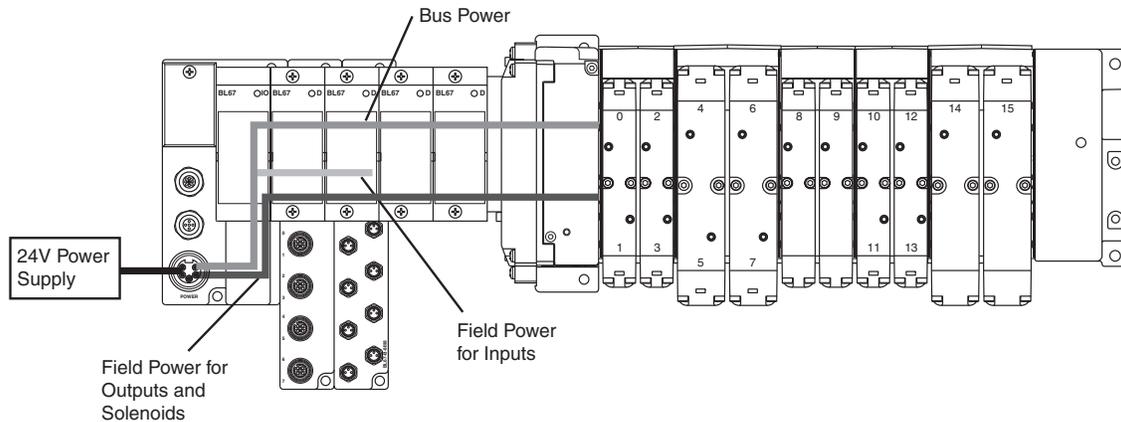
**Turk Communication and I/O Modules - DeviceNet and CANopen, Power Over Network**

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.



**Turk 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.



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H Series ISO	Network Connectivity
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Series	Valvair II Series

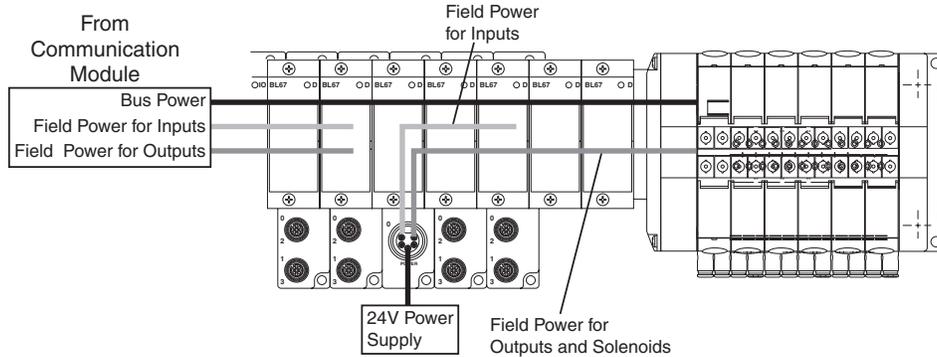


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**Power Distribution Options for Turk Network Portal (continued)**

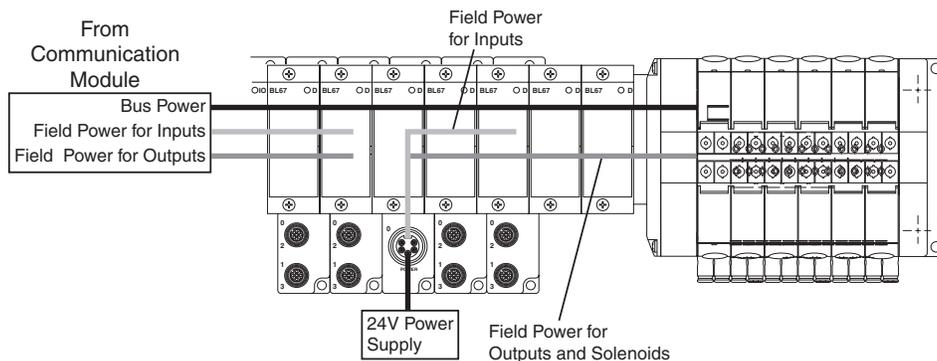
**24VDC Power Extender Module (BL67-PF-24VDC) with Base Module BL67-B-1RSM**

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.



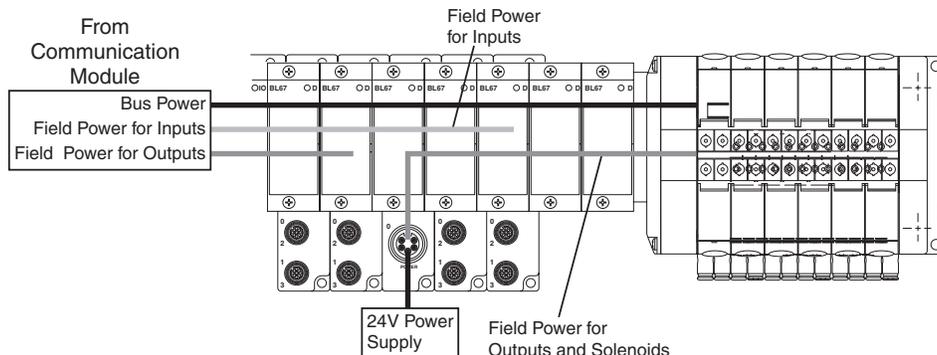
**24VDC Power Extender Module (BL67-PF-24VDC) with Base Module BL67-B-1RSM-4**

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

Moduflex Series

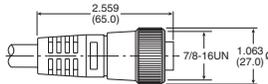
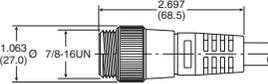
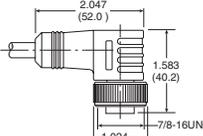
H Series ISO

**Network Connectivity**

DX ISOMAX Series

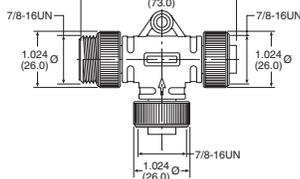
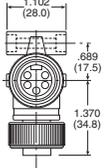
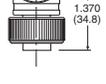
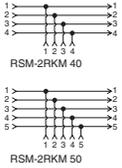
Valvair II Series

**7/8" Mini Power Cables** - P2H Network Node, H Series Network Portal, Turck Network Portal

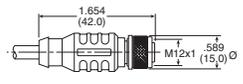
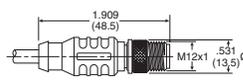
	Description	Part Number
 <b>RKM Female Socket</b>	4-pin female to flying lead cable, 5 meters, TPE	<b>RKM 46-5M/S1587</b>
	5-pin female to flying lead cable, 5 meters, TPE	<b>RKM 56-5M/S1587</b>
 <b>RSM Male Pins</b>	4-pin male to female cable, TPE	<b>RSM RKM 46-x/S1587</b>
	5-pin male to female cable, TPE	<b>RSM RKM 56-x/S1587</b>
 <b>WKM Female Socket</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, 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

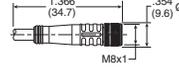
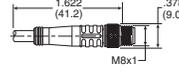
	Description	Part Number
    <b>RSM-2RKM 40</b> <b>RSM-2RKM 50</b>	4-pin Male to 2 female sockets	<b>RSM-2RKM 40</b>
	5-pin Male to 2 female sockets	<b>RSM-2RKM 50</b>

**M12 A-code Cables** - P2M IO-Link, P2H IO-Link, H Series IO-Link Network Portal, Turck IO-Link Network Portal

	Description	Part Number
 <b>RKC Female Sockets</b>	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>
 <b>RSC Male Pins</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
  <b>M8x1</b>	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.



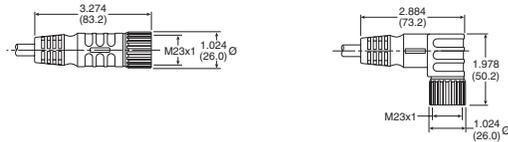
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D Subbase & Manual Valves H Series Micro Series Modulflex H Series ISO Network Connectivity DX ISOMAX Series Valvaire II

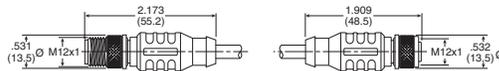
**M23 Cables**



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

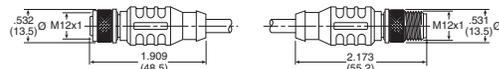
**PROFIBUS Terminating Resistor - P2M Network Node, Turck Network Portal**



Male Pins

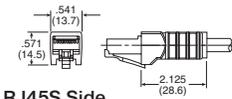
Description	Part Number
M12 male pin terminating resistor	<b>P8BPA00MB</b>

**Ethernet Cables - P2M Network Node, H Series Network Portal, Turck Network Portal**



RKSD Side, Female Sockets

RSSD Side, Male Pins



RJ45S Side

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

**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.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

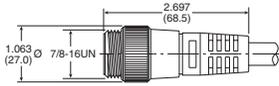
H Series ISO

Network Connectivity

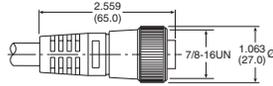
DX ISOMAX Series

Valvair II Series

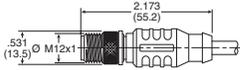
**DeviceNet and CANopen Cables** - P2M Network Node, H Series Network Portal, Turck Network Portal



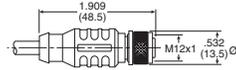
RSM Side, 7/8 Mini with Male Pins



RKM Side, 7/8 Mini with Male Pins



RSC Side, Male Pins

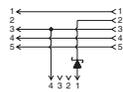
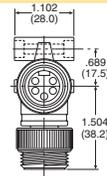
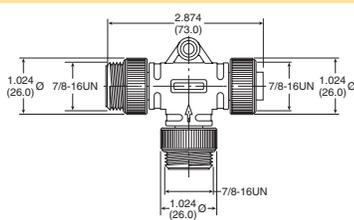


RKC Side, Female Sockets

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>



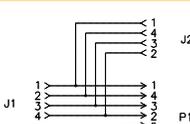
P8BPA00MB

Male Pins

**M12 Power Splitter** - PCH Network Portal, Turck Network Portal, P2M IO-Link, P2H IO-Link

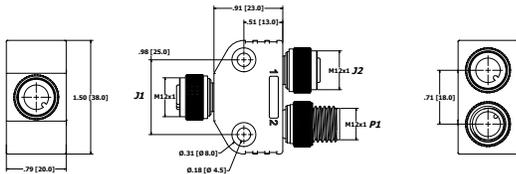


Female Pins (J1 and J2)



Male Pins (P1)

Description	Part Number
M12 Parallel Splitter	<b>100010909</b>



Most popular.

D  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

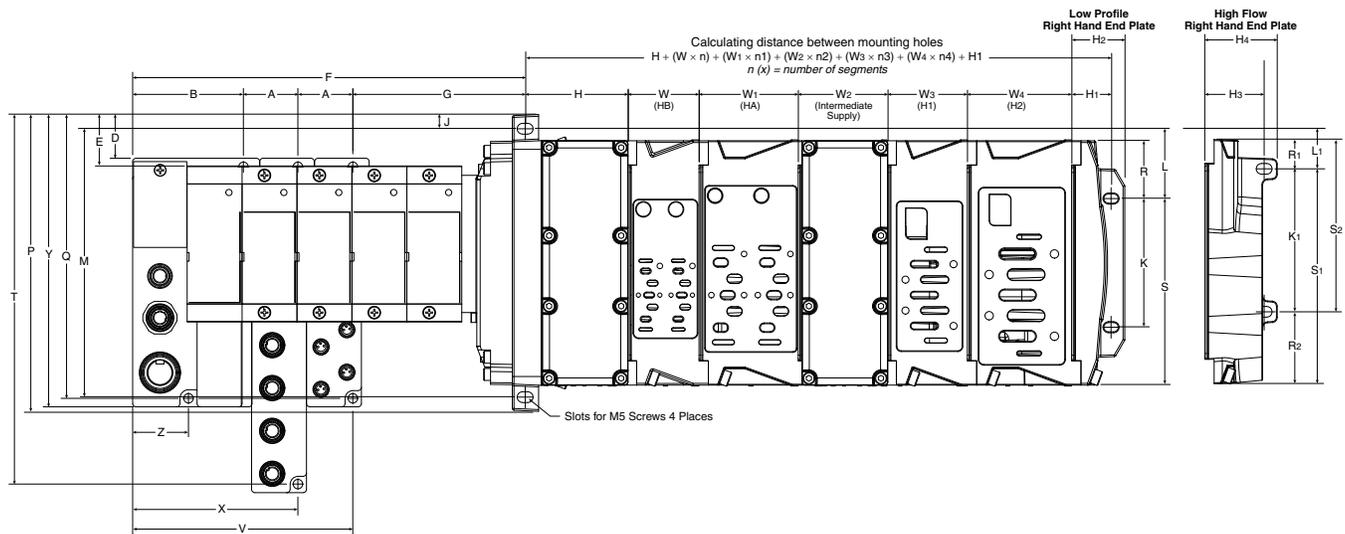


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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**Turck with H Series ISO Valves**

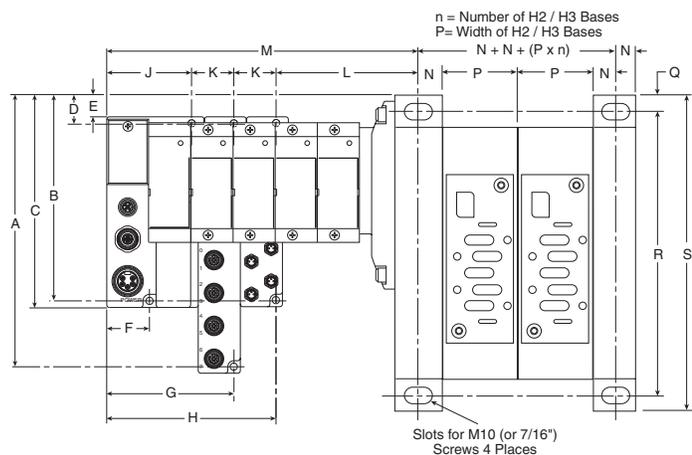


$n(x) = \text{number of segments}$

<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:  $M = J + L + n_2 \times K$ , where  $n_2 = \text{Number of Turck input / output modules}$

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

Modulflex Series

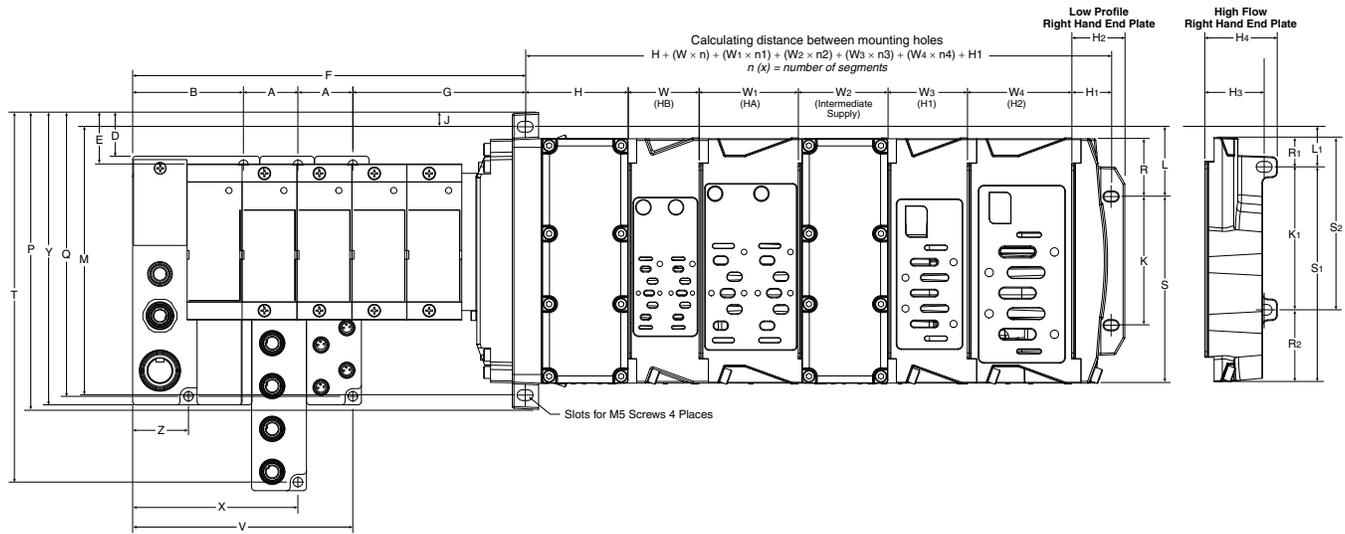
H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**Turck with H Series ISO Valves**

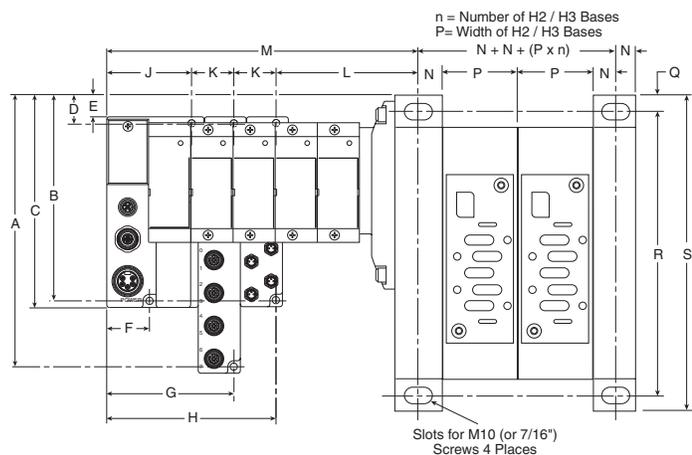


$n(x)$  = number of segments

<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:  $M = J + L + n_2 \times K$ , where  $n_2$  = Number of Turck input / output modules  
 Inches (mm)



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**D**

**Subbase & Manual  
 Valves**

**H Series  
 Micro**

**Modulflex  
 Series**

**H Series  
 ISO**

**Network  
 Connectivity**

**DX ISOMAX  
 Series**

**Valvair II  
 Series**

**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

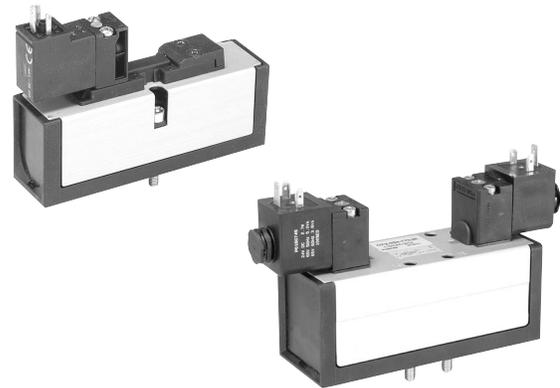
Valves fitted with switchable selector to give internal or external pilot supply

Corrosion free and modern design

Vacuum operation

Dual pressure

\* Refer to our warranty conditions.



**Operating information**

Operating Pressure: Vacuum to 145 PSIG (10 bar)

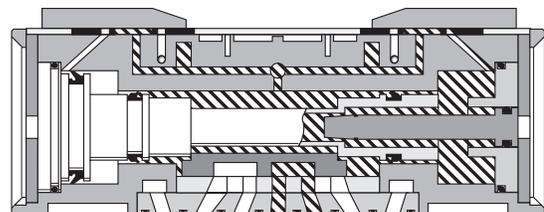
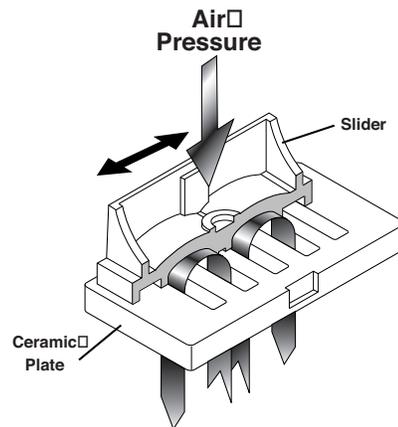
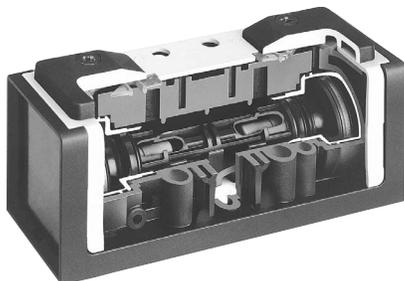
Function		M.O.P (PSIG)
20, 21, 22, 23	2-position, spring return	36
50, 51, 53, 54	2-position, air return	30
04, 05, 06, 08	2-position	15
09, 11, 12, 27	3-position, CE	45
16, 18, 19, 25	3-position, APB	45

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

D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



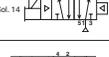
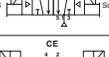
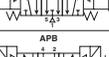
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D232

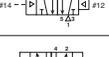
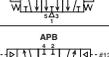
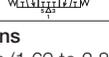
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**Common Part Numbers**

**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>

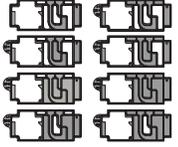
**Torque Specifications**

DX02: 15 to 25 in-lbs (1.69 to 2.82 Nm) DX01: 20 to 30 in-lbs (2.26 to 3.39 Nm)

**Base / End Plate - 15407-1, Non Plug-in, Size DX02**

	Description	NPT	BSPP
	Universal manifold base 2 station, end ported	<b>PSHU115101P</b>	<b>PSHU115201P</b>
	Universal end plate Non-collective wiring	<b>PSHU31L000P</b>	<b>PSHU31L001P</b>

**Accessories - 15407-1, Non plug-in, Size DX02**

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 Do not use with Independent Port Sandwich Regulators.	<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>
	Manifold to manifold gasket kits	5-125 PSIG w/ gauge	<b>PS5637166P</b>	<b>PS5637266P</b>
		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>	

 Most popular.



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

D233

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

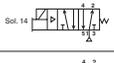
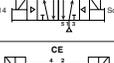
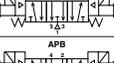
Network Connectivity

DX ISOMAX Series

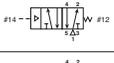
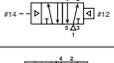
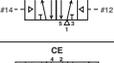
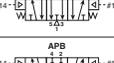
Valvair II Series

**Common Part Numbers**

**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)

**Base / End Plate - 15407-1, Non Plug-in, Size DX01**

Description	NPT	BSPP
 Single subbase Side ported base, 1/4" port	<b>PS5511130P</b>	<b>PS5511140P</b>
 Universal manifold base 2 station, end ported	<b>PSHU115301P</b>	<b>PSHU115401P</b>
 Universal end plate Non-collective wiring	<b>PSHU31L000P</b>	<b>PSHU31L001P</b>

 Most popular.



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

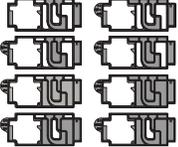
D234

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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modutrex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair-II Series

**Common Part Numbers**

**Accessories - 15407-1, Non Plug-in, Size DX01**

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 <b>MUST</b> be located between the manifold/subbase and the Common Port Sandwich Regulator. Do not use with Independent Port Sandwich Regulators.		
	Pilot exhaust module	Pilot pressure control, without sensor, 1/8" BSPP <b>PS55XA0P</b>	
	Sandwich supply module	1/4" NPT	<b>PS552600P</b>
		1/4" BSPP	<b>PS552601P</b>
	Sandwich regulator	2-60 PSIG w/ gauge	<b>PS5537155P</b>
		5-125 PSIG w/ gauge	<b>PS5537166P</b>
		Common pressure	<b>PS5537255P</b>
		Independent pressure	<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>PSHU15P</b>	<b>PSHU16P</b>
		<b>PSHU17P</b>	<b>PSHU18P</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

Moduflex Series

H Series ISO

Network Connectivity

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**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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**Ordering Information**

**15407-1, DX02 & DX01 Manifold / Subbase Kits**

**PSHU1153 0 1 P**

Mounting Style / Port Size	
DX02 manifold with 1/8 NPT end ports	PSHU1151
DX02 manifold with 1/8 BSPP end ports	PSHU1152*
DX01 manifold with 1/4 NPT end ports	PSHU1153
DX01 manifold with 1/4 BSPP end ports	PSHU1154*
DX1 manifold with 3/8 NPT end ports	PSHU1155
DX1 manifold with 3/8 BSPP end ports	PSHU1156*
DX2 manifold with 1/2 NPT end ports	PSHU1157
DX2 manifold with 1/2 BSPP end ports	PSHU1158*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.



DX01 manifold

Gasket Options	
1	1,3,5 ports open and pilots open
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	
0	No interconnect

**Subbase Kit - Non Plug-in**



HA non plug-in subbase shown

**PS55 1113 0 P**

Series	
DX01 Subbase	PS55
DX1 Subbase	PS40
DX2 Subbase	PS41

Engineering Level	
Blank	HA Series
D	H1 Series
C	H2 Series

Mounting Style / Port Size	
DX01 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*
DX1 Series	
3/8 NPT side ports	1115
3/8 BSPP side ports	1116*
DX2 Series	
1/2 NPT side ports	1117
1/2 BSPP side ports	1118*

\* BSPP conforms to ISO 1179-1 w 228-1 threads.

Enclosures / Lead Length	
0	None, No Electrical Plug

**DX02 Series ISO 15407-1 Size 18mm (DX02) Single Subbase**



DX01 Series 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.



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

**15407-1, DX02 & DX01 End Plate Kits**



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	<b>PSHU4000P</b>	
Right hand end plate only, high flow 1/2" ports	<b>PSHU4100P</b>	<b>PSHU4101P</b>
Right hand end plate only, high flow 3/4" ports	<b>PSHU4200P</b>	<b>PSHU4201P</b>

**H3 Transition Kit**



Description	NPT port	BSPP port
H3 transition, H3 right hand end plate, 1" ports (includes gaskets & bolts)	<b>PSU7300P</b>	<b>PSHU7301P</b>

**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*
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

Enclosures / Lead Length	
0	None, No Electrical Plug - 5599-1



H3 Subbase shown

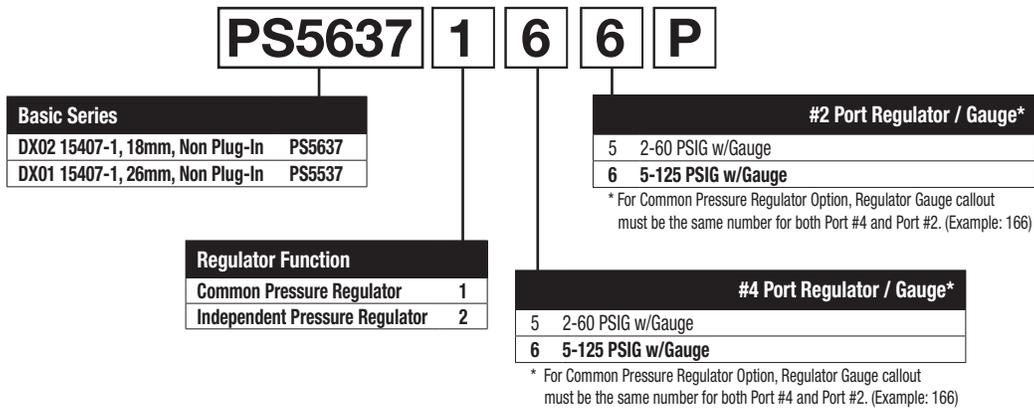


H3 Manifold shown



**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.



**DX02**  
 (Independent Dual Port Regulator Shown)



**DX01**  
 (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	PS5651160P

**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.

**Remote Pilot Access Plate Kit**

Size	Port size	Part number	
		NPT	BSPP
26mm DX01	1/8"	PS551500P	PS551501P



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

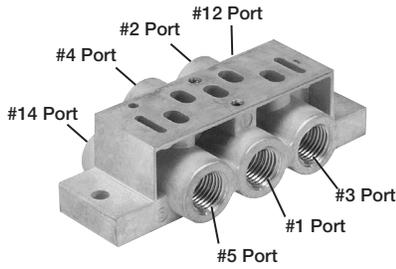
Network Connectivity

DX ISOMAX Series

Valvair II Series

**DX02 Series Subbase & Manifolds**

**Single Subbase**

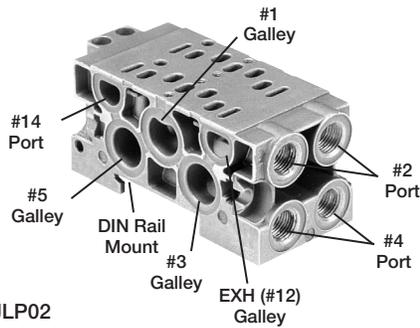


Side Ported Base  
 18mm DX02

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**



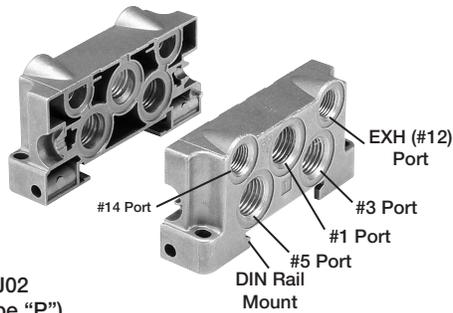
End Ported Bases  
 18mm DX02

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")

**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

Most popular.



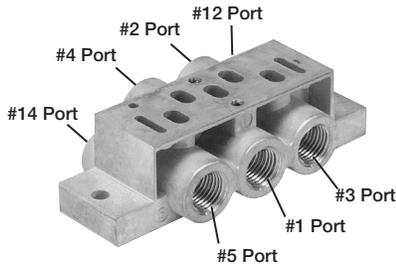
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 Richland, Michigan  
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**DX01 Series Subbase & Manifolds**

**Single Subbase**



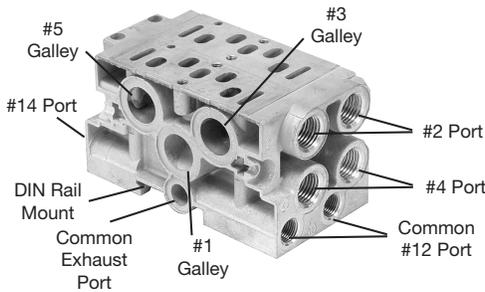
Side ported base  
 26mm DX01

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**



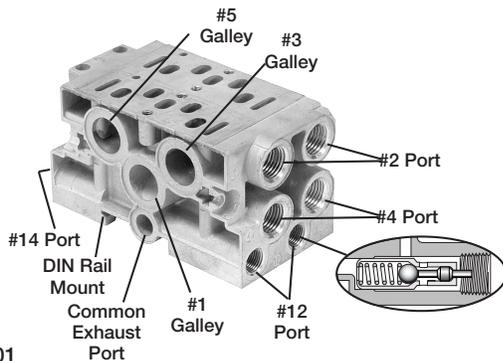
End ported bases  
 26mm DX01

1/4" NPT      1/4" BSPP

<b>PJLP01-202-80</b>	<b>PJLP01-202-70</b>
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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

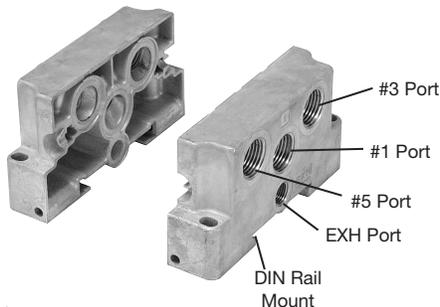
<b>PJL01-202-80</b>	<b>PJL01-202-70</b>
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Notes: #12 ports work independently when plunger is not depressed by a plug. When a plug is inserted in #12 Port along with the captured pilot exhaust gasket selector option, pilot exhaust is sent to the Common 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>
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\* 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)

D241

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series

**Accessories**

**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		<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		<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.
- Do not use with Independent Port Sandwich Regulators.

**Manifold to Manifold Gasket Kits**



**DX02M2MGSKT (PJLP02)**



**DX01M2MGSKT (PJLP01)**

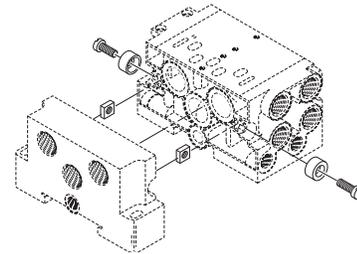
Size	Standard	Blocked #1 Port	Blocked #1, 3, 5 Ports	Blocked #3, 5 Ports
DX02*	<b>PS561AP</b>	<b>PS561BP</b>	<b>PS561CP</b>	<b>PS561DP</b>
DX01*				

**DX02** **DX02M2MGSKT (PJLP02)**

**DX01** **DX01M2MGSKT (PJLP01)**

\* 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)

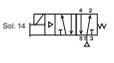
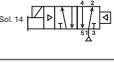
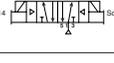
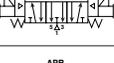
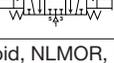
**D**  
Subbase & Manual Valves  
H Series Micro  
Modulflex Series  
H Series ISO  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series



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

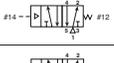
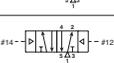
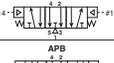
**Common Part Numbers**

**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>

**Base / End Plate - 5599-1, Non Plug-in, Size 1 DX1**

	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 DX1**

Accessory	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>
 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. Do not use with Independent Port Sandwich Regulators.

 Most popular.



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

D243

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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

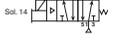
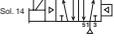
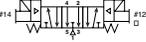
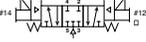
Network Connectivity

DX ISOMAX Series

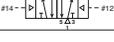
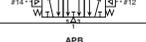
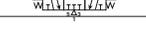
Valvair II Series

**Common Part Numbers**

**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>

**Base / End Plate - 5599-1, Non Plug-in, Size 2 DX2**

	Description	1/2" NPT	1/2" BSPP	
	Single subbase	Side ported, 1/2" port	<b>PS4111170CP</b>	<b>PS4111180CP</b>
	Universal manifold base	End ported	<b>PSHU115701P</b>	<b>PSHU115801P</b>
	Universal end plate	Non-collective wiring	<b>PSHU31L000P</b>	<b>PSHU31L001P</b>

**Accessories - 5599-1, Non Plug-in, Size 2 DX2**

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. Do not use with Independent Port Sandwich Regulators.		

 Most popular.

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

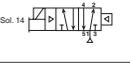
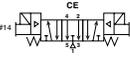


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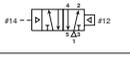
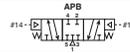
D244

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**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	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>
 CE	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>
 APB	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	4-way, 2-position, spring return	4.15	Single remote pilot	Remote	<b>DX3-421-60</b>
					<b>DX3-451-60</b>
 #14	4-way, 2-position, air return	4.15	Single remote pilot	Remote	<b>DX3-406-60</b>
					<b>DX3-411-60</b>
 #14	4-way, 3-position, center exhaust	4.0	Double remote pilot	Remote	<b>DX3-416-60</b>
					<b>DX3-421-60</b>
 #14	4-way, 3-position, all ports blocked	4.0	Double remote pilot	Remote	<b>DX3-416-60</b>
					<b>DX3-421-60</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.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

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

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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**Non-Plug-in, 5599-1, End Plate Kits**

**PS423101 0 C 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.



**H1 Non-Collective Wiring End Plates**

**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

Network Connectivity

**DX ISOMAX Series**

Valvair II Series



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**Ordering Information**

**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	
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)

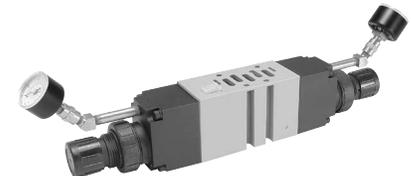
\*\* Pressure Line by-pass option can only be used with independent pressure regulators.

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**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.

**Note: Do not use Independent Port Sandwich Regulators with Sandwich Flow Controls.**

Independent Port Sandwich Port Regulators combine the #3 and #5 valve exhaust ports into the #5 exhaust at the manifold/subbase interface. The #3 port flow control will control both #3 and #5 exhaust. #5 port flow control is ineffective.

**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.



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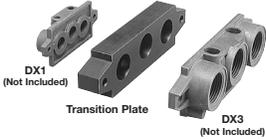
**5599-1 Compact Manifolds, Subbases & Accessories**

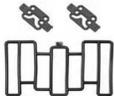
Manifold VDMA – Form C			Part Number
	<b>Bottom Port</b>	<b>Size</b>	<b>Port size</b>
		DX1	1/4"
		DX2	3/8"
		DX3	1/2"
			BSPP G
			<b>P2N-VM512MB</b>
			<b>P2N-WM513MB</b>
			<b>P2N-YM514MB</b>

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>

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H Series ISO

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Valvair II Series



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**Accessories**

**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**

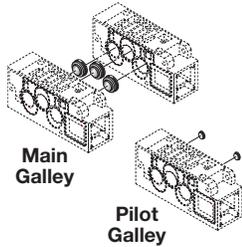


Size	Port Size	BSPP "G"
DX1	1/8"	<b>PS401501CP</b>
DX2	1/8"	<b>PS411501CP</b>
DX3	1/8"	<b>PS421501CP</b>

Kit includes: Pilot Port Access Plate, Gasket and Mounting Studs.

**Manifold Port Isolation Kits**

Main Galley (1, 3, 5)



Size	P2N Manifolds
DX1	<b>P2N-VK0P</b>
DX2	<b>P2N-WK0P</b>
DX3	<b>P2N-YK0P</b>

Kit includes: Plugs with O-rings.

**Pilot Galley**

Size	Part Number
DX3	<b>PS4033CP</b>

Kit includes: Plugs with O-rings.  
For use with PS4 Series Manifolds.

**Sandwich Flow Controls Features**

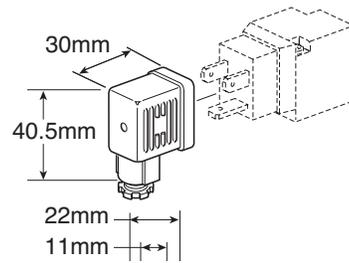


Size	Part Number
DX1	<b>PS4042CP</b>
DX2	<b>PS4142CP</b>
DX3	<b>PS4242CP</b>

- 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.
- Do not use with Independent Port Sandwich Regulators.

**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 – 24V60Hz, 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 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

**CNOMO Operator Adapter**



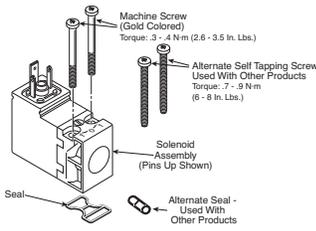
Size	Part Number
DX1, DX2, DX3	<b>PS2855P</b>

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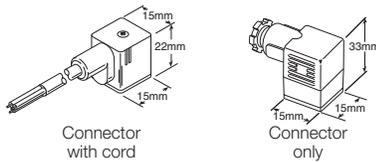
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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>

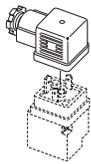
\* LED with surge suppression.

**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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H Series ISO

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Valvair II Series

**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	—

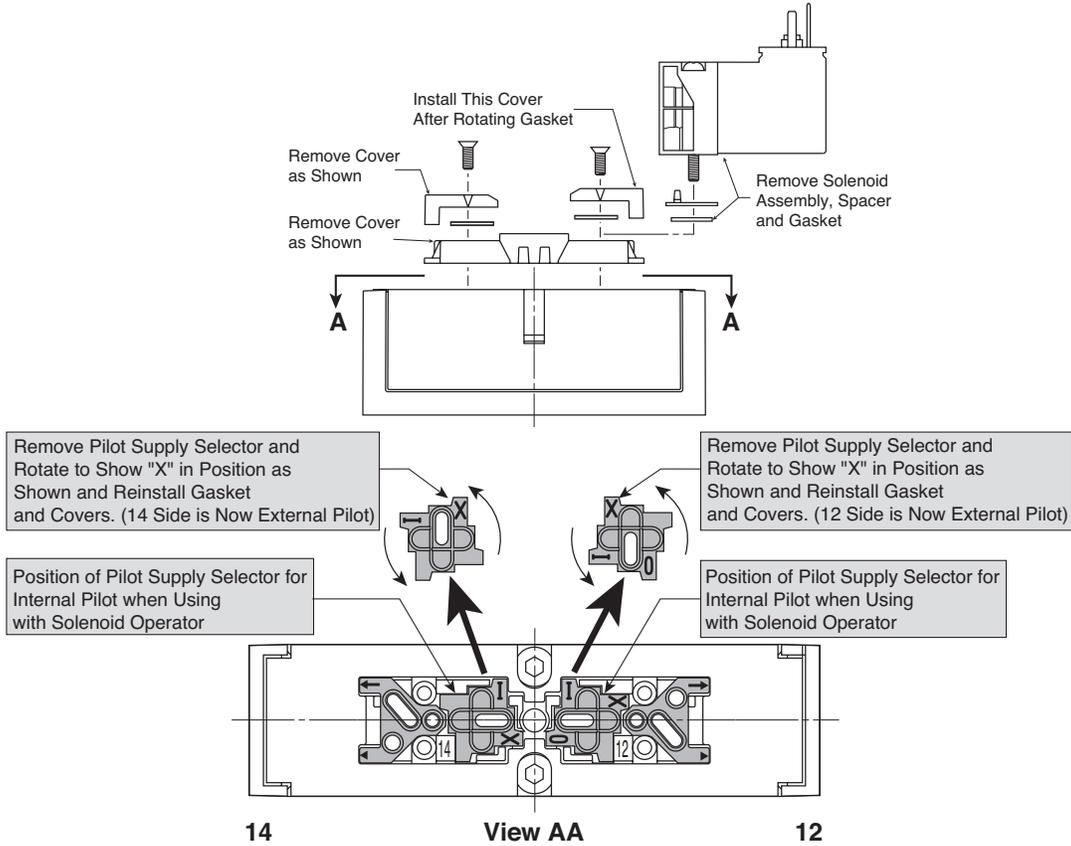
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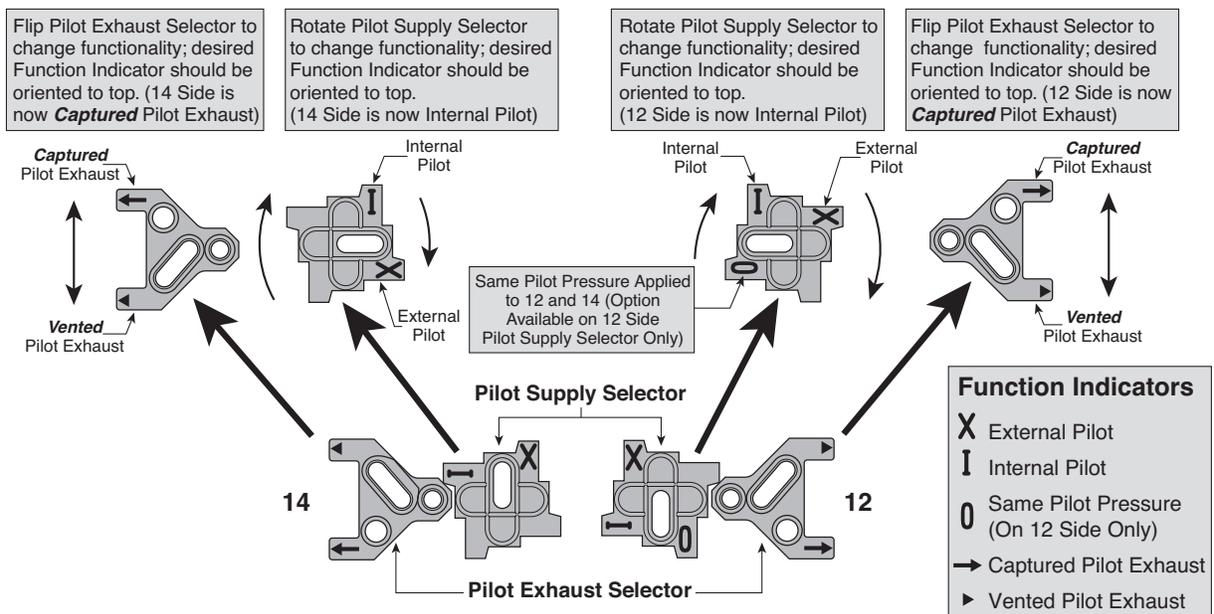
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

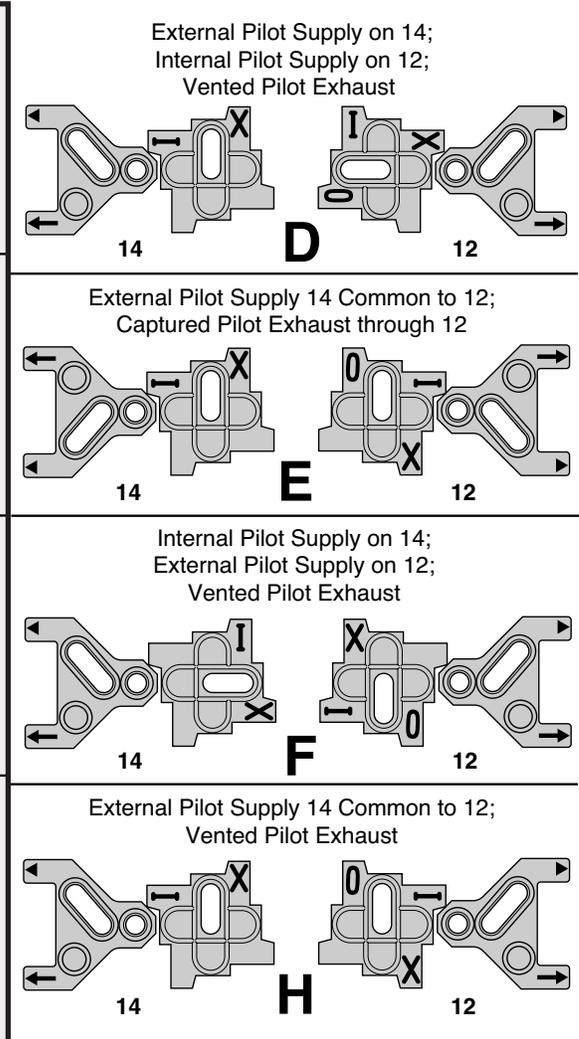
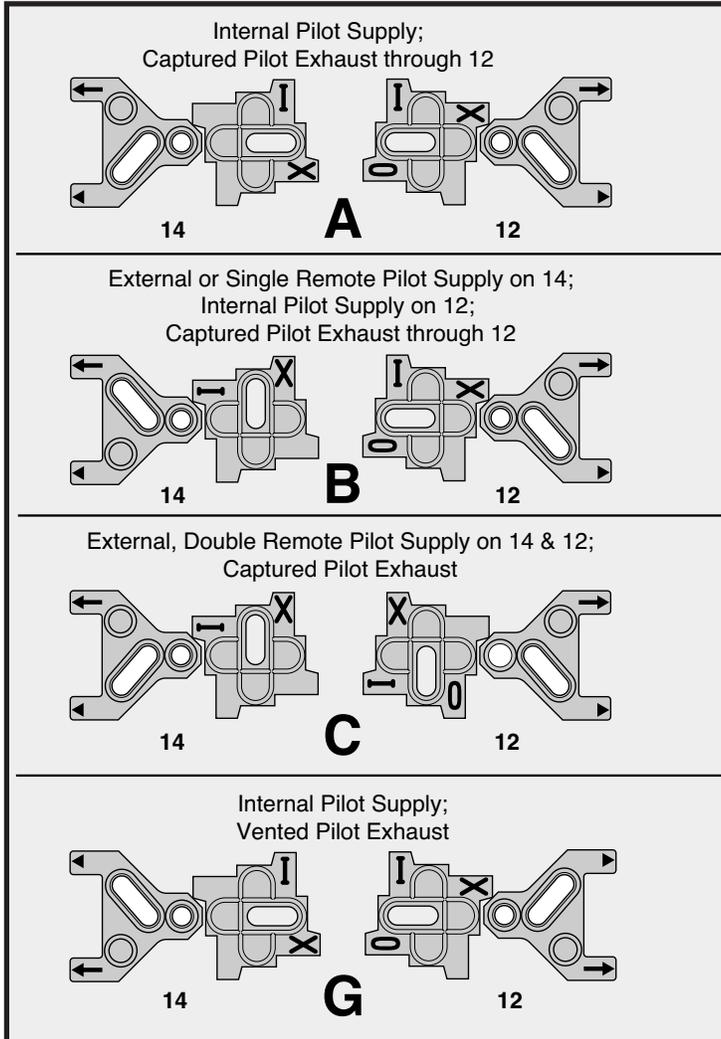
**DX ISOMAX Selector Gasket Conversion Instructions**

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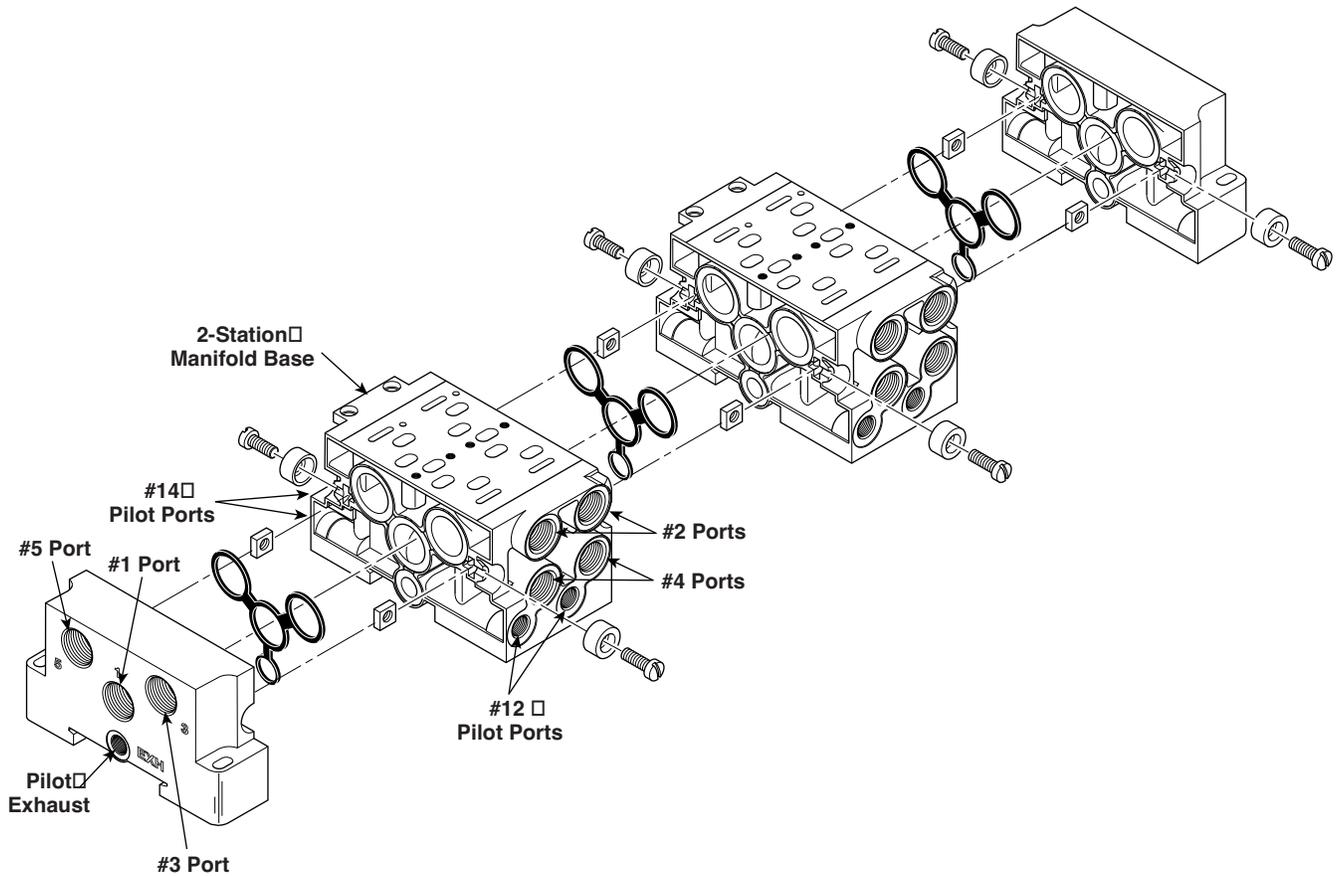
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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**

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Subbase & Manual Valves
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Modulflex Series
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Network Connectivity
DX ISOMAX Series
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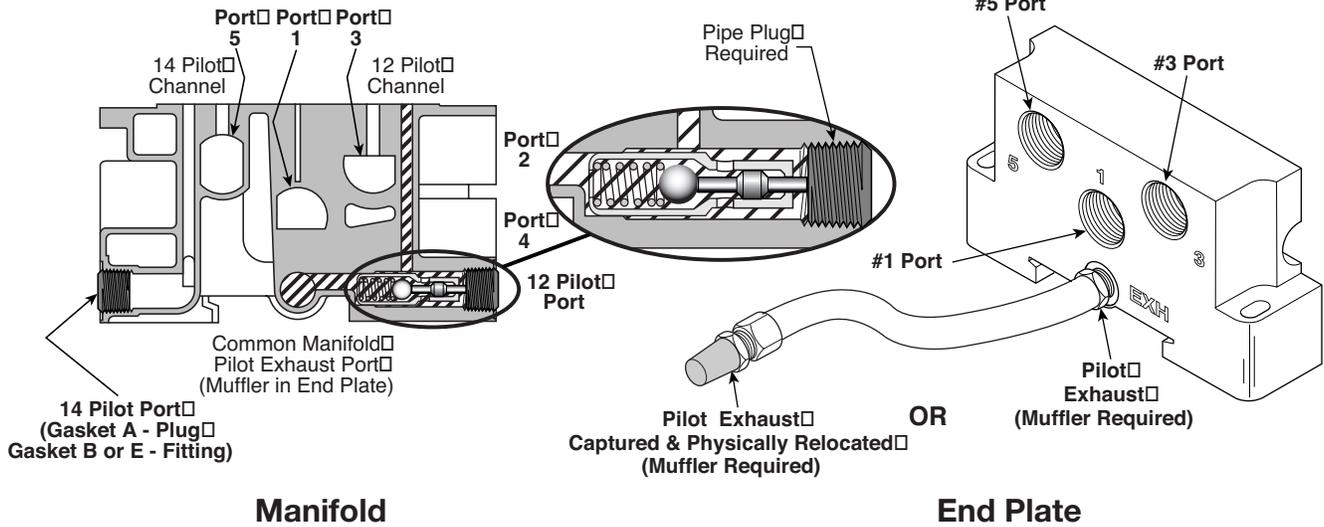
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**DX 15407-1 Size 01, Manifold Conversion Instructions**

**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.



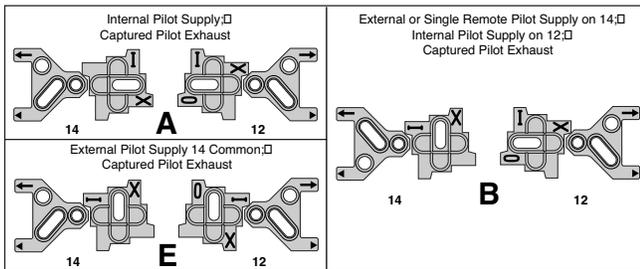
**Built-in Selector**

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.

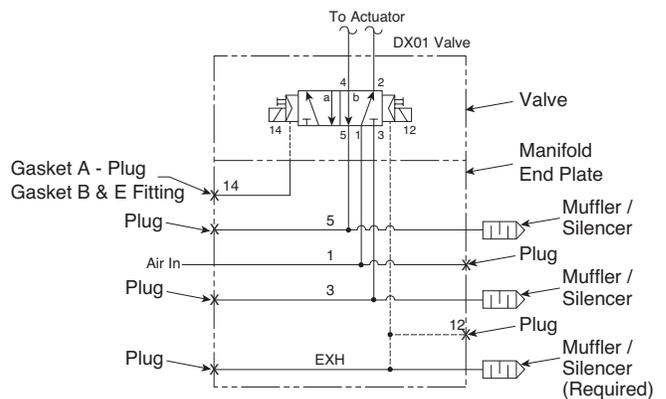
**Captured Selector Gasket Positions**

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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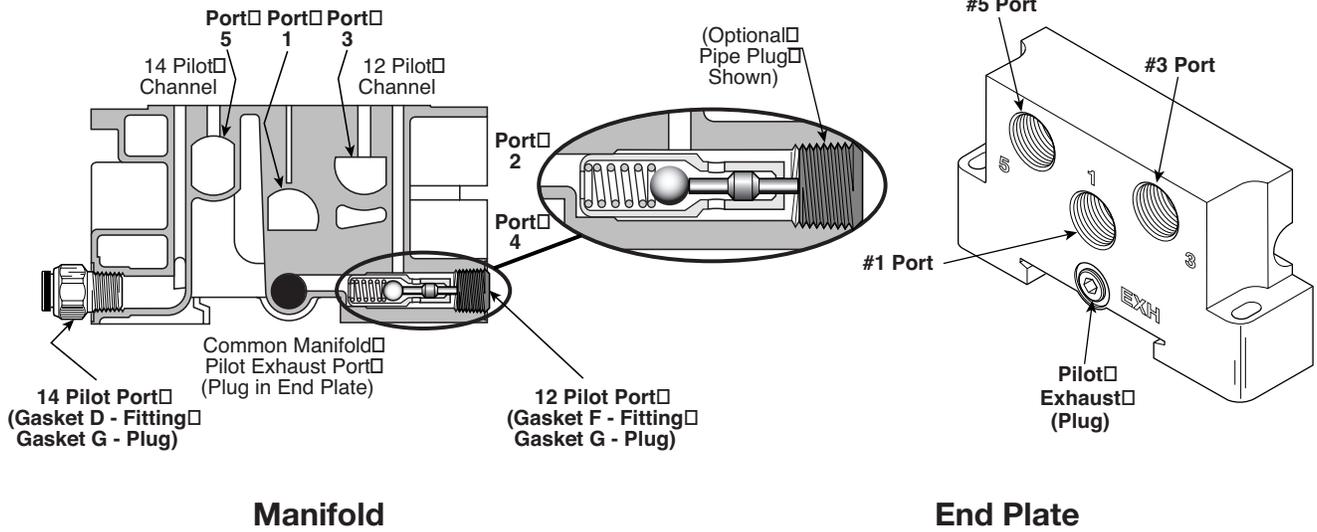
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**DX 15407-1 Size 01, Manifold Conversion Instructions**

**Vented  
 Pilot Exhaust**

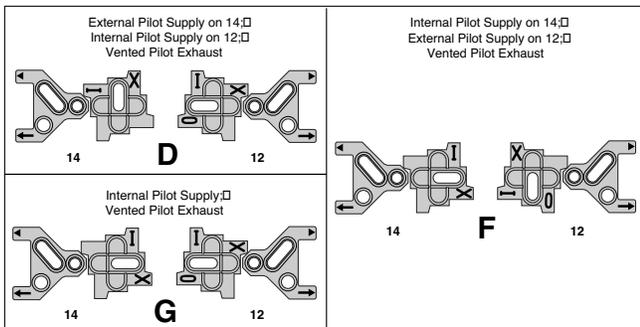


**Built-in Selector**

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.

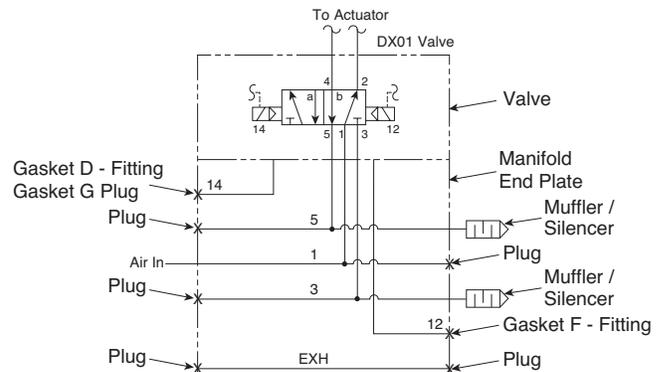
**Vented Selector Gasket Positions**

When using D, F or G Selector Gasket Positions, pilot exhaust air is vented out the valve.



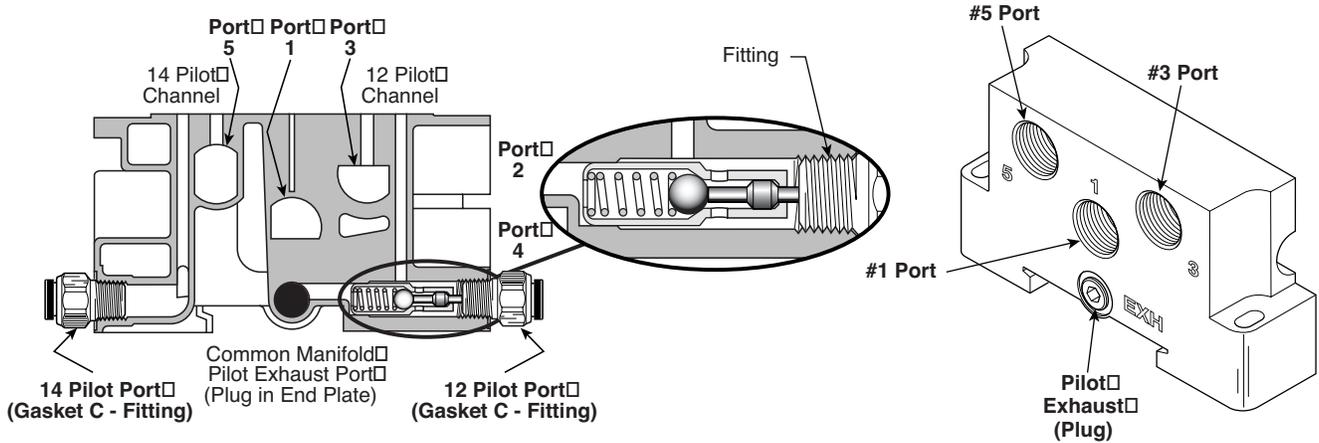
A plug may be inserted in the EXH Port of the PEJ02 & PEJ01 Manifold End Plates, #12 of PL02 & PL01 Subbases.

**DX01 Manifold Assembly  
 Schematic for Vented Selector Gasket Positions D or G**



**DX 15407-1 Size 01, Manifold Conversion Instructions**

**External Double Remote Pilot**

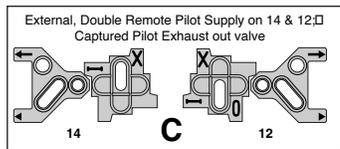


**Built-in Selector**

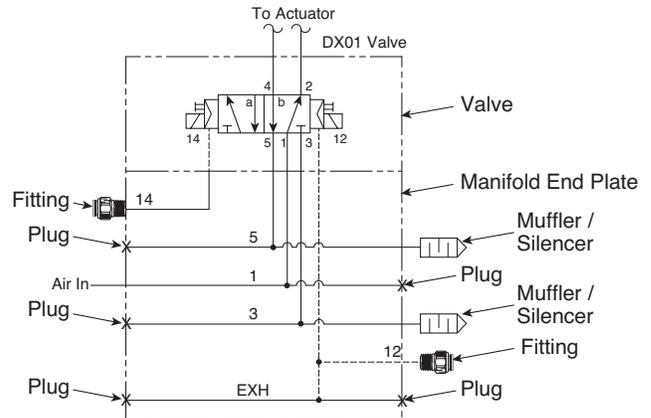
When using **C External Double Remote Pilot Selector Gasket Position**, a fitting is used in Pilot Port 14 & 12. Free flow between Port 14 & 12 and the valve allows Remote Pilot Pressure and an exhaust path for the captured pilot exhaust.

**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**



**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)

D258

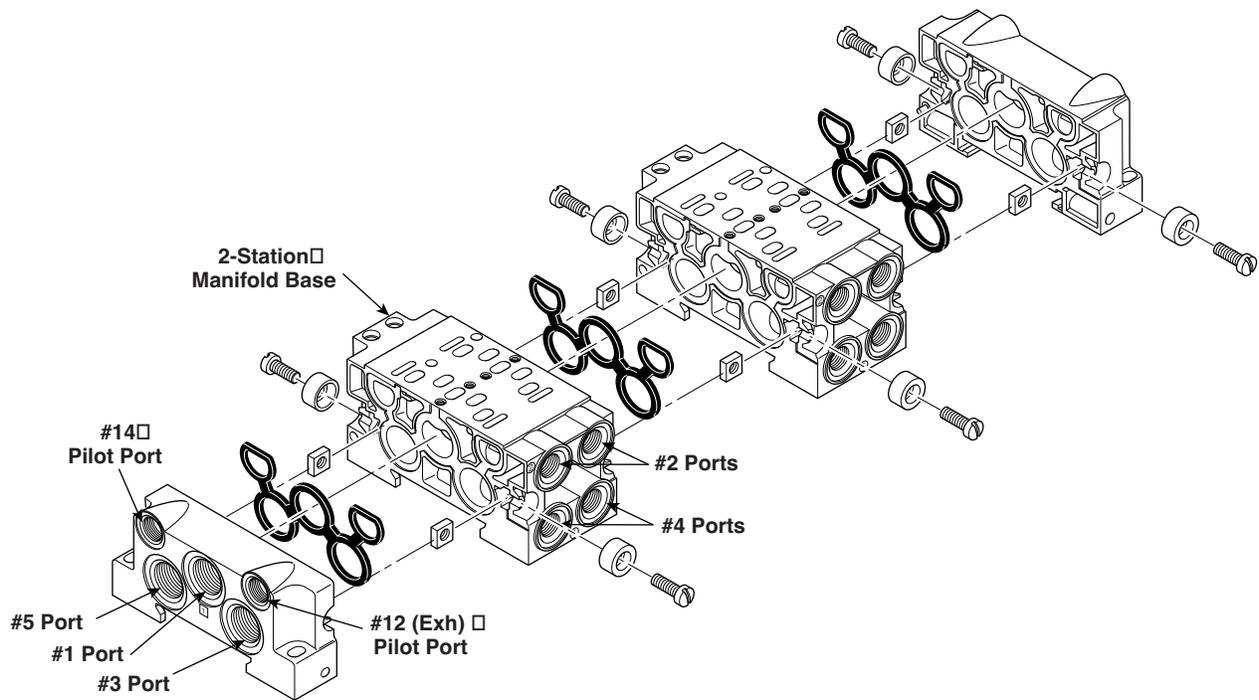
**Parker Hannifin Corporation**  
 Pneumatic Division  
 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**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)

D259

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 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

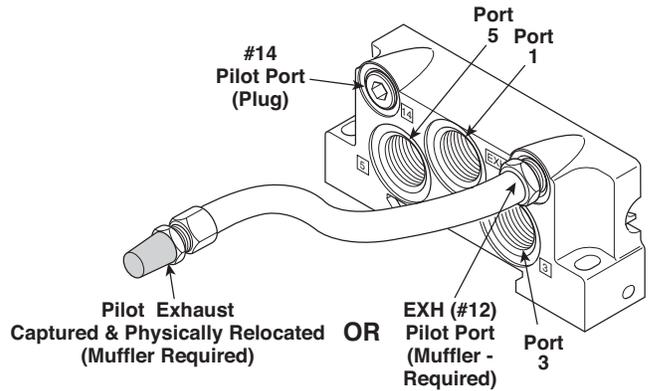
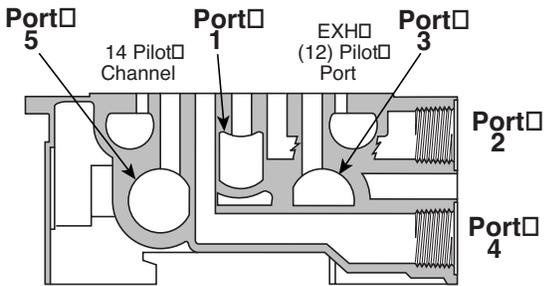
Valvair II Series

**DX 15407-1 Size 02, Manifold Conversion Instructions**

***Captured  
 Pilot Exhaust***

**PJLP02, Size 02\***

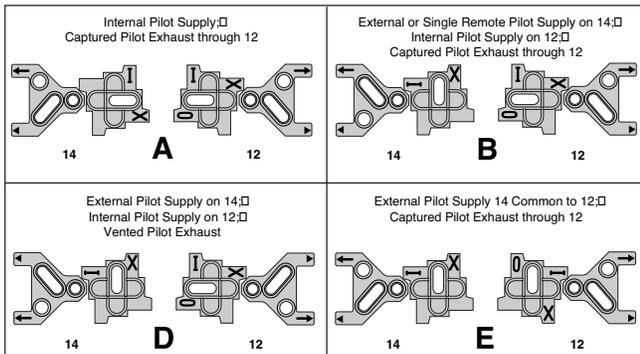
As shown in the illustrations below, the EXH (12) & 14 Pilot Ports are exhausted internally in the valve body into a single chamber labeled EXH on the end plate. When using A, B, D or E Selector Gasket Positions, the EXH (12) Pilot Port is vented with a muffler or micron screen. The 14 Pilot Port is plugged.



**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

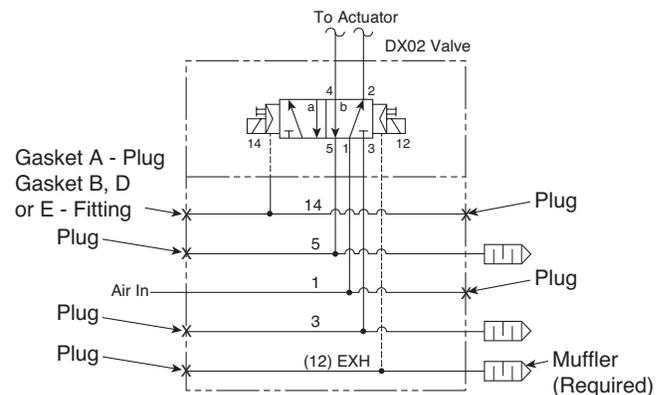
**Captured Selector Gasket Positions**

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)

D260

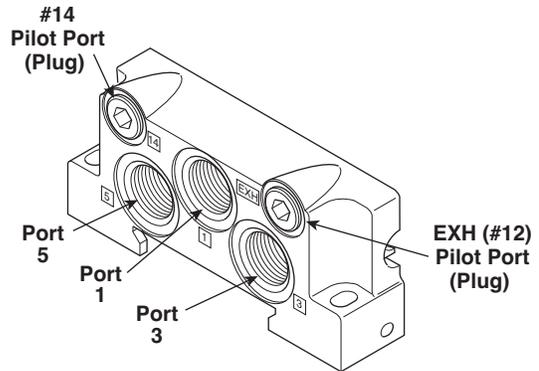
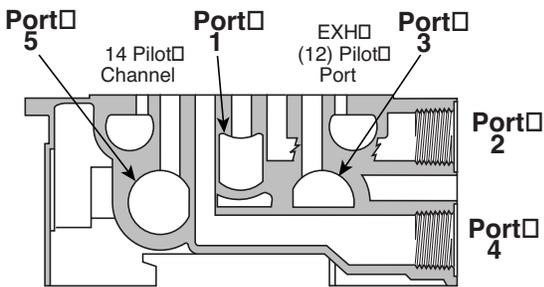
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 Richland, Michigan  
[www.parker.com/pneumatics](http://www.parker.com/pneumatics)

**DX 15407-1 Size 02, Manifold Conversion Instructions**

**Vented  
 Pilot Exhaust**

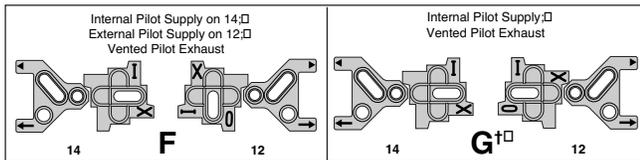
**PJLP02, Size 02**

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.



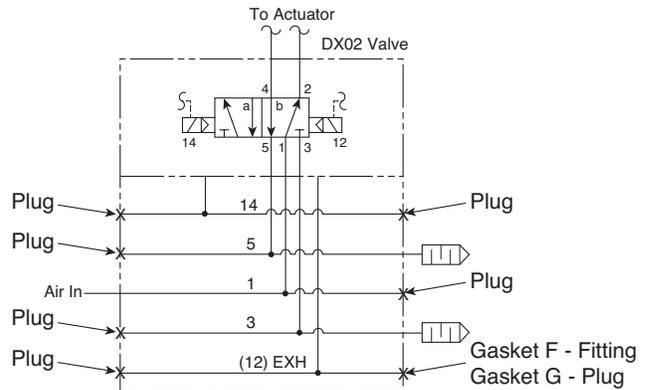
**Vented Selector Gasket Positions**

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.

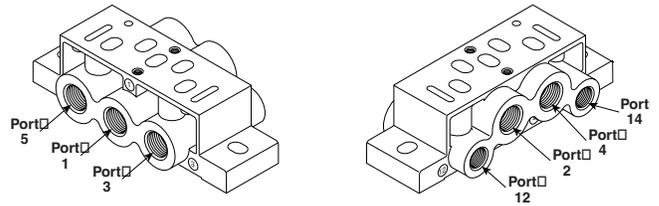
**DX02 Manifold Assembly  
 Schematic for Vented Selector Gasket  
 Positions F and G**



**Subbase Assembly**

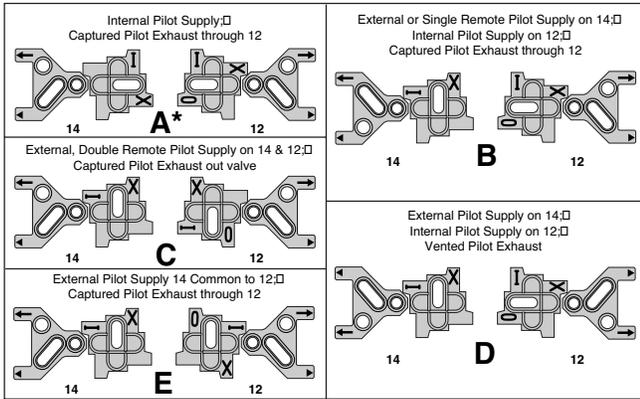
**Ports**

- 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

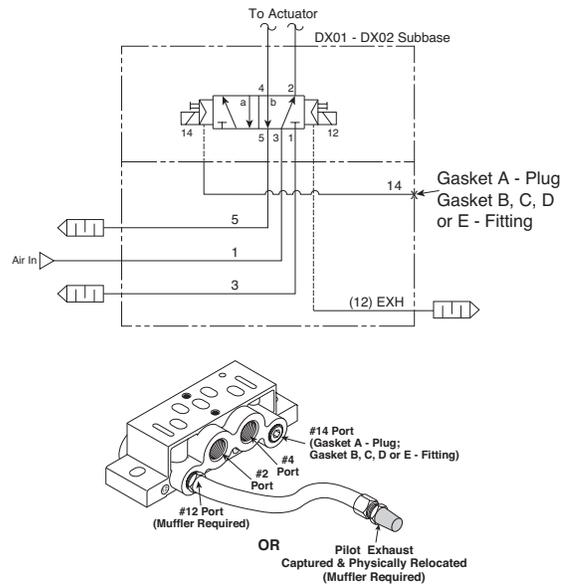


**Captured Selector Gasket Positions**

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.

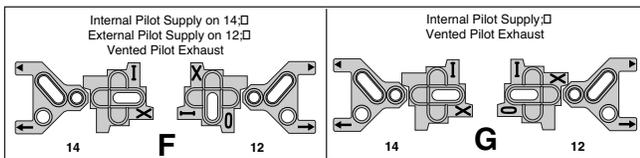


**DX02 & DX01 Subbase Assembly Schematic for Captured Selector Gasket Positions A, B, C, D and E**

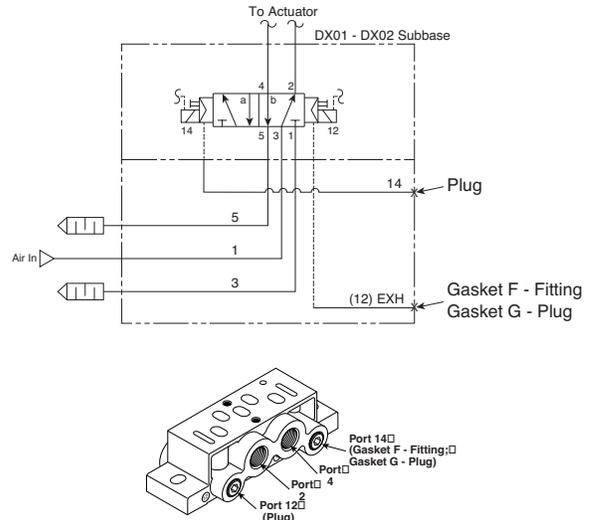


**Vented Selector Gasket Positions**

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

Network  
Connectivity

DX ISOMAX  
Series

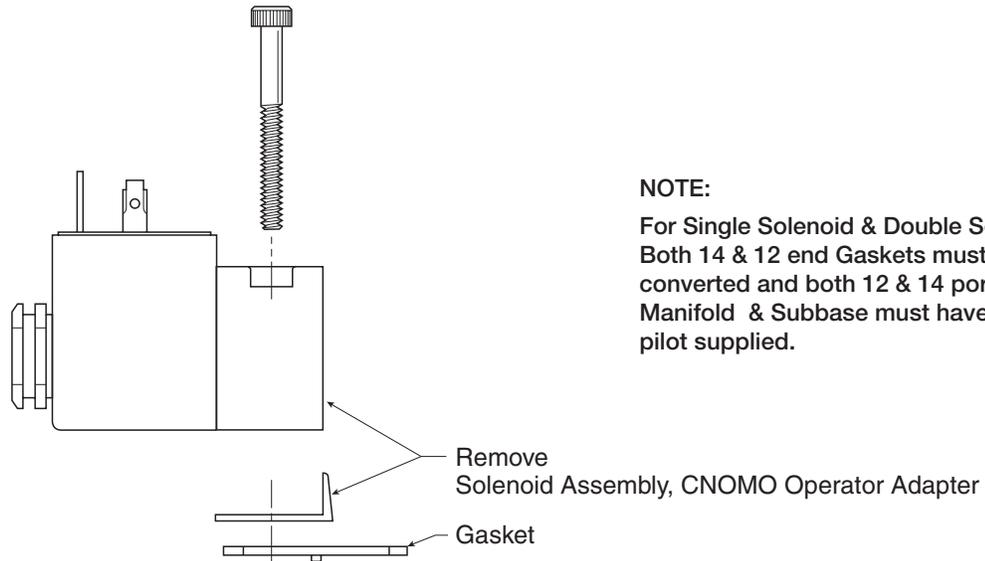
Valvair II  
Series



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

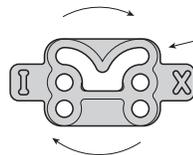
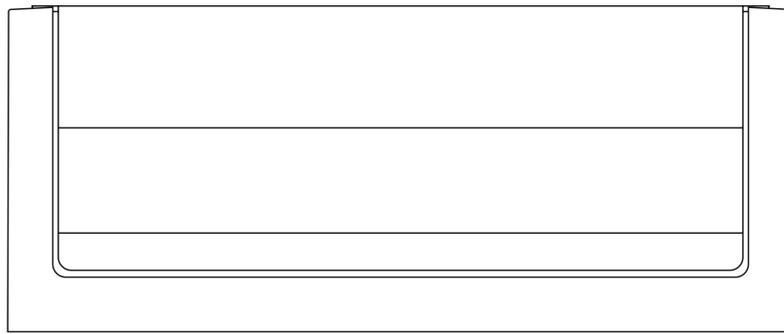
**DX1 / DX2 / DX3**

**Internal / External Pilot Conversion Instructions**



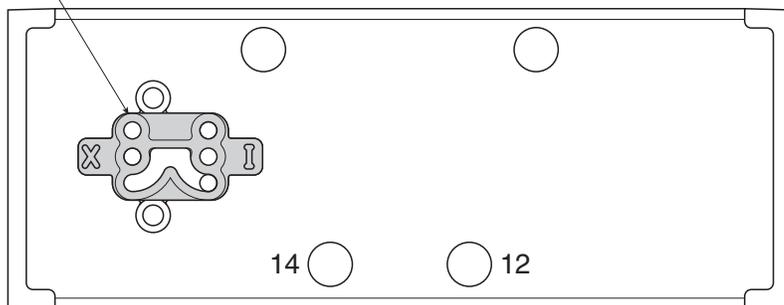
**NOTE:**

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

Moduflex Series

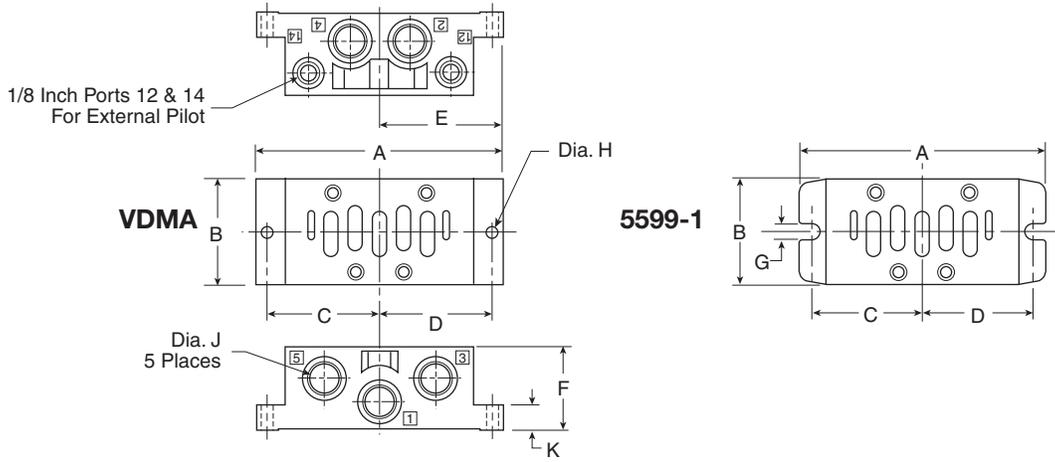
H Series ISO

Network Connectivity

**DX ISOMAX Series**

Valvair II Series

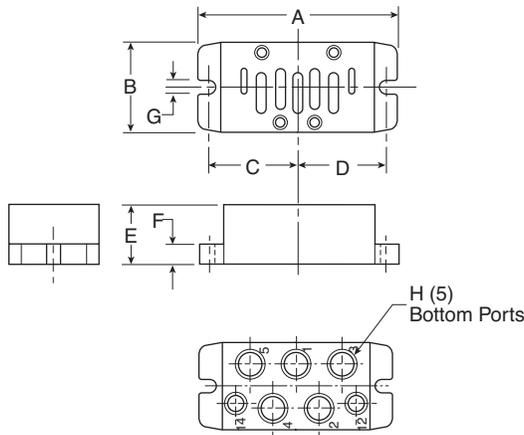
**DX1, DX2, DX3 VDMA & 5599-1 Side Ported Subbase**



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)
		<b>PL1-1/4-80</b>	NPT 1/4									
	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)
		<b>PL2-3/8-80</b>	NPT 3/8									
	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)
		<b>PL3-1/2-80</b>	NPT 1/2									

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							
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							

Inches (mm)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

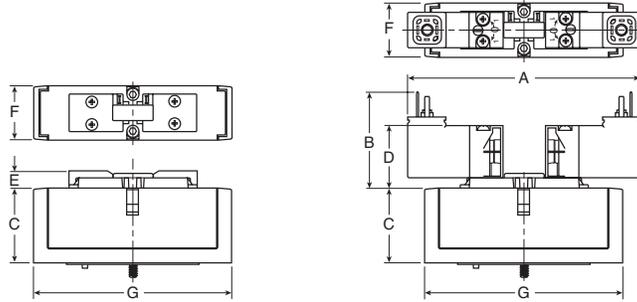


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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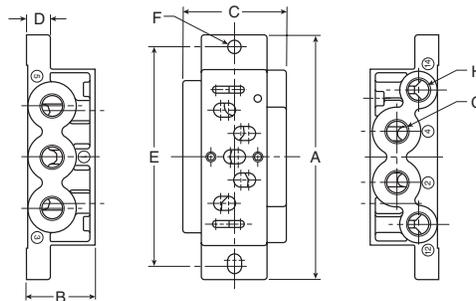
**DX01 & DX02 Valve**



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)

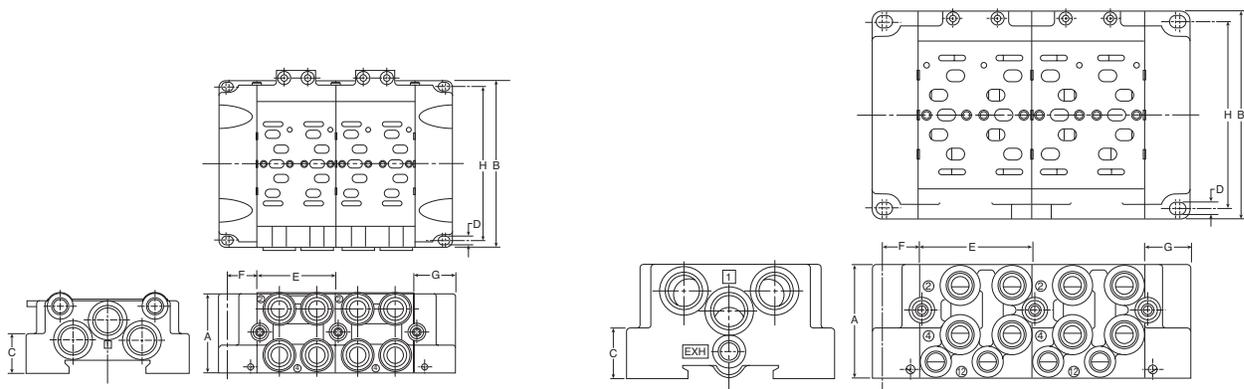
**DX01 & DX02 Individual Subbase**



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)



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

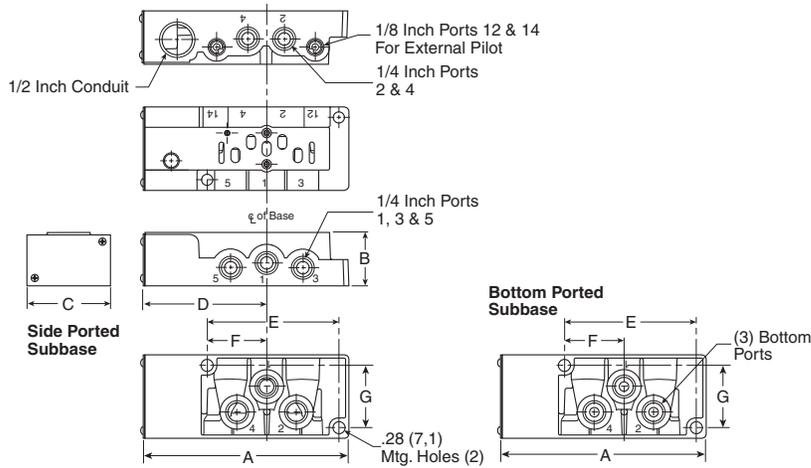
H Series ISO

Network Connectivity

**DX ISOMAX Series**

Valvair II Series

**DX01 15407-1, PS5511 Subbases**

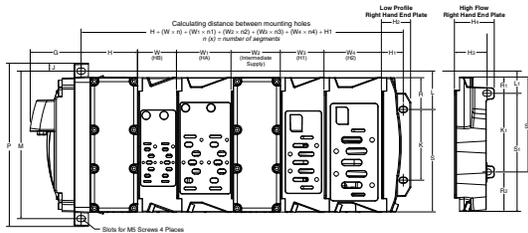


**PS5511 Subbase**

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)	

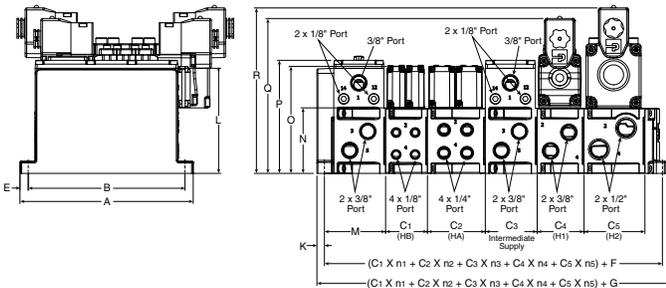
Inches (mm)

**DX02 & DX01 15407-1, PS5611 & PS5511 Manifolds**



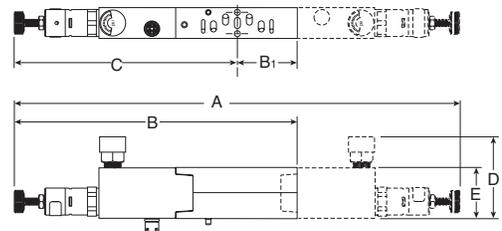
A	B	C1	C2	C3	C4	C5
6.81 (172.95)	6.16 (156.5)	1.65 (41.79)	2.28 (57.79)	2.04 (51.79)	1.84 (46.79)	2.39 (60.79)
D1	D2	D3	D4	E	F	G
1.60 (40.71)	1.60 (40.71)	0.96 (24.3)	1.92 (48.8)	0.32 (8.0)	3.09 (78.58)	4.39 (111.58)
J1	J2	J3	K	L	M	N
0.44 (11.2)	1.92 (48.7)	1.31 (33.3)	0.30 (7.5)	4.14 (105.08)	2.40 (61.08)	1.92 (48.7)
O	P	Q	R			
4.21 (107)	4.45 (113)	6.09 (154.77)	6.51 (165.32)			

Inches (mm)



Series	Part Number	A	B	B1	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)



**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

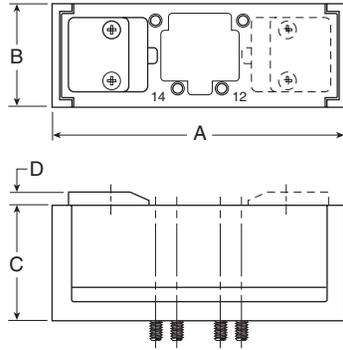


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D266

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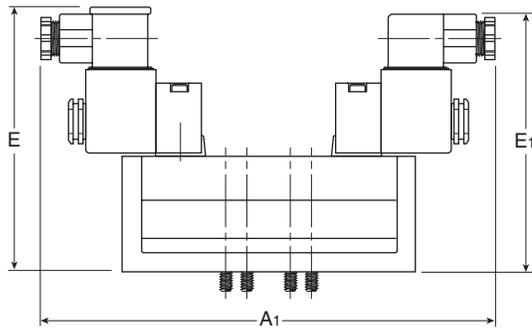
**DX1, DX2 & DX3 Air Operated Valve**



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

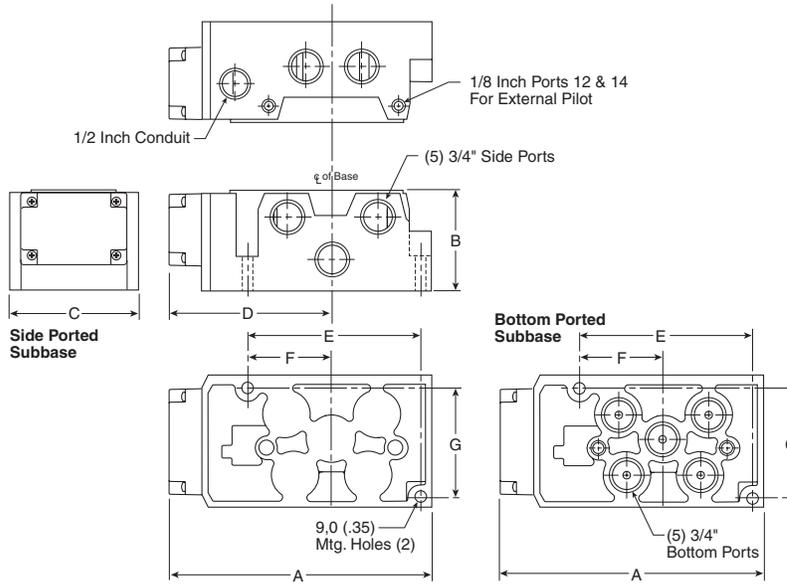
Network Connectivity

**DX ISOMAX Series**

Valvair II Series



**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

Network  
 Connectivity

DX ISOMAX  
 Series

Valvair II  
 Series

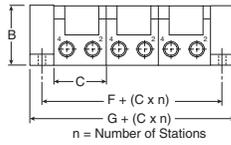
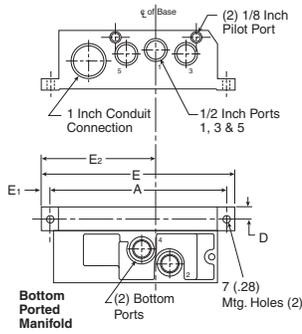


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

D268

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 Richland, Michigan  
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**DX1 Manifold**

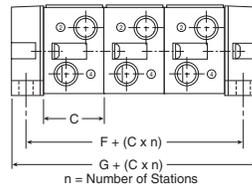
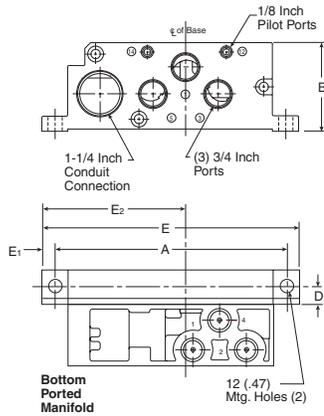


**PS4011 Manifold**

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**

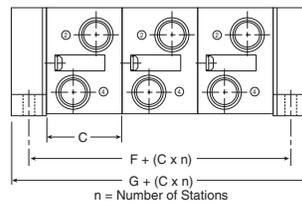
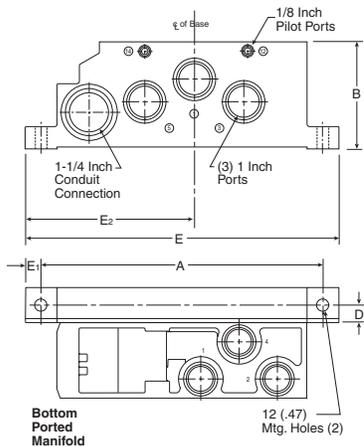


**PS4111 Manifold**

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)



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

D269

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**D**

Subbase & Manual Valves

H Series Micro

Moduflex Series

H Series ISO

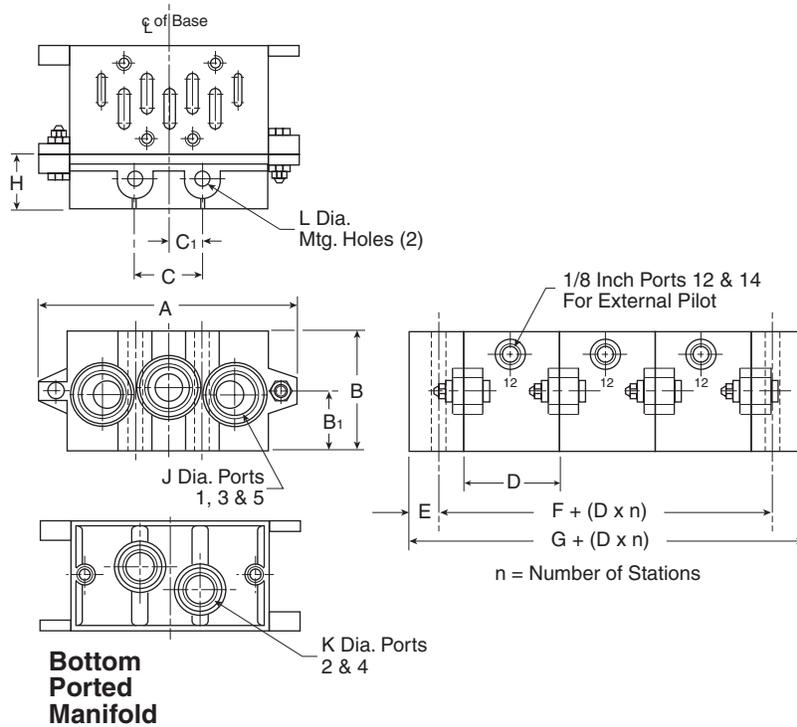
Network Connectivity

DX ISOMAX Series

Valvair II Series

**DX1, DX2, DX3 5599-1 VDMA**

Form C Manifold &  
 Form D End Plates



**Bottom Ported Manifold**

**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  
 Moduflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



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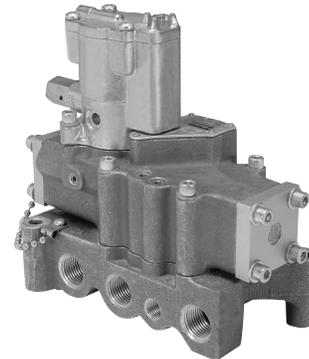
## Valvair II Series

- 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.



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D

Subbase & Manual Valves

H Series Micro

Modulflex Series

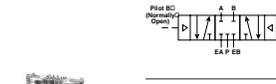
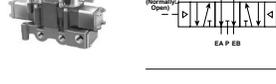
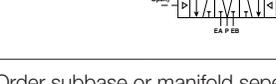
H Series ISO

Network Connectivity

DX ISOMAX Series

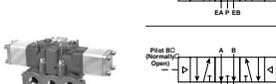
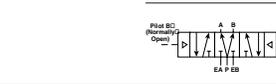
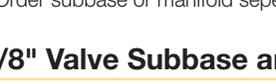
Valvair II Series

**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>

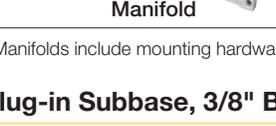
\* Order subbase or manifold separately.

**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>
	4.8	1/2"	<b>K022091</b>	<b>K142231</b>
 Manifold	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.

**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.

 Most popular.



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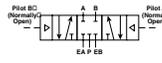
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**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series

**Common Part Numbers**

**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.

D

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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**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  
Network Connectivity  
DX ISOMAX Series  
Valvair II Series

Most popular.



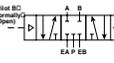
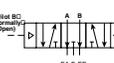
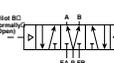
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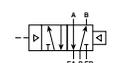
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Common Part Numbers

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

Network Connectivity

DX ISOMAX Series

Valvair II Series

**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  
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 Network Connectivity  
 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.



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**Lubricated or Non-Lubricated Service**  
**2-position, Direct Pipe Ported, 3/8" & 1" Basic Size**

<b>L</b>	<b>70</b>	<b>5</b>	<b>3</b>	<b>9</b>	<b>10</b>	<b>2</b>	<b>53</b>	<b>—</b>
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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*

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

Lead Length	
Blank	19" (Standard)

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
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**

<b>L</b>	<b>69</b>	<b>5</b>	<b>3</b>	<b>9</b>	<b>21</b>	<b>1</b>	<b>53</b>	<b>—</b>
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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*

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

Lead Length	
Blank	19" (Standard)

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"	
<b>All Ports Blocked in Neutral</b>	
21	Standard (NEMA 1 & 12) or Remote
71*†	Hazardous Duty (NEMA 7 & 9)
91†	NEMA 4
<b>Cylinder Ports Open to Exhaust in Neutral</b>	
22	Standard (NEMA 1 & 12) or Remote
72*†	Hazardous Duty (NEMA 7 & 9)
92†	NEMA 4
<b>Cylinder Ports Open to Inlet in Neutral</b>	
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.



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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

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:

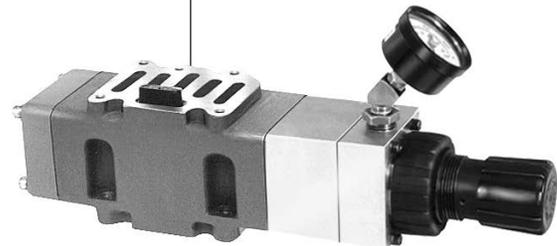
- 1-30 PSIG
- 1-60 PSIG
- 2-125 PSIG

**Range for Remote:** 0-140 PSIG

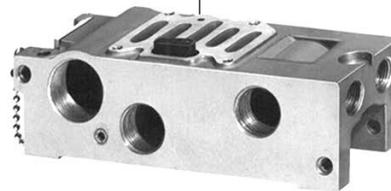
**Gauges** are furnished standard; liquid filled gauges are optional.



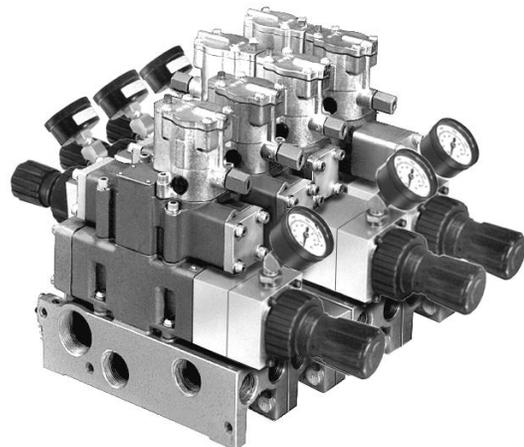
**Solenoid Valve Assembly**



**Regulator Assembly**



**Manifold**



**Typical Assembly**

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX 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)

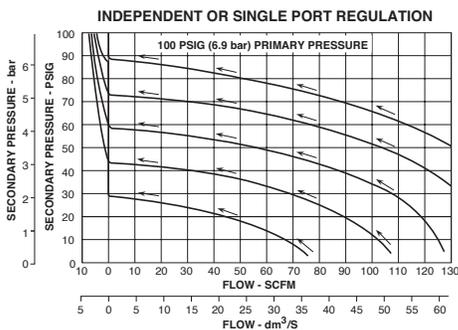
**How To Order**

1. Select type of adjustment.
2. Select pressure range.
3. Select assembly style.

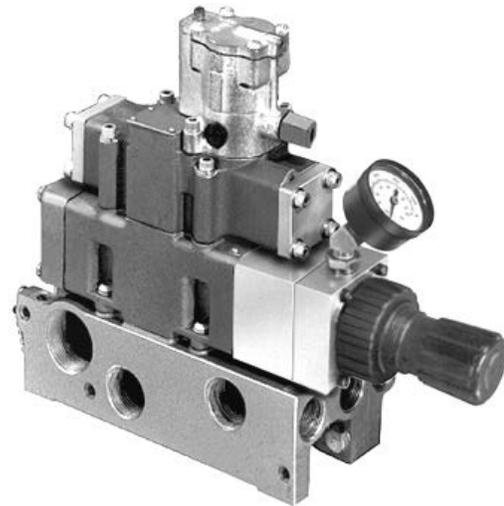
**Example:** Manual adjustment.  
5-60 PSIG, Port A reduced.

Model No. L55405307C

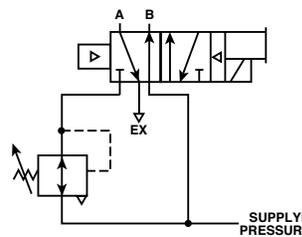
**Relief and Flow Characteristics**



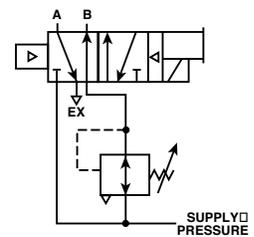
The above curves illustrate flow characteristics through an assembled valve, air regulator, and base (or modular manifold) unit.



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 & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

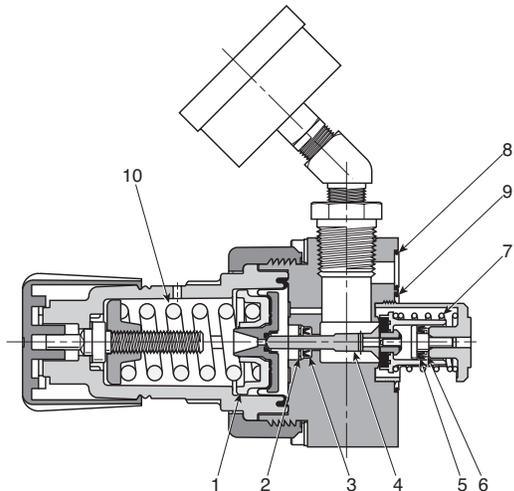
Valvair II Series



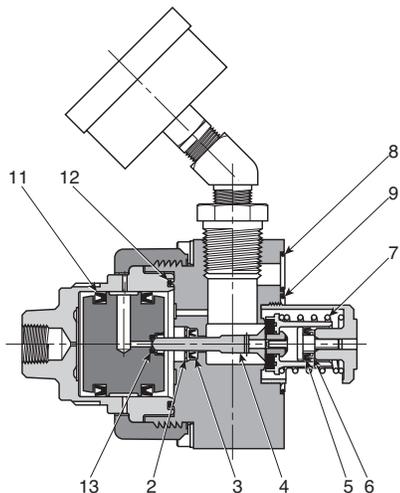
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Manual Adjusting



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

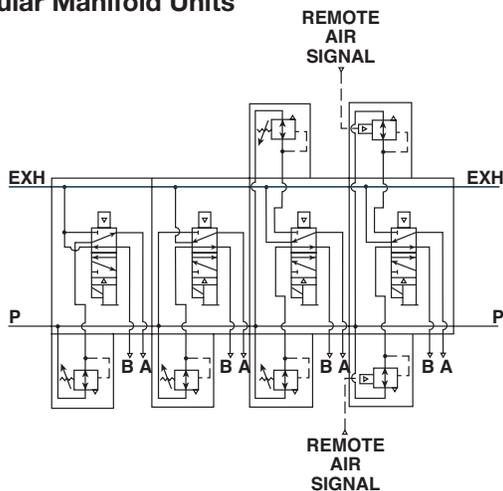
○ Parts included in K352409 service kit for manual operated modular regulators.

● 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



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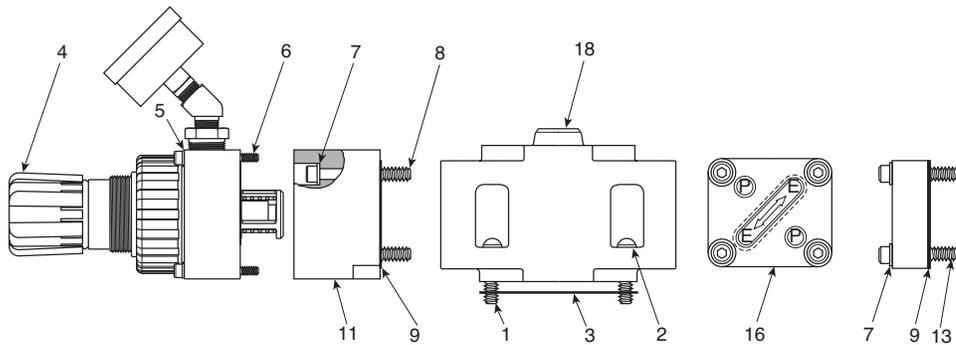
DX ISOMAX Series

Valvair II Series

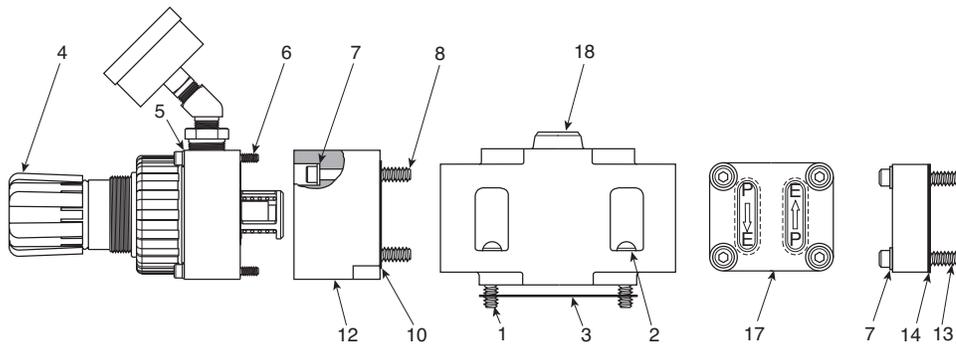


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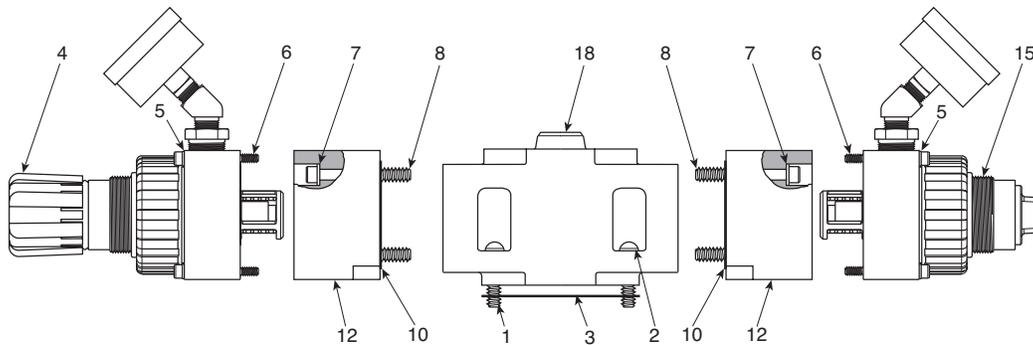
**Common Port Regulation**



**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
5	<b>K472003C</b>	2-125 PSIG
	<b>H17509</b>	#10 Lockwasher
	<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

Network Connectivity

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Valvair II Series

Plug-in Pilot

	Description	Standard Service		Special Service	
	Override type	Locking	Non-locking	Locking	Non-locking
With indicator light	With override (120VAC)	<b>K175903553</b>	<b>K175803553</b>	<b>K185902553</b>	<b>K185802553</b>
	With override (Other than 120VAC)	<b>K1753035**</b>	—	<b>K1853025**</b>	—

\*\* Voltage code - (reference model index for availability)

NEMA 1 & 12

	Description	Standard Service		Special Service	
	Override type	Locking	Non-locking	Locking	Non-locking
Basic Pilot	Basic with override	<b>K0653035**</b>	—	<b>K0853025**</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)

NEMA 4, 7 & 9

	Description	Standard Service		Special Service	
	Override type	Locking	Non-locking	Locking	Non-locking
Hazardous Duty	Hazardous duty pilot - UL & CSA	<b>K0251035**†</b>		<b>K0451025**†</b>	
	NEMA 4 pilot	<b>K2351035**†</b>		—	
	Hazardous duty with override	<b>K0253035**†</b>	<b>K0252035**†</b>	<b>K0453025**†</b>	<b>K0452025**†</b>
	NEMA 4 with override	—	<b>K2353035**†</b>	<b>K2352035**†</b>	—

† 49 / 53 only    \*\* Voltage code - (reference model index for availability)

Replacement Solenoid Coil



Voltage Code	Voltage			Coil Number	
	60 Hz	50 Hz	DC	Plug-In	Flying lead (19") *
49	—	—	24 <sup>†</sup>	<b>K593060</b> <b>K593274<sup>‡</sup></b>	<b>K593014</b>
53	120 <sup>†</sup>	110	—	<b>K593071</b> <b>K593125<sup>‡</sup></b>	<b>K593025</b>
57	240 <sup>†</sup>	220	—	<b>K593081</b>	<b>K593035</b>

Notes: **Bold Face** type indicated primary coil rating.  
 † Indicates voltages approved for solenoid operators designed for use in hazardous locations.  
 \* 19" Coil lead length is standard. Other lead lengths may be available, consult supplier.  
 ‡ Assembly includes indicator light socket, less light.

Solenoid Characteristics Chart  
Voltage Range +10/-15% of Nominal

3/8" & 3/4" Basic - L-Pilot

Voltage/ Cycles	Amps Inrush	Amps Holding	Resistance Ohms	Watts	Insulation Class
120/60VAC	.29	.18	122	12	B
110/50VAC	.21	.14	122	12	B
240/60VAC	.18	.12	610	12	B
24/60VAC	1.6	1.0	4.5	9.5	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

D Subbase & Manual Valves

H Series Micro

Modulflex Series

H Series ISO

Network Connectivity

DX ISOMAX Series

Valvair II Series



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**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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**D**

Subbase & Manual Valves

H Series Micro

Modulflex Series

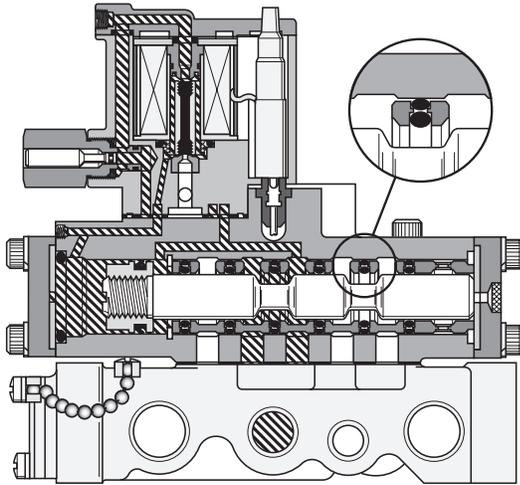
H Series ISO

Network Connectivity

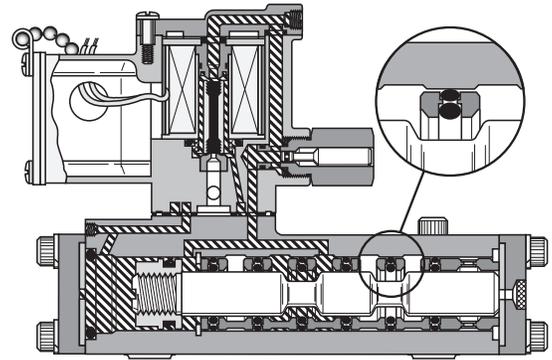
DX ISOMAX Series

Valvair II Series

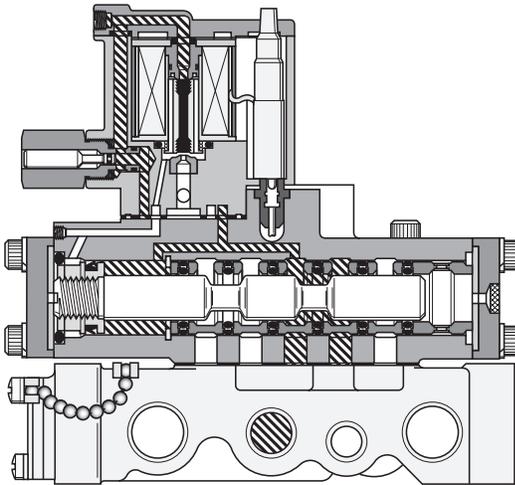
**Plug-In**  
 De-Energized



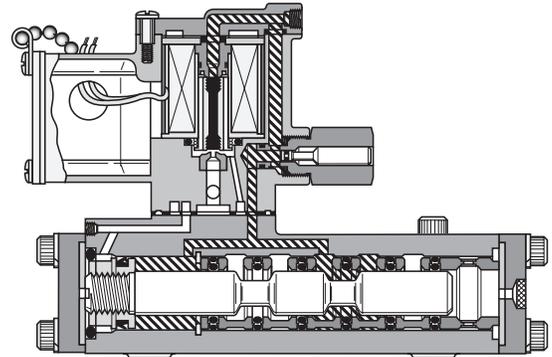
**Direct Pipe Ported**  
 De-Energized



**Energized**



**Energized**



 **Pressure**     **Exhaust**

D	Subbase & Manual Valves	H Series Micro	Modulflex Series	H Series ISO	Network Connectivity	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.



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

**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.

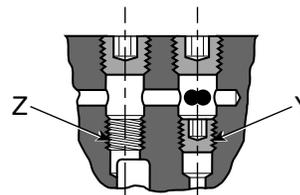
These solenoids should be used when valves are to be held energized for hours, days or weeks... or when extended ambient temperature operation is required. Apply the duty cycle formula to determine if this type of solenoid is required.

**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.

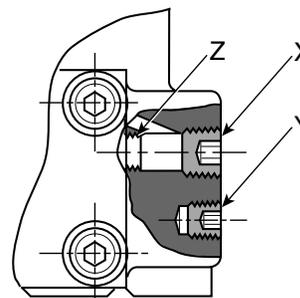
**Pilot Supply Conversion**



**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**

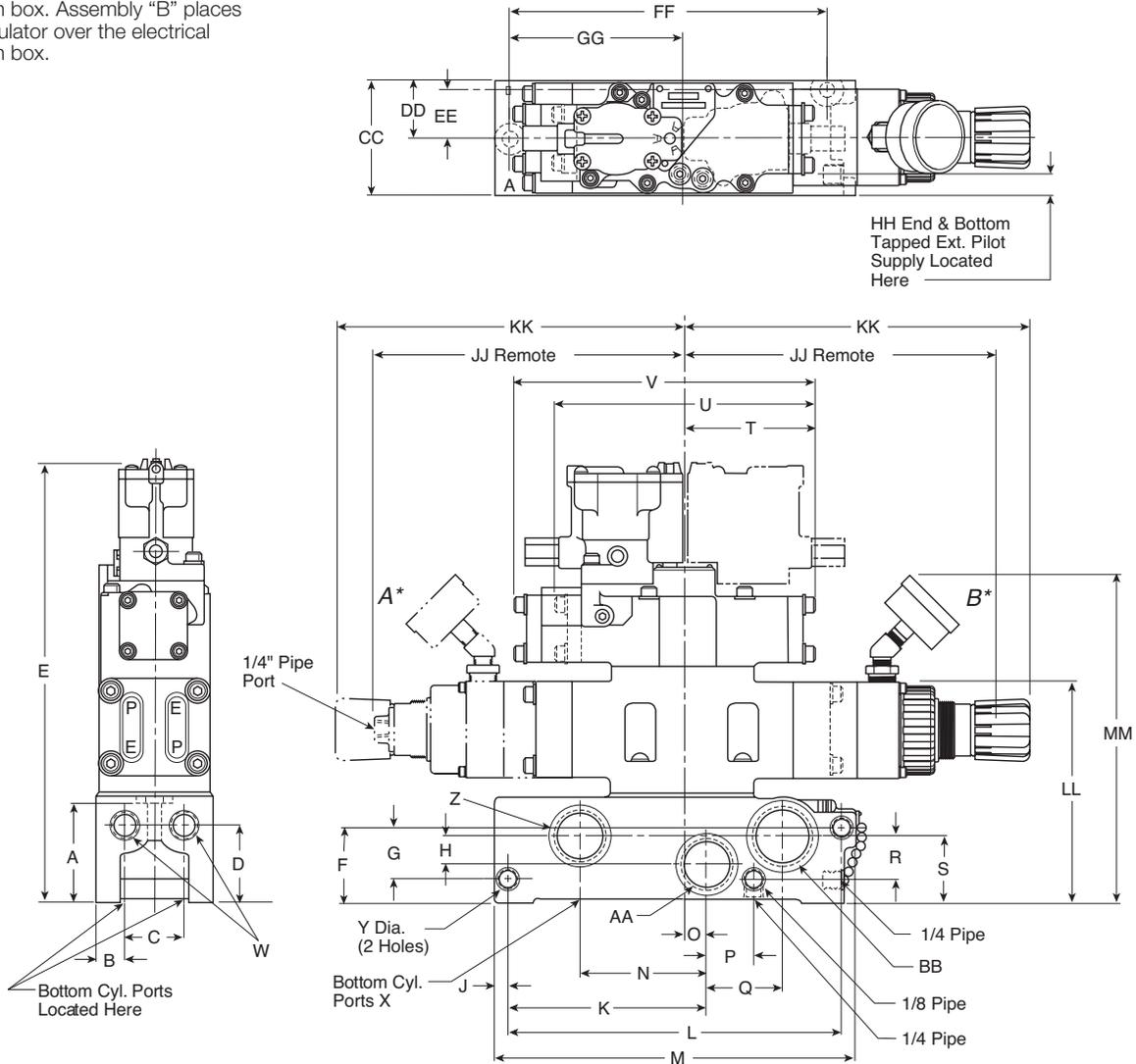
For field conversion to external pilot supply, remove and discard 1/4" NPTF plug in external pilot supply port "X". Move stored plug "Y" to location "Z" in bottom of pilot supply port "X". Then connect pilot pressure to port "X" in valve body.

D	Subbase & Manual Valves
	H Series Micro
H Series	Modulflex Series
	ISO
Network Connectivity	DX ISOMAX Series
	Valvair II Series



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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**

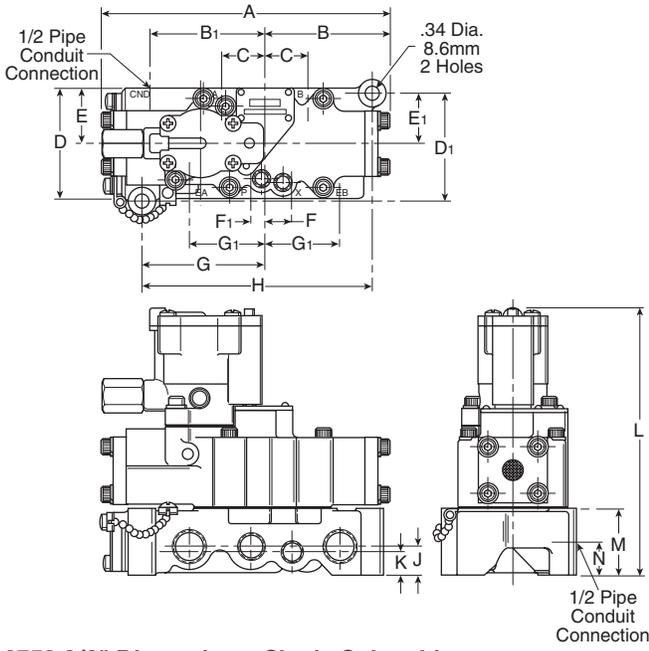
**Moduflex Series**

**H Series ISO**

**Network Connectivity**

**DX ISOMAX Series**

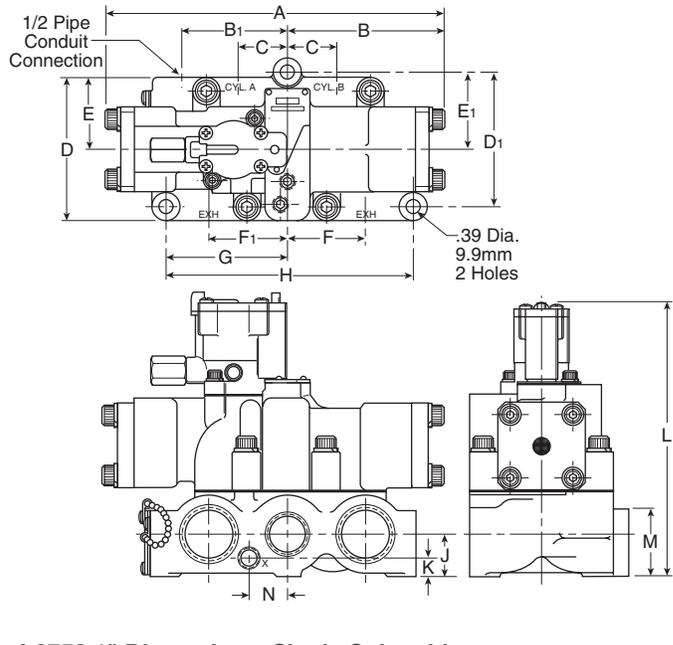
**Valvair II Series**



**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)

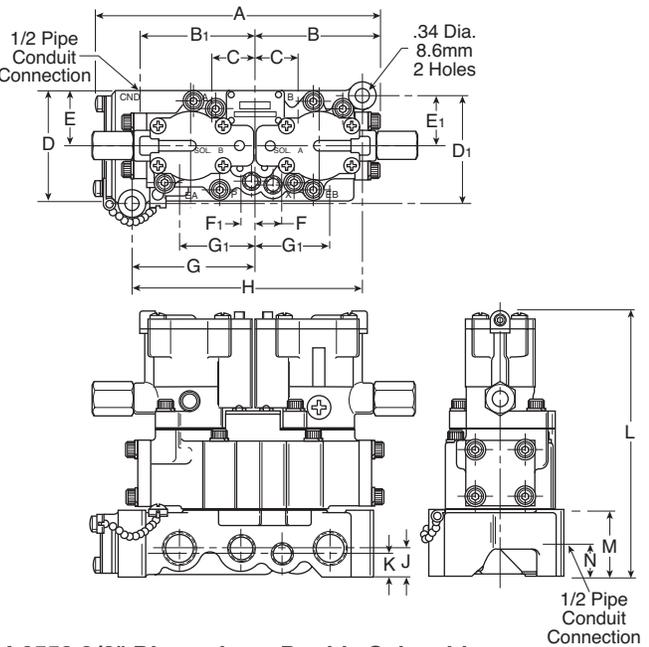
Inches (mm)



**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)	

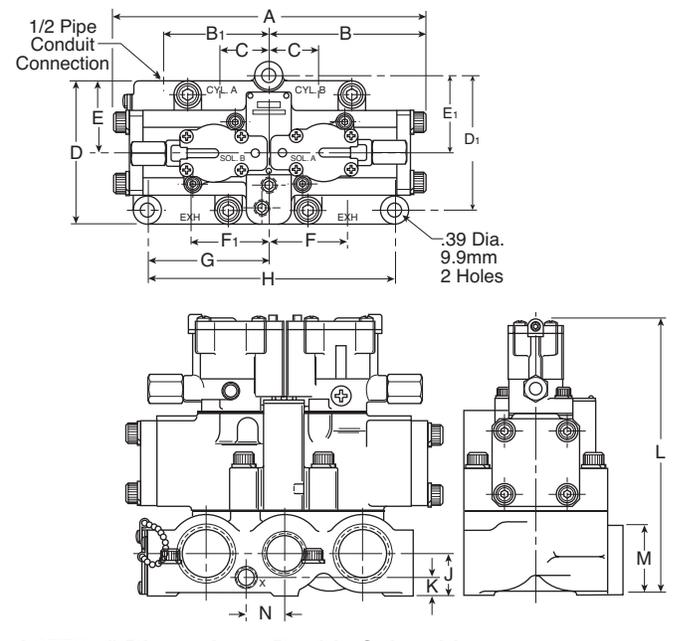
Inches (mm)



**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)

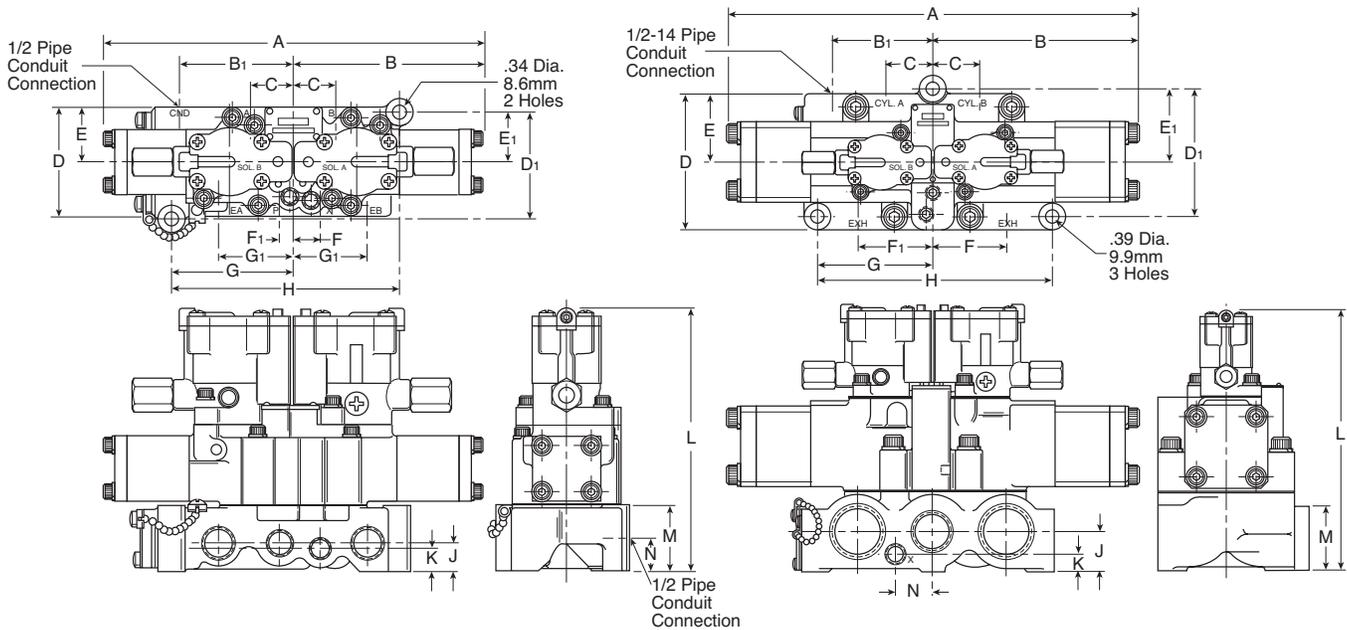
**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Moduteflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



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**L6653 3/8" Dimensions, 3-Position, Double Solenoid**

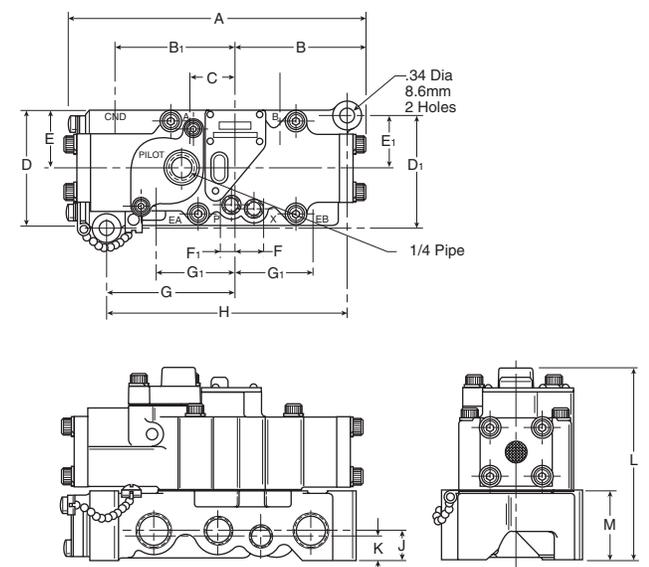
A	B	B <sub>1</sub>	C	D	D <sub>1</sub>	E	E <sub>1</sub>	F
9.64 (244.8)	4.82 (122.4)	2.94 (74.7)	1.12 (28.4)	2.88 (73.2)	2.84 (72.1)	1.44 (36.6)	1.34 (34)	.75 (19.1)
F <sub>1</sub>	G	G <sub>1</sub>	H	J	K	L	M	
.38 (9.7)	3.16 (80.3)	2.00 (50.8)	6.03 (153.2)	.75 (19.1)	.62 (15.7)	6.93 (176)	1.00 (25.4)	

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)	

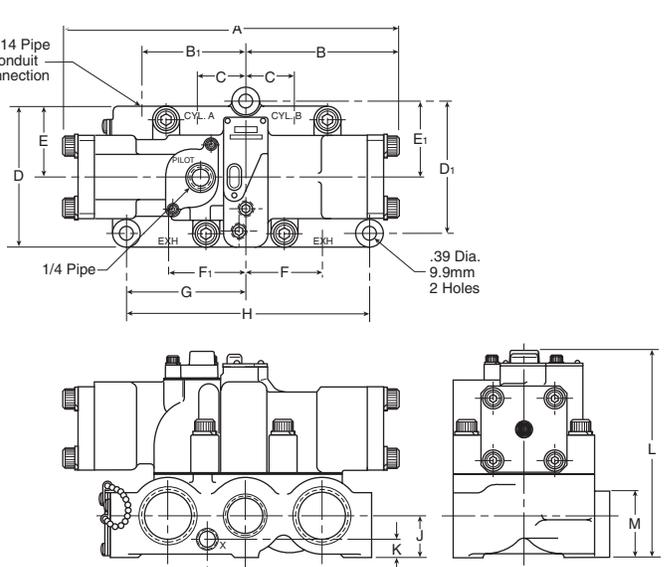
Inches (mm)



**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)



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

**D**

Subbase & Manual Valves

H Series Micro

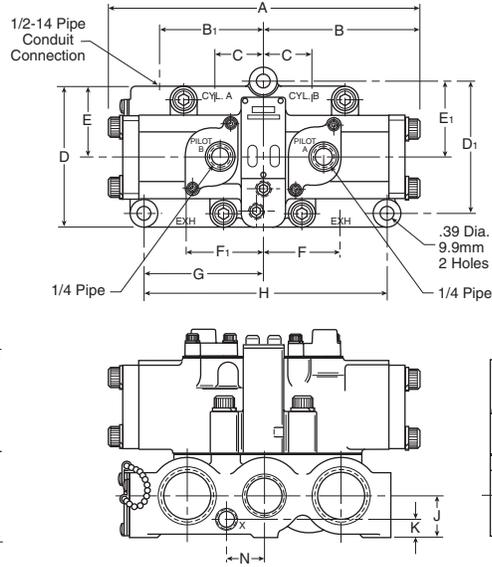
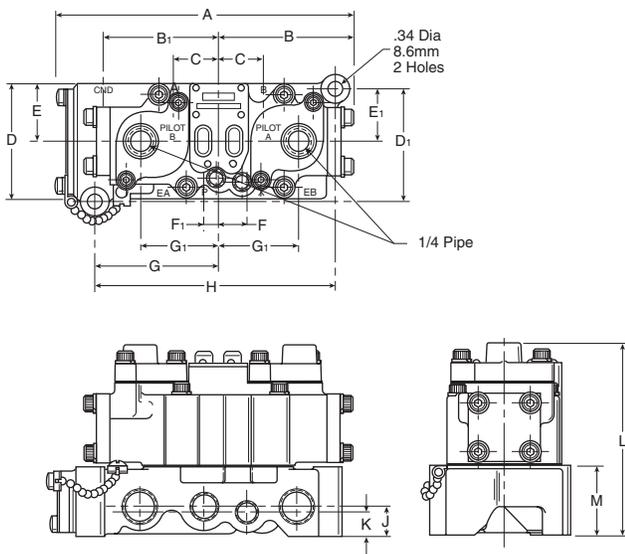
Modulflex Series

H Series ISO

Network Connectivity

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)	

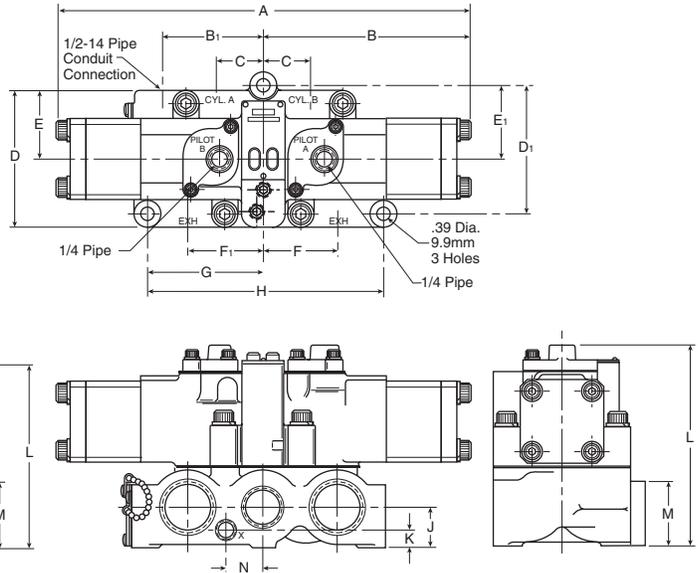
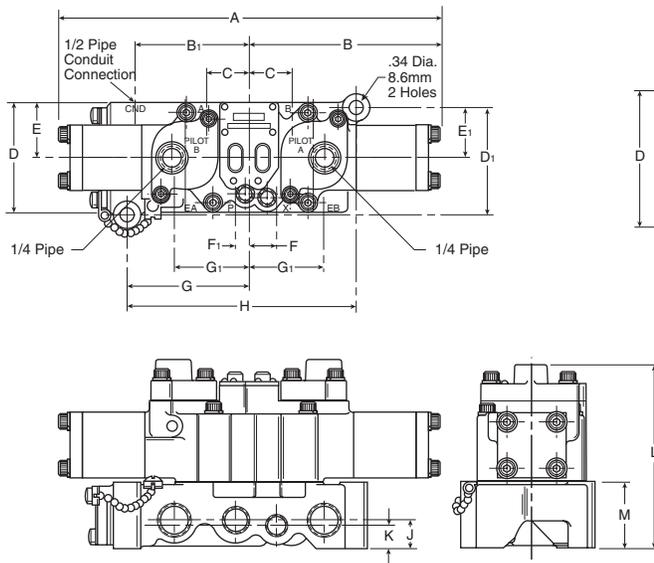
Inches (mm)

**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**  
**Network**  
**Connectivity**  
**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)

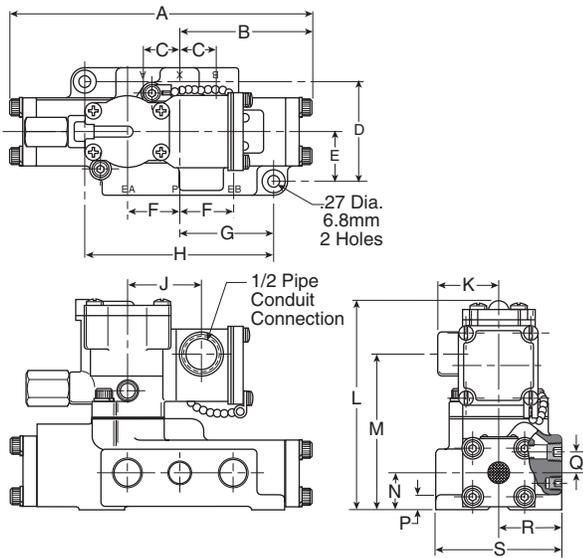
**L6648 1" Dimensions, 3-Position, Remote Pilot**

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)



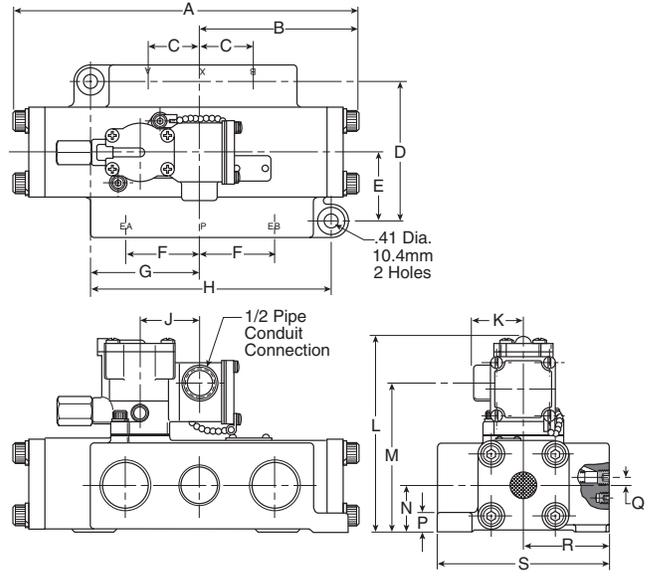
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)



**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)	

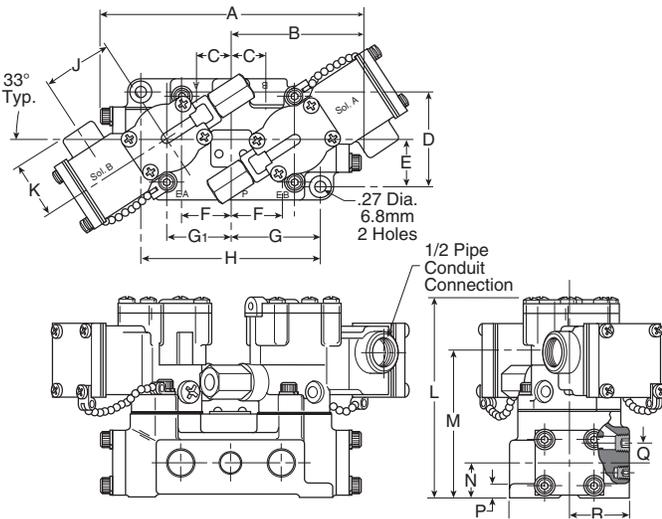
Inches (mm)



**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)	

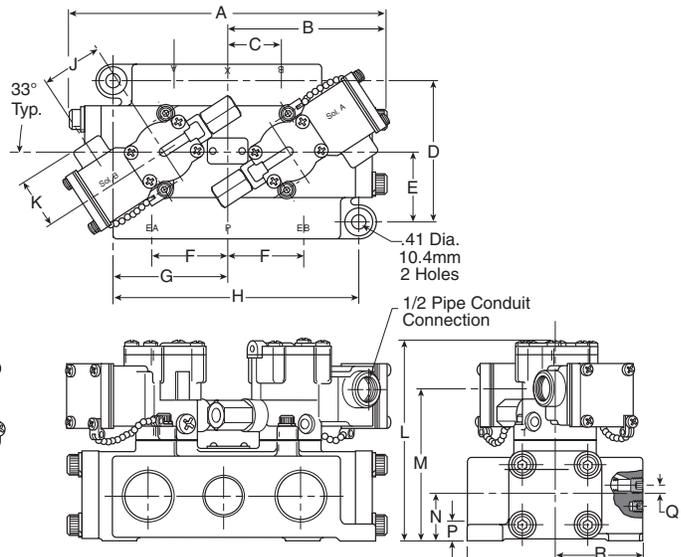
Inches (mm)



**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**

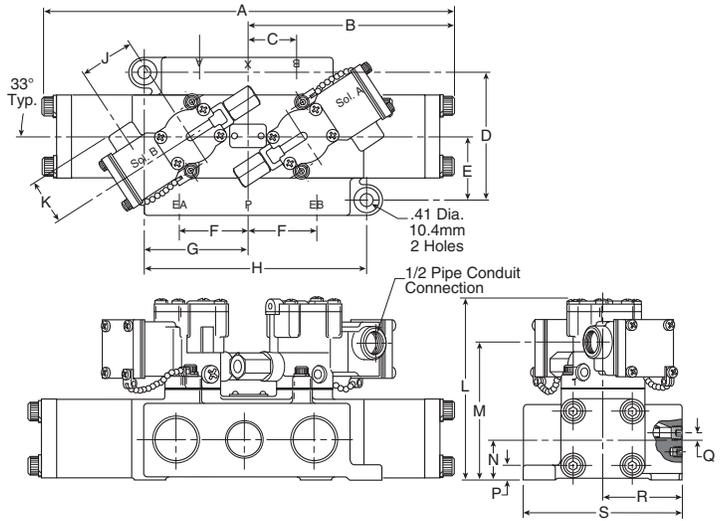
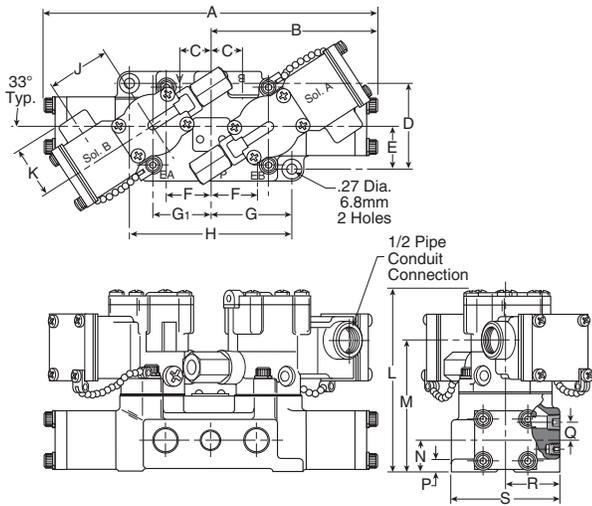
**Modulux Series**

**H Series ISO**

**Network Connectivity**

**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	4.82	.90	2.56	1.28	1.33	2.34	1.66	4.69
(244.8)	(122.4)	(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)

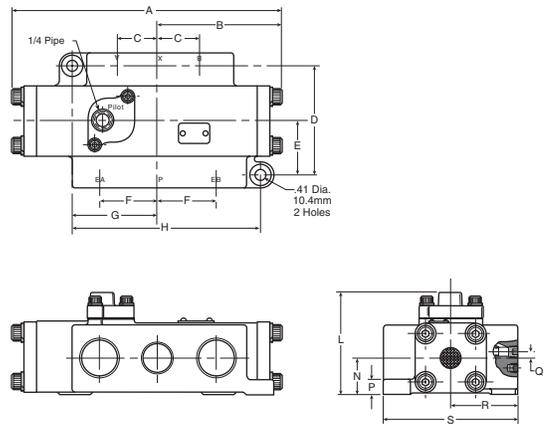
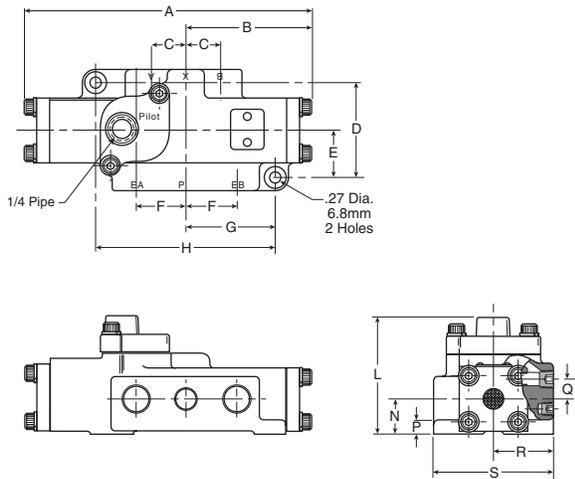
Inches (mm)

**L695 1" Dimensions, 3-Position, Double Solenoid**

A	B	C	D	E	F	G	H	J
13.63	6.81	1.62	4.25	2.12	2.19	3.44	7.44	1.82
(346.2)	(173)	(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)

**D**  
 Subbase & Manual Valves  
 H Series Micro  
 Modulflex Series  
 H Series ISO  
 Network Connectivity  
 DX ISOMAX Series  
 Valvair II Series



**L704 3/8" Dimensions, Single Remote Pilot**

A	B	C	D	E	F	G	H	L
7.56	3.32	.90	2.56	1.28	1.33	2.34	4.69	3.18
(192)	(84.3)	(22.9)	(65)	(32.5)	(33.8)	(59.4)	(119.1)	(80.8)
N	P	Q	R	S				
.94	.38	.53	1.62	3.25				
(23.9)	(9.7)	(13.5)	(41.1)	(82.6)				

Inches (mm)

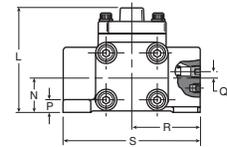
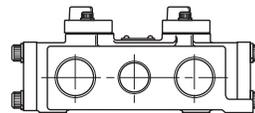
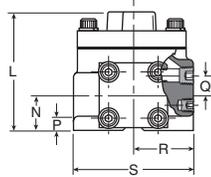
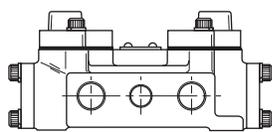
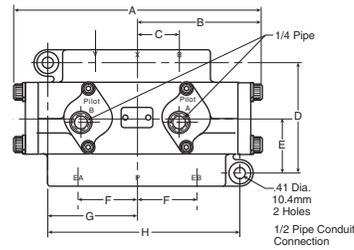
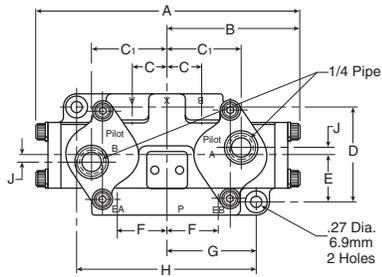
**L704 1" Dimensions, Single Remote Pilot**

A	B	C	D	E	F	G	H	L
10.46	4.75	1.62	4.25	2.12	2.19	3.44	7.44	4.09
(265.7)	(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)



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



**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)

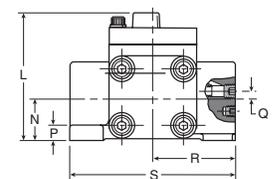
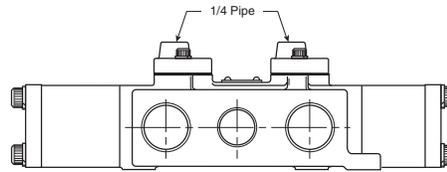
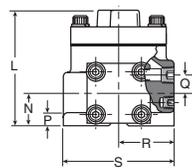
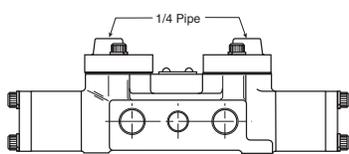
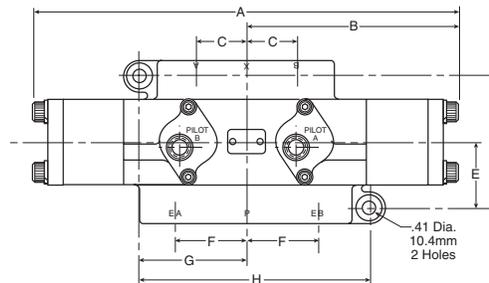
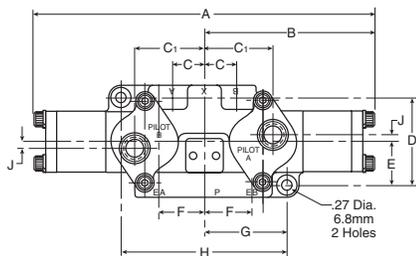
Inches (mm)

**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)

D295

**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

Network Connectivity

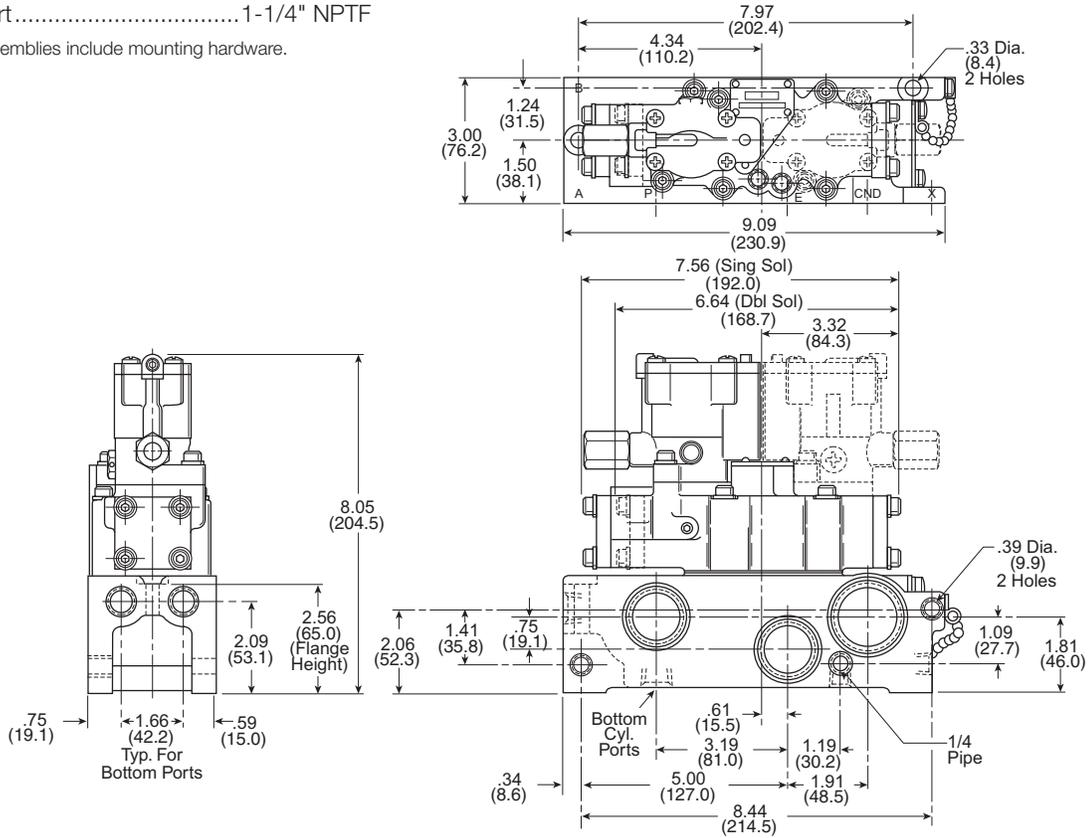
DX ISOMAX Series

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	Network Connectivity
DX ISOMAX Series	Valvair II Series



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

D296

**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

**E**  
**Manual / Mechanical Valves**



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

Features

**Directair 2 & 4 Series**

**Directair 2, 1/8" valves**  
Poppet style – .17 Cv

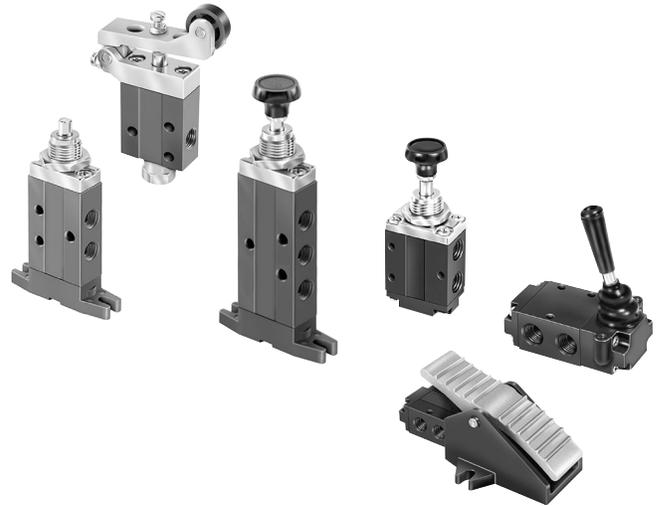
- Economical
- 3-way normally closed function

**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



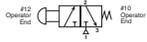
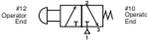
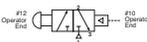
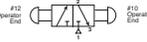
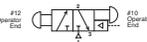
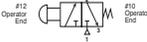
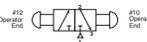
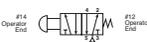
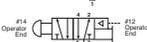
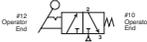
Manual / Mechanical Valves

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



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

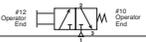
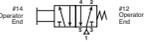
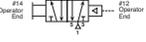
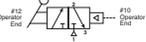
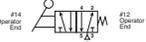
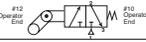
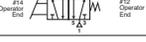
3-Way & 4-Way Valves

	Symbol	Port Size	Cv	Description	Valve Type	Part Number
Directair 2 & 4 Series Viking Xtreme Lever Series 42 Lever / Pedal Series M0 Series Safety	<b>Lever Operated</b>					
		1/4"	.83	3-Way, Spring Return	Spool	524811000
		1/4"	.83	3-Way, Manual Return	Spool	524831000
		1/4"	.83	3-Way, 3-Position Detented, All Ports Blocked	Spool	523831000
		1/4"	.83	4-Way, Spring Return	Spool	520811000
		1/4"	.83	4-Way, Manual Return	Spool	520831000
		1/4"	.83	4-Way, Spring Centered, Closed Center	Spool	521811000
		1/4"	.83	4-Way, Spring Centered, Pressure Center	Spool	522811000
		1/4"	.83	4-Way, Spring Centered, Exhaust Center	Spool	529811000
		1/4"	.83	4-Way, Detented, Closed Center	Spool	521831000
Manual / Mechanical Valves Brass Poppet / Sliding Seal Control Panel Products Sensing	<b>Roller Operated</b>					
		1/8"	.20	3-Way, Spring Return	Poppet	404211000
		1/8"	.20	3-Way, Spring Return	Spool	414211000
		1/8"	.20	3-Way, Spring Return, Foot Mounted	Spool	414221000
		1/8"	.20	3-Way, Pilot Return	Spool	414251000
		1/8"	.20	4-Way, Spring Return	Spool	410211000
		1/8"	.20	4-Way, Spring Return, Foot Mounted	Spool	410221000
		1/8"	.20	4-Way, Pilot Return	Spool	410251000
	<b>Roller Operated</b>					
		1/4"	.83	3-Way, Spring Return, Delrin Roller	Spool	524211000
	1/4"	.83	3-Way, Pilot Return, Delrin Roller	Spool	524251000	
	1/4"	.83	3-Way, Spring Return, Steel Roller	Spool	524A11000	
	1/4"	.83	3-Way, Pilot Return, Steel Roller	Spool	524A51000	
	1/4"	.83	4-Way, Spring Return, Delrin Roller	Spool	520211000	
	1/4"	.83	4-Way Pilot Return, Delrin Roller	Spool	520251000	
	1/4"	.83	4-Way, Spring Return, Steel Roller	Spool	520A11000	
	1/4"	.83	4-Way, Pilot Return, Steel Roller	Spool	520A51000	



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.

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



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

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.

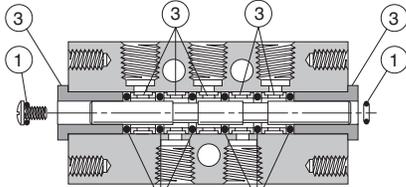
Actuation	
Roller - Delrin	2
Button	4
Pedal	7
Lever	8
Treadle	9
Roller - Metal	A



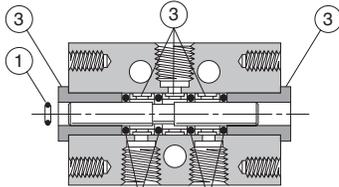
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Service Kits – 1/8 Port Size Valves (DA2)**

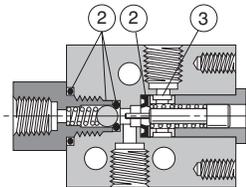
①	Spool Valve Seal Kit (3 & 4-way, direct pipe ported)	<b>410008000</b>
②	Poppet Valve Seal Kit	<b>404118000</b>
③	Body Service Kit	<b>410008005</b>



4-Way Spool



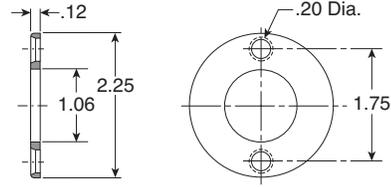
3-Way Spool



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.



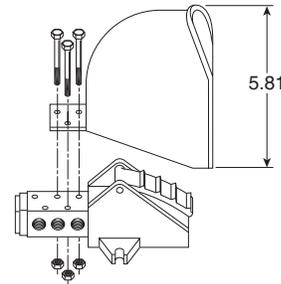
**Pedal Guard Kit – No. 520718001**

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.



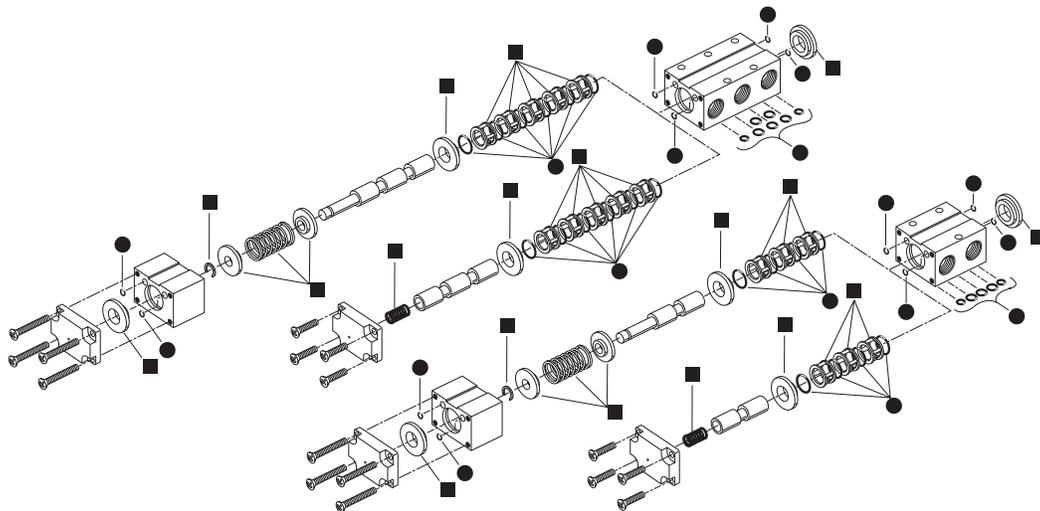
**CAUTION:**

*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.*

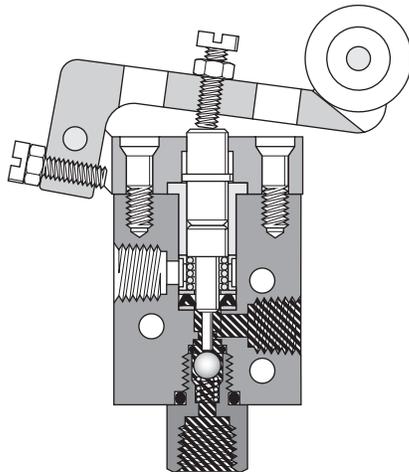


**Service Kits – 1/4 Port Size Valves (DA4)**

●	<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>



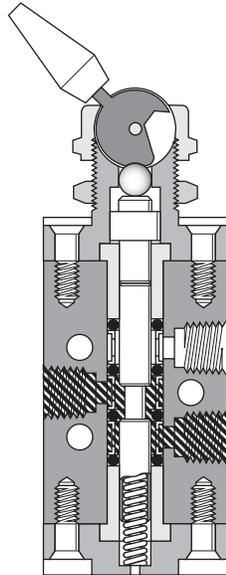
Directair 2 & 4 Series	Viking Xtreme Lever Series	42 Lever / Pedal Series	MO Series	Safety		Manual / Mechanical Valves	Brass Poppet / Sliding Seal	Control Panel Products	Sensing
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**Roller Operated Poppet**



**Button Operated**



**Toggle Operated Spool**



**Lever Operated**



**Treadle Operated**

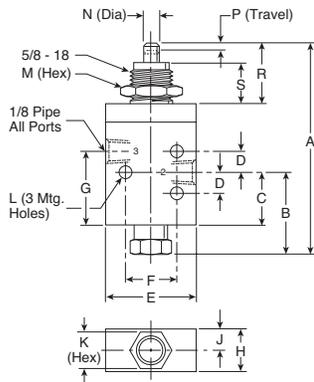
 Pressure     Exhaust



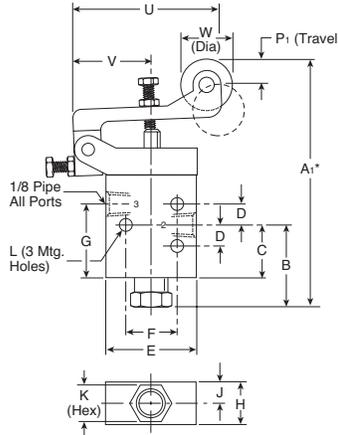
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Plunger, Roller, One-way Tripper & Toggle Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports**

**Plunger Operated**



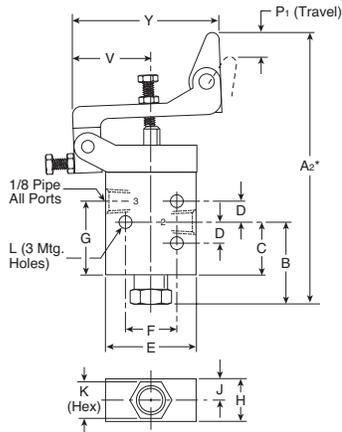
**Roller Operated**



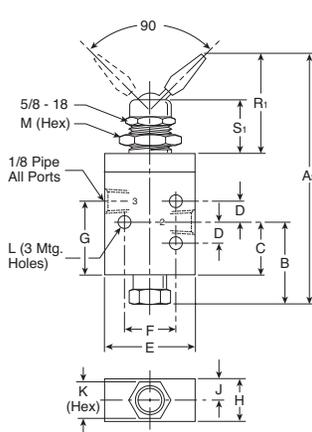
**3-Way, 3-Port, 2-Position**

<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)			

**One-Way Tripper Operated**



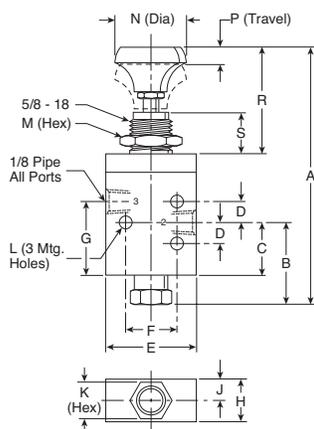
**Toggle Operated**



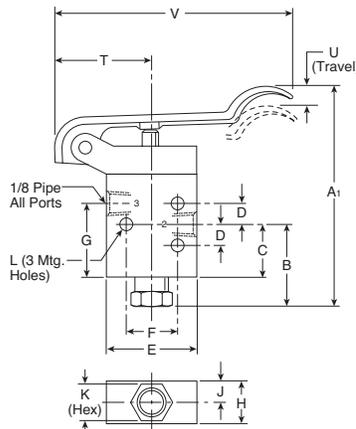
\* Dimensions may be reduced .44" using adjusting screw.  
 Inches (mm)

**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)



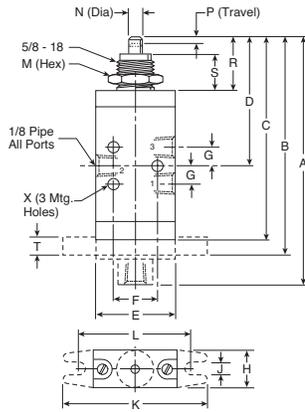
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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

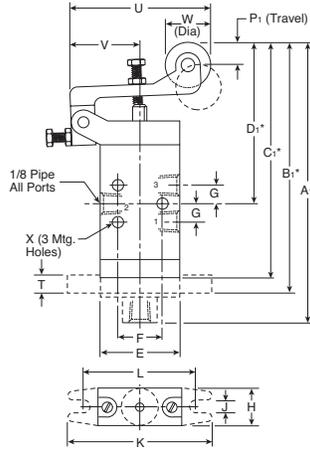
**Dimensional Data**

**Plunger, Roller, One-way Tripper & Toggle Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports**

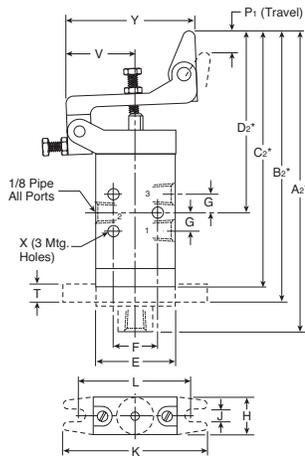
**Plunger Operated**



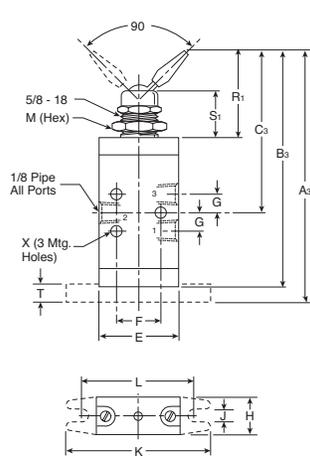
**Roller Operated**



**One-Way Tripper Operated**



**Toggle Operated**



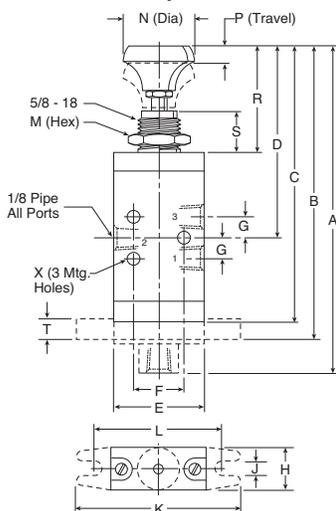
**3-Way, 3-Port, 2-Position**

<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)				

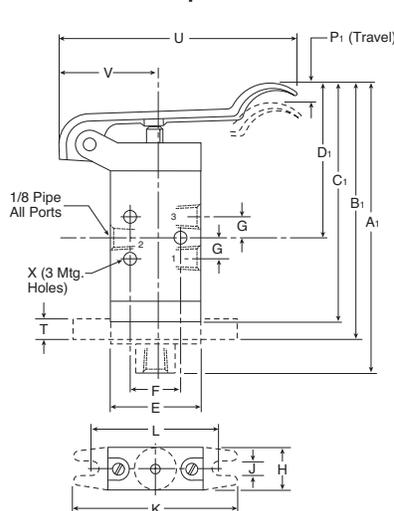
\* Dimensions may be reduced .44" using adjusting screw.  
 Inches (mm)

**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

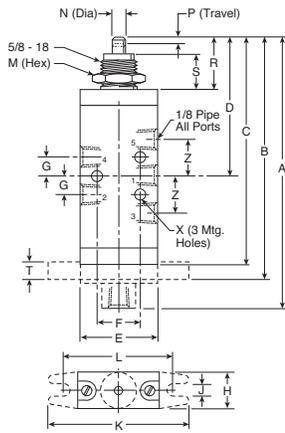
Sensing



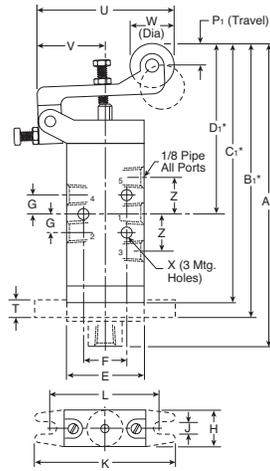
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Plunger, Roller, One-way Tripper & Toggle Operated — 4-Way, 5-Port, 2-Position – 1/8" Ports**

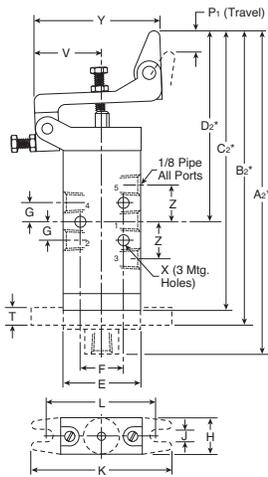
**Plunger Operated**



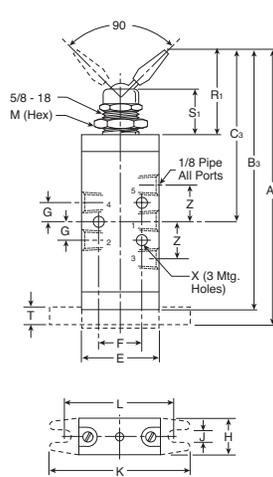
**Roller Operated**



**One-Way Tripper Operated**



**Toggle Operated**



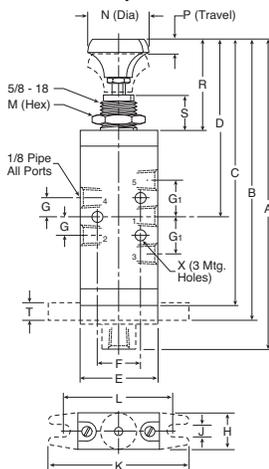
**4-Way, 5-Port, 2-Position**

<b>A</b>	<b>A1*</b>	<b>A2*</b>	<b>A3</b>	<b>B</b>
4.75 (121)	5.59 (142)	5.84 (148)	4.84 (123)	4.22 (107)
<b>B1*</b>	<b>B2*</b>	<b>B3</b>	<b>C</b>	<b>C1*</b>
5.06 (128)	5.31 (135)	4.61 (117)	3.99 (102)	4.83 (123)
<b>C2*</b>	<b>C3</b>	<b>D</b>	<b>D1*</b>	<b>D2*</b>
5.08 (129)	3.06 (78)	2.44 (62)	3.28 (83)	3.53 (90)
<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>
1.31 (33)	.75 (19)	.31 (8)	.62 (16)	.20 (5)
<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>
2.38 (60)	1.88 (48)	.88 (22)	.25 (6)	.17 (4)
<b>P1</b>	<b>R</b>	<b>R1</b>	<b>S</b>	<b>S1</b>
.38 (10)	.91 (23)	1.53 (39)	.62 (16)	.78 (20)
<b>T</b>	<b>U</b>	<b>V</b>	<b>W</b>	<b>X</b>
.25 (6)	2.28 (58)	1.19 (30)	.75 (19)	.19 (5)
<b>Y</b>	<b>Z</b>			
2.19 (56)	.62 (16)			

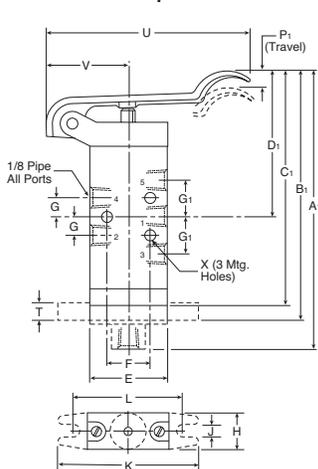
\* Dimensions may be reduced .44" using adjusting screw.  
 Inches (mm)

**Button & Hand Lever Operated — 4-Way, 5-Port, 2-Position – 1/8" Ports**

**Button Operated**



**Hand Lever Operated**



**4-Way, 5-Port, 2-Position**

<b>A</b>	<b>A1</b>	<b>B</b>	<b>B1</b>	<b>C</b>
5.69 (144)	4.90 (124)	5.16 (131)	4.38 (111)	4.92 (125)
<b>C1</b>	<b>D</b>	<b>D1</b>	<b>E</b>	<b>F</b>
4.14 (105)	3.67 (93)	2.90 (74)	1.31 (33)	.75 (19)
<b>G</b>	<b>G1</b>	<b>H</b>	<b>J</b>	<b>K</b>
.31 (8)	.63 (16)	.62 (16)	.20 (5)	2.38 (60)
<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>	<b>P1</b>
1.88 (48)	.88 (22)	1.06 (27)	.17 (4)	.53 (13)
<b>R</b>	<b>S</b>	<b>T</b>	<b>U</b>	<b>V</b>
1.67 (42)	.63 (16)	.25 (6)	3.38 (86)	1.19 (30)
<b>X</b>	<b>Y</b>			
.19 (5)	.59 (15)			

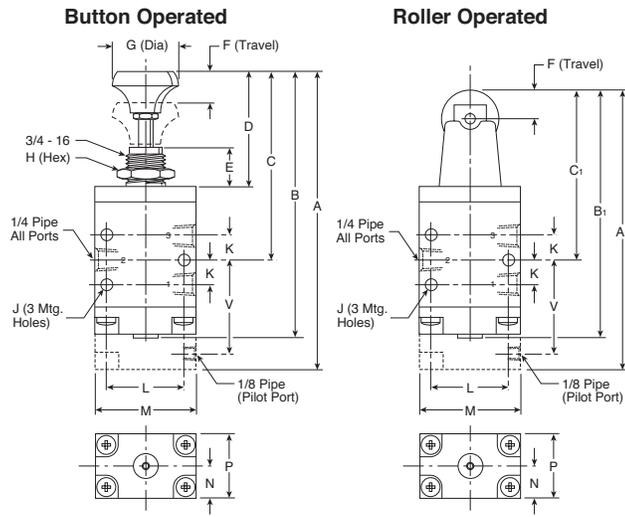
Inches (mm)



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**

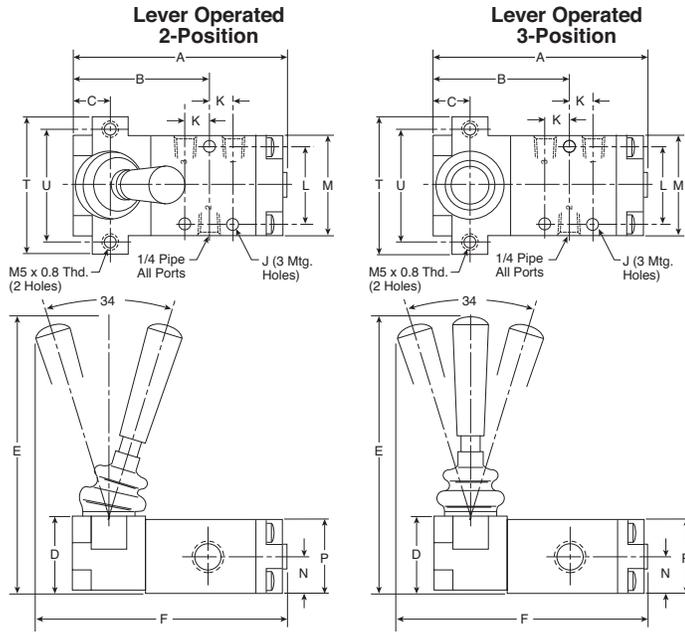


**3-Way, 3-Port, 2-Position**

<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>	<b>B<sub>1</sub></b>	<b>C</b>
4.91 (125)	4.25 (108)	4.44 (113)	3.78 (96)	3.10 (79)
<b>C<sub>1</sub></b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
2.44 (62)	2.00 (51)	.63 (16)	.32 (8)	1.05 (27)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>
1.00 (25)	.19 (5)	.41 (10)	1.25 (32)	1.63 (42)
<b>N</b>	<b>P</b>	<b>V</b>		
.53 (14)	1.06 (27)	1.52 (39)		

Inches (mm)

**Lever & Pedal Operated — 3-Way, 3-Port, 2 & 3-Position**

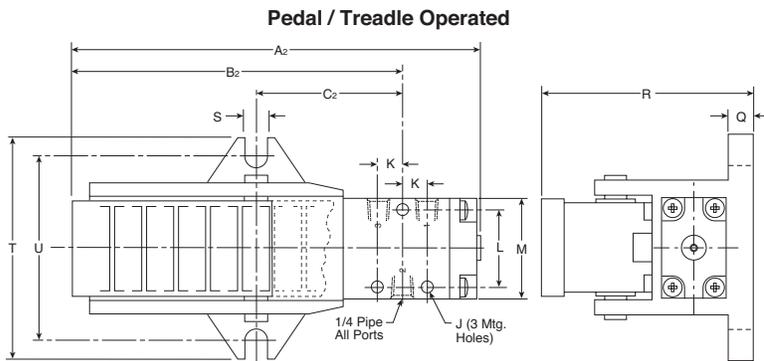


**3-Way, 3-Port, 2 & 3-Position**

<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>	<b>B<sub>1</sub></b>	<b>C</b>
3.31 (84)	6.55 (166)	1.97 (50)	5.20 (132)	.53 (14)
<b>C<sub>1</sub></b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>J</b>
2.19 (56)	1.12 (28)	4.06 (103)	3.90 (99)	.19 (5)
<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>
.41 (10)	1.25 (32)	1.63 (42)	.53 (14)	1.06 (27)
<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>	<b>T<sub>1</sub></b>
.37 (10)	2.40 (61)	.34 (9)	2.13 (54)	3.50 (89)

<b>U</b>	<b>U<sub>1</sub></b>
1.75 (44)	3.00 (76)

Inches (mm)



**CAUTION:**

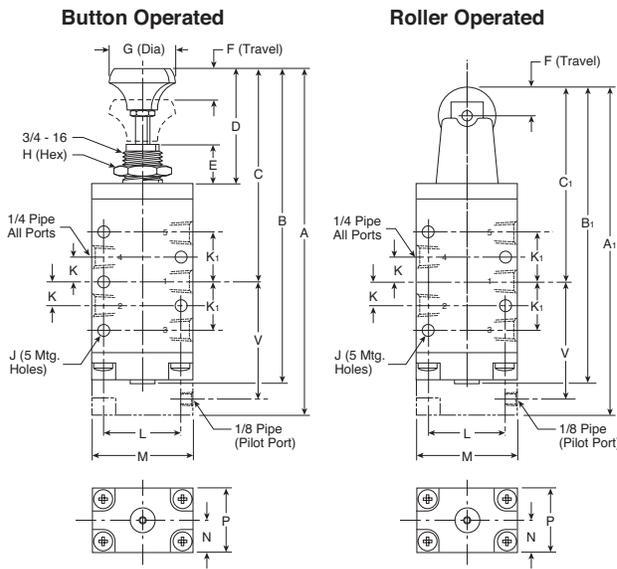
*This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.*



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

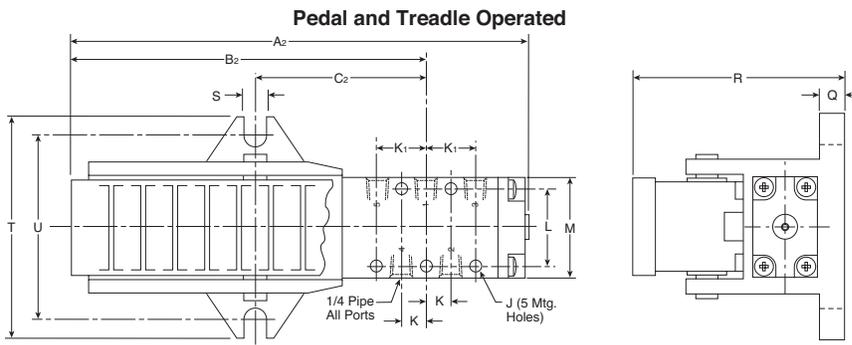
**Button, Roller, Pedal & Treadle, Lever Operated — 4-Way, 5-Port, 2-Position**



**4-Way, 5-Port, 2-Position**

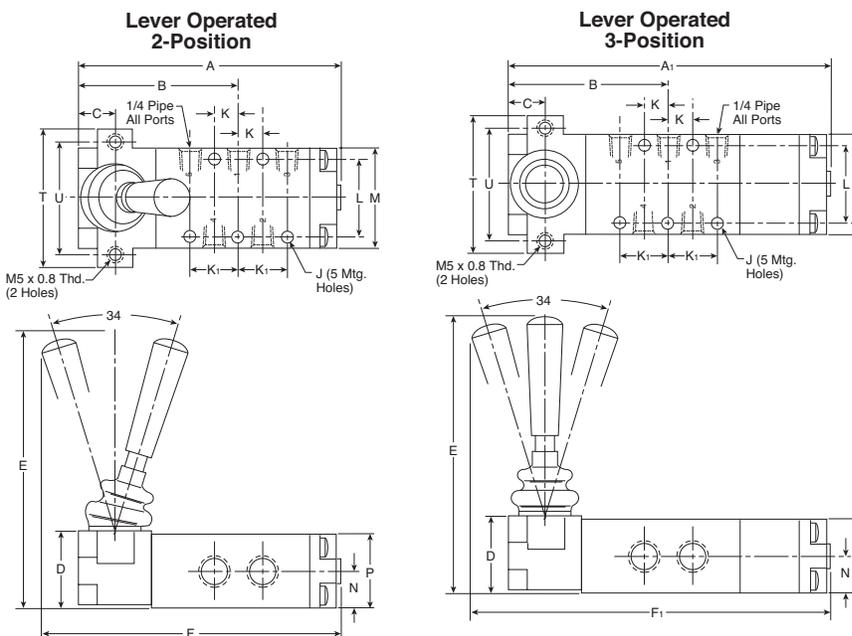
<b>A</b>	<b>A<sub>1</sub></b>	<b>A<sub>2</sub></b>	<b>B</b>	<b>B<sub>1</sub></b>
5.75 (146)	5.13 (130)	7.41 (189)	5.28 (134)	4.66 (118)
<b>B<sub>2</sub></b>	<b>C</b>	<b>C<sub>1</sub></b>	<b>C<sub>2</sub></b>	<b>D</b>
5.63 (143)	3.50 (89)	2.88 (73)	2.64 (67)	2.00 (51)
<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<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**

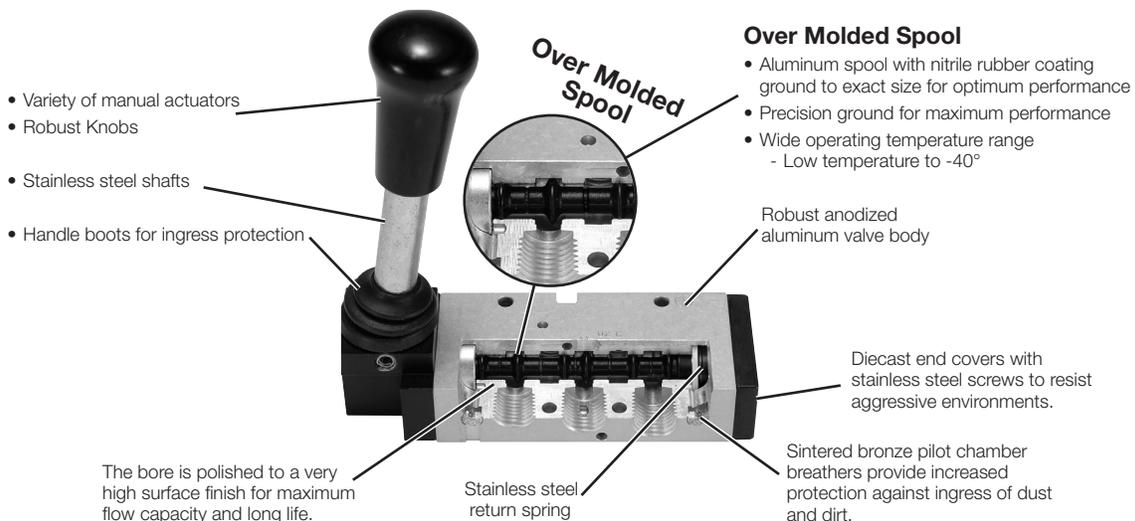
Operating pressure: Type A & B: Vacuum to 232 PSIG (Vacuum to 16 bar Max.)  
 Type C & D: Vacuum to 174 PSIG (Vacuum to 12 bar Max.)  
 Temperature range: Xtreme: -40°F to 140°F (-40°C to 60°C)

**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



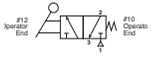
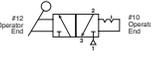
Manual / Mechanical Valves

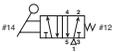
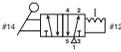
Brass Poppet / Sliding Seal

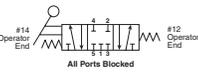
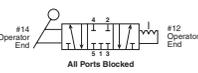
Control Panel Products

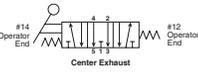
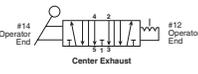
Sensing

Common Part Numbers

3/2 - 2-Position *	Symbol	Valve Type	Port Size	Cv	Weight lb (kg)	Part Number NPT	Part Number BSPP
 Size P2LBX Shown		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>P2LBX392VS</b>	<b>P2LBX312VS</b>
			3/8	2.5	0.88 (0.40)	<b>P2LCX393VS</b>	<b>P2LCX313VS</b>
			1/2	2.7	1.32 (0.60)	<b>P2LDX394VS</b>	<b>P2LDX314VS</b>
 Size P2LAX Shown		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>P2LBX392VV</b>	<b>P2LBX312VV</b>
			3/8	2.5	0.88 (0.40)	<b>P2LCX393VV</b>	<b>P2LCX313VV</b>
			1/2	2.7	1.32 (0.60)	<b>P2LDX394VV</b>	<b>P2LDX314VV</b>

5/2 - 2-Position *	Symbol	Valve Type	Port Size	Cv	Weight lb (kg)	Part Number NPT	Part Number BSPP
 Size P2LBX Shown		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>P2LBX592VS</b>	<b>P2LBX512VS</b>
			3/8	2.5	0.88 (0.40)	<b>P2LCX593VS</b>	<b>P2LCX513VS</b>
			1/2	2.7	1.32 (0.60)	<b>P2LDX594VS</b>	<b>P2LDX514VS</b>
 Size P2LAX Shown		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>P2LBX592VV</b>	<b>P2LBX512VV</b>
			3/8	2.5	0.88 (0.40)	<b>P2LCX593VV</b>	<b>P2LCX513VV</b>
			1/2	2.7	1.32 (0.60)	<b>P2LDX594VV</b>	<b>P2LDX514VV</b>

5/3 - 3-Position,* All Ports Blocked	Symbol	Valve Type	Port Size	Cv	Weight lb (kg)	Part Number NPT	Part Number BSPP
 Size P2LAX Shown		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>P2LBX69211</b>	<b>P2LBX61211</b>
			3/8	2.5	1.56 (0.71)	<b>P2LCX69311</b>	<b>P2LCX61311</b>
			1/2	2.7	1.61 (0.73)	<b>P2LDX69411</b>	<b>P2LDX61411</b>
 Size P2LBX Shown		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>P2LBX69222</b>	<b>P2LBX61222</b>
			3/8	2.5	1.56 (0.71)	<b>P2LCX69322</b>	<b>P2LCX61322</b>
			1/2	2.7	1.61 (0.73)	<b>P2LDX69422</b>	<b>P2LDX61422</b>

5/3 - 3-Position,* Center Exhaust	Symbol	Valve Type	Port Size	Cv	Weight lb (kg)	Part Number NPT	Part Number BSPP
 Size P2LDX Shown		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>P2LBX89211</b>	<b>P2LBX81211</b>
			3/8	2.5	1.56 (0.71)	<b>P2LCX89311</b>	<b>P2LCX81311</b>
			1/2	2.7	1.61 (0.73)	<b>P2LDX89411</b>	<b>P2LDX81411</b>
 Size P2LBX Shown		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>P2LBX89222</b>	<b>P2LBX81222</b>
			3/8	2.5	1.56 (0.71)	<b>P2LCX89322</b>	<b>P2LCX81322</b>
			1/2	2.7	1.61 (0.73)	<b>P2LDX89422</b>	<b>P2LDX81422</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



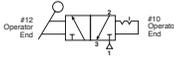
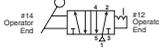
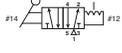
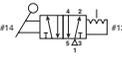
Manual / Mechanical  
Valves

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)

Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 4/2 Lever / Pedal Series  
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 Sensing

**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

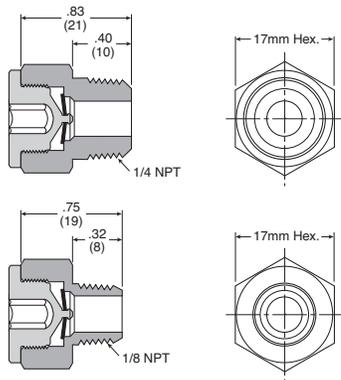


**Plastic Silencers**

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

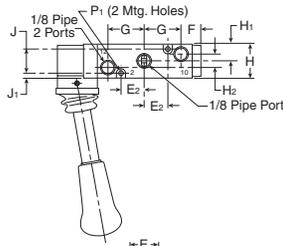


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Dimensional Data**

**P2LAX 3/2 Hand Lever Operated**  
 Lever operation 90° to ports movement

**P2LAX 3/2**

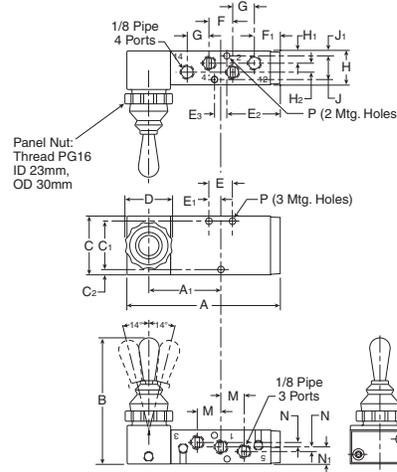


A	B	C
3.88 (99)	5.23 (133)	1.57 (40)
C <sub>1</sub>	C <sub>2</sub>	D
1.26 (32)	.16 (4)	1.06 (27)
E	E <sub>1</sub>	E <sub>2</sub>
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22)
H <sub>1</sub>	H <sub>2</sub>	J
.42 (10.6)	.02 (0.5)	.65 (16.5)
J <sub>1</sub>	M	M <sub>1</sub>
.11 (2.9)	.79 (20)	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**

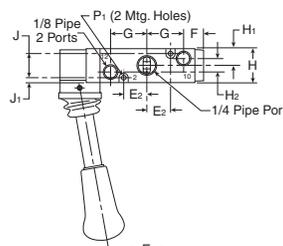


A	A <sub>1</sub>	B
4.02 (102)	1.89 (48)	3.23 (82)
C	C <sub>1</sub>	C <sub>2</sub>
1.57 (40)	1.30 (33)	.14 (3.5)
D	E <sub>2</sub>	E <sub>3</sub>
1.18 (30)	1.42 (36)	.33 (8.5)
F	F <sub>1</sub>	G
.63 (16)	.67 (17)	.59 (15)
H	H <sub>1</sub>	H <sub>2</sub>
.87 (22)	.31 (8)	.24 (6)
J	J <sub>1</sub>	M
.63 (16)	.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**

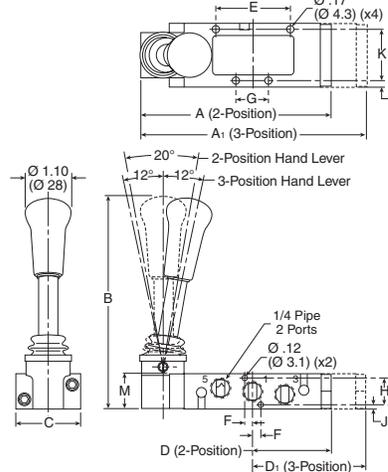


A	B	C
3.88 (99)	5.23 (133)	1.57 (40)
C <sub>1</sub>	C <sub>2</sub>	D
1.26 (32)	.16 (4)	1.06 (27)
E	E <sub>1</sub>	E <sub>2</sub>
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22)
H <sub>1</sub>	H <sub>2</sub>	J
.42 (10.6)	.02 (0.5)	.65 (16.5)
J <sub>1</sub>	M	M <sub>1</sub>
.11 (2.9)	.79 (20)	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)

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



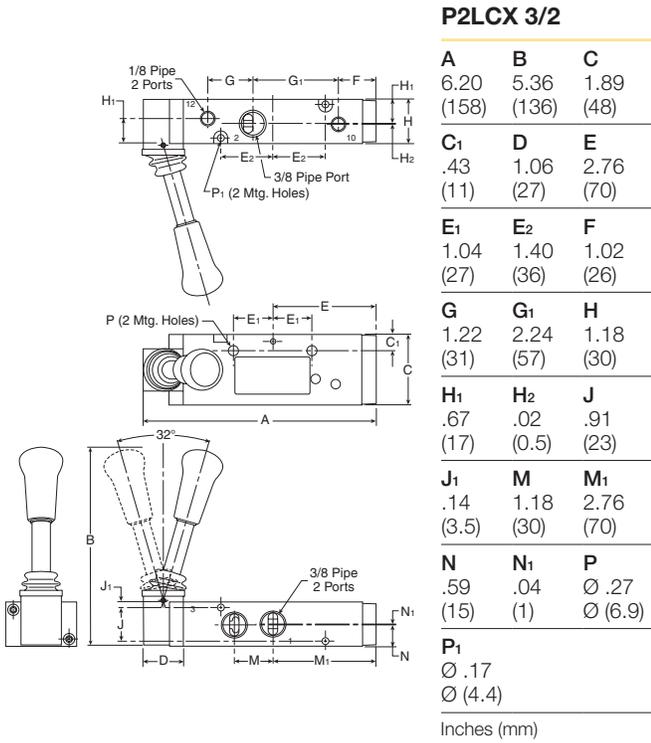
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

E17-a

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

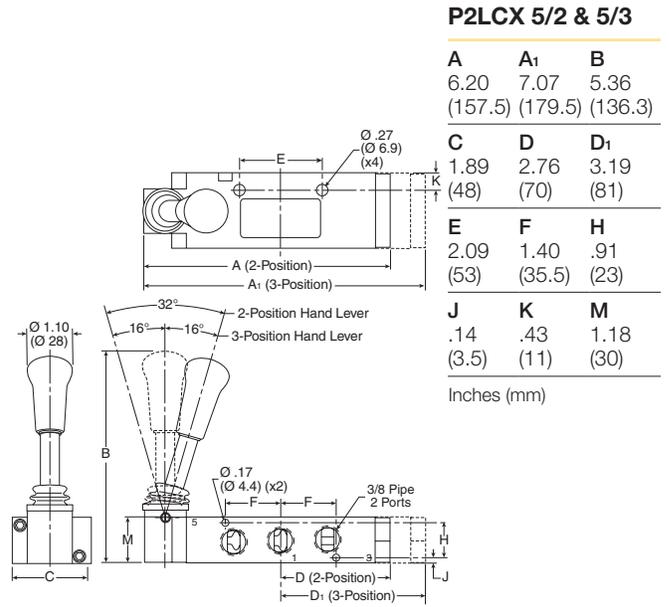
**Dimensional Data**

**P2LCX 3/2 Hand Lever Operated**  
Lever operation 90° to ports movement

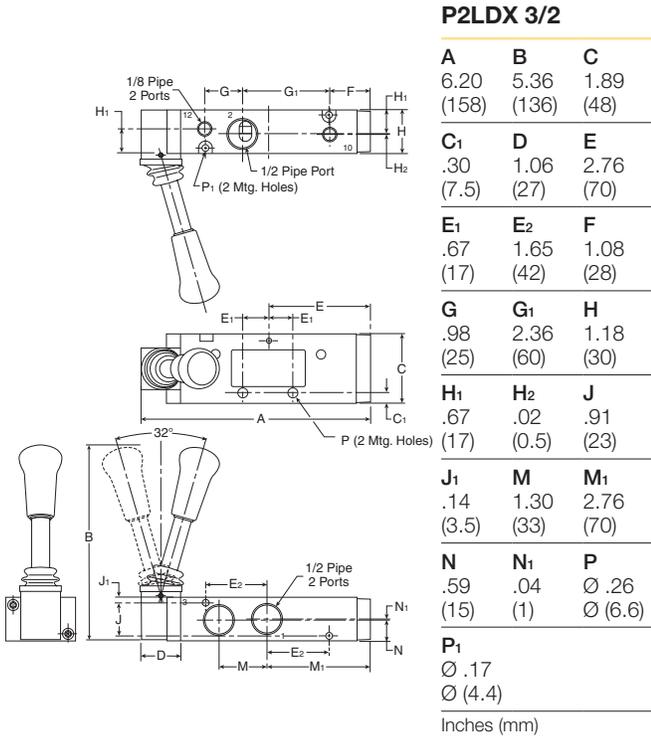


**Manual / Mechanical Products**  
**Viking Xtreme Manual Series**

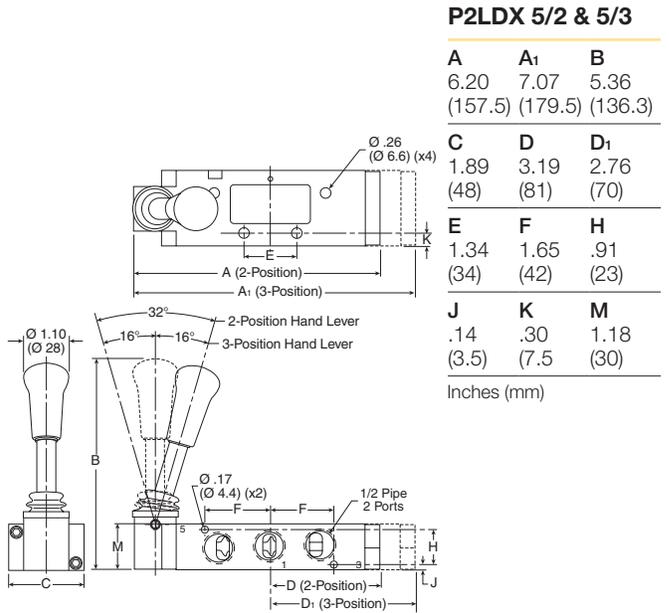
**P2LCX 5/2 & 5/3 Hand Lever Operated**  
Lever operation 90° to ports movement



**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



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



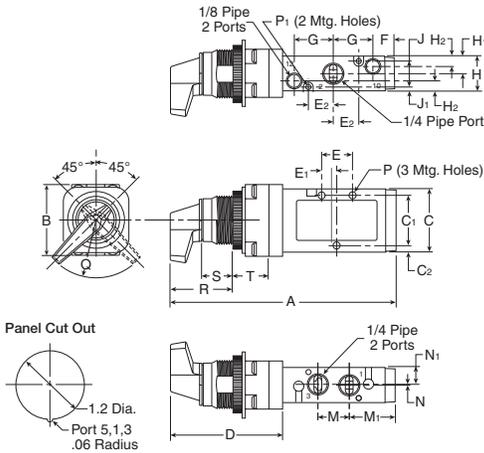
Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

**P2LBX 3/2 Twist Lever Operated**

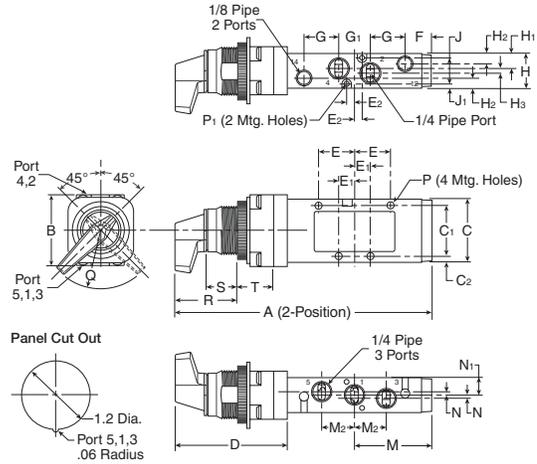


**P2LBX 3/2**

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**

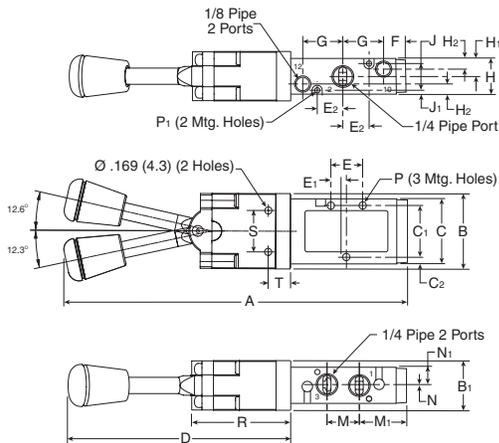


**P2LBX 5/2**

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

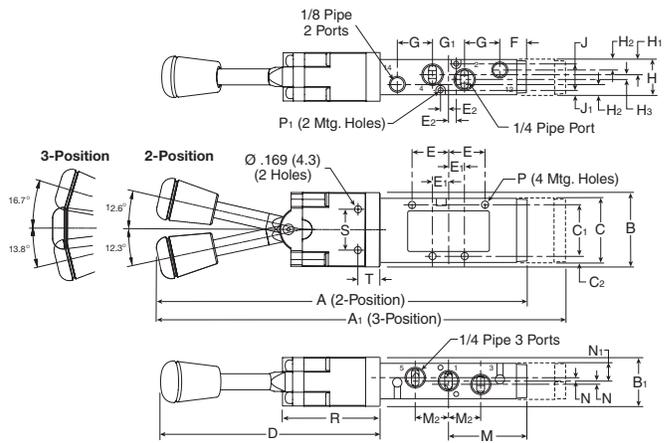


**P2LBX 3/2**

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

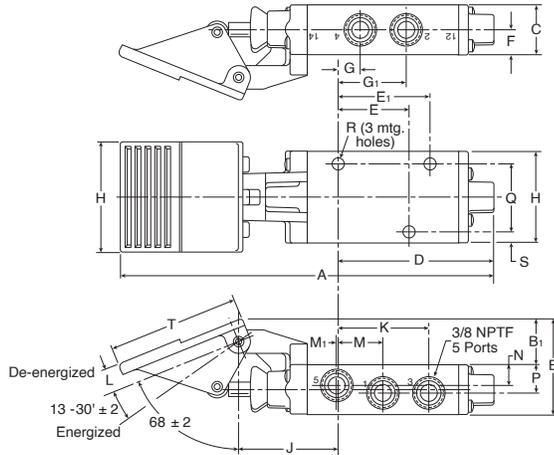
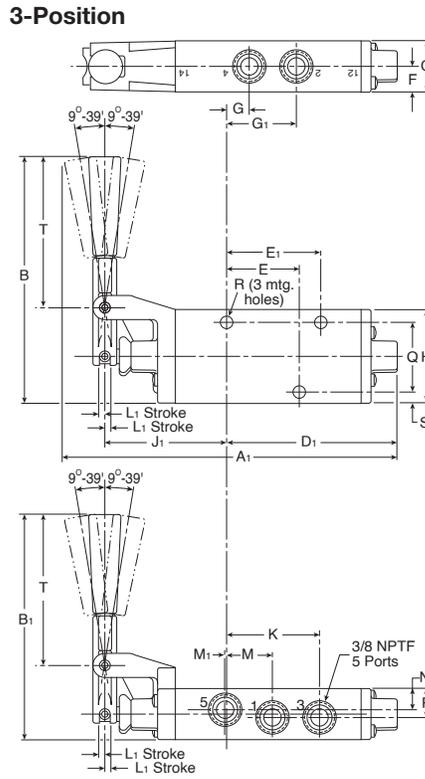
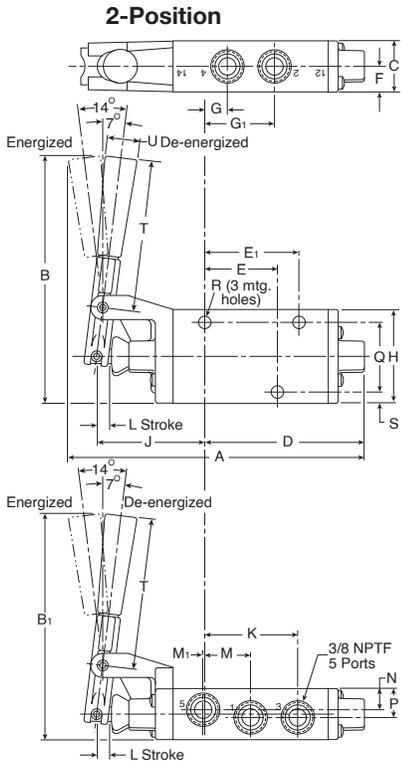


Manual / Mechanical Valves

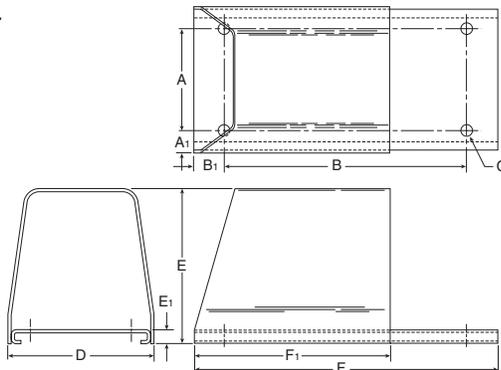
Brass Poppet / Sliding Seal

Control Panel Products

Sensing



**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 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.

Directair 2  
 & 4 Series

Viking Xtreme  
 Lever Series

42 Lever /  
 Pedal Series

M0 Series

Safety

**M**

Manual / Mechanical  
 Valves

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

MO Series

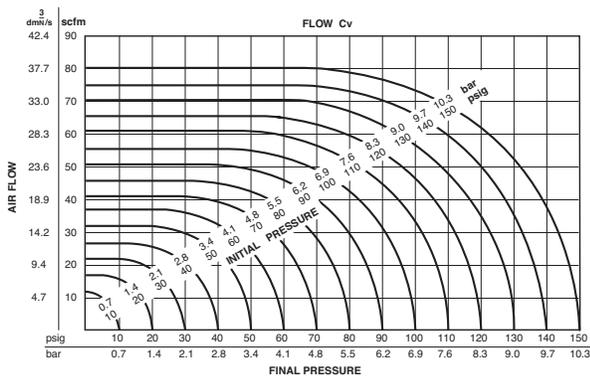
- 1/4" to 3/4" NPTF ports
- Standard operators listed. Consult factor for variations in orientation
- Standard 2 position 3-way and 4-way valves listed. Consult factory for 2-way and 3 position valves
- Corrosion resistant bronze body
- High flow brass spacers position o-ring, permit reverse piping and 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.

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

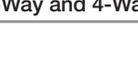
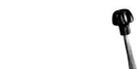


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

Common Part Numbers

MO Series

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  
M  
Manual / Mechanical Valves  
Brass Poppet / Sliding Seal  
Control Panel Products  
Sensing

**Common Part Numbers**

**MO Series**

**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**

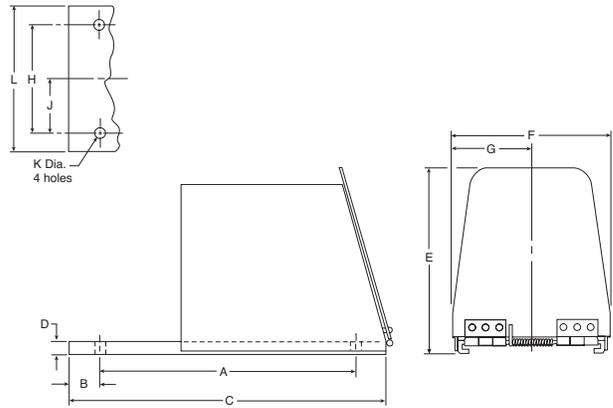
**Pedal Guard  
(Fits All Pedal Operated Valves)**

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			

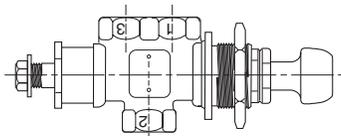
**MO valve 9 digit part number dissection**

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**

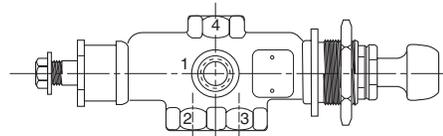
Series name	Left end	Port size	Body function	Right end
<b>MO</b>	<b>XX</b>	<b>X</b>	<b>XX</b>	<b>XX</b>



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

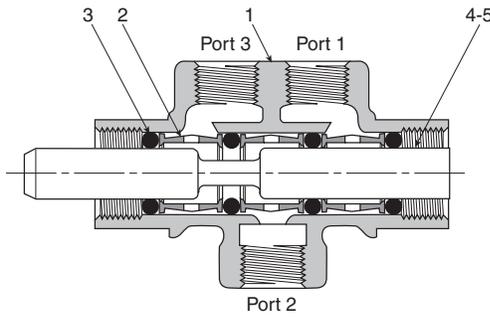
Most popular.

Red Square = Discontinued

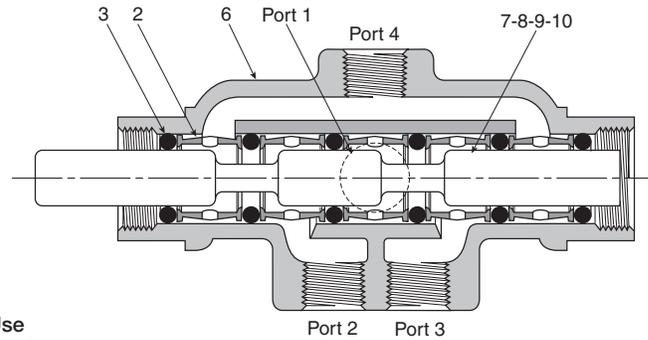


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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	<b>M053007</b>	<b>M053019</b>	<b>M053030</b>	<b>M053038</b>	Body – 3-Way
2	<b>M313004</b>	<b>M313011</b>	<b>M313013</b>	<b>M313017</b>	Spacer (2-3-5)
3	<b>H13466</b>	<b>H13588</b>	<b>H13580</b>	<b>H13584</b>	O-Ring (3-4-6)
4	<b>M373014</b>	<b>M373060</b>	<b>M373102</b>	<b>M373142</b>	Stem – 3-Way
5	<b>M373020</b>	<b>M373064</b>	<b>M373103</b>	<b>M373146</b>	Stem – 3-Way 2-Pos. Detent
6	<b>M053003</b>	<b>M053020</b>	<b>M053033</b>	<b>M053039</b>	Body – 4-Way
7	<b>M373033</b>	<b>M373074</b>	<b>M373116</b>	<b>M373156</b>	Stem – 4-Way
8	<b>M373039</b>	<b>M373076</b>	<b>M373118</b>	—	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	<b>M242001</b>	<b>M242002</b>	<b>M242003</b>	<b>M242004</b>
Cylinder (single, double & double-acting)	<b>M242006</b>	<b>M242007</b>	<b>M242008</b>	<b>M242009</b>
Diaphragm (single & double)	<b>M242011</b>	<b>M242012</b>	<b>M242013</b>	<b>M242014</b>

**Replacement Knobs & Palm Buttons**



Knob & Adapter Kit      Palm Button & Adapter Kit

Description	1/4" & 3/8"	1/2"	3/4"
Knob & Adapter Kit	<b>M122001</b>	<b>M122002</b>	<b>M122003</b>
Palm Button & Adapter Kit	<b>M122004</b>	<b>M122005</b>	<b>M122006</b>

**Hex Drive Pipe Plugs**

Port Size	1/4"	3/8"	1/2"	3/4"
Part Number	<b>K21R02025L</b>	<b>K21R02037L</b>	<b>K21R02050L</b>	<b>K21R02075L</b>

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



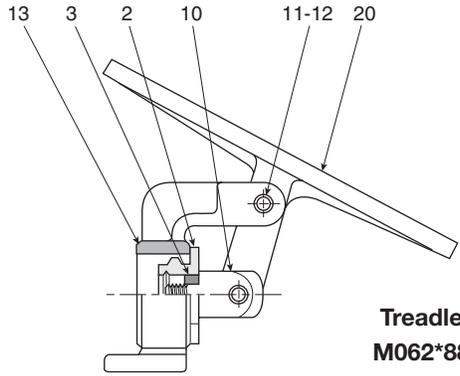
Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

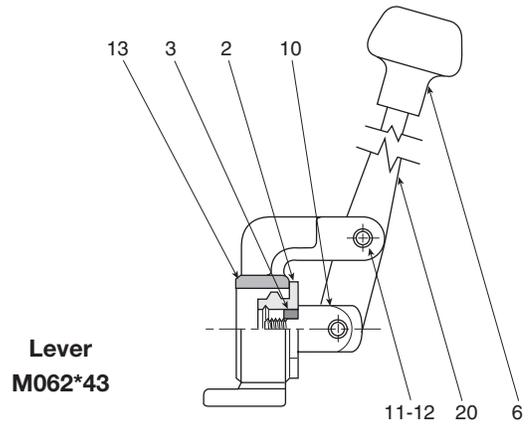
Control Panel  
Products

Sensing

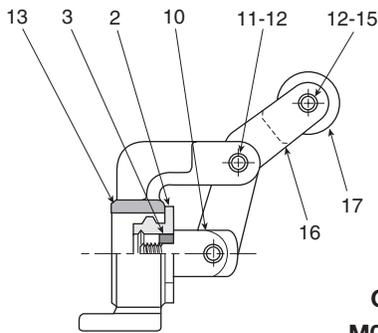
**Manual & Mechanical Operators**



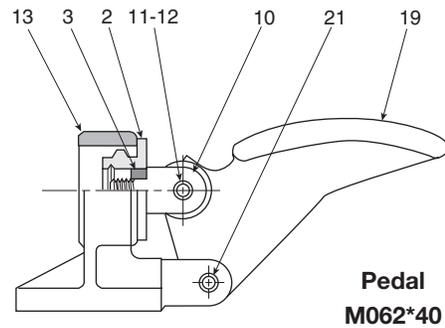
**Treadle  
M062\*88**



**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.

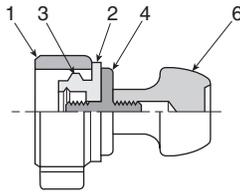
Red Square = Discontinued



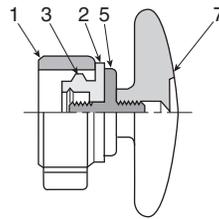
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Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
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 Control Panel Products  
 Sensing

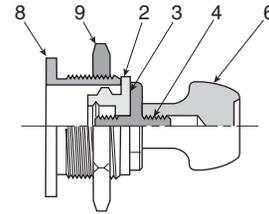
**Manual & Mechanical Operators**



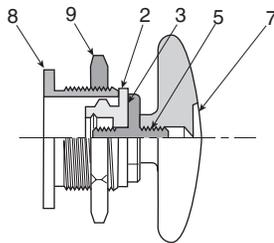
**Knob**  
**M062\*48**



**Palm Button**  
**M062\*99**

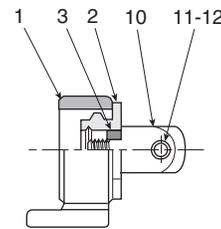


**Panel Mounted Knob**  
**M062\*51**



**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	M073016	M073026	M073037	M073046	Bracket
2	M103012	M103047	M103066	M103108	End Bearing
3	H17705	H17705	H17706	H17408	Lockwasher
4	M013011	M013011	M013012	M013013	Knob Adapter
5	M013011	M013011	M013012	M013013	Palm Knob Adapter
6	H05028	H05028	H05028	H05028	Knob
7	H05029	H05029	H05029	H05029	Palm Button
8	M013014	M013015	M013016	M013017	Panel Adapter
9	M303005	M303006	M303007	M303008	Jam Nut
10	M133003	M133003	M133012	M133018	Clevis
11	H07229	H07229	M333013	M333013	Pivot Pin (2)
12	—	—	H08903	H08903	Retaining Ring (4)

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

**Pneumatic Operators**

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

42 Lever /  
Pedal Series

MO Series

Safety

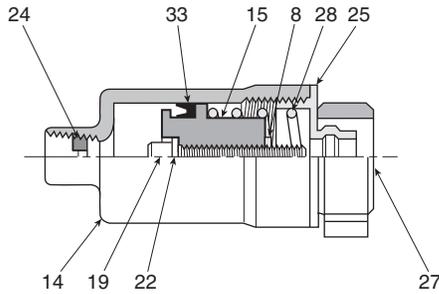


Manual / Mechanical  
Valves

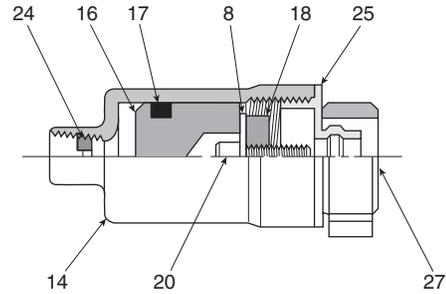
Brass Poppet /  
Sliding Seal

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

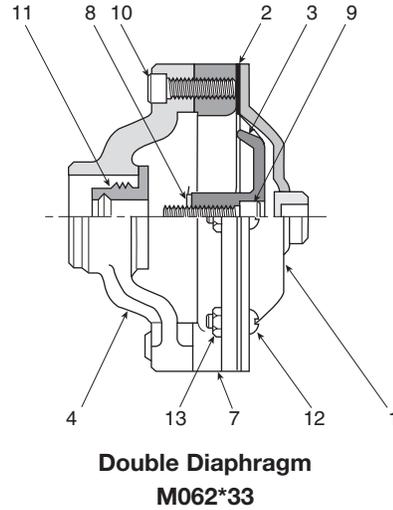
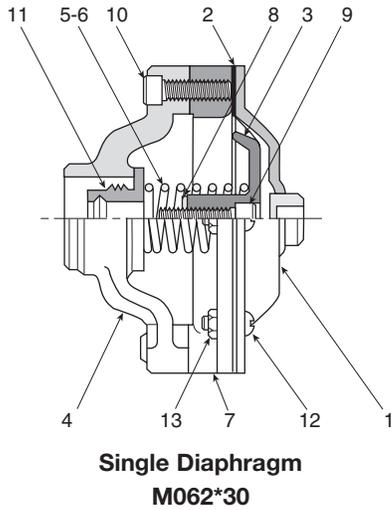
NOTE: ( ) denotes quantity required when more than one.

**Red Square = Discontinued**



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**Pneumatic Operators**



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.

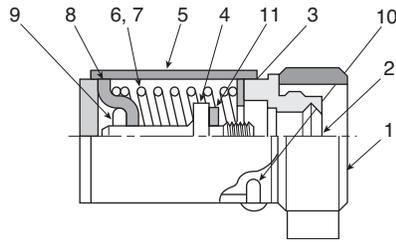
**Red Square = Discontinued**



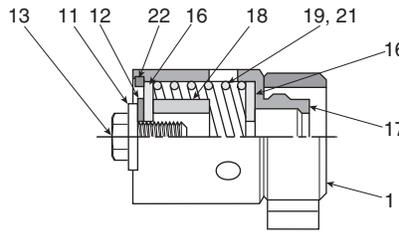
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Directair 2 & 4 Series  
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 Control Panel Products  
 Sensing

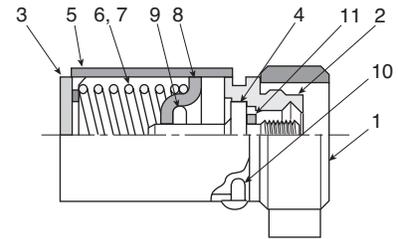
**End Sections**



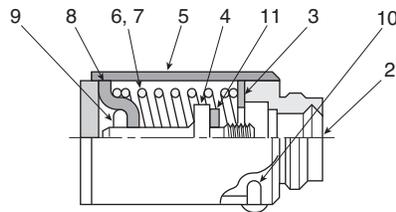
**Direct Acting Spring Return with Bracket**  
**M062\*95 Push Lever**  
**M062\*97 Pull Knob**



**Spring Centered Neutral**  
**M062\*74 Standard Spring**  
**M062\*78 Heavy Spring**

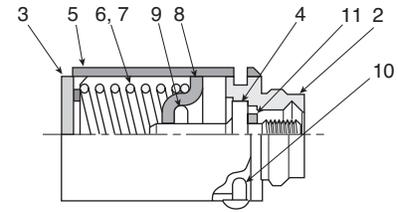


**Reverse Acting Spring Return with Bracket**  
**M062\*96 Pull Lever**  
**M062\*98 Push Knob**



**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**

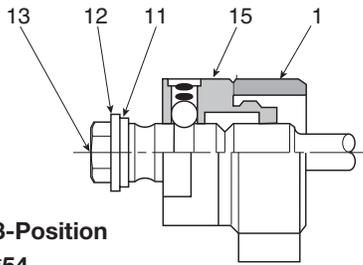
NOTE: ( ) denotes quantity required when more than one.



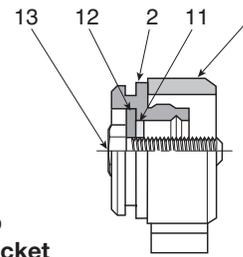
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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

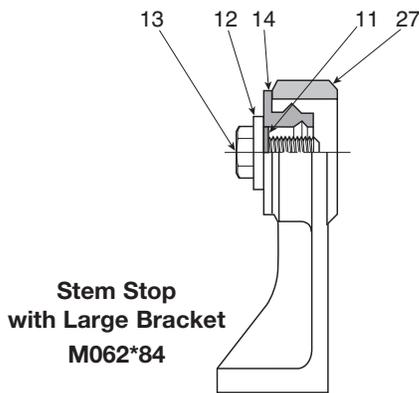
**End Sections**



**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.

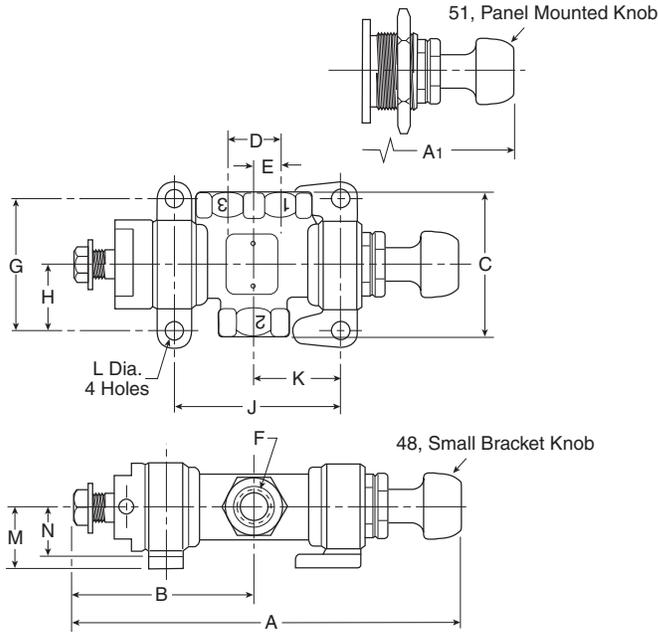


**Dimensional Data**

**Knob Operated, 2-Position Detent, Ball Detent**

**M054 Ball Detent, Small Bracket & M058 Ball Detent, Panel Mounted**

**3-Way**

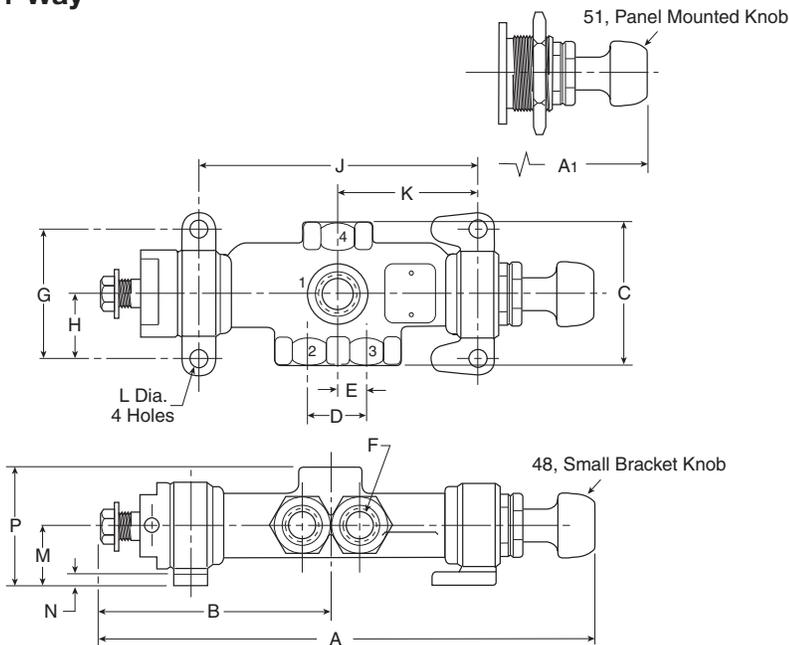


	1/4	3/8	1/2	3/4
A	6.57 (166.9)	7.30 (185.4)	8.56 (217.4)	10.40 (264.2)
A1	6.57 (166.9)	7.30 (185.4)	8.56 (217.4)	10.40 (264.2)
B	3.25 (82.6)	3.66 (93.0)	4.39 (111.5)	5.41 (137.4)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.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)

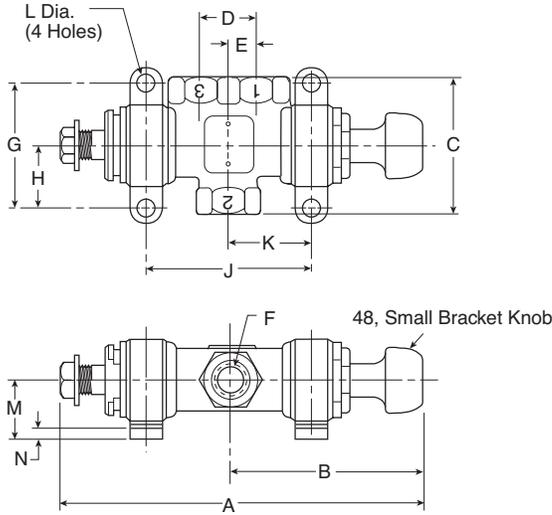


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Knob Operated, Manual Return, Stem Stop**

**M085 Stem Stop, Small Bracket**

**3-Way**

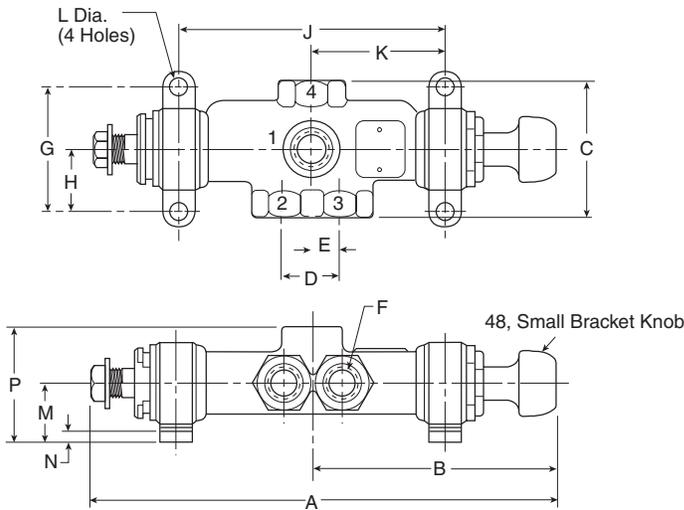


	1/4	3/8	1/2	3/4
<b>A</b>	5.99 (152.2)	6.69 (169.9)	7.90 (200.7)	9.60 (243.8)
<b>B</b>	3.32 (84.3)	3.64 (92.5)	4.17 (105.9)	4.99 (126.8)
<b>C</b>	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
<b>D</b>	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
<b>E</b>	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
<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

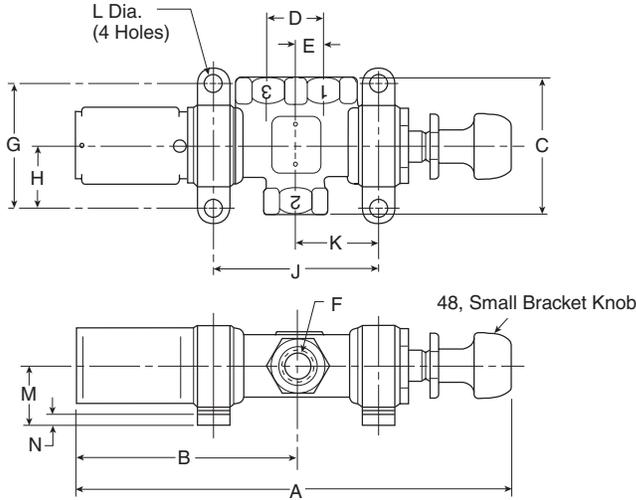
**Dimensional Data**

**MO Series**

**Knob & Palm Button Operated, Light Spring Return**

**M097 Light Spring Return Direct Acting, Small Bracket (Pull Knob)**

**3-Way**

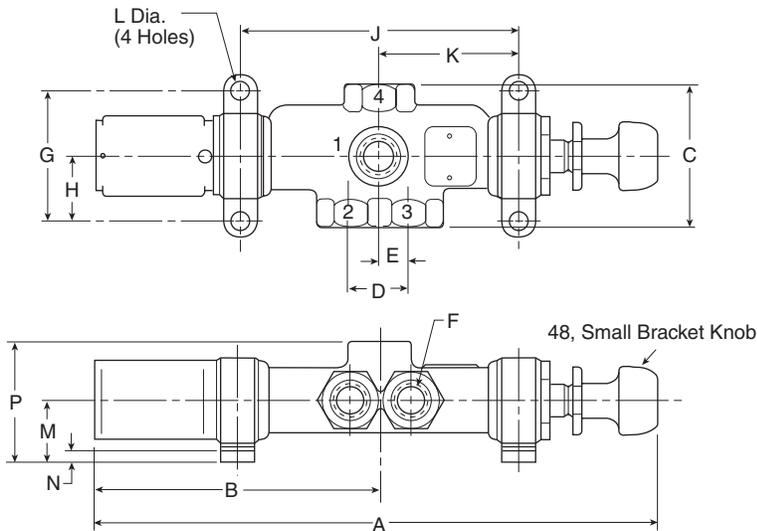


	1/4	3/8	1/2	3/4
A	7.86 (199.8)	8.55 (217.2)	10.36 (263.1)	13.01 (330.4)
B	3.92 (99.6)	4.24 (107.7)	5.32 (135.2)	6.92 (175.8)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" 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)

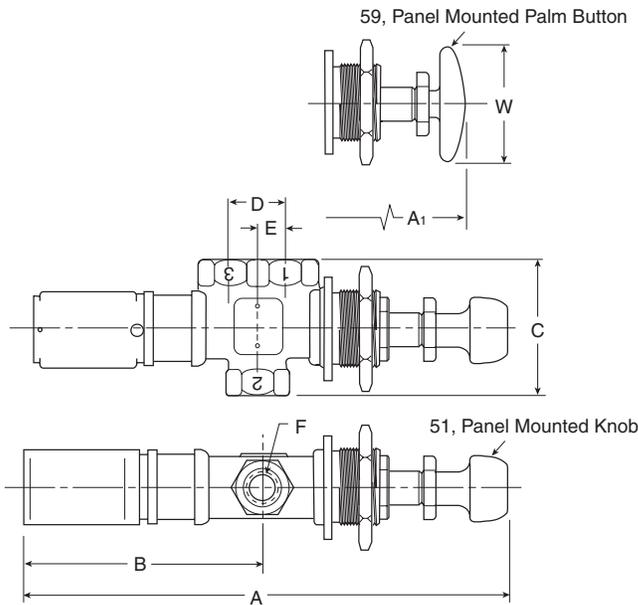


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Panel Mounted, Knob & Button Operated,  
 Light Spring Return**

**M064 Direct Acting, Less Bracket (Pull Knob) &  
 M065 Reverse Acting, Less Bracket (Push Knob)**

**3-Way**

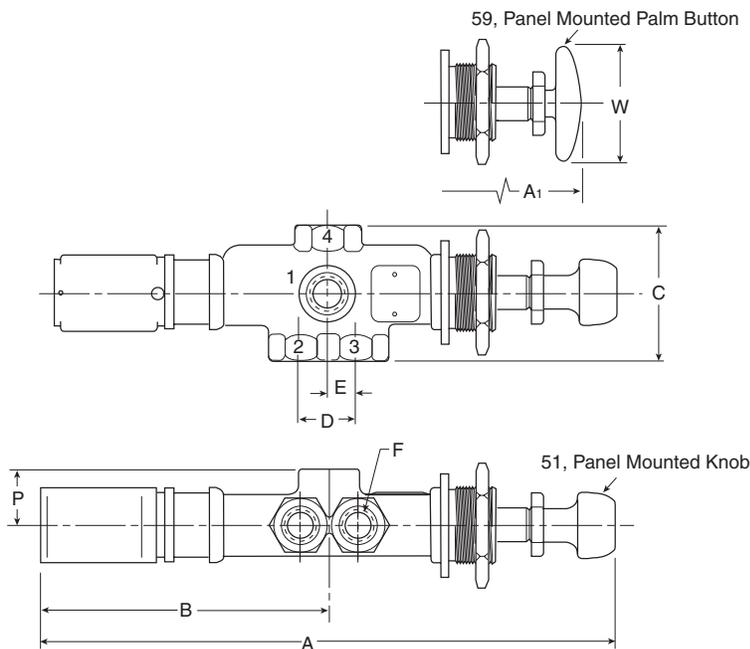


	1/4	3/8	1/2	3/4
A	7.86 (199.6)	8.55 (217.1)	10.36 (263.1)	13.01 (330.4)
A1	7.55 (191.8)	8.24 (209.3)	10.05 (255.3)	12.70 (322.6)
B	3.96 (99.5)	4.23 (107.4)	5.31 (134.9)	6.91 (175.5)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (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

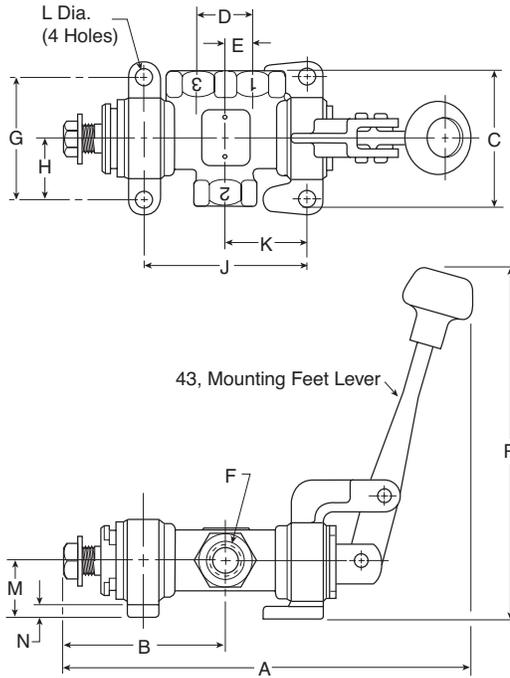
Sensing

**Dimensional Data**

**Lever Operated, Manual Return, Stem Stop**

**M085 Stem Stop, Small Bracket**

**3-Way**

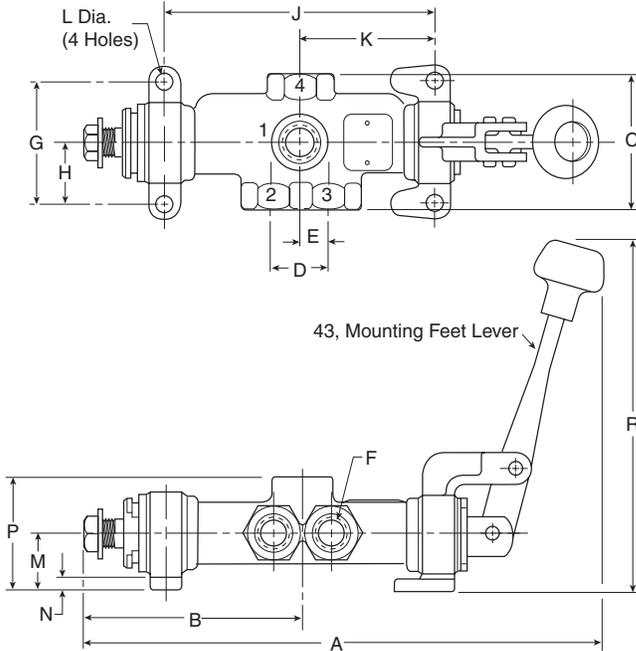


	1/4	3/8	1/2	3/4
A	6.77 (172.0)	7.76 (197.1)	9.29 (236.0)	11.46 (291.1)
B	2.67 (67.8)	3.05 (77.5)	3.72 (94.5)	4.61 (117.1)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	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)

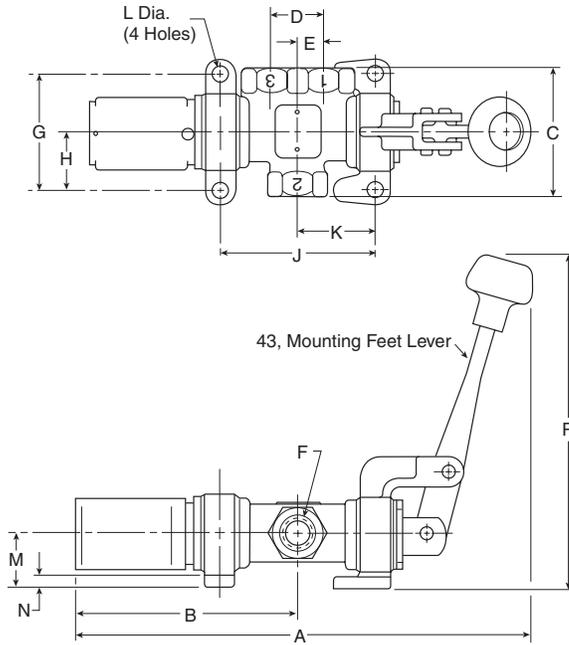


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**Lever Operated, Spring Return**

**M095 Direct Acting, Small Bracket (Push Lever) & M096 Reverse Acting, Small Bracket (Pull Lever)**

**3-Way**

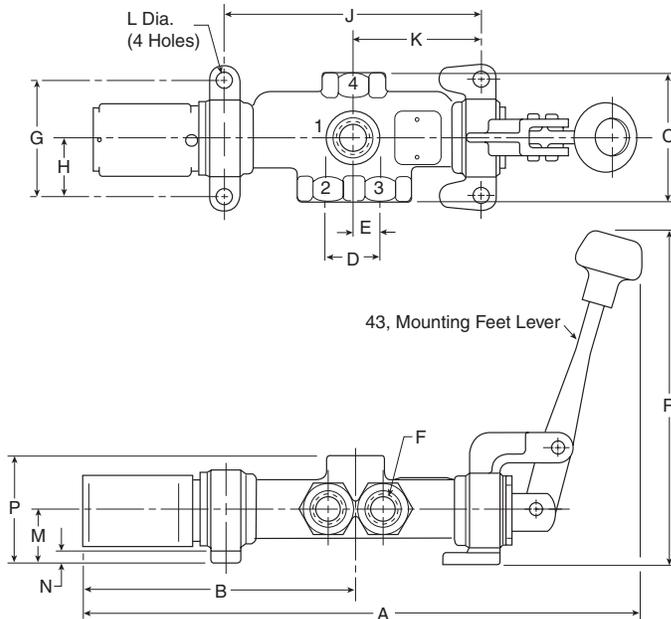


	1/4	3/8	1/2	3/4
A	7.99 (202.8)	8.94 (227.0)	10.88 (276.4)	13.76 (349.5)
B	3.92 (99.5)	4.24 (107.6)	5.31 (134.9)	6.92 (175.8)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" 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

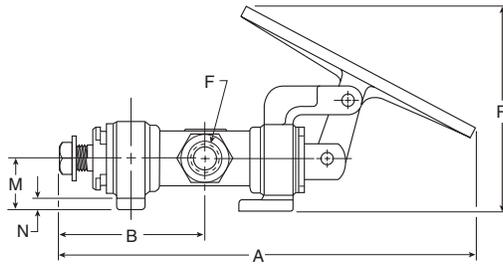
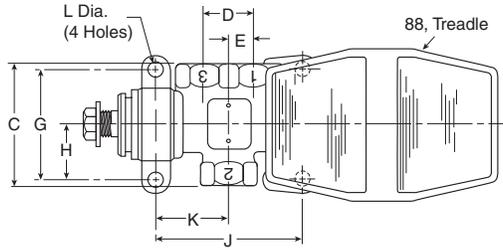
Sensing

**Dimensional Data**

**Treadle Operated, Manual Return, Stem Stop**

**M085 Stem Stop, Small Bracket**

**3-Way**

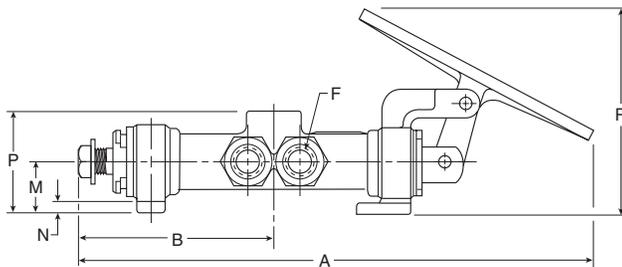
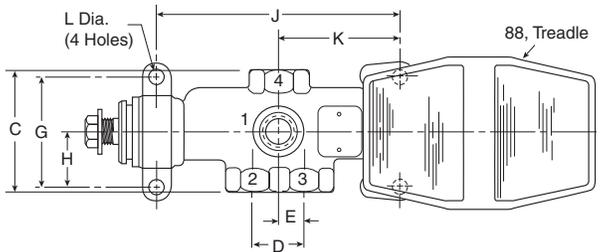


	1/4	3/8	1/2
A	8.01 (203.4)	8.73 (221.7)	10.32 (262.1)
B	2.67 (68.8)	3.06 (77.7)	4.06 (103.1)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe
G	2.25 (57.2)	2.38 (60.4)	2.62 (66.6)
H	1.12 (28.4)	1.19 (30.2)	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

42 Lever /  
Pedal Series

MO Series

Safety



**M085 Stem Stop, Small Bracket**

**4-Way**

Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing



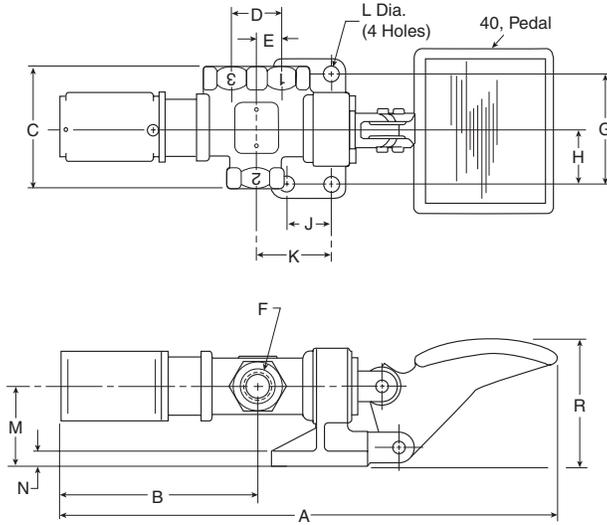
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

E40

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

**Pedal Operated, Spring Return**

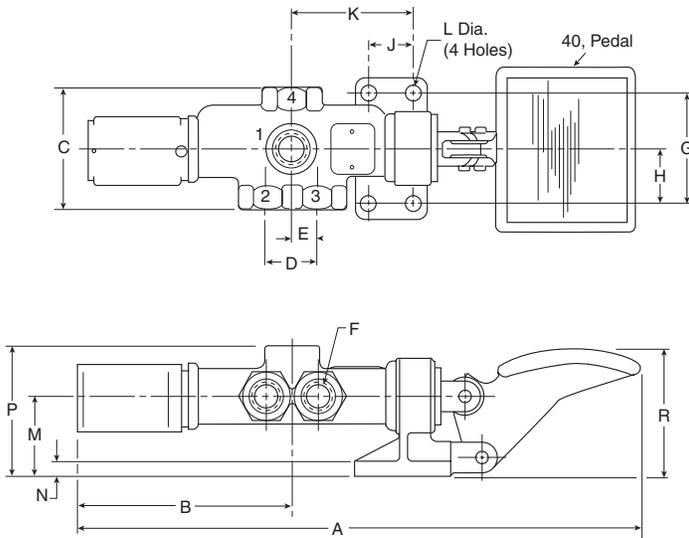
**M062 Direct Acting Spring Return, Less Bracket (Push Lever)**  
**3-Way**



	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)



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

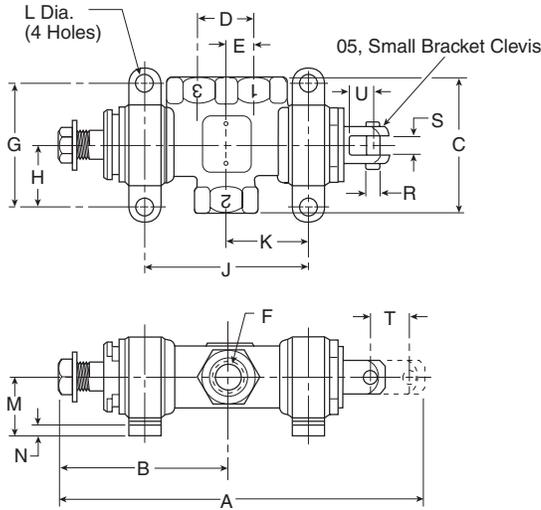
**Dimensional Data**

**MO Series**

**Clevis Operated, Mechanical Return, Stem Stop**

**M085 Stem Stop, Small Bracket**

**3-Way**

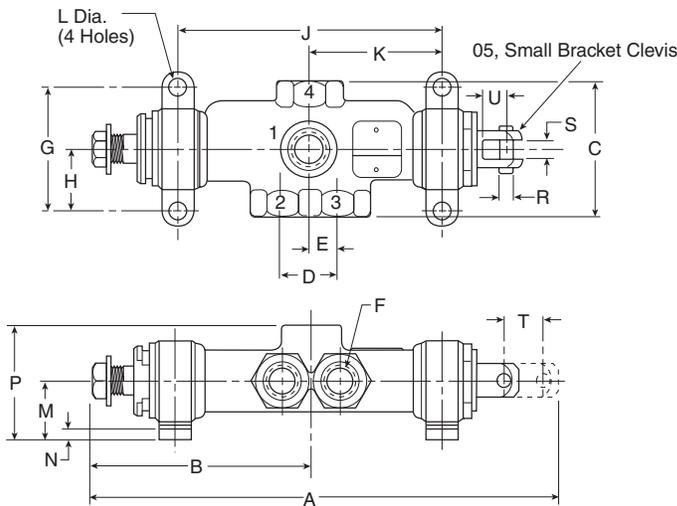


Inches (mm)

	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)



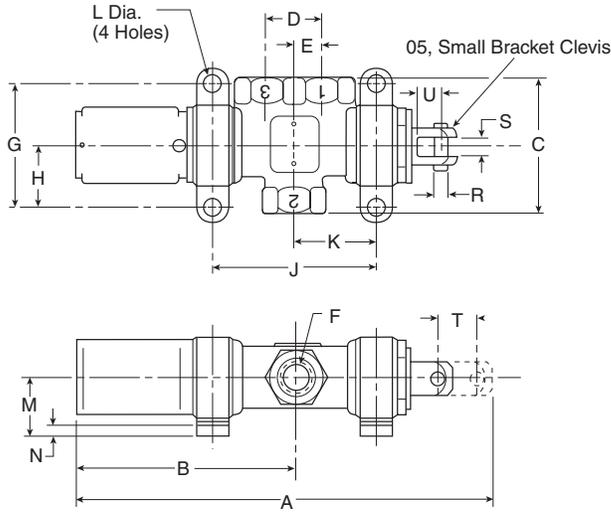
For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

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

**Clevis Operated, Spring Return, Small Bracket**

**M095 Direct Acting (Push Lever) & M096 Reverse Acting (Pull Lever)**

**3-Way**

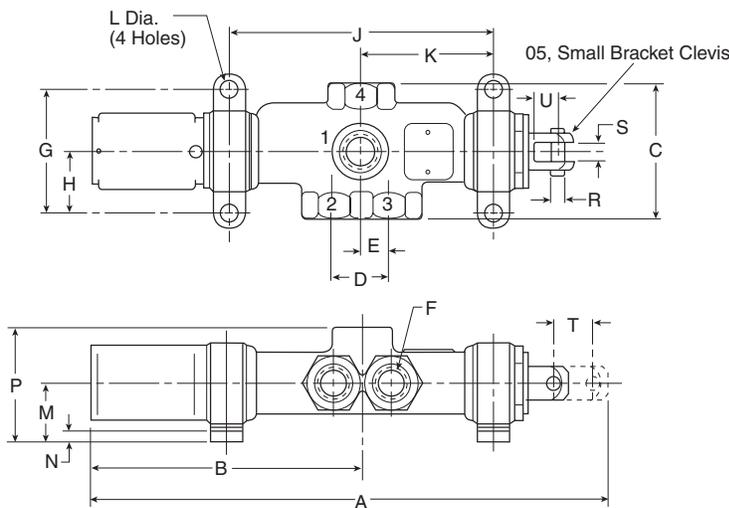


Inches (mm)

	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

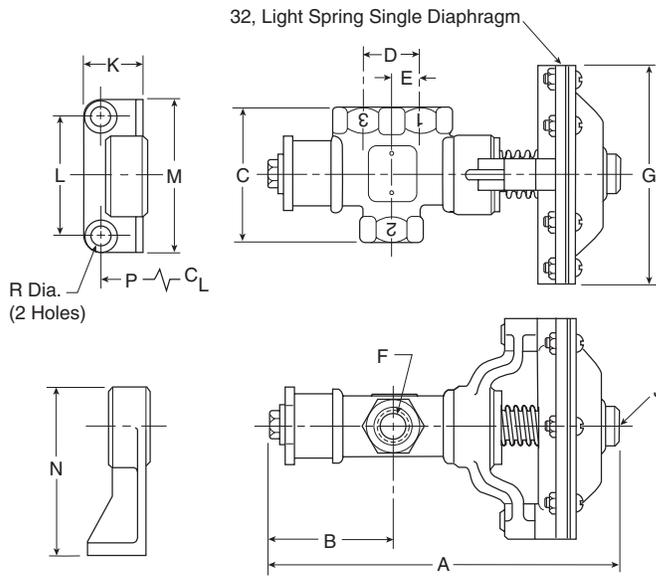
Control Panel  
Products

Sensing

**Single Diaphragm Operated, Spring Return Stem Stop**

**M084 Stem Stop, Large Bracket**

**3-Way**

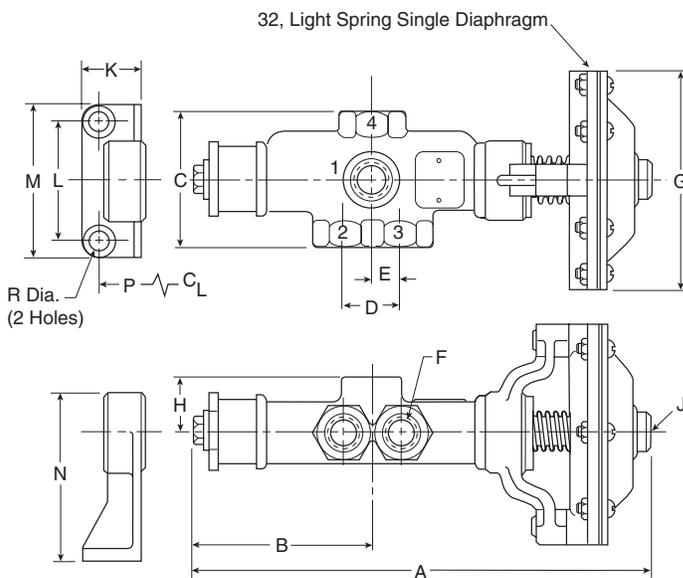


	1/4	3/8	1/2	3/4
A	6.14 (156.0)	6.85 (174.0)	8.03 (204.0)	9.89 (251.2)
B	2.03 (51.6)	2.36 (59.9)	2.83 (71.9)	3.48 (88.4)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	0.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	0.47 (11.9)	0.53 (13.5)	0.62 (15.8)	0.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	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)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

MO Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

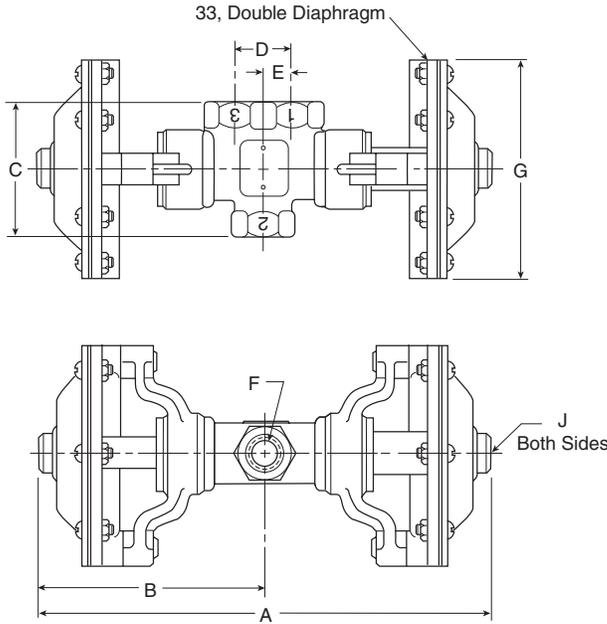
Control Panel Products

Sensing

**Double Diaphragm Operated**

**M033 Double Diaphragm**

**3-Way**

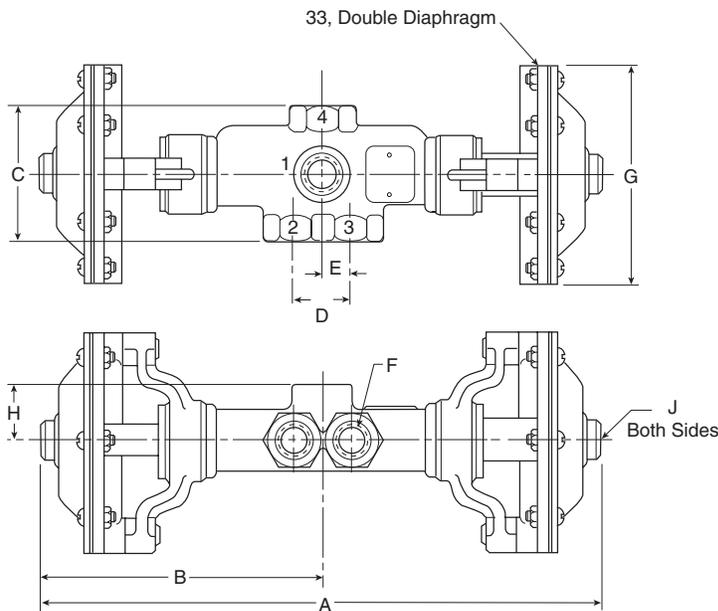


	1/4	3/8	1/2	3/4
<b>A</b>	8.22 (208.8)	8.98 (228.1)	10.40 (264.2)	12.82 (325.6)
<b>B</b>	4.11 (104.4)	4.49 (114.0)	5.20 (132.1)	6.41 (162.8)
<b>C</b>	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
<b>D</b>	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
<b>E</b>	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
<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

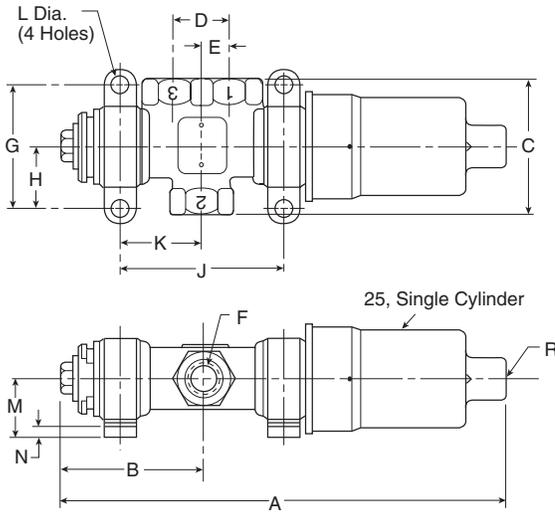
Inches (mm)

Dimensional Data

Single Cylinder Operated, Spring Return, Stem Stop

M085 Stem Stop, Small Bracket

3-Way

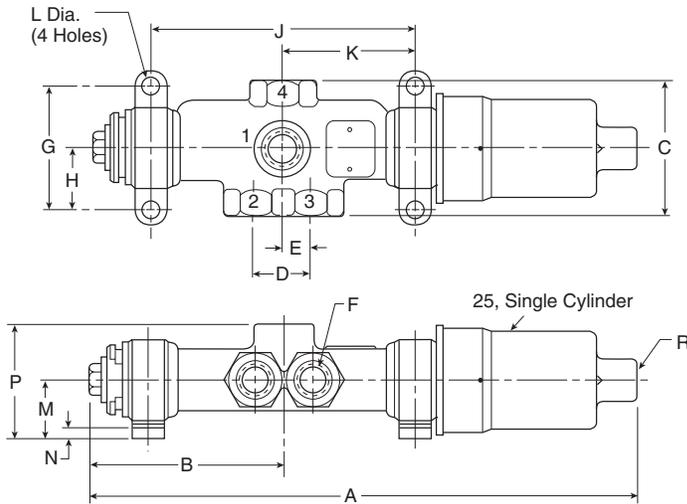


	1/4	3/8	1/2	3/4
A	7.50 (190.5)	8.14 (206.8)	9.03 (229.4)	11.18 (284.0)
B	2.03 (51.6)	2.36 (59.9)	2.83 (71.9)	3.48 (88.4)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	3/4" 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

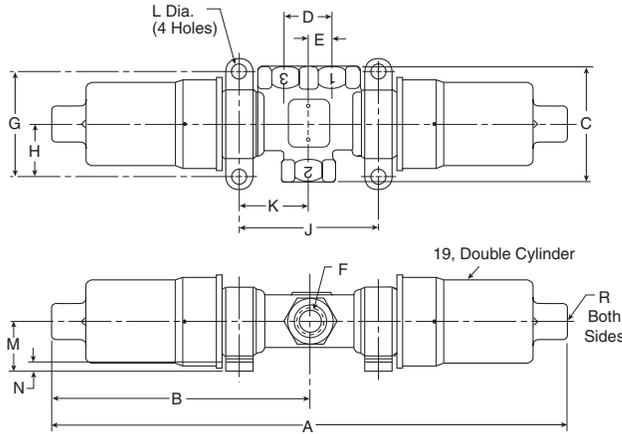
Control Panel Products

Sensing

**Double Cylinder Operated**

**M019 Double Cylinder**

**3-Way**

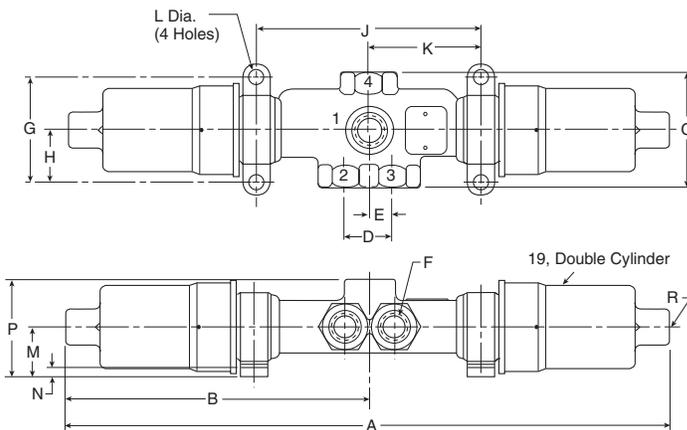


	1/4	3/8	1/2	3/4
A	10.94 (277.9)	11.56 (293.6)	12.40 (315.0)	15.40 (391.2)
B	5.47 (138.9)	5.78 (146.8)	6.20 (157.5)	7.70 (195.6)
C	2.38 (60.4)	2.62 (66.6)	3.00 (76.2)	3.62 (92.0)
D	.94 (23.9)	1.06 (26.9)	1.25 (31.8)	1.62 (41.2)
E	.47 (11.9)	.53 (13.5)	.62 (15.8)	.81 (20.6)
F	1/4" Pipe	3/8" Pipe	1/2" Pipe	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

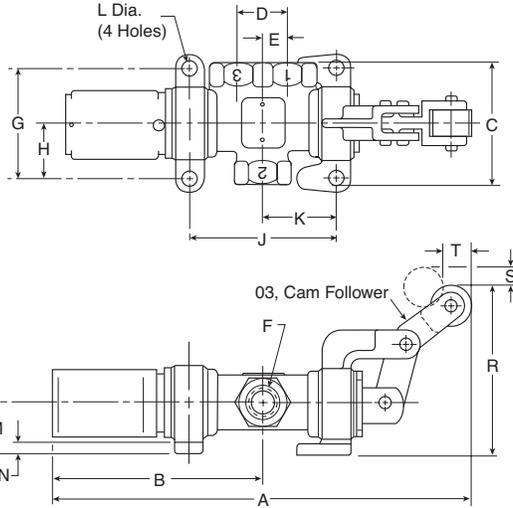
Sensing

Dimensional Data

Cam Operated, Spring Return

M095 Direct Acting, Small Bracket (Push Lever)

3-Way

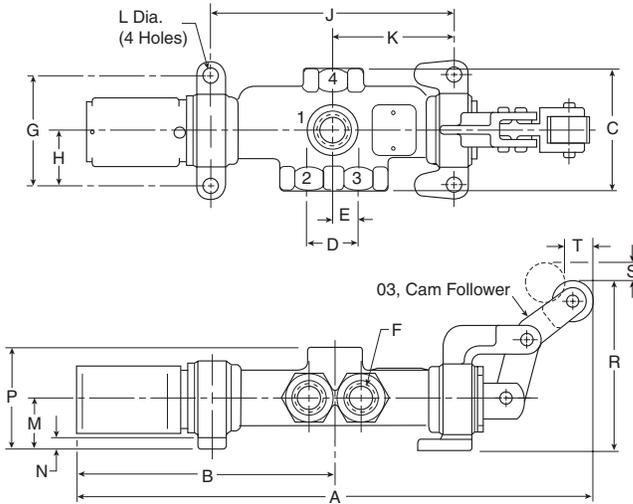


Inches (mm)

	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)

Directair 2  
& 4 Series

Viking Xtreme  
Lever Series

4/2 Lever /  
Pedal Series

MO Series

Safety



Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

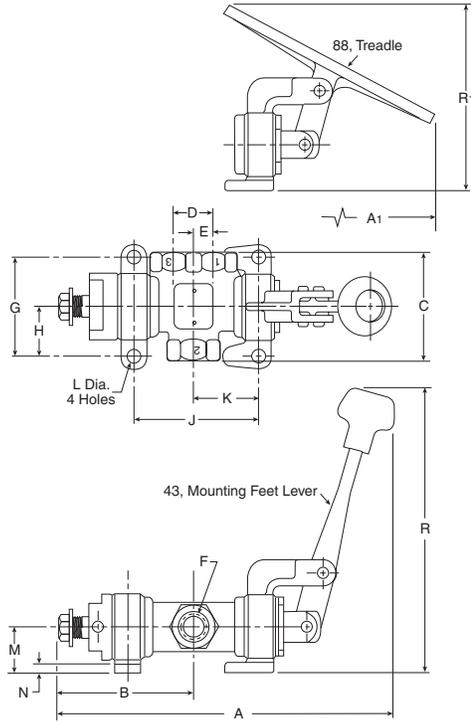
Control Panel  
Products

Sensing

**Lever & Treadle Operated, 2-Position Ball Detent**

**M054 Ball Detent, Small Bracket**

**3-Way**

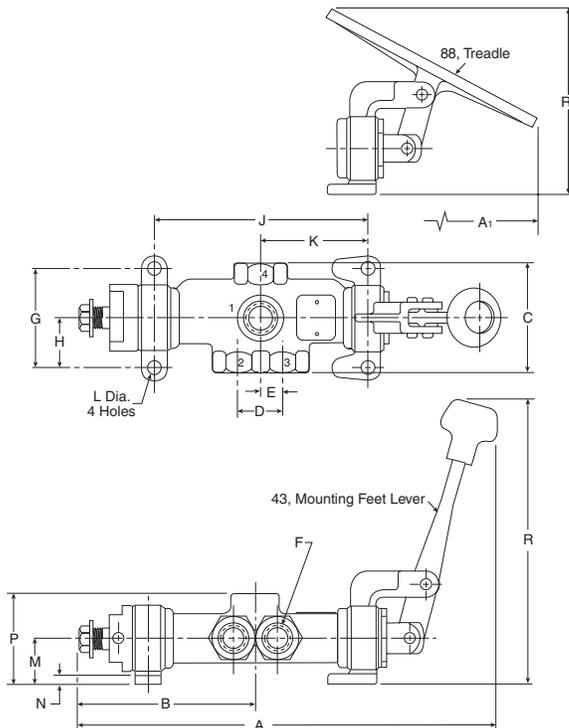


Inches (mm)

	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 (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)
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**

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

Brass Poppet / Sliding Seal

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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

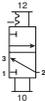
Description	LV	LVSS
Body:	Cast aluminum alloy	Stainless steel
Handle:	Plastic	Stainless steel
Spool:	Aluminum	Stainless steel
Seals:	Carboxylated nitrile	Fluorocarbon
Detent spring:	Stainless steel	Stainless steel
Grease:	Magnalube G <sup>†</sup>	Magnalube G <sup>†</sup>

<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  
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Viking Xtreme  
Lever Series

42 Lever/  
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**Features / Part Numbers**

**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**

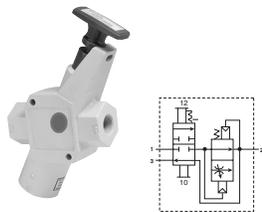
Operating pressure:	15 to 300 PSIG
Standard	
Operating temperature:	40°F to 175°F
Operating media:	Clean, dry, compressed air (5 micron)

**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)

Directair 2 & 4 Series

Viking Xtreme Lever Series

4/2 Lever / Pedal Series

MO Series

Safety



Manual / Mechanical Valves

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Control Panel Products

Sensing

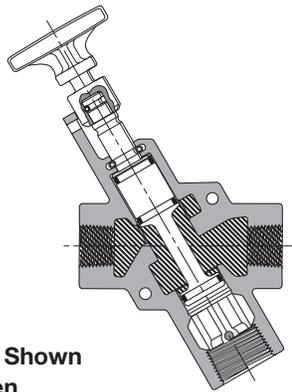
**Applications**

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.

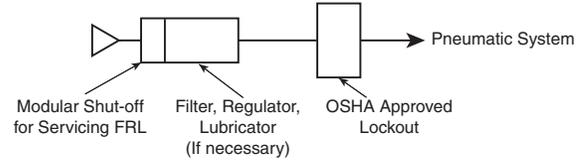


**LV Series Shown Open**

**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.

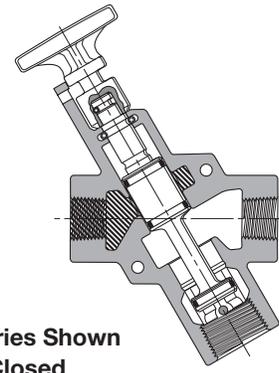
**Placement of Lockout Device**



**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.

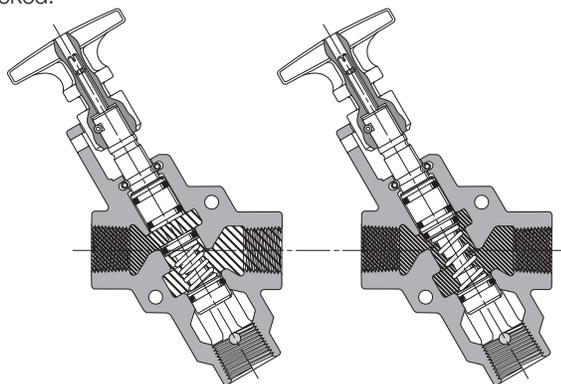


**LV Series Shown Closed**

**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.

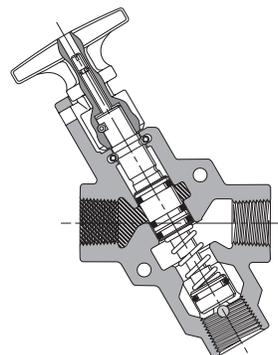


**Open Pressure Building Up**

**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
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**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

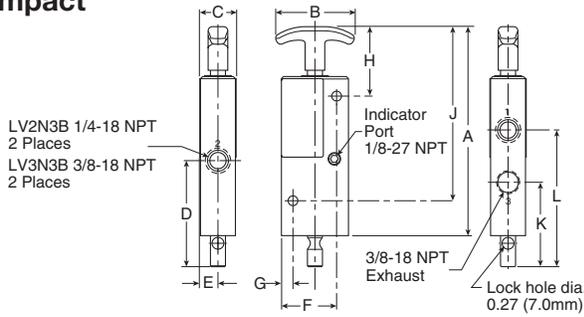
Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
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**LZ Series, Exhaust Port - Compact, Standard, High Flow**

**Compact**



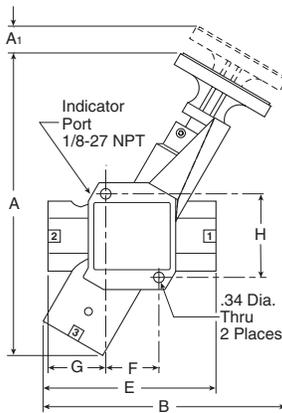
**Compact LV Series, 3/8" Exhaust Port Dimensions**

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)

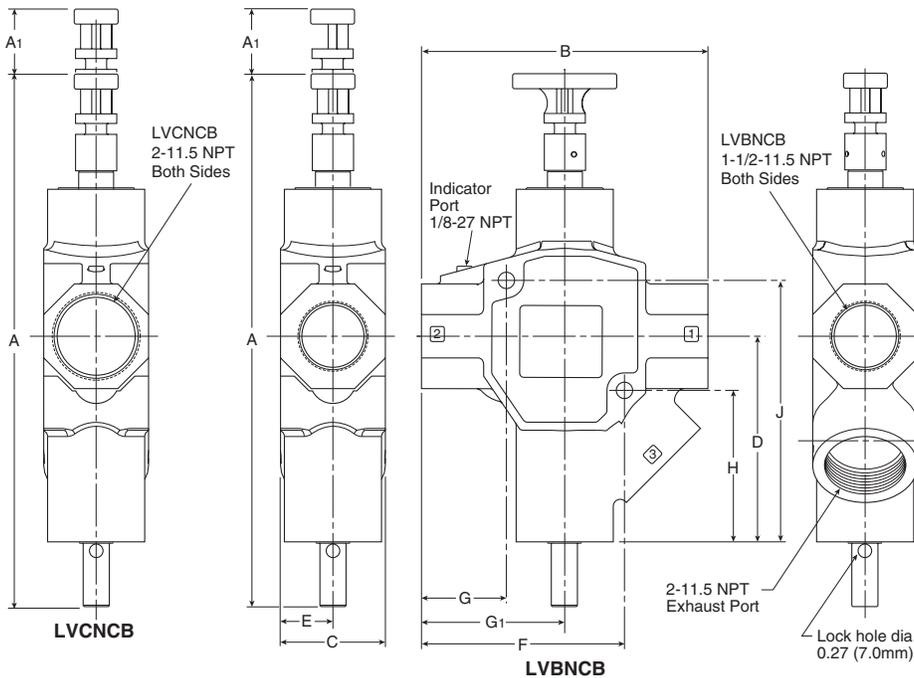
**Compact LV Series, 1-1/4" Exhaust Port Dimensions**

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)

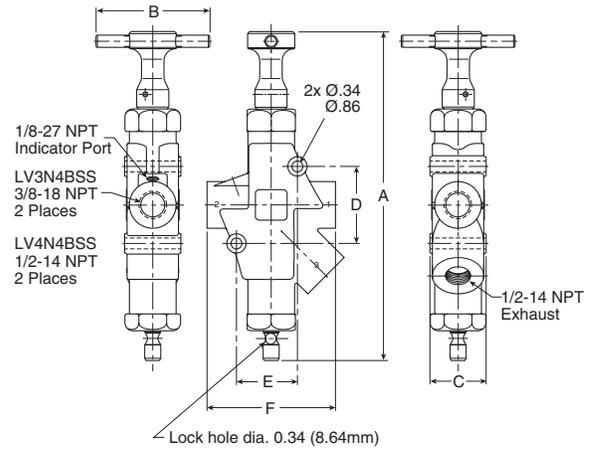
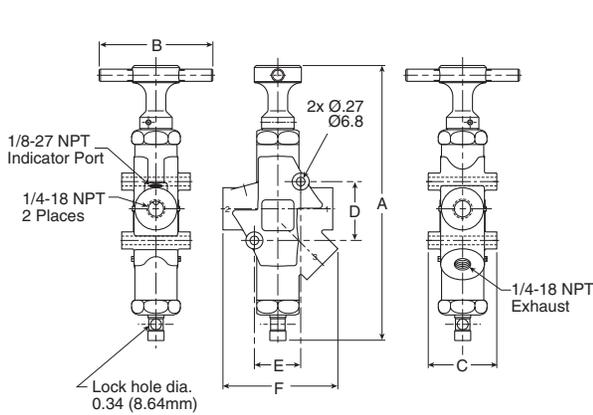
H	J
4.34 (110)	7.49 (190)

Inches (mm)

**Dimensional Data**

**LZ Series, Exhaust Port - Compact, Standard, High Flow**

**Stainless Steel**



**Stainless Steel LV Series, 1/4" Exhaust Port Dimensions**

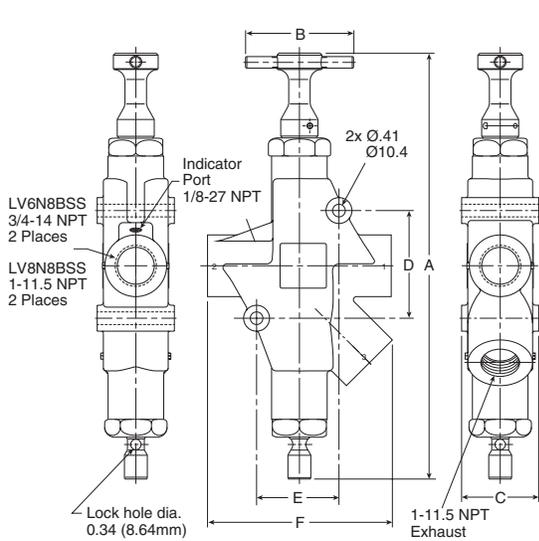
A	B	C	D	E	F
8.47	3.50	2.11	1.81	1.43	3.54
(215)	(89)	(54)	(46)	(36)	(90)

Inches (mm)

**Stainless Steel LV Series, 1/2" Exhaust Port Dimensions**

A	B	C	D	E	F
10.24	3.50	1.75	2.40	1.90	4.00
(260)	(89)	(45)	(61)	(48)	(102)

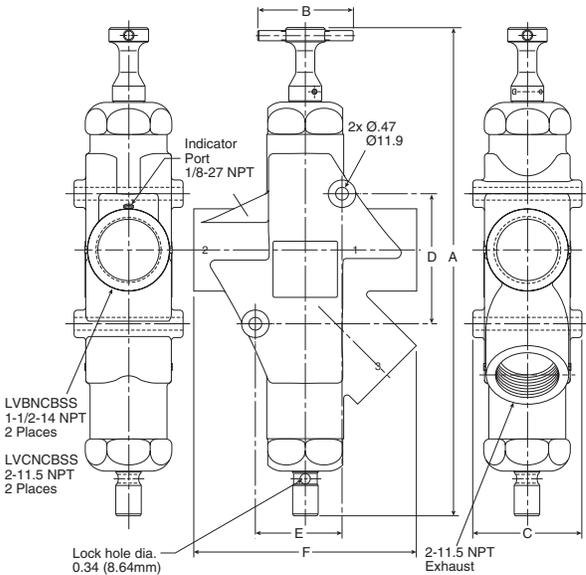
Inches (mm)



**Stainless Steel LV Series, 1" Exhaust Port Dimensions**

A	B	C	D	E	F
13.80	3.50	2.50	3.49	2.67	5.99
(351)	(89)	(64)	(89)	(68)	(152)

Inches (mm)



**Stainless Steel LV Series, 2" Exhaust Port Dimensions**

A	B	C	D	E	F
17.92	3.50	4.00	4.77	3.18	8.16
(455)	(89)	(102)	(121)	(81)	(207)

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



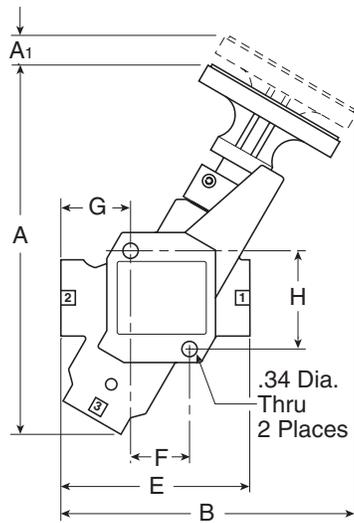
Manual / Mechanical  
Valves

Brass Poppet /  
Sliding Seal

Control Panel  
Products

Sensing

**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

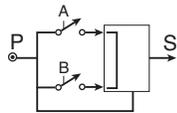
Two-Hand Controls

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

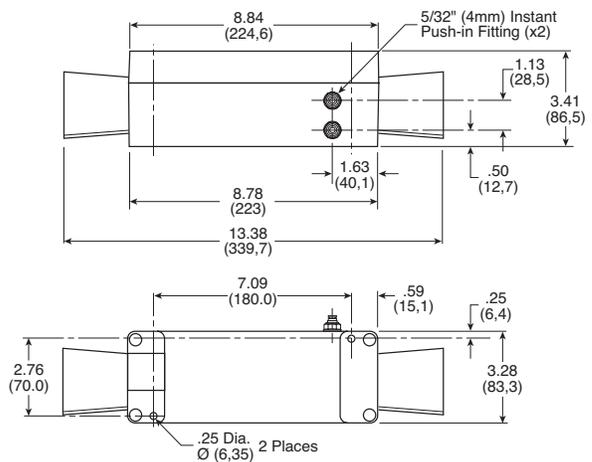
Approvals:

- 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



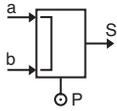
Manual / Mechanical Valves

Brass Poppet / Sliding Seal

Control Panel Products

Sensing

**Two-Hand Control Module**

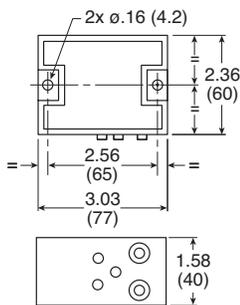


S = Output  
 AdB = Momentary input  
 P = Pressure supply



**PXP-A11-A**

Part number	Connection
<b>PXP-A11-A</b>	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
<b>PPRL15</b>	<b>PXP-C111-A</b>

**Two Hand Repair Parts**

Part number	Quantity required	Description
<b>PXP-A11-A</b>	1	Control Module
<b>PXBB4931</b>	2	Valve Body & Mounting Ring
<b>ZB4BR*</b>	2	Push Button
<b>PPRL15</b>	2	Control Module Guard

\* 2 = Black, 3 = Green, 4 = Red



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

## Features / Part Numbers

## 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

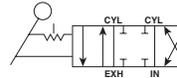
Operating pressure: 0 to 150 PSI (0 to 1035 kPa)

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

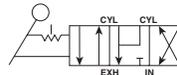
This type has a 90° lever movement. In neutral position, inlet is closed to pressure – outlets closed to exhaust. With clockwise (CW), inlet is connected to cylinder port directly opposite. Other cylinder port is connected to exhaust. With counterclockwise (CCW), inlet is connected to cylinder port diagonally 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)

E60

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

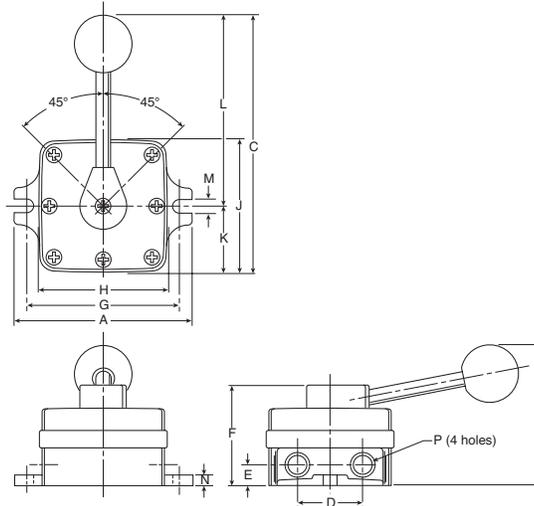
Directair 2  
& 4 SeriesViking Xtreme  
Lever Series4/2 Lever /  
Pedal Series

MO Series

Safety

Manual / Mechanical  
ValvesBrass Poppet /  
Sliding SealControl 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)



**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**

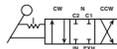
Cover	Zinc
Body	Aluminum
Seals	Polyurethane

**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.

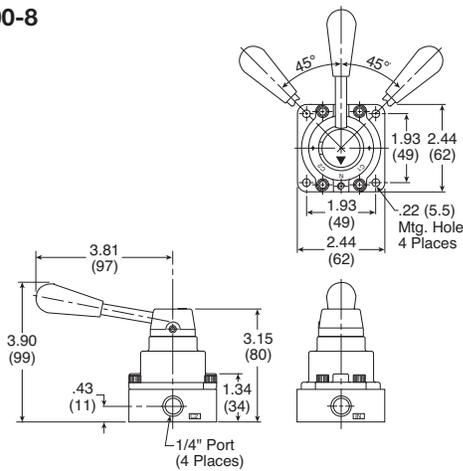
**HV Series Valves**

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.

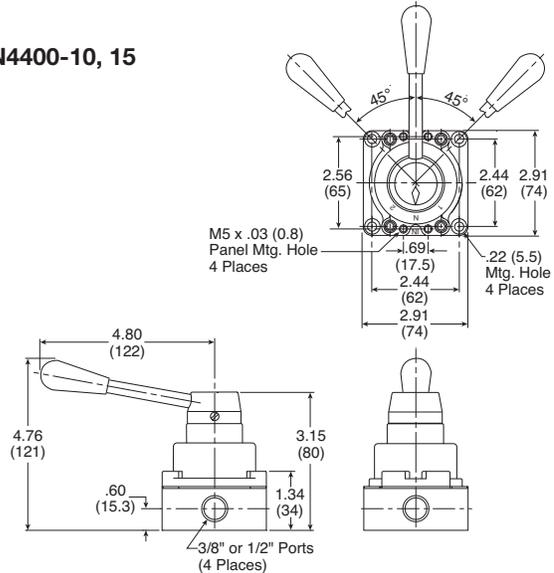


Port Size	Description	Cv (ANSI)	Cv (JIS)	Part Number
1/4" NPT	4-Way, 3-Position	0.5	0.4	<b>HVN4200-8</b>
3/8" NPT	4-Way, 3-Position	1.4	2.72	<b>HVN4400-10</b>
1/2" NPT	4-Way, 3-Position	1.5	3.26	<b>HVN4400-15</b>

**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

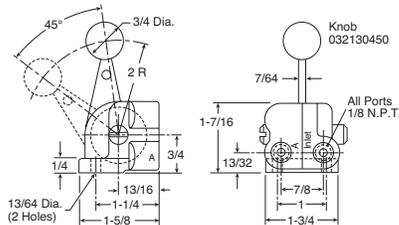
Temperature range: -40°F to 212°F (-40°C to 100°C)  
(If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.)

## Hand Operated Sliding Seal Valve

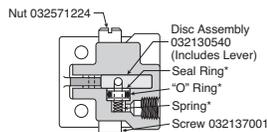
Symbol	Port Size	Function	Cv (Avg)	Service Kit*	Part Number
	1/8"	3-Way, 2-Position, Detented	0.54	<b>032130899</b>	<b>032130599</b>
	1/8"	4-Way, 2-Position, Detented	0.54	<b>032130899</b>	<b>032140299</b>
	1/4"	4-Way, 3-Position, Detented, Center Blocked	1.25	<b>008230299</b>	<b>008240109</b>

Note: 3-Way exhaust passage is through an untapped hole in bottom side of valve.

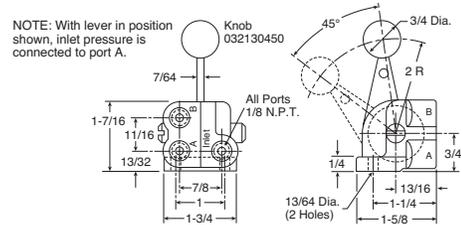
### 1/8" 3-Way 032130599



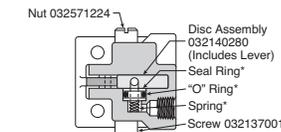
#### Service Kit 032130899\*



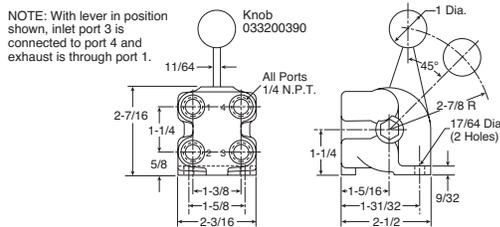
### 1/8" 4-Way 032140299



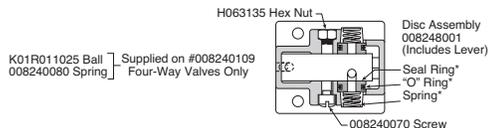
#### Service Kit 032130899\*



### 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

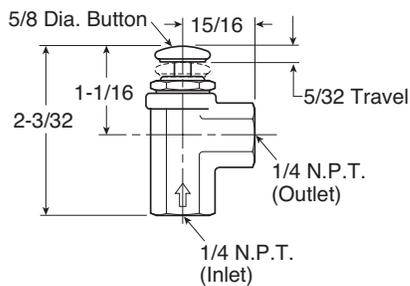
**Operating information**

Operating pressure:	Max. 150 PSIG air only Min. 0 PSIG
Temperature range:	-20°F to 180°F (-28°C to 82°C)

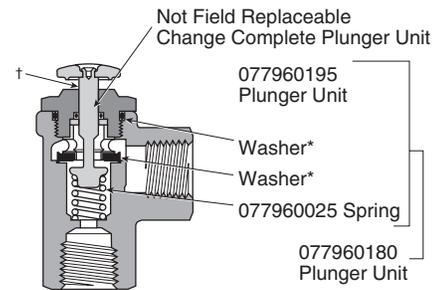
**Button Operated Valves**

	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.



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

## 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.



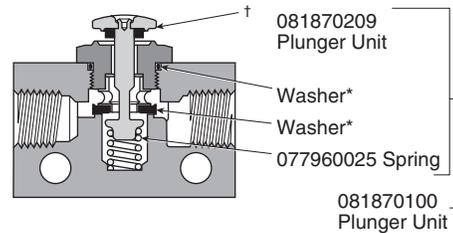
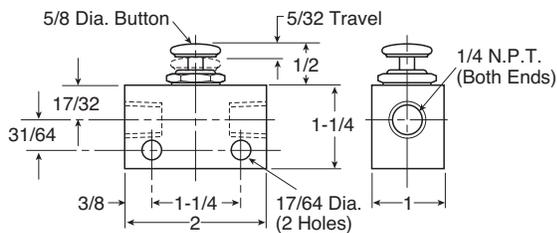
### Operating information

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

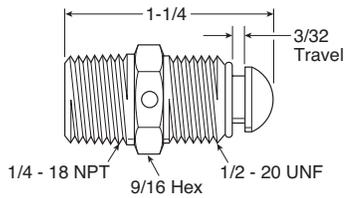
**Operating information**

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 3-Way	<b>PXBB4131BC2</b>
	Red	Push-Pull		<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)

**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			—	<b>ZB4BL6</b>
	Black	Spring Return	Booted	—	<b>ZB4BPA2</b>
	Green			—	<b>ZB4BPA3</b>
	Red			—	<b>ZB4BPA4</b>
	Black	Detent 2 Position	Flush	—	<b>ZB4BH02</b>
	Green			—	<b>ZB4BH03</b>
	Red			—	<b>ZB4BH04</b>



**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.

\* ZB4\*\*\* model numbers are metal head operators  
\*\* ZB5\*\*\* model numbers are plastic head operators, use with plastic mounting ring.

**Selector Switches**

Standard black handle			
Description	Function	Part Number*	
Maintained		<b>ZB4BD2</b>	
Spring Return from Right to Left	2 positions	<b>ZB4BD4</b>	
Maintained		<b>ZB4BD3</b>	
Spring Return to Center from Left and Right	3 positions	<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>	

**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 2 Spring Return to Center	<b>ZB4BG7</b>

\* 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

Long Black Handle			
Description	Function	Part Number*	
Maintained		<b>ZB4BJ2</b>	
Spring Return from Right to Left	2 positions	<b>ZB4BJ4</b>	
Maintained		<b>ZB4BJ3</b>	
Spring Return to Center from Left and Right	3 positions	<b>ZB4BJ5</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

**Accessories**

**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>
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>



**Blank Legend Plates for Inscription**

**For PXBB devices** (2 lines of 11 characters maximum)

**Please indicate the required text when ordering.**

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.**

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

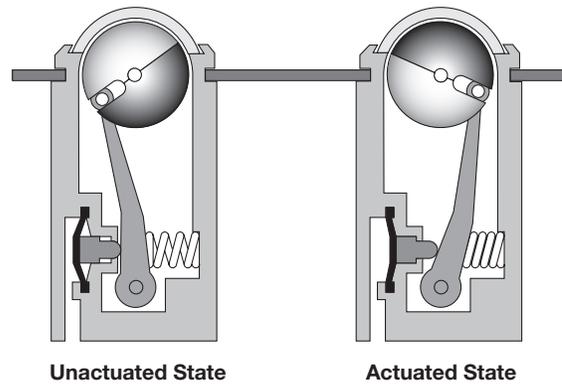
Brass Poppet / Sliding Seal

Control Panel Products

Sensing

**Pneumatic Visual Indicators**

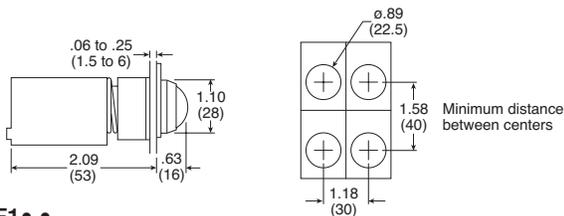
An indicator ball is rotated by a pneumatic input, changing the visible color. The ball sits behind a clear plastic window, providing a wide field of view. The visual indicators are available in five brightly colored Day-Glow paints for increased visibility. Like push buttons and selector switches, visual 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)

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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



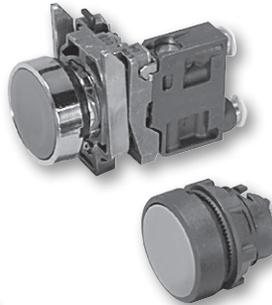
PXBB4931

**Push Buttons**

Spring Return or Latching  
 Mushroom Headed Push Buttons



Standard  
 Push Button



**Visual indicators**



**Selector Switches**

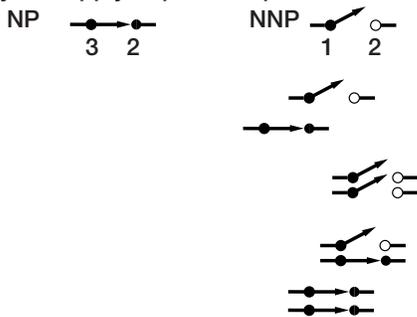
2 or 3 Positions,  
 Fixed or  
 ReturnTo Center



**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				

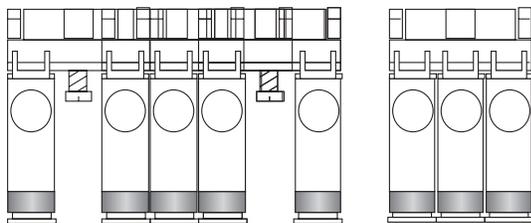
**Type of Switching: Universal 3-Way:** Valve can be connected either as NP or NNP as required by connecting the primary air supply to port 1 or port 3.



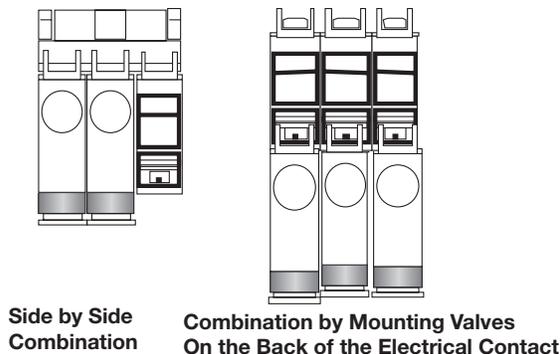
**Combination of Output Devices On a Single Mounting Block**

Up to 3 output devices (valves or electrical contacts) can be mounted side by side on 1 mounting block.

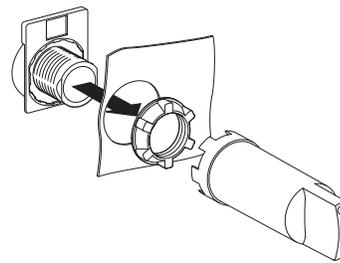
**Note:** The central position can only be activated by push button heads.



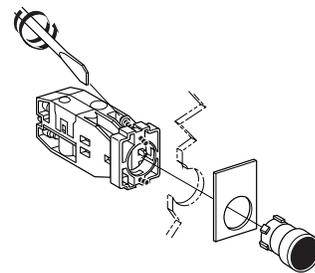
Electrical Contacts and Valves can be Combined Either Side by Side, or by Mounting the Valve on the Back of the Electrical Contact.



**Assembling Output Devices and Heads On ZB5 Series Mounting Block**

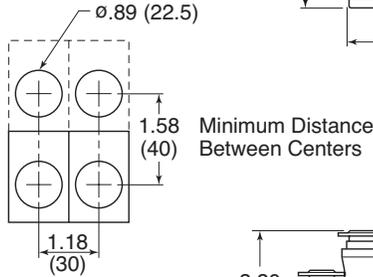
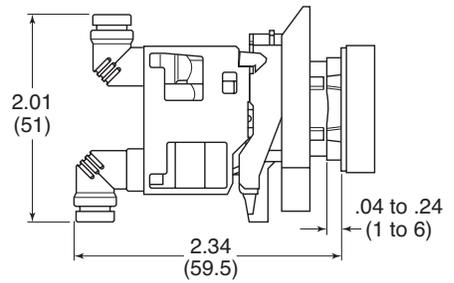
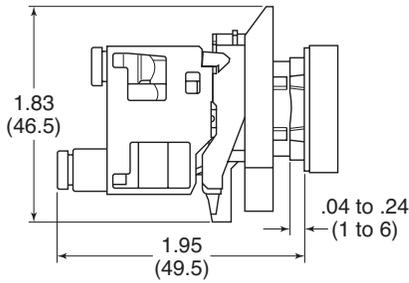


**Replacement Old Style Mounting**

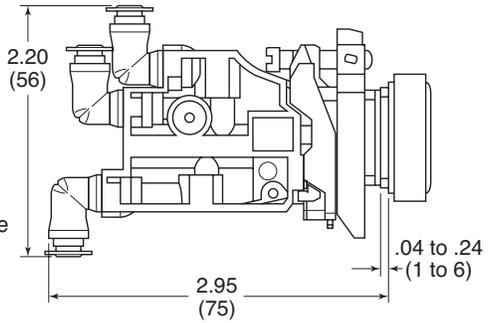
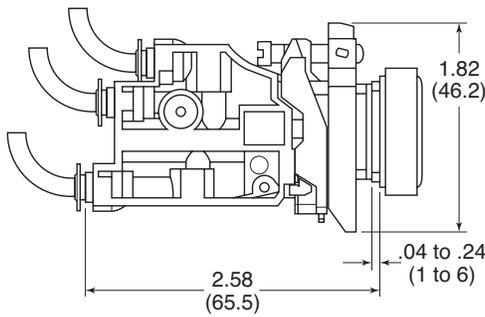


**Dimensional Data**

**PXB-B3 Dimensions**



**PXB-B4 Dimensions**

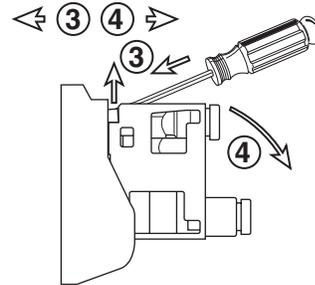
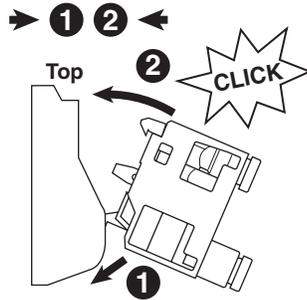


**Tube Bending Radius For PXBB3 and PXBB4**

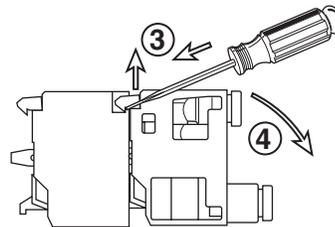
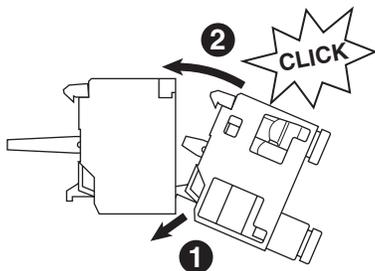
- 4 mm O.D. x 2 mm I.D. Tube = Minimum 0.39 (10) Radius
- 4 mm O.D. x 2.7 mm I.D. Tube = Minimum 0.59 (15) Radius

**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

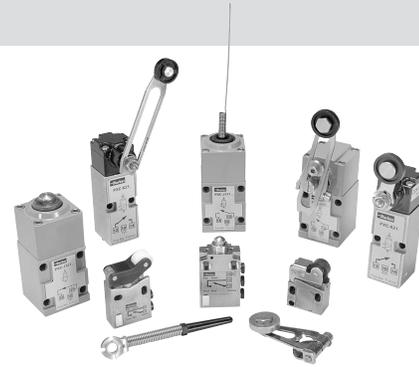
Features

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:	
Operating	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)

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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**

**Sensing**

**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		Steel Plunger Operating Levers Available				<b>PXCM601A110</b>
Viking Xtreme Lever Series		Steel Roller Plunger	8.8 (250)	7/64" (2.5mm)	5/32" instant	<b>PXCM601A102</b>
42 Lever / Pedal Series		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		NNP				<b>PXCK21101</b>
		NP				<b>PXCK22101</b>
Safety		NNP				<b>PXCK21102</b>
		NP				<b>PXCK22102</b>
Manual / Mechanical Valves		NNP	7.4 (210)	1/8" (3mm)	5/32" instant	<b>PXCK21121</b>
		NP				<b>PXCK22121</b>
		NNP				
Brass Poppet / Sliding Seal		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: - from Right and Left - from Right - from Left	NNP	7.4 (210)	1/8" (3mm)	5/32" Instant	<b>PXCK2110031</b>
		NP				PXCK2210031
	Adjustable Delrin Roller Lever Multi-Function Head Actuates: - from Right and Left - from Right - from Left	NNP				<b>PXCK2110041</b>
		NP				PXCK2210041

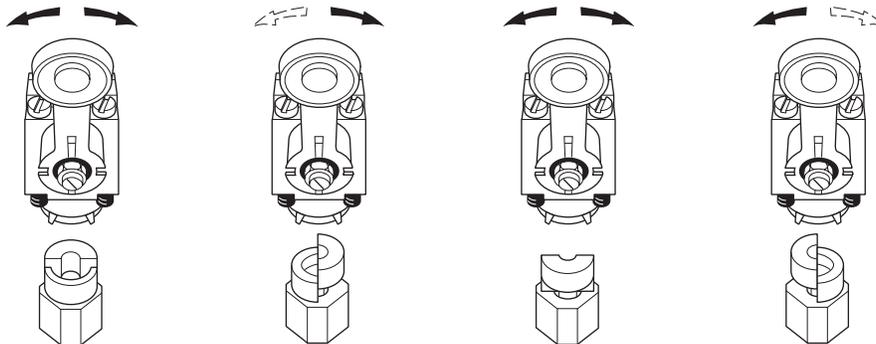
Separate Pneumatic Switch Bodies

Actuator	Type of Switching*	Part Number
	For Use with Zck Series Operating Heads	<b>PXCK211</b>
		<b>PXCK221</b>

Pneumatic Switch Bodies with Rotary Heads

Actuator	Type of Switching*	Part Number
	Multi-Function Head Actuates: - from Right and Left - from Right - from Left	<b>PXCK21100</b>
		<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)

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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

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

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.

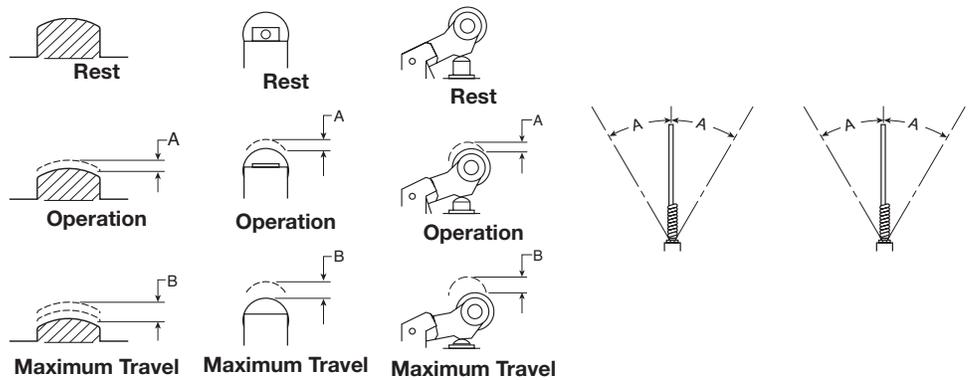


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

**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)

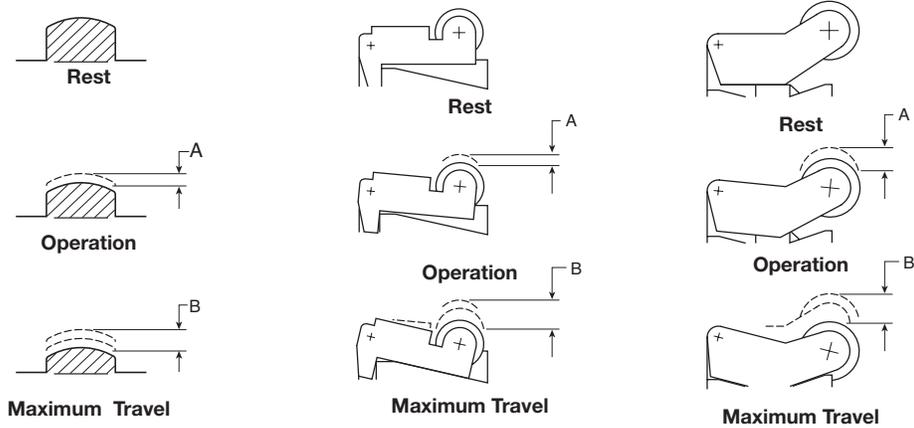
Operating Diagram



**Operators**

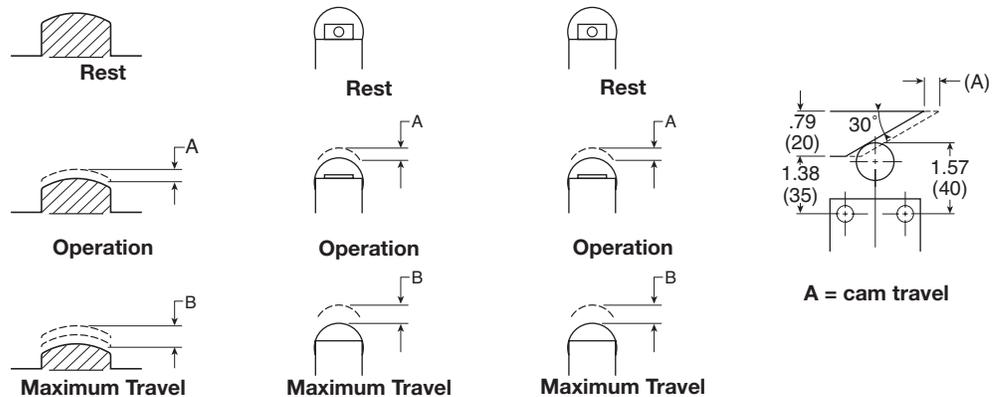
	PXCM111	PXCM121	PXCM521
Differential Travel at 90 PSI (6 bar)	.006" (0.15 mm)	.012" (0.3 mm)	.020" (0.5 mm)
Maximum Travel (B) at 90 PSIG (6 bar)	.055" (1.4 mm)	.126" (3.2 mm)	.228" (5.8 mm)
Minimum Pre-Travel (A) at 90 PSIG (6 bar)	.035" (0.9 mm)	.079" (2 mm)	.087" (2.2 mm)
Minimum Operating Force at 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

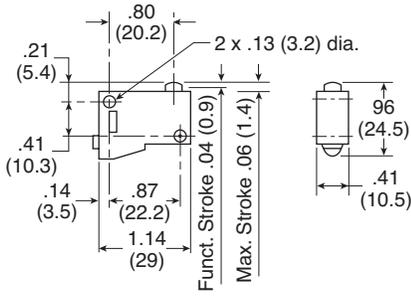


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

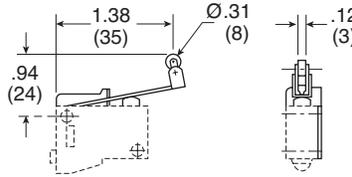
Directair 2 & 4 Series  
 Viking Xtreme Lever Series  
 42 Lever / Pedal Series  
 MO Series  
 Safety  
 Manual / Mechanical Valves  
 Brass Poppet / Sliding Seal  
 Control Panel Products  
 Sensing

**Miniature Limit Switches**

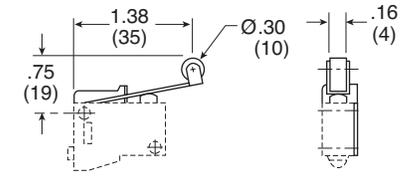
**PXCM111**



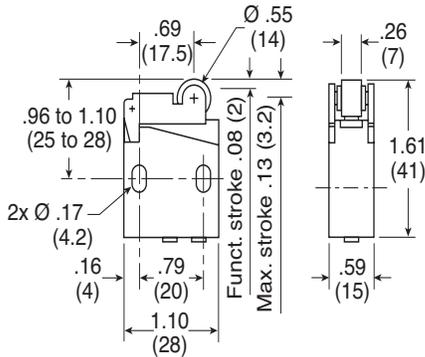
**PXCZ12**



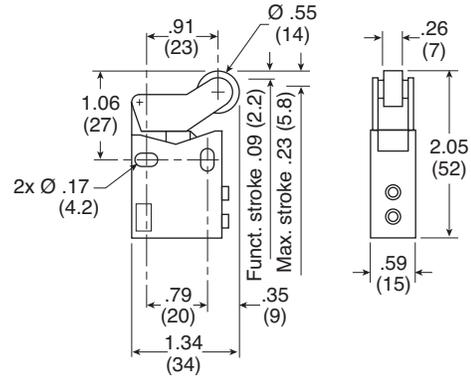
**PXCZ11**



**PXCM121, PXCM131**

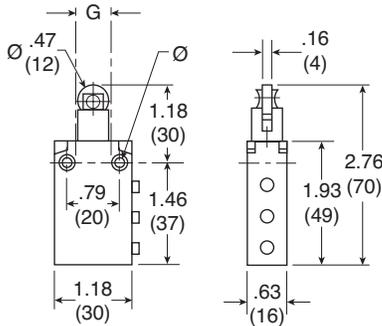


**PXCM521**

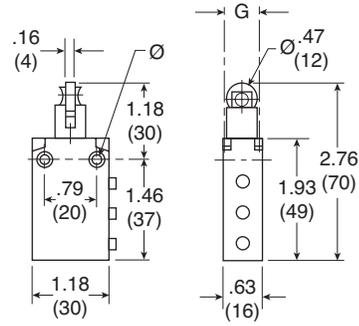


**Compact Limit Switches**

**PXCM601A102**

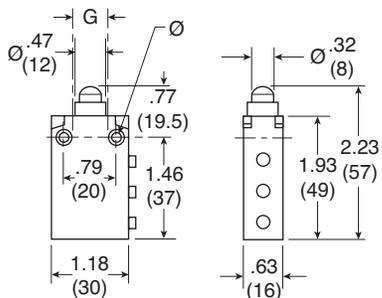


**PXCM601A103**



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

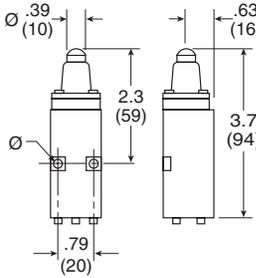
Brass Poppet /  
 Sliding Seal

Control Panel  
 Products

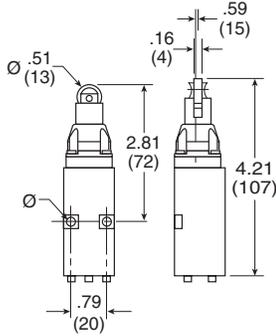
Sensing

**K Series**

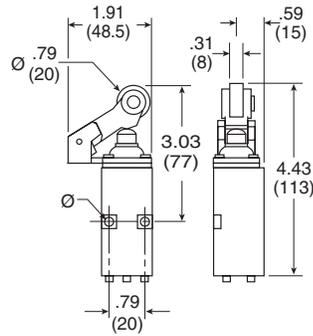
PXCK21101, PXCK22101



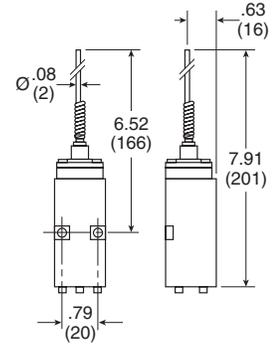
PXCK21102, PXCK22102



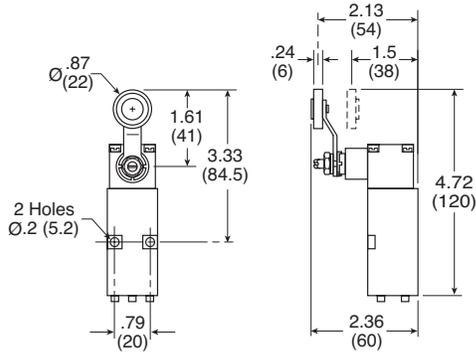
PXCK21121, PXCK22121



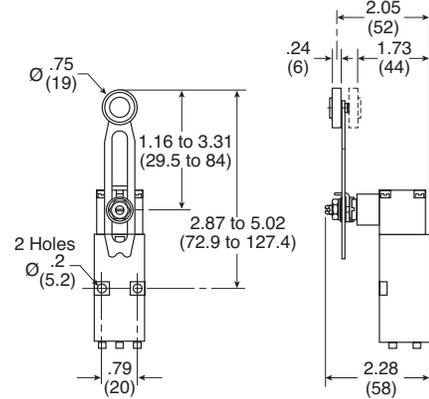
PXCK21106, PXCK22106



PXCK2110031, PXCK2210031

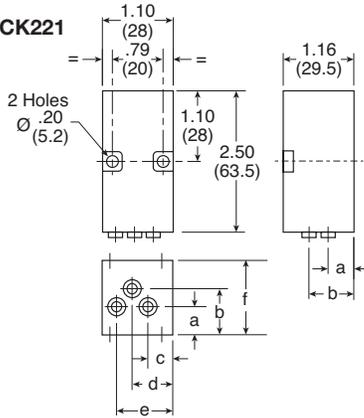


PXCK2110041, PXCK2210041



**Pneumatic Switch Bodies**

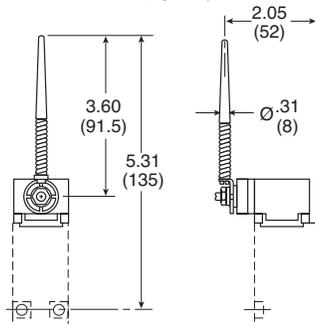
PXCK211, PXCK221



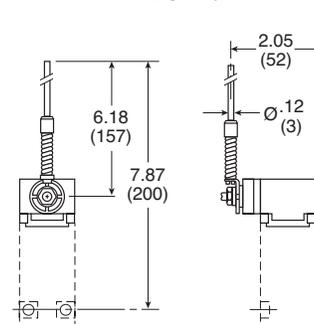
	inch	mm
a	.39	10
b	.77	19.5
c	.35	9
d	.61	15.5
e	.87	22
r	1.66	29.5

**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

4/2 Lever / Pedal Series

M0 Series

Safety



Manual / Mechanical Valves

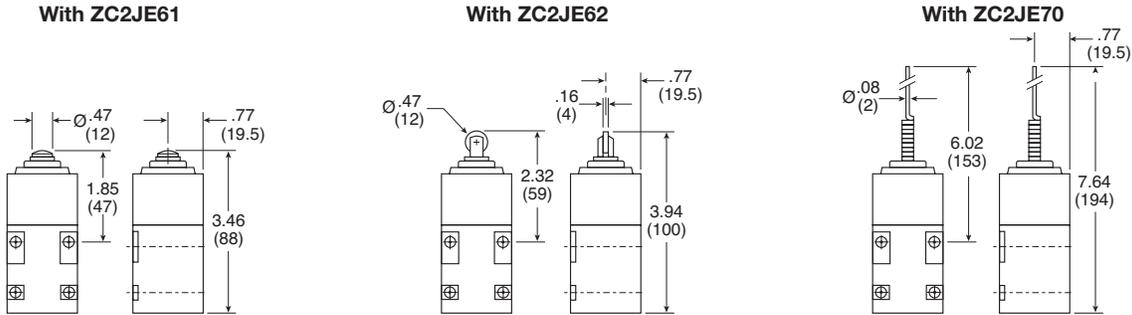
Brass Poppet / Sliding Seal

Control Panel Products

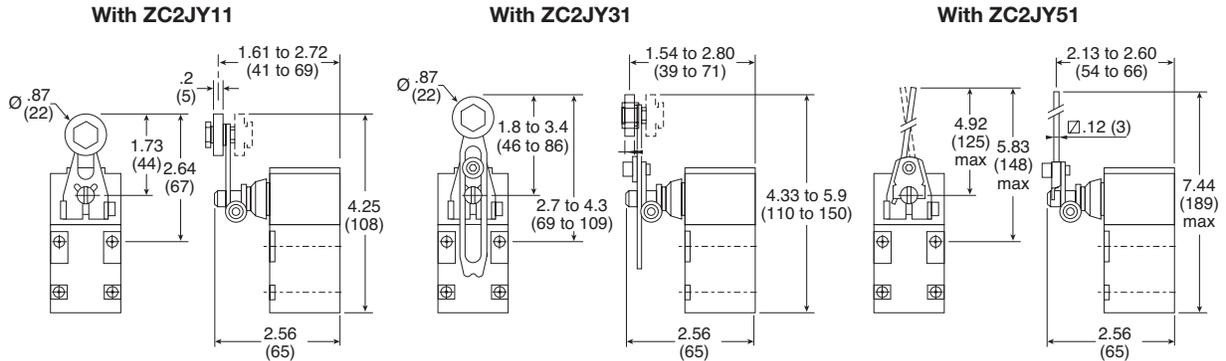
Sensing

**J Series**

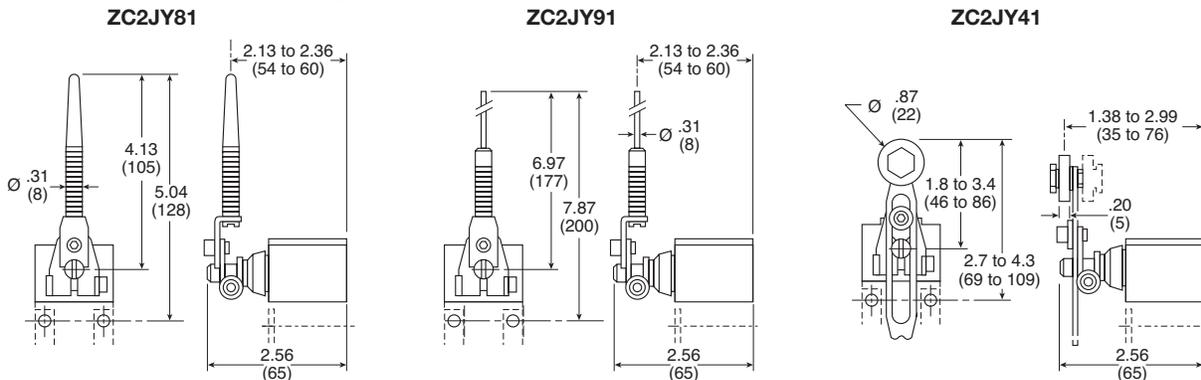
**Switch Body With Plunger Heads**



**Switch Body With Rotary Heads and Operating Levers**

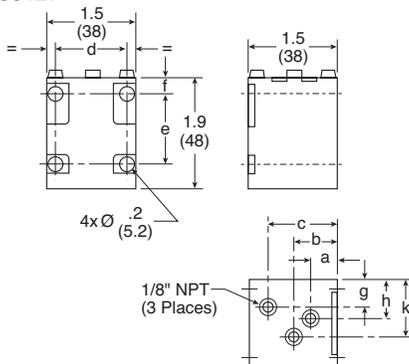


**Rotary Heads With Operating Levers**



**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

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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

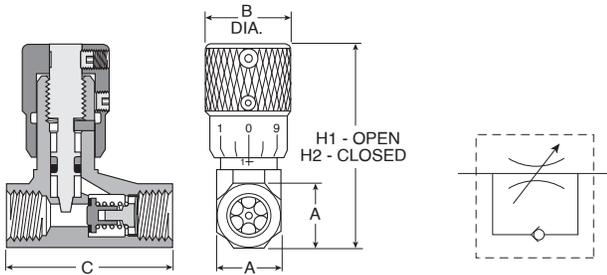
Body	Brass
Check Seal	Urethane
Knob	Aluminum
Needle	Stainless steel
Needle Seals	Buna N (Fluorocarbon optional – consult factory)
Retainer	Zinc- Plated Steel
Spring	Stainless Steel
Set Screw	Steel

### 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.

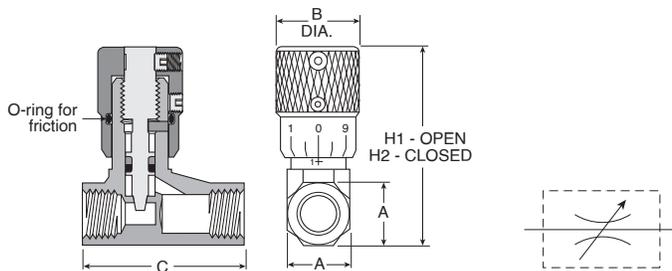
Flow Controls  
& Check Valves

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

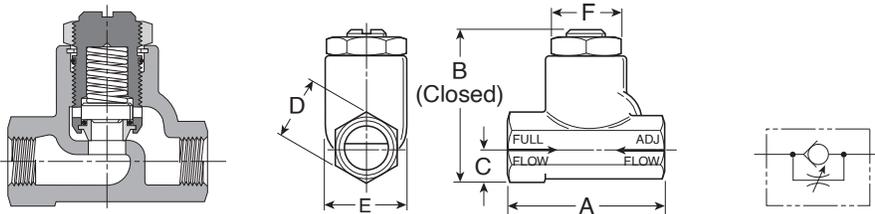
Operating pressure: 250 PSIG (Air)  
250 PSIG (Hydraulic)

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.

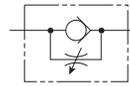
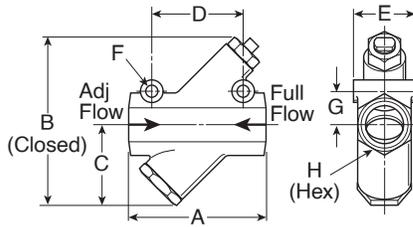
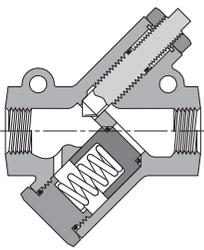


### Material Specifications

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)



### 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>

<sup>†</sup> 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)

## 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

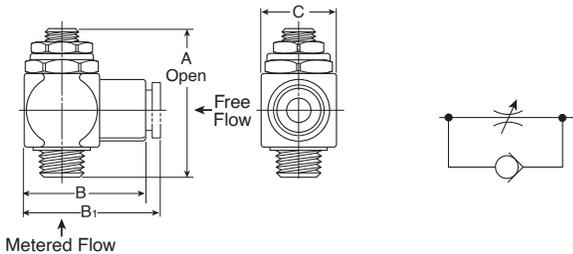
Operating pressure:	125 PSIG (863 kPa) max.
Operating temperature:	0°F to 140°F (-18°C to 60°C)

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)

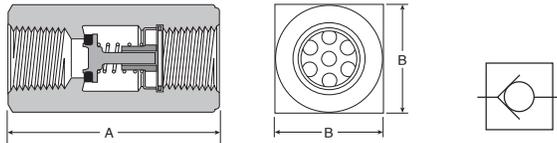
## 339 Series Check Valves, 1/8" to 3/4" Ports

"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.

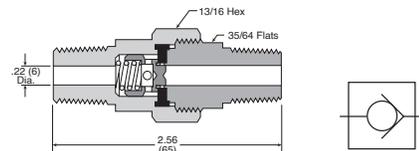
## 3047 Series Check Valves, 1/4" Ports

"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.

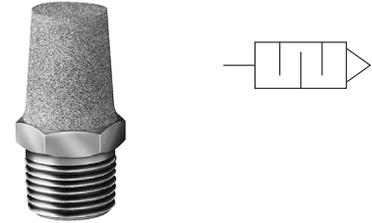
Most popular.



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

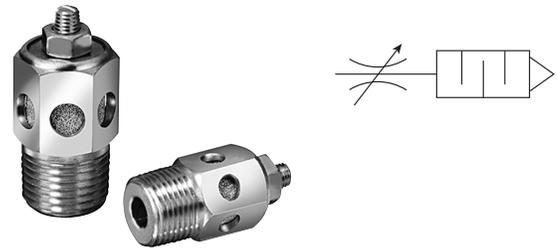
Operating pressure: 250 PSIG (Air)  
Cracking pressure 1 to 2 PSIG

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

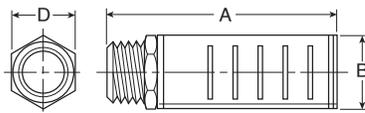
Integrated  
Fittings

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

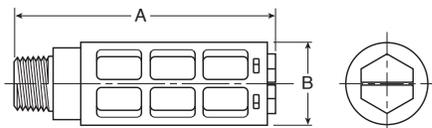
Accessories



## 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.

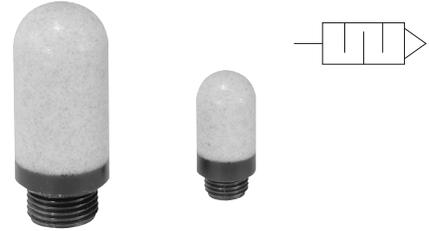


For inventory, lead times, and kit lookup, visit [www.pdnplu.com](http://www.pdnplu.com)

## P6M G Thread Air Line Silencer, Plastic

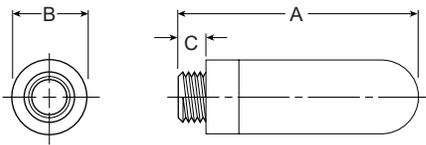
- All Plastic Ultra Light Weight Versions
- High Noise Level Reduction
- Low Back Pressure Generation

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:	14°F to 176°F (-10°C to 80°C)
Plastic	14°F to 165°F (-10°C to 74°C)
Metal	
Efficiency	92%



### P6M G Thread, Air Line Silencer, Plastic

Port Thread	A	Diameter B	C	Weight (grams)	Part Number
M5	0.86 (21.8)	0.26 (6,5)	0.16 (4)	0.01	P6M-PAC5
G1/8	1.36 (34.5)	0.50 (12.7)	0.26 (6.7)	0.02	P6M-PAB1
G1/4	1.69 (42.8)	0.65 (16.5)	0.35 (8.9)	0.04	P6M-PAB2
G3/8	2.64 (67)	0.79 (20)	0.43 (11)	0.06	P6M-PAB3
G1/2	3.05 (77.5)	0.96 (24.3)	0.43 (11)	0.10	P6M-PAB4
G3/4	5.16 (131)	1.50 (38)	0.61 (15.5)	0.50	P6M-PAB6
G1	6.30 (160)	1.89 (48)	0.79 (20)	0.62	P6M-PAB8

Most popular.



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

## 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

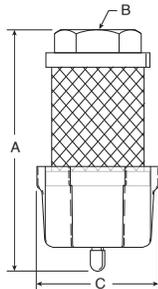
### Improve Overall Plant Environment

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.

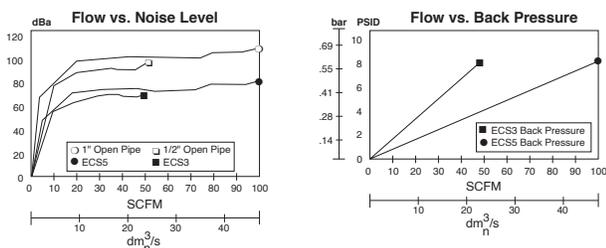
The result is a cleaner, quieter environment which equates to greater work productivity and safety.



### 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

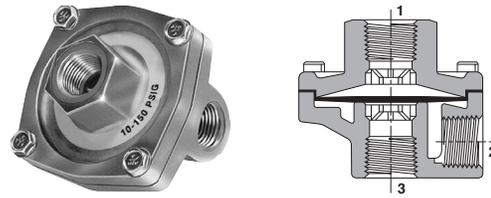
Integrated Fittings

Accessories



## 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:\*

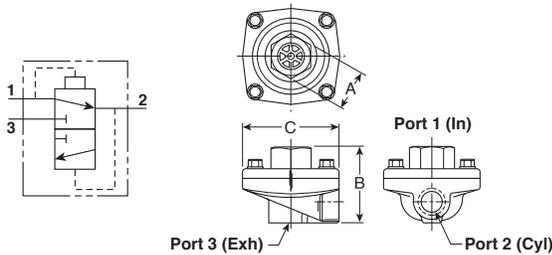
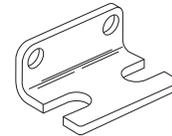
- Urethane: 0°F to 180°F (-18°C to 80°C)
- Nitrile: 0°F to 180°F (-18°C to 80°C)
- Fluorocarbon: 0°F to 400°F (-18°C to 205°C)
- PTFE: 0°F to 500°F (-18°C to 260°C)

\* 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

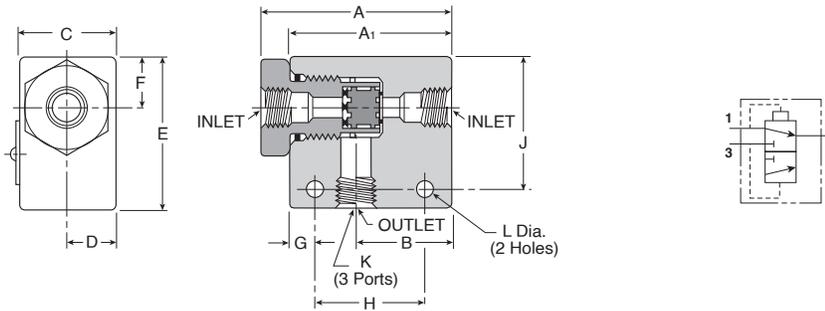
Body	Aluminum
Internal Components	Aluminum
Seals	Nitrile

### 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>

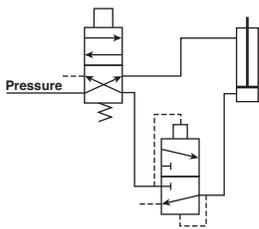
Most popular.



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

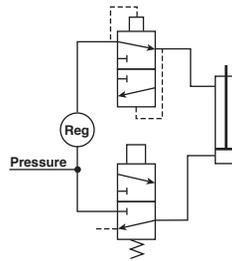
Typical “Quick Exhaust Valve” Applications

Flow Controls & Check Valves
Misc Accessories
Integrated Fittings
Accessories



**Rapid Retraction – Double Acting Cylinder**

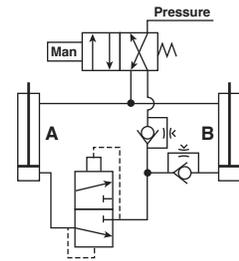
In this circuit, air is exhausted through a Quick Exhaust Valve that is **close coupled** to the cap end of the cylinder. Because the Quick Exhaust Valve has a greater exhaust capacity than the four-way Control Valve, increased cylinder speed can be accomplished with a smaller and less expensive control 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.

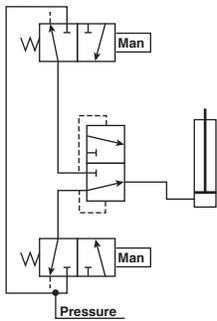
NOTE: Line pressure must be 3 or 4 times greater than rod end pressure. Effective working pressure is the differential between the cap and rod end.



**Bi-Directional Control of Two Double Acting Cylinders**

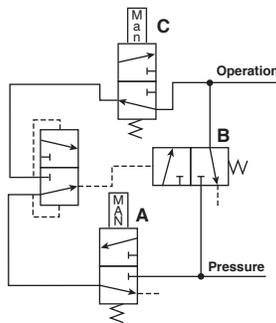
This circuit provides maximum control with a minimum of valving. A large four-way Control Valve is not needed to permit the rapid retraction of Cylinder A, as the Quick Exhaust Valve performs this function. The extension of Cylinders A and B and retraction of Cylinder B are controlled by Speed Control Valves.

Typical “Shuttle Valve” Applications



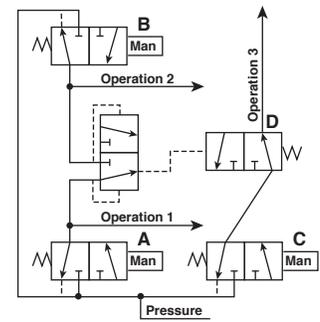
**“OR” Circuit**

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.



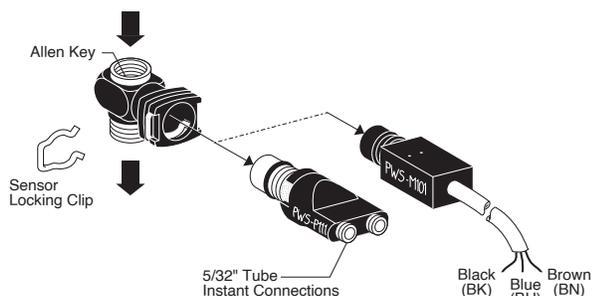
**Interlock**

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)

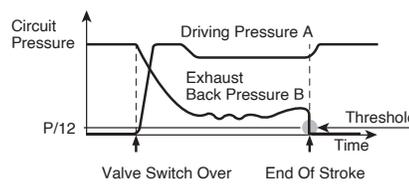
**Caution:** If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.

### 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

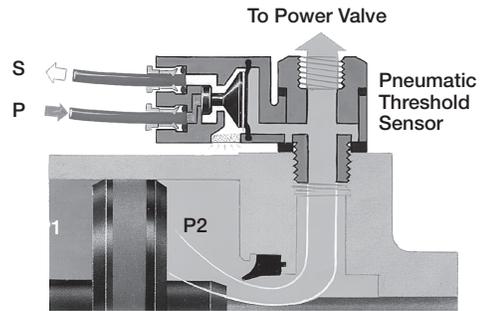
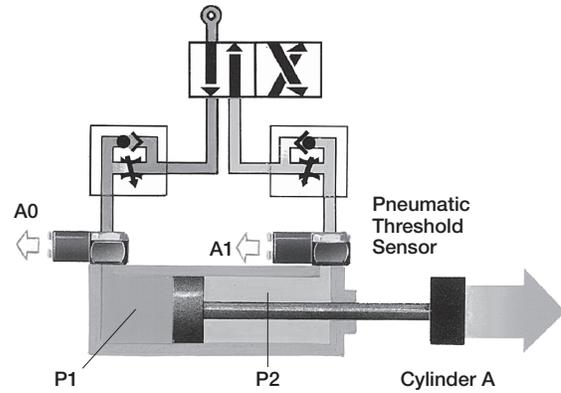
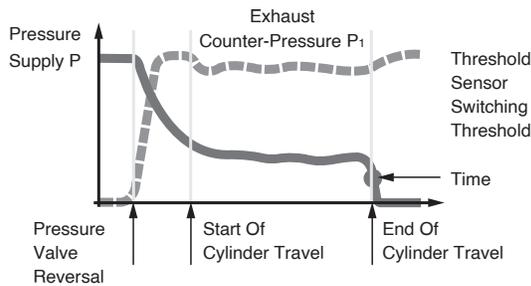
Accessories



**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



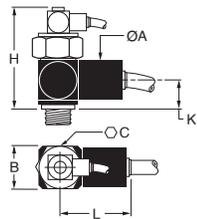
Fluid Power		Universal Description	Electrical	
Function	Symbol		Function	Symbol
Normally Closed (N.C.)	2-Way	Normally Non-Passing (NNP)	Normally Open (N.O.)	
	3-Way			
Normally Open (N.O.)	2-Way	Normally Passing (NP)	Normally Closed (N.C.)	
	3-Way			



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

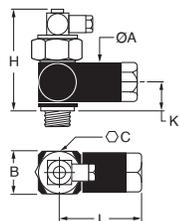
Blocking Valves

PWBA14/34



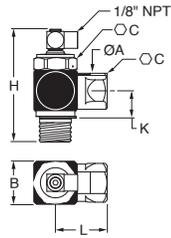
ØA	B	C	K	H	L	Flow*	Part Number
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.32" (59)	1.54" (39)	14.8	PWBA1468/3468
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.09" (53)	1.54" (39)	19.4	PWBA1469/3469 PWBA1489
1.06" (27)	1.10" (28)	0.94" (24)	0.55" (14)	2.09" (53)	1.98" (50)	45.9	PWBA1483 PWBA1493/3493
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

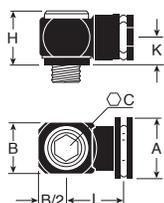
PWBA38



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

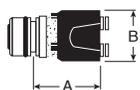
Threshold Sensors

Banjo Socket



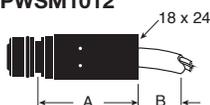
A	B	C	H	K	L	Part Number
.98 (25)	.43 (11)	5/16" Hex	.79 (20)	.40 (10)	.67 (17)	PWSB1557
.98 (25)	.63 (16)	3/16" Allen	.71 (18)	.40 (10)	.79 (20)	PWSB1887
.98 (25)	.83 (21)	5/16" Allen	.71 (18)	.40 (10)	.87 (22)	PWSB1997
.98 (25)	1.10 (28)	3/8" Allen	.79 (20)	.47 (12)	.98 (25)	PWSB1337
.98 (25)	1.30 (33)	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

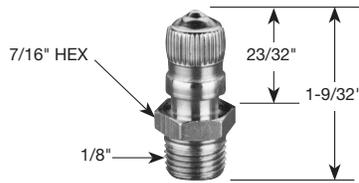
F

## 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

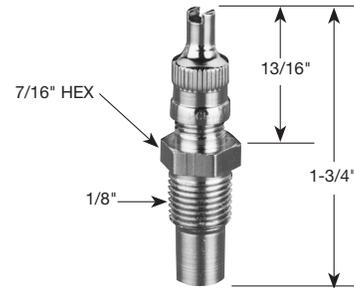
Has a 1/8" pipe thread at bottom for minimum protrusion. N/P finish, dome shaped cap.



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

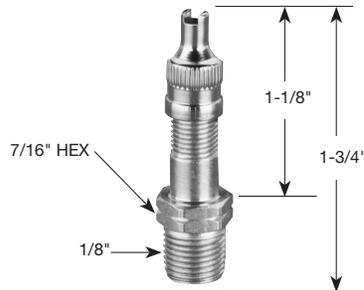
Has a 1/8" pipe thread part way up the stem which allows for minimum protrusion. N/P finish, has screwdriver type cap.



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.



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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

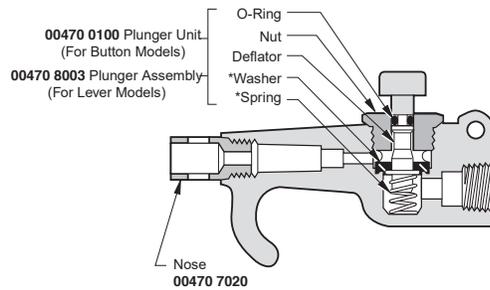
### 004707020

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
<b>FCMK731</b> Knobless Mini Meter Out Flow Control  Page F29	<b>Swivel Outlet Flow Control Valves</b>	<b>FCCS731</b> Compact Swivel Outlet Flow Control  Page F30		<b>FCMS731</b> Mini Swivel Outlet Flow Control  Page F30	<b>FCMS731</b> Miniature Swivel Outlet - BSPP  Page F30
<b>Plug-In Flow Control Valves</b>		<b>FCMSP731</b> Mini Flow Control  Page F31	<b>FCMSP701</b> Miniature Flow Control  Page F31	<b>FCCSP731</b> Compact Flow Control  Page F31	
	<b>In-Line Flow Control Valves</b>	<b>FC832</b> Flow Control  Page F32	<b>FCB832</b> Bi-Directional Flow Control  Page F32	<b>FCPM832</b> Panel Mountable Flow Control  Page F33	<b>FC836</b> Threaded Flow Control  Page F33
<b>Compact Metal Flow Control Valves</b>		<b>FC705</b> Push-to-Connect Metal Flow Control  Page F34	<b>FC701</b> Push-to-Connect Metal Flow Control - BSPP  Page F34	<b>FC708</b> Threaded Port Meter Out Flow Control  Page F34	<b>FC702</b> Threaded Port Metal Flow Control - BSPP  Page F34
	<b>Flow Control Check Valves</b>	<b>32PLCK</b> In-Line Check Valve  Page F35	<b>W68PLCK</b> Male Check Valve  Page F35	<b>W68PLCKI</b> Male Check Valve Meter In  Page F35	<b>68PLCK</b> Male Check Valve Meter Out - BSPP  Page F36
<b>VC</b> Check Valve  Page F36					

Flow Controls & Check Valves

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F

<b>Blocking Flow Control Valves</b>	<b>FC601</b> Push-to-Connect Lock Out Valves  Page F37	<b>FC601</b> Push-to-Connect Lock-Out Valve - BSPP  Page F37	<b>FC602</b> Threaded Port Lock Out Valves  Page F37	<b>FC608</b> Threaded Port Lock-Out Valve - BSPP  Page F37	
	<b>Threshold Sensor</b>	<b>PSBJ731</b> Pneumatic - 5/32 Pilot  Page F38	<b>PSBJ731</b> Pneumatic - 4mm Pilot  Page F38	<b>PSPJ731</b> Pneumatic - 10-32 Pilot  Page F38	<b>PSBJ708</b> Pneumatic - M5 Pilot  Page F38

Flow Controls  
 & Check Valves  
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 Accessories  
 Integrated  
 Fittings  
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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

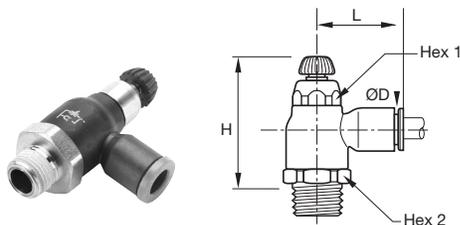
Body (depending upon the model)	Glass reinforced nylon 6.6 Brass
Gripping Ring	Stainless Steel
Adjustment Screws	Nickel-plated brass
Locking Nut	Nickel-plated brass
Base	Nickel-plated brass

### 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



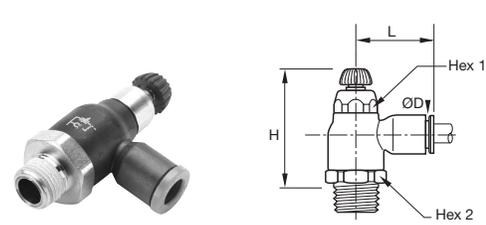
### FCC731 Compact Meter Out - NPT

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

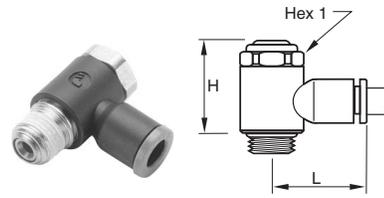
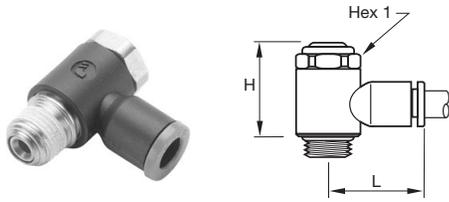
Tube Size (In)	NPT	Hex 1 (In)	Hex 2 (In)	H Open	H Closed	L	Part Number
5/32	1/8	0.63	0.39	1.67	1.44	0.85	<b>FCCB731-5/32-2</b>
	1/8	0.63	0.39	1.67	1.44	0.85	<b>FCCB731-4-2</b>
1/4	1/4	0.63	0.39	1.67	1.44	0.85	<b>FCCB731-4-4</b>

### 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>



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



**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>

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## Miniature Flow Control Valves

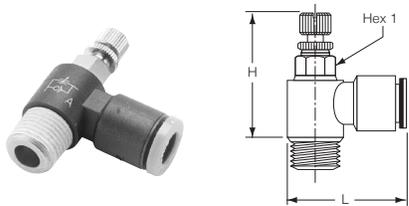
The miniature flow control regulator is especially adapted for all very small sized pneumatic applications (micro-pneumatic in particular). They are specifically designed for use with small bore cylinders (pancake / flat cylinders). Miniature flow control regulators are available in meter out, meter 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

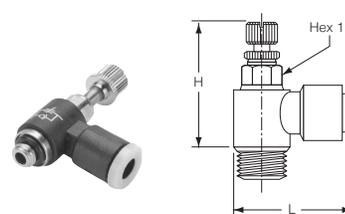
Tube Size (mm)	BSPP	Hex 1 (mm)	H Closed	H Open	L	Part Number
3	M3X0.5	6	23.5	26.0	17.0	<b>FCM731-3M-M3</b>
	M5X0.8	6	23.5	26.0	17.0	<b>FCM731-3M-M5</b>
4	M3X0.5	6	23.5	26.0	16.5	<b>FCM731-4M-M3</b>
	M5X0.8	6	23.5	26.0	17.0	<b>FCM731-4M-M5</b>
6	1/8	7	27.0	29.5	18.0	<b>FCM731-4M-2G</b>
	M5X0.8	6	23.5	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.



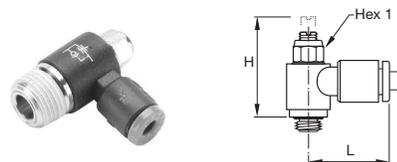
### Operating information

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>



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

## 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

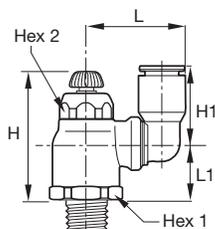
Pressure range:	15 to 145 PSI
Temperature range:	30°F to 160°F
Working fluid:	Compressed air

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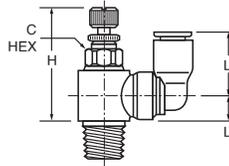


### FCCS731 Compact Swivel Outlet Flow Control

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

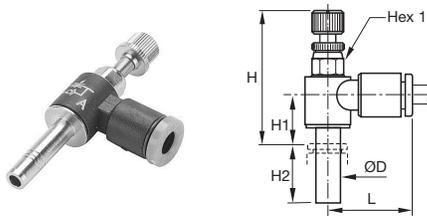
### Applicable Tube

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

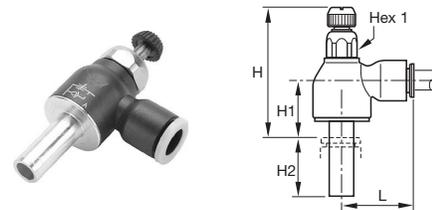


### FCMS731 Plug-In Mini Flow Control

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>

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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

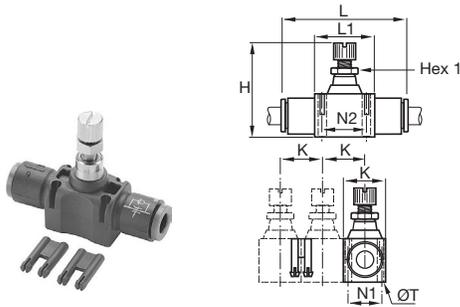
### Applicable Tube

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

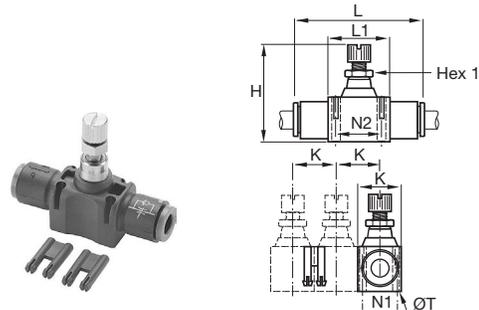


### FC832 In-Line Flow Control

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>

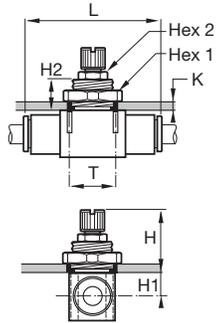


### FCB832 In-Line Bi-Directional Flow Control

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>

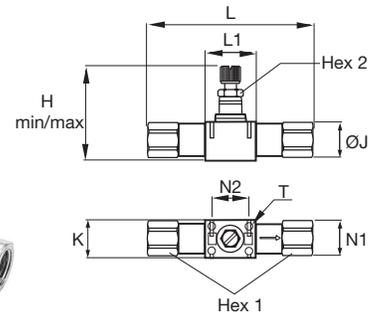
### FCB832 In-Line Bi-Directional Flow Control

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 mm	H Open mm	K mm	L mm	H1 mm	H2 mm	T mm	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 mm	H Open mm	K mm	L mm	L1 mm	N1 mm	N2 mm	T mm	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 mm	H Open mm	K mm	L mm	L1 mm	N1 mm	N2 mm	T mm	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>

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Accessories



## Compact Metal Flow Control Valves

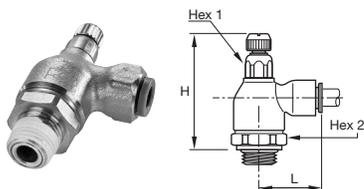
Metal flow control regulators are suited for use in severe conditions (temperatures, sparks, abrasion, etc). The screw and locking nut have been designed for easy manipulation, by hand. Adjustment can be made with a screwdriver and locking by use of a wrench.

### Material Specifications

Body	Treated Brass
Gripping Ring	Stainless Steel
Adjustment Screws	Nickel-plated Brass
Locking Nut	Nickel-plated Brass
Tailpiece	Nickel-plated Brass

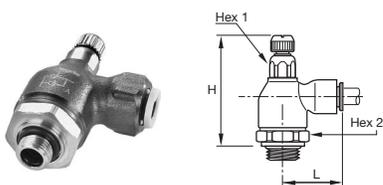
### Applicable Tube

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>



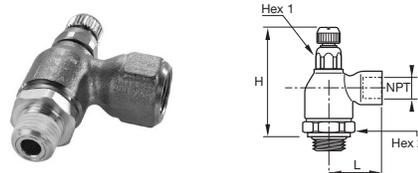
### FC701 Push-to-Connect Metal Flow Control - BSPP

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>



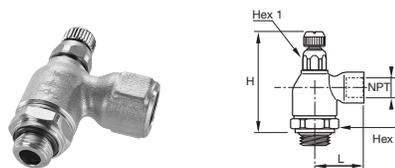
### Operating information

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)

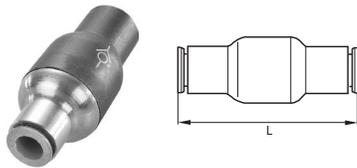
### Applicable Tube

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

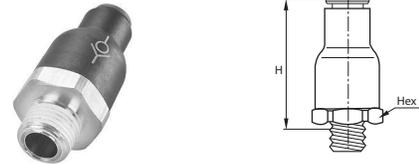


### 32PLCK In-Line Check Valve - NPT

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>

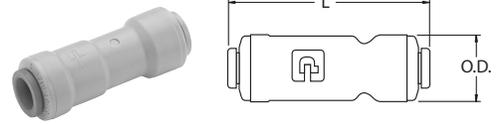
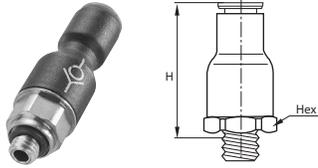


### W68PLCK Male Check Valve

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>

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## 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

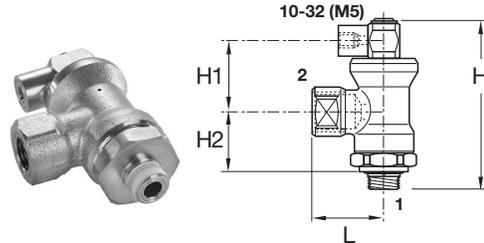
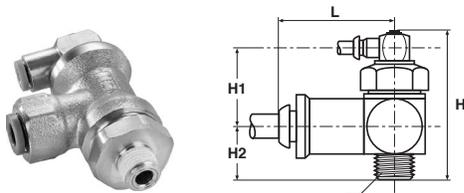
Body	Treated brass
Gripping Ring	Stainless Steel
Seals, Diaphragm	Nitrile

### 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>

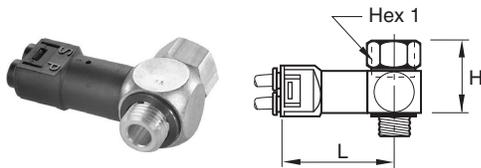
## Threshold Sensor

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		

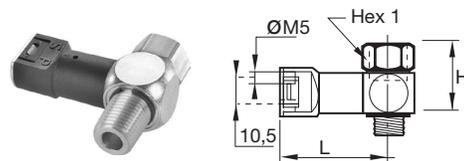


#### PSBJ731 Pneumatic Threshold Sensor - 5/32 Pilot

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>

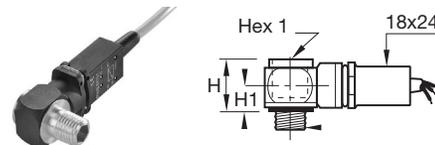


#### PSPJ731 Pneumatic Threshold Sensor - 10-32 Pilot

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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# 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.
- 2.7. Chemical Compatibility:** For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

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- 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. Failure to follow routine maintenance can lead to a reduction in the expected service life of the product and can result in damage to the system, personal injury and/or property damage.
- 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 including but not limited to swelling, bulging, creaks or leaks.
  - 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. Failure to follow routine service can lead to a reduction in the expected service life of the product and can result in damage to the system, personal injury and/or property damage. 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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**1. Definitions.** As used herein, the following terms have the meanings indicated.

"Buyer" means any customer receiving a Quote for Products.

"Buyer's Property" means any tools, patterns, plans, drawings, designs, specifications materials, equipment, or information furnished by Buyer, or which are or become Buyer's property.

"Confidential Information" means any technical, commercial, or other proprietary 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.

"Goods" means any tangible part, system or component to be supplied by Seller.

"Intellectual Property Rights" means any patents, trademarks, copyrights, trade dress, trade secrets or similar rights.

"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, subsidiaries and businesses selling Products under these Terms.

"Seller's IP" means patents, trademarks, copyrights, or other intellectual property rights relating to the Products, including without limitation, names, designs, images, drawings, models, software, templates, information, any improvements or creations or other intellectual property developed prior to or during the relationship contemplated herein.

"Services" means any services to be provided by Seller.

"Software" means any software related to the Goods, whether embedded or separately downloaded.

"Special Tooling" means equipment acquired by Seller or otherwise owned by Seller necessary to manufacture Goods, including but not limited to tools, jigs, and fixtures.

"Terms" means the terms and conditions of this Offer of Sale.

**2. Terms.** All sales of Products by Seller will be governed by, and are expressly conditioned upon Buyer's assent to, 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. Any Quote made by Seller to Buyer shall be considered a firm and definite offer and shall not be deemed to be otherwise despite any language on the face of the Quote. Seller reserves all rights to accept or reject any purported acceptance by Buyer to Seller's Quote if such purported acceptance attempts to vary the terms of the Quote. If Seller ships Products after Buyer issues an acceptance to the Quote, any additional or different terms proposed by Buyer will not become part of the parties' business relationship unless agreed to in a writing that is signed by an authorized representative of Seller, excluding email correspondence. If the transaction proceeds without such agreement on the part of Seller, the business relationship will be governed solely by these Terms and the specific terms in Seller's Quote.

**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 for any reason and at any time by giving ten (10) days prior written notice. 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). Under any circumstances, Buyer may not withhold or suspend payment of any amounts due and payable as a deduction, set-off or recoupment of any amount, claim or dispute with Seller. 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. Seller reserves the right to require advance payment or provision of securities for first and subsequent deliveries if there is any doubt, in Seller's sole determination, regarding the Buyer's creditworthiness or for other business reasons. If the requested advance payment or securities are not provided to Seller's satisfaction, Seller reserves the right to suspend performance or reject the purchase order, in whole or in part, without prejudice to Seller's other rights or remedies, including the right to full compensation. Seller may revoke or shorten any payment periods previously granted in Seller's sole determination. The rights and remedies herein reserved to Seller are cumulative and in

addition to any other or further rights and remedies available at law or in equity. No waiver by Seller of any breach by Buyer of any provision of these terms will constitute a waiver by Seller of any other breach of such provision.

**4. Shipment; Delivery; Title and Risk of Loss.** All delivery dates are approximate, and Seller is not responsible for damages or additional costs resulting from any delay. All deliveries are subject to our ability to procure materials from our suppliers. 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 PRODUCTS, RE-PERFORM THE SERVICES, OR REFUND THE PURCHASE PRICE PAID WITHIN A REASONABLE PERIOD OF TIME. IN NO EVENT IS SELLER LIABLE FOR 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 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 and shall return all such Confidential Information to Seller within thirty (30) days upon request.

**9. Loss to 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.

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Also, 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.** Seller may impose a tooling charge for any Special Tooling. Special Tooling shall be and remain Seller's property. 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 determination 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. 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 Buyer's Property; (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, including any legal or administrative proceedings, collection efforts, or other actions arising from or relating to such failure to comply. 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. 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 any 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, cyber related disruptions, cyber-attacks, ransomware sabotage, delays or failures in delivery from carriers or suppliers, shortages of materials, sudden increases in the price of raw material or components, shutdowns or slowdowns affecting the supply of raw materials or components, or the transportation thereof, oil shortages or oil price increases, energy crisis, energy or fuel interruption, war (whether declared or not) or the serious threat of same, riots, rebellions, acts of terrorism, embargoes, 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 an event of force majeure shall be tolled for the duration of such event of force majeure and rescheduled for mutually agreed dates as soon as practicable after the event of force majeure ceases to exist. The right to allocate capacity is in the Seller's sole discretion. An event of force majeure shall not include

financial distress, insolvency, bankruptcy, or other similar conditions affecting one of the parties, affiliates and/or subcontractors. An event of force majeure in the meaning of these Terms means any circumstances beyond Seller's control that permanently or temporarily hinders performance, even where that circumstance was already foreseen. Buyer shall not be entitled to cancel any orders following its claim of an event of force majeure.

**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. Duration.** Unless otherwise stated in the Quote, any agreement governed by or arising from these Terms shall: (a) be for an initial duration of one (1) year; and (b) shall automatically renew for successive one-year terms unless terminated by Buyer with at least 180-days written notice to Seller or if Seller terminates the agreement pursuant to Section 19 of these Terms.

**19. Termination.** Seller may, without liability to Buyer, 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.

**20. Ownership of Rights.** Buyer agrees that (a) Seller (and/or its affiliates) owns or is the valid licensee of Seller's IP and (b) the furnishing of information, related documents or other materials by Seller to Buyer does not grant or transfer any ownership interest or license in or to Seller's IP to Buyer, unless expressly agreed in writing. Without limiting the foregoing, Seller retains ownership of all Software supplied to Buyer. In no event shall Buyer obtain any greater right in and to the Software than a right in a license limited to the use thereof and subject to compliance with any other terms provided with the Software. Buyer further agrees that it will not, directly or through intermediaries, reverse engineer, decompile, or disassemble any Software (including firmware) comprising or contained within a Product, except and only to the extent that such activity may be expressly permitted, either by applicable law or, in the case of open source software, the applicable open source license.

**21. Indemnity for Infringement of Intellectual Property Rights.** Seller is not liable for infringement of any 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 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 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 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 (including Seller's use of Buyer's Property); or (ii) directed to any Products 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. 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.

**22. Governing Law.** These Terms, the terms of any Quote, 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.

**23. Entire Agreement.** These Terms, along with the terms set forth in the 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 Quote and these Terms, the terms set forth in the Quote shall prevail. All prior or contemporaneous written or oral agreements or negotiations with

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respect to the subject matter shall have no effect. No modification to these Terms will be binding on Seller unless agreed to in a writing that is signed by an authorized representative of Seller, excluding email correspondence, 'clickwrap' or other purported electronic assent to different or additional terms. Sections 2-25 of these Terms shall survive termination or cancellation of any agreement governed by or arising from these Terms.

**24. No 'Wrap' Agreements/No Authority to Bind.** Seller's clicking any buttons or any similar action, such as clicking "I Agree" or "Confirm," to utilize Buyer's software or webpage for the placement of orders, is NOT an agreement to Buyer's Terms and Conditions. **NO EMPLOYEE, AGENT OR REPRESENTATIVE OF SELLER HAS THE AUTHORITY TO BIND SELLER BY THE ACT OF CLICKING ANY BUTTON OR SIMILAR ACTION ON BUYER'S WEBSITE OR PORTAL.**

**25. 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 represents 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 Law.

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