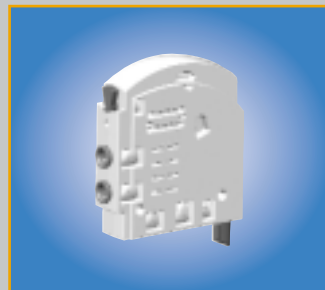




## Isonic<sup>®</sup> MOD 3 Series 3000/5000

2/2, 3/2 Direct - 4/2 Single  
& Double Solenoid Valves



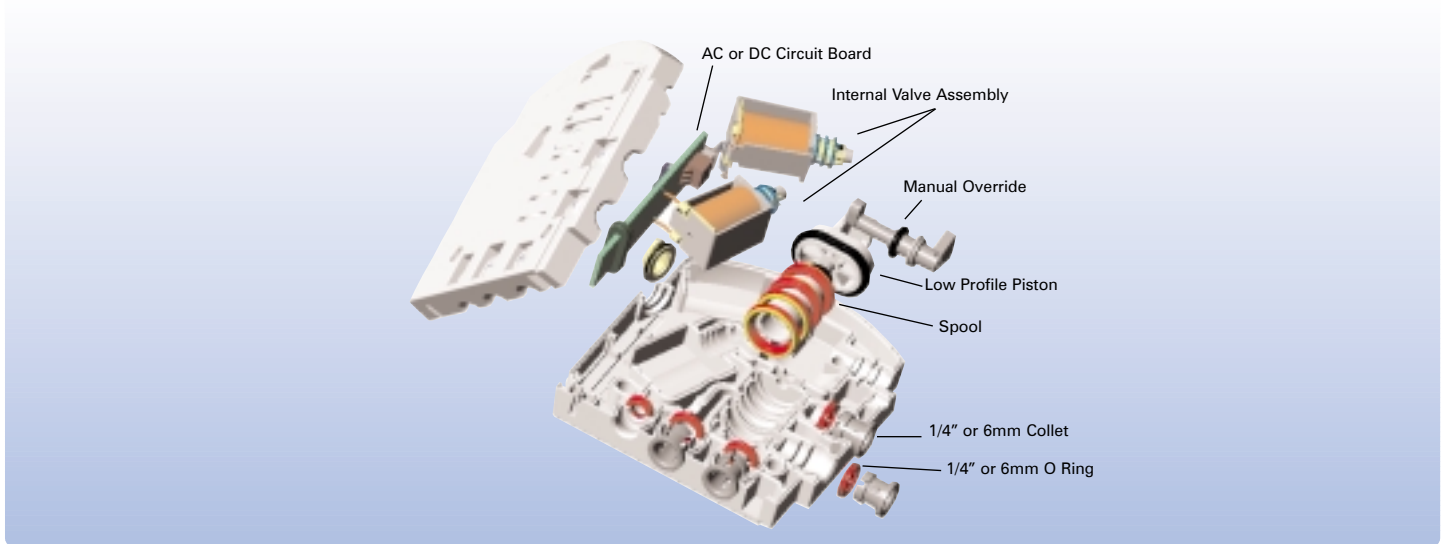
***MEAD***



With an innovative concept and a pioneering approach to valve design, Mead's new technology has directly challenged the conventions of traditional valve manufacturers. In doing so, Mead has overcome many of the restrictions and limitations of conventional valve manufacturing, resulting in a unique design that minimizes valve size, reduces air turbulence and lowers valve costs.

## Features & Benefits

- Fast Response
- Simultaneous Electrical / Pneumatic Connection to Manifold
- Thermoplastic - Non Metallic
- Compact & Lightweight
- Low Power Consumption
- High Resistance to Chemicals
- Aerodynamic Flow Passages
- Quick-Change Valve System
- 1/4" or 6mm Integral Push-In Fittings
- Pre-Wired Serial (15 or 25 Pin) Manifold Socket
- No Tools or Lubrication Needed
- Optional Separate Main & Air Pilot Air Feed
- Mount Free Standing, DIN Rail or Panel
- Field Bus Controllable

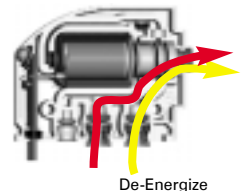


## “Half Shell” Design

The heart of the *Isonic*<sup>®</sup> concept is its patented “Half Shell”, design. Composed of two mirror image halves, *Isonic*<sup>®</sup> allows its flow channels and internal component compartments to be designed directly into these molded body sections. Assembly is achieved by simply inserting the various valve elements into their corresponding “half-shell” pockets. Internal components are easily positioned to make optimal use of space. The valve is completed by ultrasonically welding the two valve segments, creating a strong bond and hermetic seal. This design totally eliminates the need for fasteners, adhesives, gaskets and inserts.

## Maximum Air Flow

Instead of the angular passages of most conventional valves, *Isonic*<sup>®</sup> internal channels are aerodynamically shaped for maximum air flow and minimal internal friction. Eliminating sharp corners and abrupt changes in direction reduces air turbulence and energy loss. Normally round air passages are replaced by thin, deep, tape-like channels that conserve space and optimize air flow.



## Resistant to Harsh Conditions

Molded from a high performance thermoplastic, *Isonic*<sup>®</sup> achieves superior heat, impact and chemical resistance. It is recognized with both UL and CSA, making this system suitable for many environments.

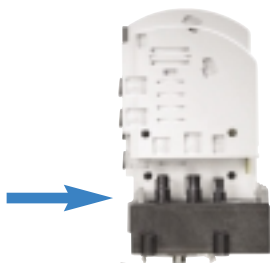


## The 2 Second Push-On Manifold and Valve System

The **Isonic® MOD 3** manifold system has been designed to virtually eliminate downtime, eliminating all end plates, screws, o-rings and gaskets customarily found in manifold systems. With this “plug-in” design, replacing an individual valve can be accomplished in seconds - simultaneously making an electrical and pneumatic connection, without the aid of any tools!

The **Isonic®** valve series can naturally be implemented as either part of a manifold system or stand alone and have option of either internal or external pilot pressure.

To Remove Valve Press  
Manifold Release



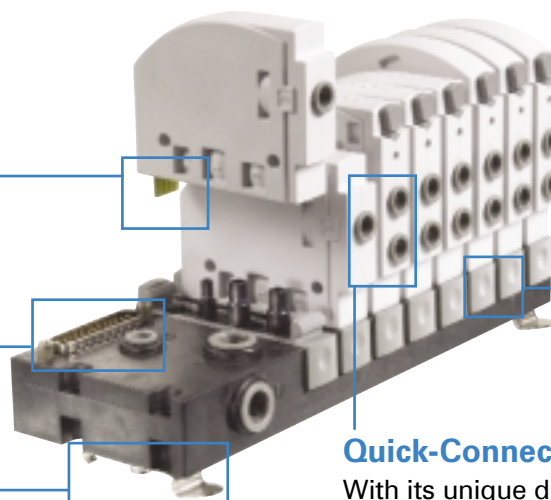
To Install simply Push Valve onto Manifold  
Edge connector requires no wiring and the Valve Ports need no fittings, the **MOD 3** modular system is engineered to Push-On, saving time and money on traditional installation.

### Versatile

Available in four or eight station segments, the **Isonic® MOD 3** manifold's unique modular design creates a versatile, expandable control base. The **Isonic® MOD 3** manifold will accept any combination of different function valves. For larger manifolds, two or more segments can be easily combined to fulfill any needs. The manifold has separate mains and pilot air feed and also allows easy isolation of segments for applications with differential pressures.

### Edge Connector

The Slot-In electrical Edge Connector reduces the time and expense needed for wiring and plugs.



### Manifold Release

Press to Release valve from manifold.

### Quick-Connect Collets - No Fittings Needed

With its unique design **Isonic® MOD 3** eliminates the need for tube fittings. Built-in, push-to-connect collets allow for fast and easy tube and manifold connections.

### Panel or DIN Rail Mounting

Panel Mounted with front or rear screws and can also be DIN rail mounted with clips.

### Simplify Wiring Tasks With Field Bus System

DeviceNet



To further reduce set-up time and installation costs, the **Isonic® MOD 3** manifold is prewired to accept a single connection. An integrated P.C.B. connects each of the manifold's valve stations. Simply plug in a standard cable to the Sub D connector for quick, clean wiring. A single connector can supply wiring for up to 8 (single or double pilot) valves. The manifold can then be controlled by a standard Field Bus System eg. **DeviceNet, Profibus, Interbus**. A second cable connector is necessary for manifolds of more than 8 valves.

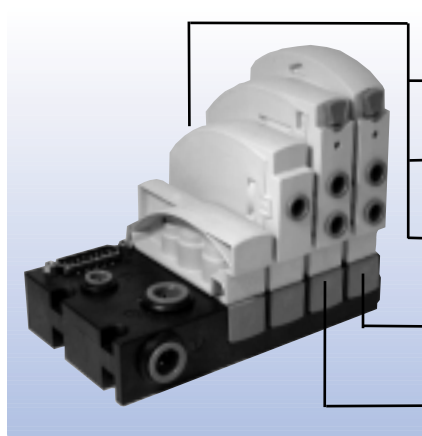
# Valve Specifications

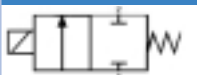




## Valve Data

Product / Function	Flow (C <sub>v</sub> )	Pressure Range	Vacuum	Orifice Size	Tubing
2/2 Direct Acting or 3/2 Direct Acting	A: 0.03	0-120 PSI (0-8.3 Bar)	Full	A: 0.04 (1.0 mm)	ALL MODELS 1/4" (6mm) O.D. Ports 1, 2, 3, 4 5/32" (4mm) Port 14 Optional
	B: 0.06	0-100 PSI (0-6.9 Bar)	Full	B: 0.06 (1.5 mm)	
	C: 0.11	0-90 PSI (0-6.2 Bar)	Full	C: 0.08 (2.0 mm)	
4/2 Single Solenoid Pilot Operated	0.80	30-120 PSI (2.0-8.3 Bar)	Full with External Pilot	0.21" (5.3 mm)	
4/2 Double Solenoid Pilot Operated	0.80	15-120 PSI (1.0-8.3 Bar)	Full with External Pilot	0.21" (5.3 mm)	

General	
<b>Temperature Range :</b>	0°- 120° F (-18° C to + 50° C)
<b>Media:</b>	Air or Inert Gas
<b>Lubrication:</b>	Not Recommended*
<b>Filtration:</b>	3 micron
<b>Duty:</b>	100%
<b>Manual Override:</b>	Standard (Pilot Models)
<b>Collets:</b>	1/4" (6 mm) and 5/32" (4mm)
<b>Voltages:</b>	DC: 12 V and 24 V AC: 24 V, 110 V @ 50 / 60 Hz
<b>Seals:</b>	Viton® and Nitrile
<b>Body:</b>	GE Thermoplastic
<b>Response Time:</b>	10 ms On; 35 ms Off

\*If lubrication is required consult factory.



Valve Symbols	
	2/2 NC
	3/2 NC
	3/2 NO
	4/2 Double Solenoid
	4/2 Single Solenoid

## Solenoid Data

### Direct Acting

Voltage	Amps	Resistance	Initial Power	100% Duty
<b>12DC</b>	0.169	71 Ω	2.00 W	1.50 W
<b>24DC</b>	0.071	305 Ω	1.70 W	1.28 W
<b>24AC</b>	0.071	305 Ω	1.70 W	1.28 W
<b>110AC</b>	0.016	7143 Ω	1.75 W	1.31 W

### Pilot Operated

Amps	Resistance	Initial Power	100% Duty
0.133	92 Ω	1.60 W	1.30 W
0.058	406 Ω	1.60 W	1.20 W
0.058	406 Ω	1.40 W	1.20 W
0.001	8350 Ω	1.70 W	1.50 W

## Track Side View Valve P. C. B. Edge Connector



Pin (View from track side)	Single and Direct Acting Solenoid	Double Solenoid	Signal LED Color
Right	Not Used	+VE Signal Port 1 > 2	Green
Left	+VE Signal	+VE Signal Port 1 > 4	Yellow
Center Right	Ground (0V)	Ground (0V)	-
Center Left	Ground (0V)	Ground (0V)	-

## DIN Connector - IP 65



Pin No.	Single and Direct Acting Solenoid	Double Solenoid
1	Ground (0V)	+VE Signal Port 1 > 2
2	+ VE Signal	+VE Signal Port 1 > 4
3	Not Used	Ground (0V)
Earth	Not Used	Not Used

NOTE (DIN Style): Connector P5D1 is shown with valve above. The connector is not included with valve.

## Valve Mini-Quick Connector



Pin (View connector side)	Single and Direct Acting Solenoid	Double Solenoid	Wire Color
Right	Ground (0V)	+VE Signal Port 1 > 2	Black
Left	+VE Signal	+VE Signal Port 1 > 4	Red
Center	Ground (0V)	Ground (0V)	White

NOTE (All): Consult Mead for reversed polarity models.

## 2/2 & 3/2 Valves

**V 3 A - B 1 3 1 - B E 1**

**Product Category**

V = Valve

**Family**

3 = Isonic Mod 3 3000 (2-way; 3-way)

**Tube Size**

A = 1/4" O.D. Tube Collet  
B = 6mm O.D. Tube Collet

**Orifice Size**

A = 0.040" (1.0mm) Vacuum to 120 PSI (8.3 bar)  
B = 0.060" (1.5mm) Vacuum to 100 PSI (6.9 bar)  
C = 0.080" (2.0mm) Vacuum to 90 PSI (6.2 bar)

**Actuation Type**

1 = Normally Closed  
2 = Normally Open



**LED** (Standard)

**Connector**

E = Edge Connector (Manifold)  
W = Mini Quick Connect Plug  
X = 8mm micro DIN Plug (type C)

**Solenoid Voltage**

A = 12 DC  
B = 24 DC  
D = 24 50/60 Hz AC  
F = 110 50/60 Hz AC

**Supply Connections**

1 = Main Supply (Port 1)  
2 = Alternate Supply (Port 14)

**Flow Pattern**

2 = 2-Way  
3 = 3-Way  
V = Vacuum

## 4/2 Valves

**V 5 A - 37 4 1 - B E 1**

**Product Category**

V = Valve

**Family**

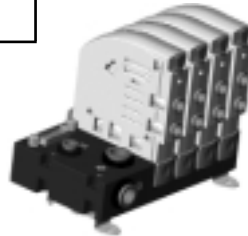
5 = Isonic Mod 3 5000 (4 way)

**Tube Size**

A = 1/4" O.D. Tube Collet  
B = 6mm O.D. Tube Collet

**Actuation Type**

37 = Solenoid spring  
33 = Double solenoid



**LED** (Standard)

**Connector**

E = Edge Connector (Manifold)  
W = Mini Quick Connect Plug  
X = 8mm micro DIN Plug (Type C)

**Solenoid Voltage**

A = 12 DC  
B = 24 DC  
D = 24 50/60 Hz AC  
F = 110 50/60 Hz AC

**Pilot Connections**

1 = Internal Pilot Feed (Port 1)  
2 = External Pilot Feed (Port 14)

**Flow Pattern**

4 = 4/2  
V = Vacuum

## Manifolds

**M 5 A - 08 0 8 - 1 1**

**Product Category**

M = Manifold

**Family**

5 = Isonic Mod 3 3000/5000

**Tube Size**

A = 3/8" O.D. Tube Collets (Common Air Inlet / Exhaust)  
1/4" O.D. Tube Collets (Common Air Pilot Feed)  
B = 10 mm O.D. Tube Collets (Common Air Inlet / Exhaust)  
6 mm O.D. Tube Collets (Common Air Pilot Feed)

**Number of Stations**

04 = 4 Stations  
08 = 8 Stations  
(modular segments are combined for manifolds over 8 stations)



4 Station *Isonic*® MOD 3 Valve Manifold



8 Station *Isonic*® MOD 3 Valve Manifold

**Accessories**

0 = None  
1 = 3/8" Exhaust Muffler  
2 = 10mm Exhaust Muffler

**Connector Cable**

0 = No cable & Connector  
1 = With 1.0m cable & Connector  
3 = With 3.0m cable & Connector  
5 = With 5.0m cable & Connector

**Connector**

4 = 4 station / 15 pin (Sub D)  
8 = 8 station / 25 pin (Sub D)  
0 = Grommet (Mini Quick and DIN)

**Manifold Accessories**

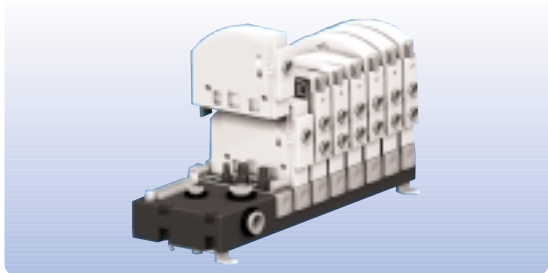
0 = Manifold only  
1 = DIN rail clips mounted on manifold  
2 = Manifold mounted on DIN rail

Note: Valves will be pre-assembled on the manifold. Contact Mead with specific locations of mixed valve manifolds. An additional charge above the cost of the valves, manifolds and accessories may apply.

# Manifold Data & Accessories

## General Information

Flow Connections 120 PSI (8.3 Bar)			Electrical Connections	Mounting Options
Supply (Port 1)	Exhaust (Port 3)	Pilot (Port 14)	Sub-D Type	Panel Foot Mounting
A=3/8"	A=3/8"	A=1/4"	15 Pin = 4 Valve Station	Panel Rear Mounting
B= 10mm	B= 10mm	B= 6mm	25 Pin = 8 Valve Station	35mm DIN Rail w/ Optional Kit



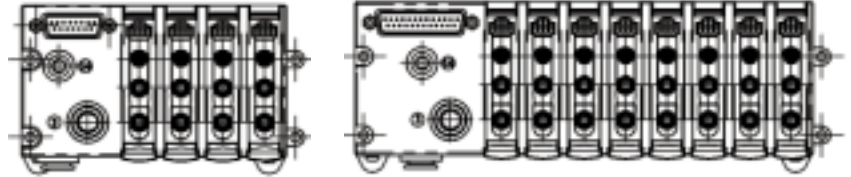
## Manifold Sub-D Connections

### 15 Pin +VE Signal

Valve Station No.	1	2	3	4
Valve Type	Pin Connection No.			
Direct Acting Sol.	15	13	11	9
Single and Double Sol. Pilot 1 > 4	15	13	11	9
Double Sol. Pilot Port 1 > 2	8	14	12	10

### 25 Pin +VE Signal

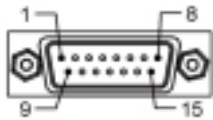
Valve Station No.	1	2	3	4	5	6	7	8
Valve Type	Pin Connection No.							
Direct Acting Sol.	11	13	24	22	20	18	16	14
Single and Double Sol. Pilot 1 > 4	11	13	24	22	20	18	16	14
Double Sol. Pilot Port 1 > 2	10	12	25	23	21	19	17	15



Valve Station No.	All	Valve Station No.	All
Common	1, 2, 3, 4	Common	1, 2, 3, 4, 5, 6, 7, 8

NOTE: Valve 1 is located nearest to Serial Connector, Common Pins are connected internally.

## Wiring Detail (4 Station)

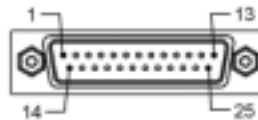


15 Pin Sub-D Connector  
(Enlarged View)

Pin #	Color
1	Black
2	Brown
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Purple
9	Grey
10	White
11	Pink
12	Light Green
13	Black / White
14	Brown / White
15	Red / White

NOTE: Applies to Mead Accessory P(\*)-15SDC only.

## Wiring Detail (8 Station)



25 Pin Sub-D Connector  
(Enlarged View)

Pin #	Color	Pin #	Color
1	Black	13	Black / White
2	Brown	14	Brown / White
3	Red	15	Red / White
4	Orange	16	Orange / White
5	Yellow	17	Red / Black
6	Green	18	Orange / Black
7	Blue	19	Yellow / Black
8	Purple	20	Green / Black
9	Grey	21	Grey / Black
10	White	22	Pink / Black
11	Pink	23	Green / White
12	Light Green	24	Blue / White
		25	Purple / White

NOTE: Applies to Mead Accessory P(\*)-25SDC only.

## Accessories

Electrical Connectors	Model No.
8 mm Micro DIN Plug	P5D1
8 mm DIN Plug w/ 39" Leads	P5D2
Quick-Connect Plug	P5Q1
Sub-D Plug 15 Pin	P5-15SD
Sub-D Plug 25 Pin	P5-25SD

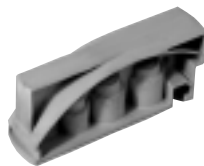
Blocking Plugs	Model No.
Manifold Blocking Plug	P5MB
1/4" Port Plug	P1P1
6 mm Port Plug	P1P2

Replacement Collets	Model No.
1/4" Tube Collet	P4C1
6 mm Tube Collet	P4C2
5/32" (4 mm) Tube Collet	P1C1
3/8" Tube Collet	P4CA
10 mm Tube Collet	P4CB

Exhaust Muffler	Model No.
1/4" Port (Push-In)	MMP-250
6 mm Port (Push-In)	MMP-006
3/8" Port (Push-In)	MMP-375
10 mm Port (Push-In)	MMP-010



P1P1



P5MB



MMP-250

Manifold Accessories	Model No.
DIN Rail Mounting Clip Kit	P5MC
35 mm DIN Rail	P4M1-x*
35 mm DIN Rail End Stop	P4S1



P4M1-x



P4S1

Sub-D Plug & Cable (for M4 Manifolds)	Model No.
1.0M (15 pin Sub D Connector Included)	P1-15SDC
3.0M (15 pin Sub D Connector Included)	P3-15SDC
5.0M (15 pin Sub D Connector Included)	P5-15SDC
1.0M (25 pin Sub D Connector Included)	P1-25SDC
3.0M (25 pin Sub D Connector Included)	P3-25SDC
5.0M (25 pin Sub D Connector Included)	P5-25SDC

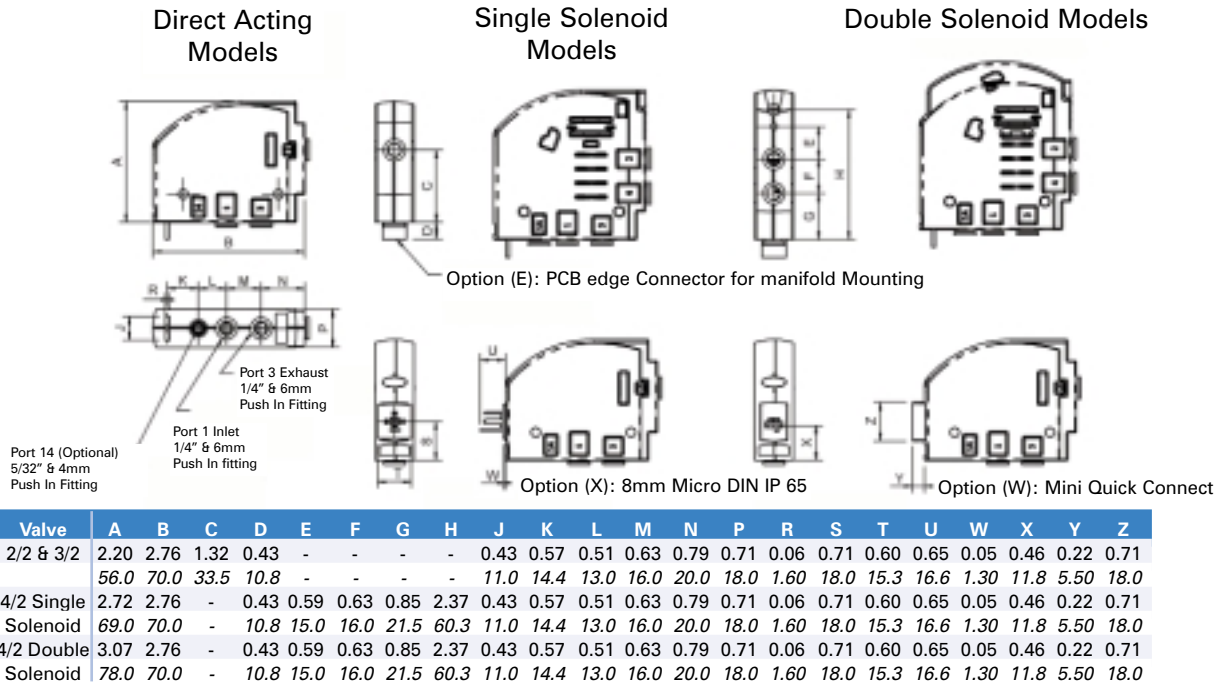


P1-15SD



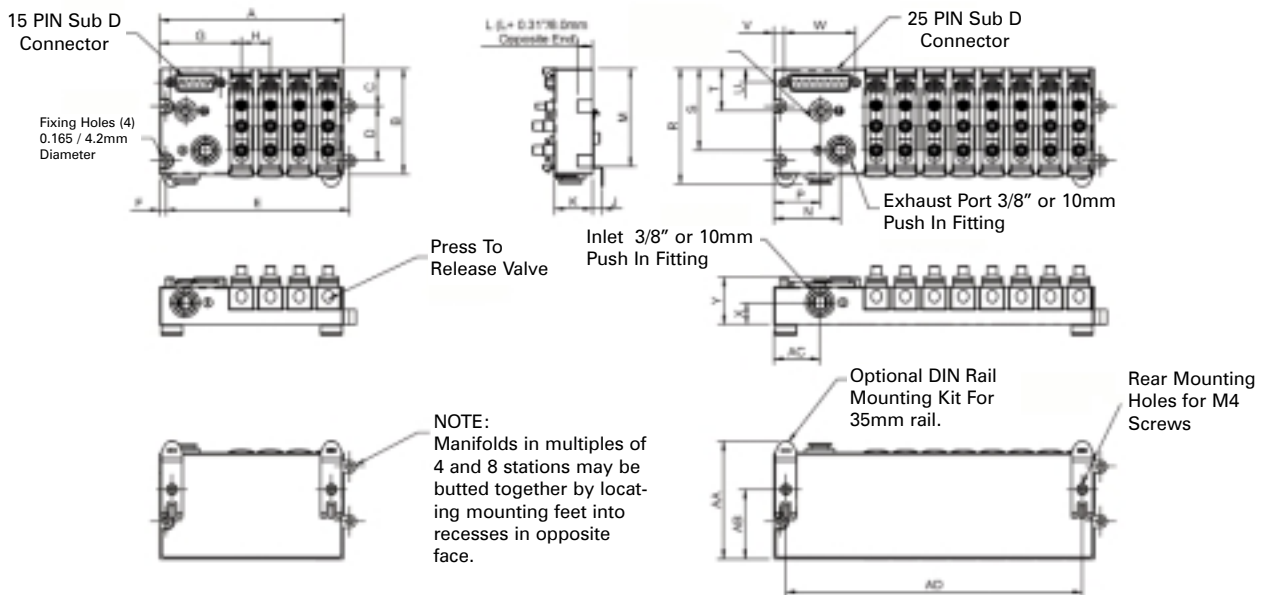
P1-15SDC

## Valve Dimensions



Note: Sizes are in inches first, millimeters second (italicized).

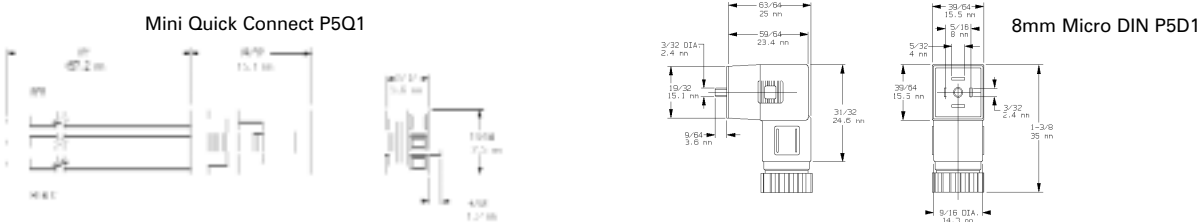
## Manifold Dimensions



Manifold	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	AA	AB	AC	AD
4	4.74	2.76	0.35	1.42	4.74	0.16	2.10	0.75	0.26	0.98	0.39	2.56	1.18	0.67	2.87	2.13	1.10	0.37	0.26	1.32	0.57	1.21	3.07	1.81	0.67	4.11
Station	<i>120.5</i>	<i>70.0</i>	<i>9.00</i>	<i>36.0</i>	<i>120.5</i>	<i>4.00</i>	<i>53.5</i>	<i>19.0</i>	<i>6.60</i>	<i>25.0</i>	<i>10.0</i>	<i>65.0</i>	<i>30.0</i>	<i>17.0</i>	<i>72.8</i>	<i>54.0</i>	<i>28.0</i>	<i>9.40</i>	<i>6.70</i>	<i>33.4</i>	<i>14.5</i>	<i>30.8</i>	<i>78.0</i>	<i>46.0</i>	<i>31.5</i>	<i>104.5</i>
8	8.28	2.76	0.35	1.42	8.28	0.16	2.65	0.75	0.26	0.98	0.39	2.56	1.72	1.24	2.87	2.13	1.10	0.37	0.26	1.86	1.57	1.21	3.07	1.81	1.25	7.65
Station	<i>210.3</i>	<i>70.0</i>	<i>9.00</i>	<i>36.0</i>	<i>210.3</i>	<i>4.00</i>	<i>67.3</i>	<i>19.0</i>	<i>19.0</i>	<i>25.0</i>	<i>10.0</i>	<i>65.0</i>	<i>43.8</i>	<i>31.5</i>	<i>72.8</i>	<i>54.0</i>	<i>28.0</i>	<i>9.40</i>	<i>6.70</i>	<i>42.1</i>	<i>14.5</i>	<i>30.8</i>	<i>78.0</i>	<i>46.0</i>	<i>31.5</i>	<i>194.3</i>

Note: Sizes are in inches first, millimeters second (italicized).

## Connector Dimensions



[www.mead-usa.com](http://www.mead-usa.com)

**Mead USA**

4114 N. Knox Ave.  
Chicago, IL. 60641  
773.685.6800  
773.685.7002 Fax  
[sales@mead-usa.com](mailto:sales@mead-usa.com)

**Mead Canada (CFA)**

305 Industrial Prkwy South, Unit 11  
Aurora, Ontario L4G 6X7  
905.713.3926  
905.713.3927 Fax  
[www.cfaindustries.com](http://www.cfaindustries.com)  
[cfasales@cfaindustries.com](mailto:cfasales@cfaindustries.com)

**Mead Europe**

Victoria Gardens Burgess Hill  
Sussex, England RH15 9YW  
01444.236088  
01444.870273 Fax  
[www.mead-europe.com](http://www.mead-europe.com)  
[sales@mead-europe.com](mailto:sales@mead-europe.com)

