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⚠ WARNING

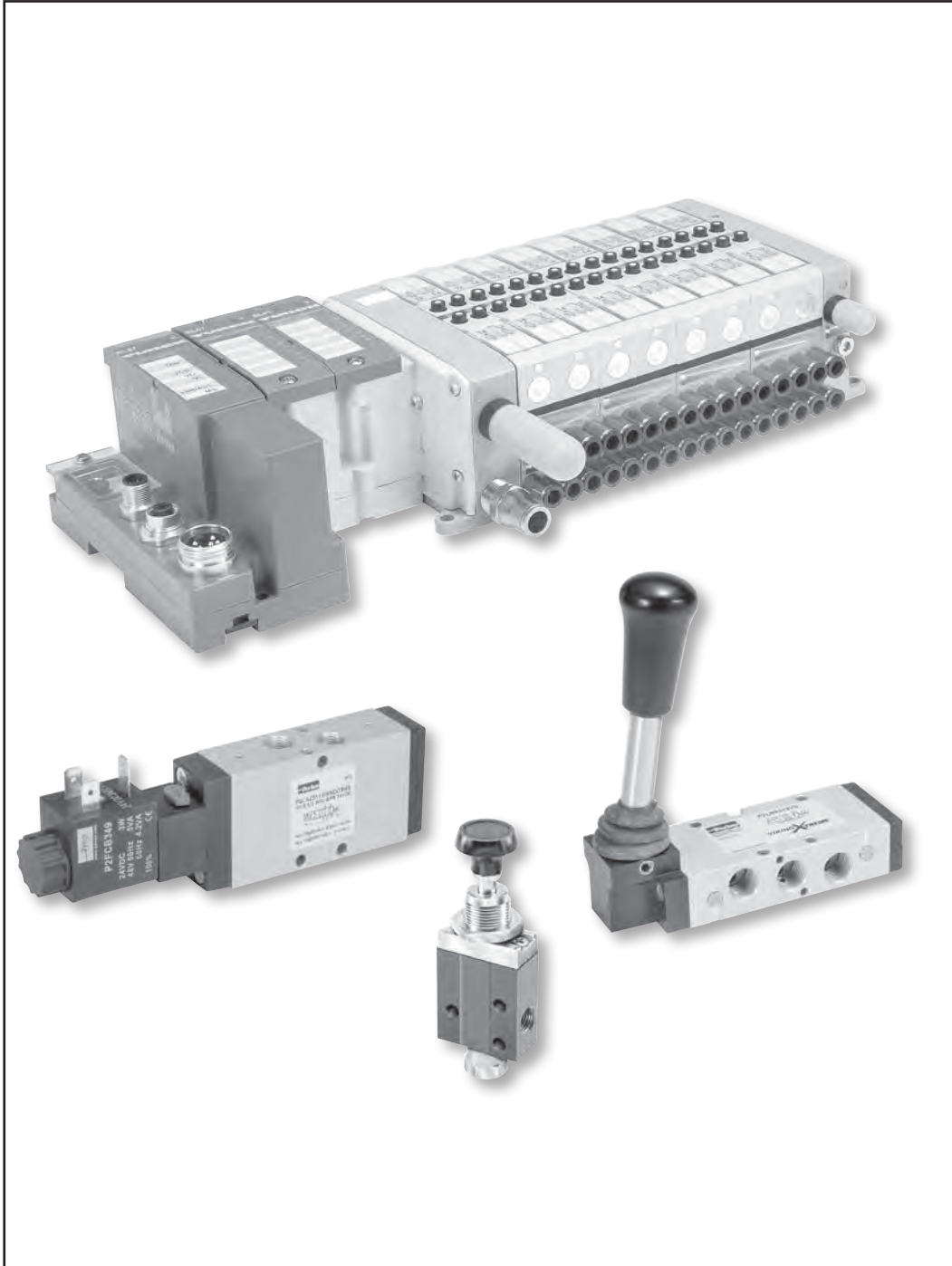
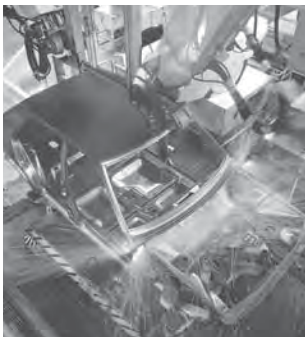
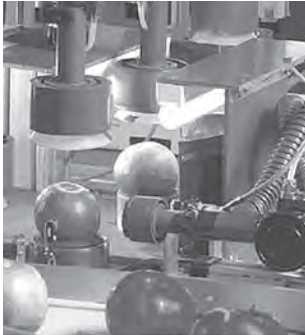
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D
Valve Products

Valve Products

Direct Acting Valves

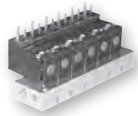
XM Series - Direct Acting



D4

- 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



D8

- 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 - Inline



D11

- 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 - Inline



D19

- 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 - Inline



D43

- 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

ADEX Series - Inline



D68

- 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

Inline – continued

N Series - Inline Poppet



D78

- 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

Subbase & Manifold Valves

Moduflex Series Valves



D89

- 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

Isys Micro Series



D113

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

Isys ISO Series



D125

- 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

Fieldbus Series

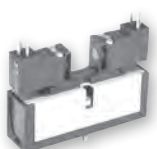


D167

- Fieldbus interface for Isys and Moduflex valves
- Up to 256 inputs
- Up to 256 outputs
- Digital or analog

Subbase & Manifold – continued


DX ISOMAX Series



- 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

D187

Valvair II Series

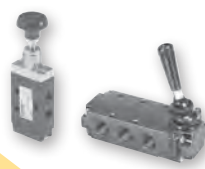


- Subbase or manifold
- 3/8 through 1-1/2 inch ports
- Pressures VAC to 225 PSIG
- Temperatures 0°F to 200°F
- Flow - 1.9 to 12.0 Cv

D200

Manual / Mechanical Valves


Directair 2 & 4



- 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

D210


Viking Xtreme



- 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

D220

42 Series




- 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

D227

Manual / Mechanical – continued


M0 Series



- 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

D229


LV / EZ Lockout 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

D233

Brass Poppet, Sliding Seal




- 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

D235

Valve Accessories


Control Panel Products



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

D238

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 bleen or blocking for detection

D242

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

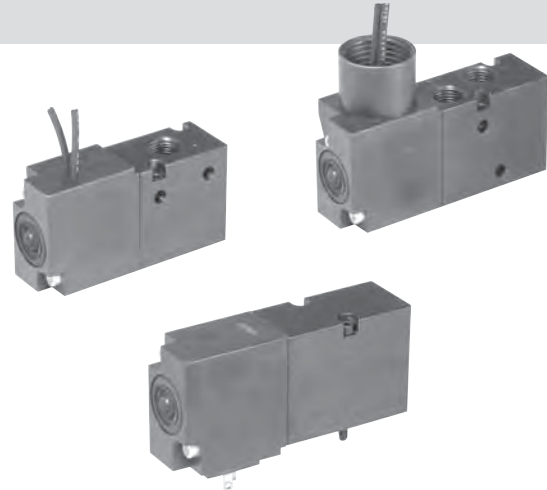
Solenoids

- 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:	0.28" Hg to 125 PSIG
4-way, N operating pressure:	0.28" 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.

Most popular.




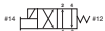



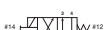
XM Series
 15mm Solenoid
 D
 Direct Acting Valve Products

3-way Inline Valves

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


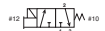

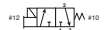
Note: All units with non-locking flush override. Can be used as N.O / N.C. / Diverter / Selector function.

4-way Inline Valves

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





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	XM3VNBG49A
		1/8"	.15	24" Grommet, 120VAC	Subbase mount	(.11 Kg)	XM3VNBG53A
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 24VDC	Subbase mount	4 oz	XM3VNB549A
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 120VAC	Subbase mount	(.11 Kg)	XM3VNB553A

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	XM4VNBG49A
		1/8"	.15	24" Grommet, 120VAC	Subbase mount	(.12 Kg)	XM4VNBG53A
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 24VDC	Subbase mount	4.3 oz	XM4VNB549A
		1/8"	.15	3-Pin, 15mm, DIN 9.4mm, 120VAC	Subbase mount	(.12 Kg)	XM4VNB553A

Note: All units with non-locking flush override.

XM Series

15mm Solenoid

D

Direct Acting Valve Products

Manifold



Description	Part number
IEM bar manifold (NPT)	PSMXN##NP

- stations 02 to 12 (04 Shown)

Subbase



Description	Part number
Manifold subbase kit (NPT)	PSXM530CP

Plug-in Electrical Connectors - 9.4mm



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



Plug with 6" lead	None	N/A	PESC12
	LED & Suppression	12/24V	PESC2220B
		120VAC	PESC2201F

Accessories



Description	Part number
End plate kit (NPT)	PSXM31010P



Blanking plate kit	PSXM8310P
--------------------	------------------

Subbase Kit includes: (1) Plate, (3) Screws, (4) Gaskets
 Fits subbase or IEM type manifold.



Mounting Bracket - Inline valve	PSXM8288P
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Isolator plugs - Subbase manifold	PSXM40900P
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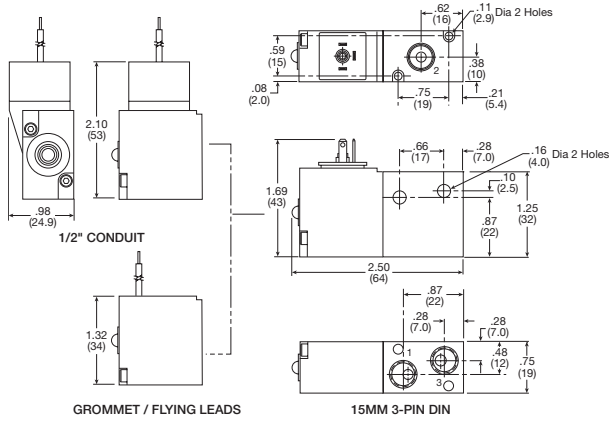
IEM valve / manifold o-ring kit	PSXM2186P
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Subbase valve / manifold bolt kit	PSXM8100P
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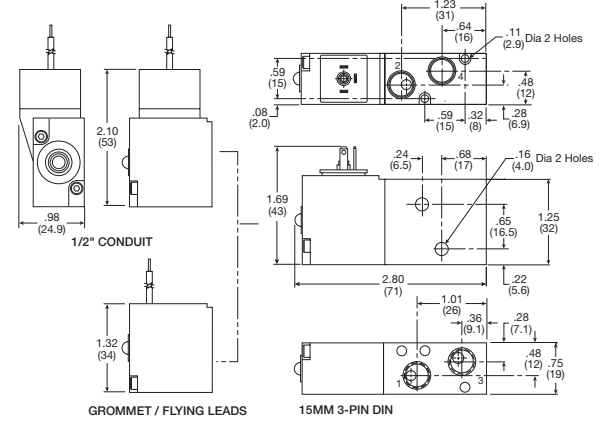
XM Series
15mm Solenoid
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XM 3-way Inline



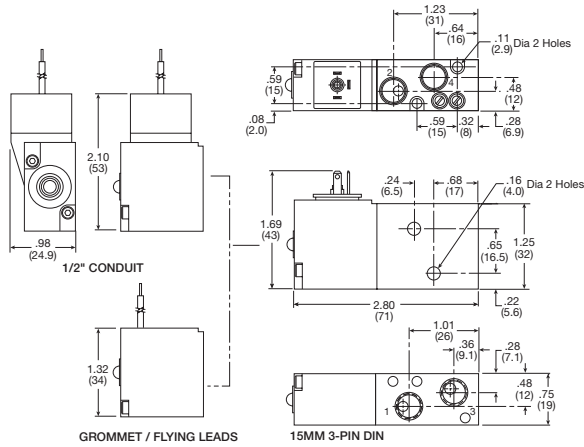
Inches (mm)
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

XM 4-way Inline



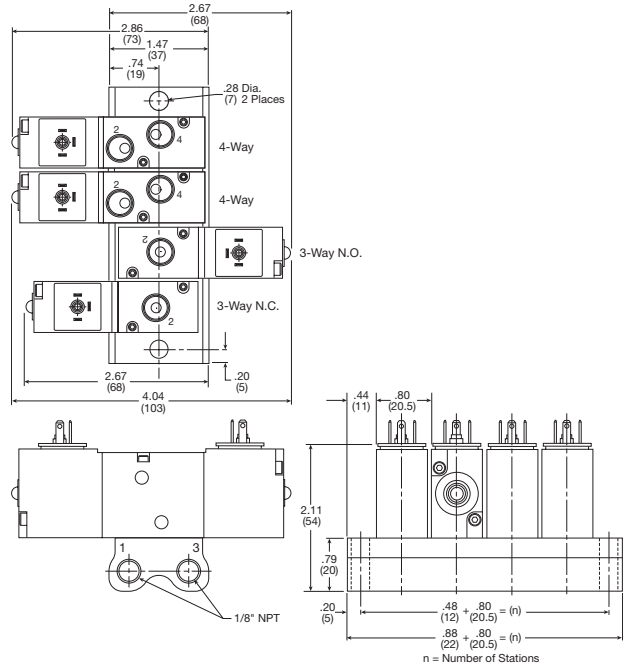
Inches (mm)
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

XM 4-way Inline with Flow Controls

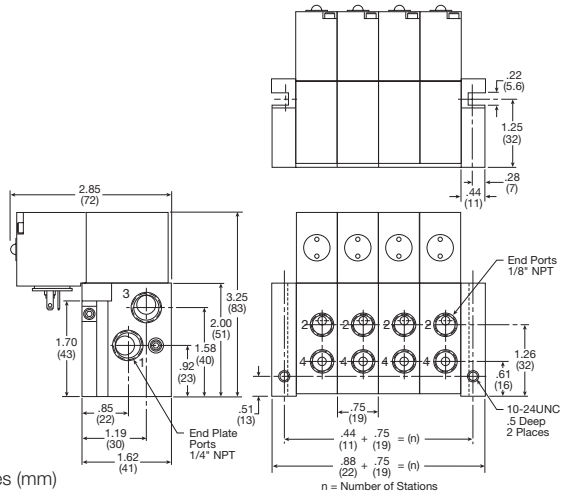


Inches (mm)
 Note: 22 AWG black cross linked polyethylene insulated lead wire.

XM IEM Manifold



XM IEM Subbase



Inches (mm)

XM Series
 15mm Solenoid
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 Direct Acting Valve Products



15mm Solenoid Valve

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

Features

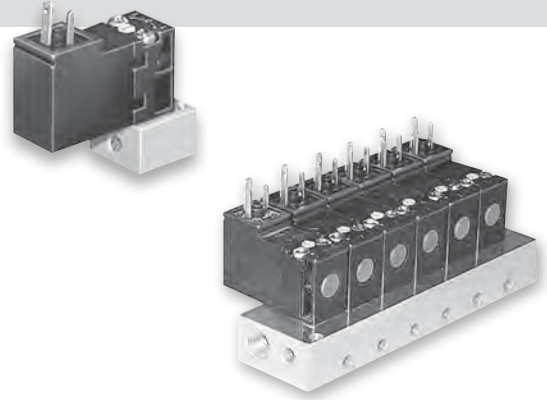
- Compact and simple design
- Utilizes 15mm solenoid operators
- Manifold allows mounting of normally open and normally closed operators simultaneously
- Up to 20 stations available

Solenoids

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

Applications

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



Operating information

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

Material specifications

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

Technical data

Electrical interface per:	Din 43650 Form C (EN175301-803C)
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%

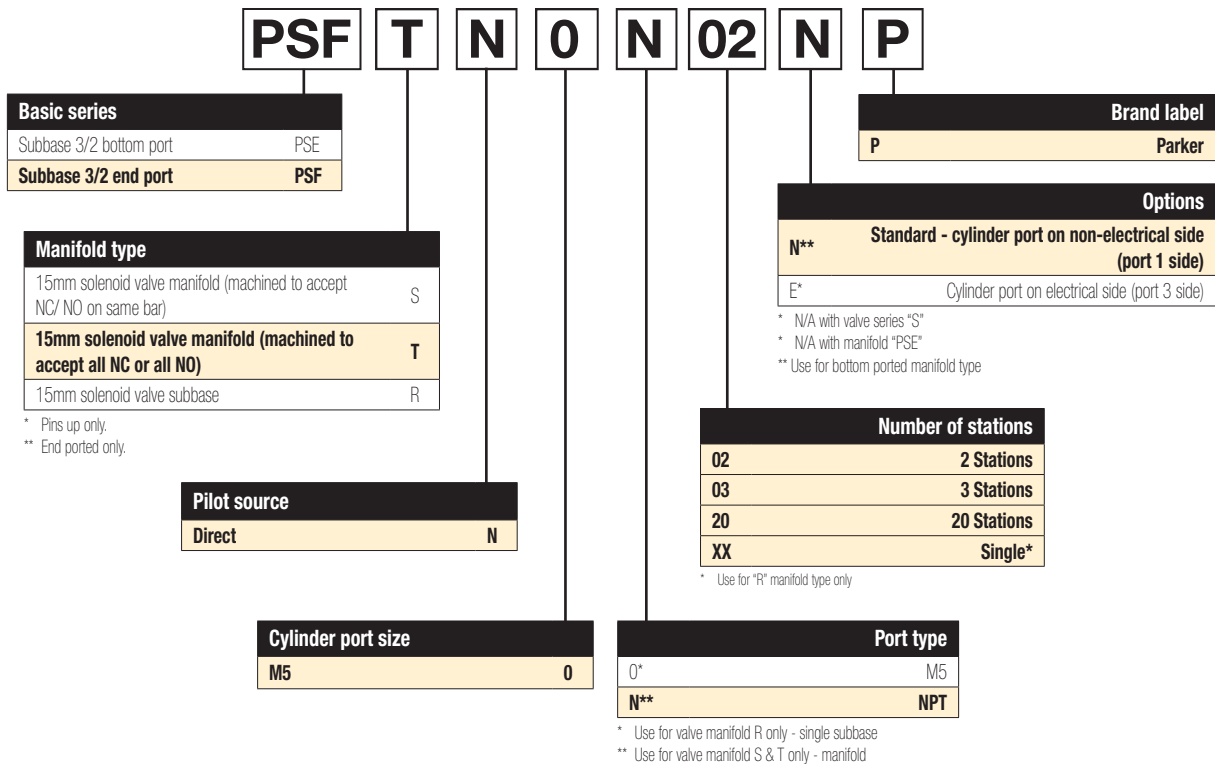
Most popular.

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	PS2982*##P 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	—	PS3541*##P 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	PS3441*##P Pins: DOWN NC / NNP 1.2W / 1.6VA
C (Lock, Flush)	O	O	O	O	O	
B (Non-lock, Flush)	O	O	S	S	—	PS3202*##P Pins: UP NO / NP 1.2W / 1.6VA

* Override
 ## Voltage

Model Number Index



XM Series
 15mm Solenoid
 D
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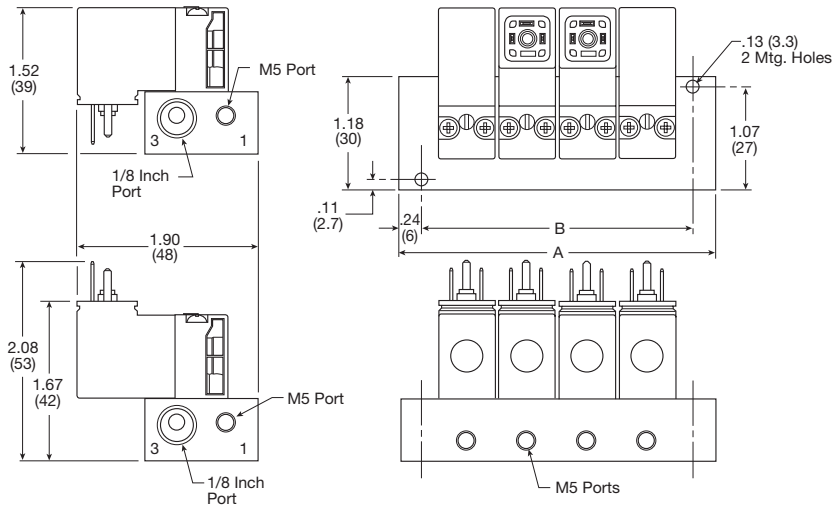
BOLD OPTIONS ARE MOST POPULAR.

Examples:
 PSFTN0N16EP - End port manifold - Cyl ports and electrical on same side
 PSESN0N10NP - Bottom port manifold - N/C and N/O can be interchanged
 PSFTN0N10NP - End port manifold - Cyl ports and electrical are opposite



Manifold Dimensions

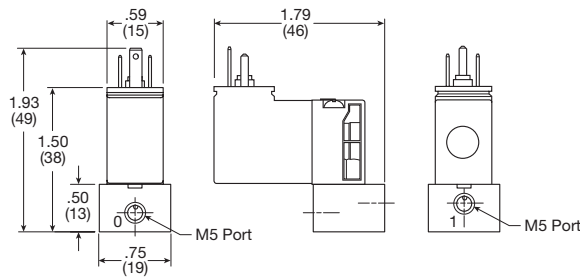
Special mounting considerations must be made for connector assembly clearance when mounting solenoid valves with pins down.



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)

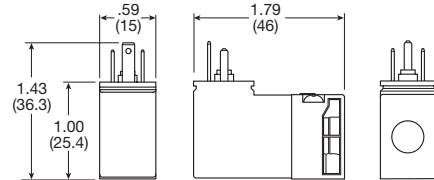
Subbase Dimensions

Pins up only.



15mm Solenoid Dimensions

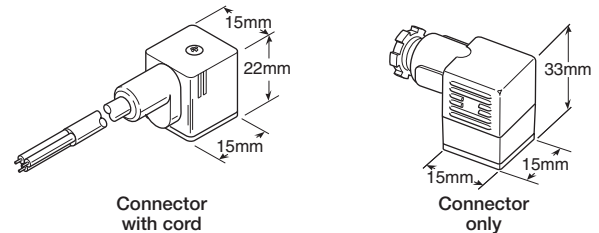
Pins up only.



Female Electrical Connectors

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

Description		Connector	Connector with cord
Unlighted	18 Inches	PS2932BP	PS2932HBP
Unlighted	6 Feet	PS2932BP	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
- Cable range (Connector only): 4 to 6mm (0.16 to 0.24 Inch)
- Contact spacing: 8mm



XM Series
 15mm Solenoid
 D Direct Acting Valve Products

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 sealings	Nitrile rubber
End cover screws	Zinc plated steel
Springs	Stainless steel
Mounting screws for solenoid	Stainless steel
Spool seals	Nitrile

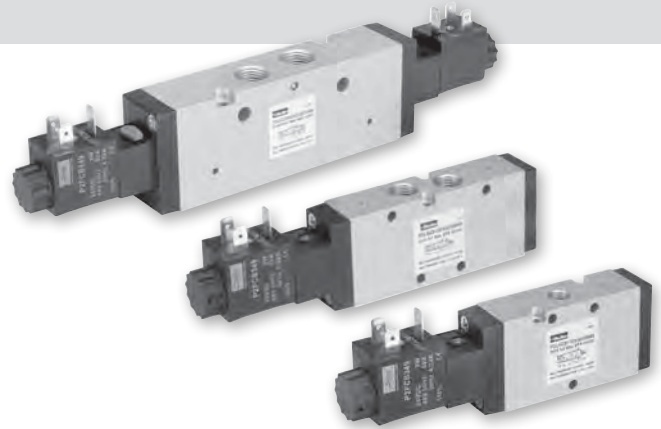
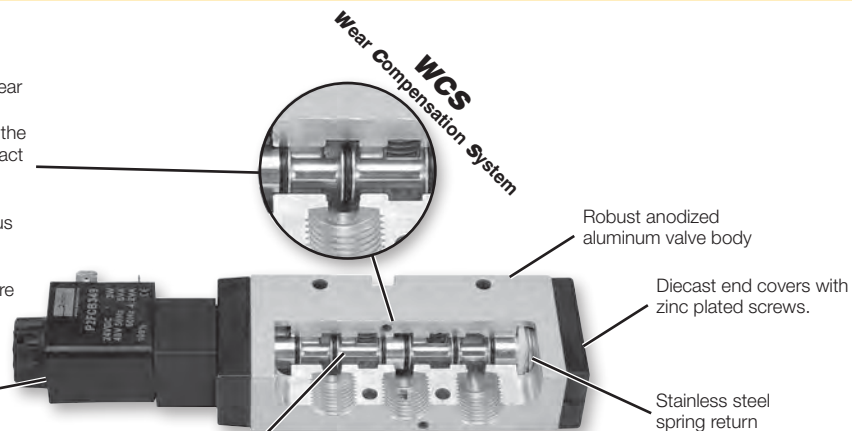
Features

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)
Double solenoid - 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)

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/m³, which is what a standard compressor with a standard filter gives.

Viking Lite Series

Viking Xtreme Series

B Series

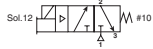
ADEX Series

N Series

D

Inline Valve Products

3/2 - 2 Position Single Solenoid

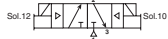


P2LAZ Shown

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	P2LAZ391ESNDBB49	P2LAZ311ESNDBB49
				120VAC	P2LAZ391ESNDBB53	P2LAZ311ESNDBB53
1/4	1.5	18 / 45	0.35 (0.16)	24VDC	P2LBZ392ESNDBB49	P2LBZ312ESNDBB49
				120VAC	P2LBZ392ESNDBB53	P2LBZ312ESNDBB53
3/8	2.5	27 / 45	0.77 (0.35)	24VDC	P2LCZ393ESNDBB49	P2LCZ313ESNDBB49
				120VAC	P2LCZ393ESNDBB53	P2LCZ313ESNDBB53

Viking Lite Series

3/2 - 2 Position Double Solenoid



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	P2LAZ391EENDBB49	P2LAZ311EENDBB49
				120VAC	P2LAZ391EENDBB53	P2LAZ311EENDBB53
1/4	1.5	12 / 12	0.40 (0.18)	24VDC	P2LBZ392EENDBB49	P2LBZ312EENDBB49
				120VAC	P2LBZ392EENDBB53	P2LBZ312EENDBB53
3/8	2.5	17 / 17	0.80 (0.36)	24VDC	P2LCZ393EENDBB49	P2LCZ313EENDBB49
				120VAC	P2LCZ393EENDBB53	P2LCZ313EENDBB53

Viking Xtreme Series

5/2 - 2 Position Single Solenoid



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	P2LAZ591ESNDBB49	P2LAZ511ESNDBB49
				120VAC	P2LAZ591ESNDBB53	P2LAZ511ESNDBB53
1/4	1.5	18 / 45	0.44 (0.20)	24VDC	P2LBZ592ESNDBB49	P2LBZ512ESNDBB49
				120VAC	P2LBZ592ESNDBB53	P2LBZ512ESNDBB53
3/8	2.5	27 / 45	0.95 (0.43)	24VDC	P2LCZ593ESNDBB49	P2LCZ513ESNDBB49
				120VAC	P2LCZ593ESNDBB53	P2LCZ513ESNDBB53

B Series

ADEX Series

5/2 - 2 Position Double Solenoid



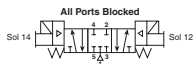
P2LAZ Shown

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	P2LAZ591EENDBB49	P2LAZ511EENDBB49
				120VAC	P2LAZ591EENDBB53	P2LAZ511EENDBB53
1/4	1.5	12 / 12	0.46 (0.21)	24VDC	P2LBZ592EENDBB49	P2LBZ512EENDBB49
				120VAC	P2LBZ592EENDBB53	P2LBZ512EENDBB53
3/8	2.5	17 / 17	0.97 (0.44)	24VDC	P2LCZ593EENDBB49	P2LCZ513EENDBB49
				120VAC	P2LCZ593EENDBB53	P2LCZ513EENDBB53

N Series

D Inline Valve Products

5/3 - 3 Position, All Ports Blocked



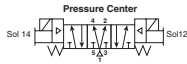
P2LAZ Shown

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	P2LAZ691EENDBB49	P2LAZ611EENDBB49
				120VAC	P2LAZ691EENDBB53	P2LAZ611EENDBB53
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	P2LBZ692EENDBB49	P2LBZ612EENDBB49
				120VAC	P2LBZ692EENDBB53	P2LBZ612EENDBB53
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	P2LCZ693EENDBB49	P2LCZ613EENDBB49
				120VAC	P2LCZ693EENDBB53	P2LCZ613EENDBB53

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)



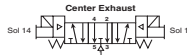
5/3 - 3 Position, Pressure Center



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	P2LAZ791EENDBB49	P2LAZ711EENDBB49
				120VAC	P2LAZ791EENDBB53	P2LAZ711EENDBB53
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	P2LBZ792EENDBB49	P2LBZ712EENDBB49
				120VAC	P2LBZ792EENDBB53	P2LBZ712EENDBB53
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	P2LCZ793EENDBB49	P2LCZ713EENDBB49
				120VAC	P2LCZ793EENDCB53	P2LCZ713EENDBB53

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	P2LAZ891EENDBB49	P2LAZ811EENDBB49
				120VAC	P2LAZ891EENDBB53	P2LAZ811EENDBB53
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	P2LBZ892EENDBB49	P2LBZ812EENDBB49
				120VAC	P2LBZ892EENDBB53	P2LBZ812EENDBB53
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	P2LCZ893EENDBB49	P2LCZ813EENDBB49
				120VAC	P2LCZ893EENDBB53	P2LCZ813EENDBB53

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)

Single & Double Solenoid Operated Valves

P2LAZ591ESND CB49

Valve size

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

Series

Viking Lite	Z
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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

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

E	Double solenoid operated valve
S*	Single solenoid spring return

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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* Not available with 3-position valves.

Most popular.



Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D
 Inline Valve Products

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)	Manifold only (BSPP)
P2LCZ	4-way	Use Viking Xtreme IEM bar manifold		

Note: P2LCZ 3-way has no IEM manifold

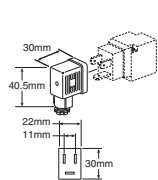
Manifold Accessories / Parts



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.

Valve Less Coil

Remove the last 3 digits of the part number of the full valve and add “N” at the end for valve less coil.



Part number example :
P2LBZ592ESNDBBB49
 valve with 24VDC solenoid
P2LBZ592ESNDBN valve less coil

Replacement Solenoid Coil



Description	Part number
24VDC coil kit	P2FCB449
110VAC coil kit	P2FCB453

Replacement Solenoid Nut



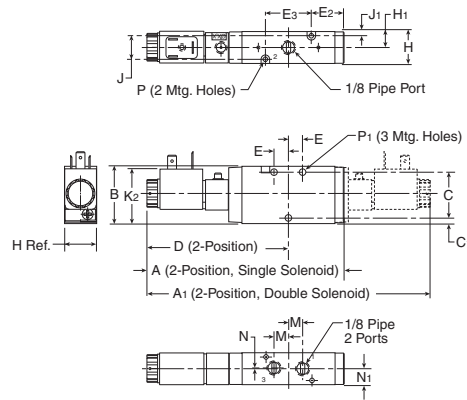
Description Solenoid diffuser nut
Part number **PS1556**



Description Solenoid vented nut
Part number **PS2892P**



P2LAZ 3/2 Single & Double Operators – Solenoid

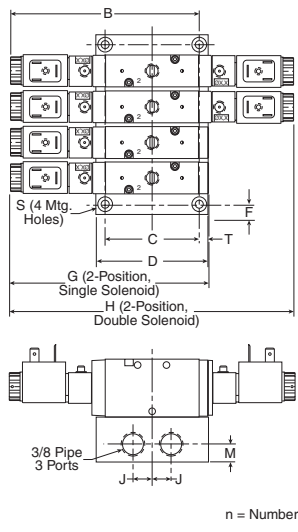


P2LAZ 3/2 (solenoid)

A	A₁	B	C	C₁
5.35 (136)	7.68 (195)	1.57 (40)	1.26 (32)	.16 (4)
D	E	E₂	E₃	H
3.84 (97.5)	.39 (10)	.91 (23)	1.26 (32)	.87 (22)
H₁	J	J₁	K₂	M
.43 (11)	.65 (16.5)	.11 (2.75)	1.50 (38)	.39 (10)
N	N₁	P	P₁	
.02 (.5)	.43 (11)	∅ .12 ∅ (3.1)	∅ .17 ∅ (4.3)	

Inches (mm)

P2LAZ 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)

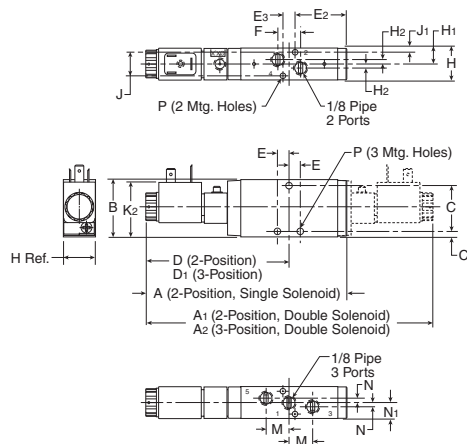
**P2LAZ 3/2
IEM Aluminum bar manifold**

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)

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

P2LAZ 5/2 & 5/3 Single & Double Operators – Solenoid

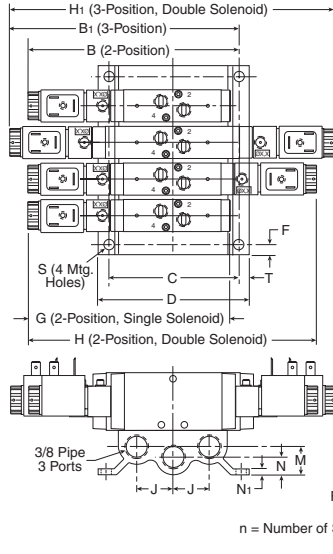


P2LAZ 5/2 & 5/3 (solenoid)

A	A₁	A₂	B	C
5.47 (139)	7.76 (197)	8.70 (221)	1.57 (40)	1.30 (33)
C₁	D	D₁	E	E₂
.14 (3.5)	3.88 (98.5)	4.35 (110.5)	.31 (8)	1.86 (47.3)
E₃	F	H	H₁	H₂
.33 (8.5)	.63 (16)	.87 (22)	.43 (11)	.12 (3)
J	J₁	K₂	M	N
.63 (16)	.12 (3)	1.50 (38)	.63 (16)	.12 (3)
N₁	P			
.43 (11)	∅ .16 ∅ (4.1)			

Inches (mm)

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)

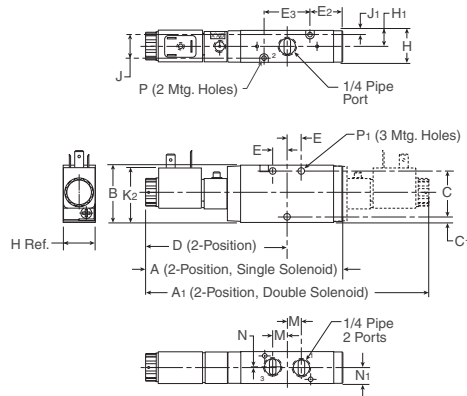
P2LAZ 5/2 & 5/3
IEM Aluminum bar manifold

B	B ₁	C	D	F
5.10 (149.5)	6.36 (161.5)	3.46 (88)	4.02 (102)	.28 (7)
G	H	H ₁	J	K
5.47 (139)	7.76 (197)	8.70 (221)	.96 (24.5)	2.76 (70)
L	M	N	N ₁	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)				

Viking Lite Series

Viking Xtreme Series

P2LBZ 3/2 Single & Double Operators – Solenoid



P2LBZ 3/2 (solenoid)

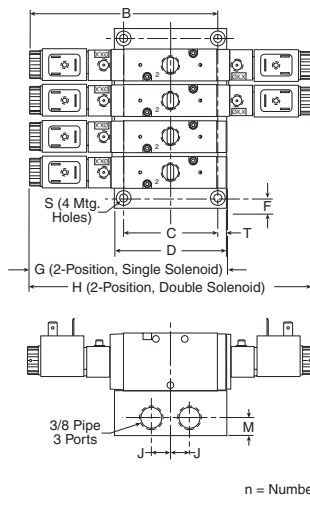
A	A ₁	B	C	C ₁
5.35 (136)	7.68 (195)	1.57 (40)	1.26 (32)	.16 (4)
D	E	E ₂	E ₃	H
3.84 (97.5)	.39 (10)	.91 (23)	1.26 (32)	.87 (22)
H ₁	J	J ₁	K ₂	M
.43 (11)	.65 (16.5)	.11 (2.75)	1.50 (38)	.39 (10)
N	N ₁	P	P ₁	
.02 (.5)	.43 (11)	∅.12 ∅ (3.1)	∅.17 ∅ (4.3)	
Inches (mm)				

B Series

ADEX Series

N Series

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)

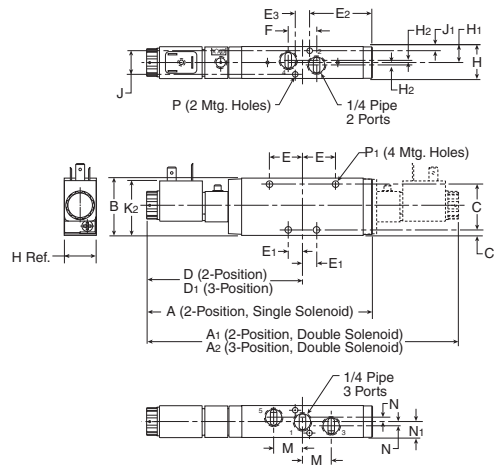
P2LBZ 3/2
IEM Aluminum bar manifold

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)				

D

Inline Valve Products

P2LBZ 5/2 & 5/3 Single & Double Operators – Solenoid

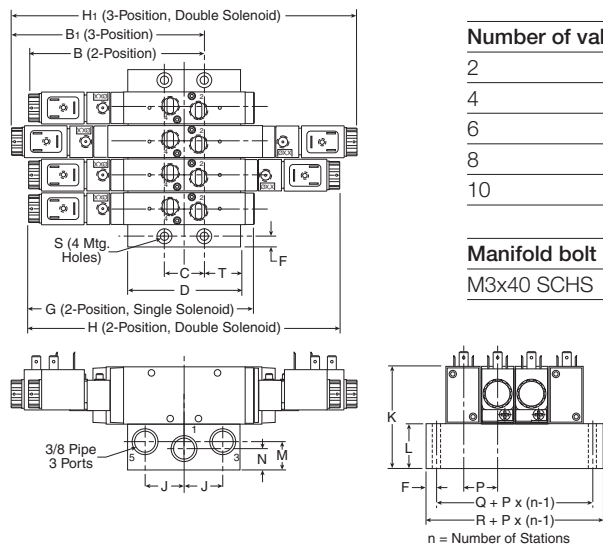


P2LBZ 5/2 & 5/3 (solenoid)

A	A1	A2	B	C
6.14 (156)	8.46 (215)	9.29 (236)	1.57 (40)	1.26 (32)
C1	D	D1	E	E1
.16 (4)	4.23 (107.5)	4.65 (118)	.91 (23)	.39 (10)
E2	E3	F	H	H1
1.14 (29)	.39 (10)	.79 (20)	.87 (22)	.43 (11)
H2	J	J1	K2	M
.06 (1.5)	.65 (16.5)	.11 (2.8)	1.50 (38)	.79 (20)
N	N1	P	P1	
.08 (2)	.43 (11)	Ø .12 (3.1)	Ø .17 (4.3)	

Inches (mm)

P2LBZ 5/2 & 5/3 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	9 in.lb (0.75 Nm)

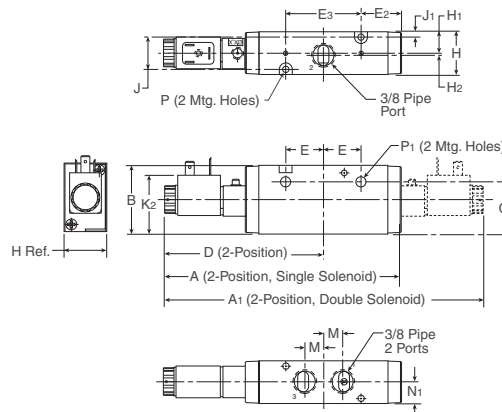
P2LBZ 5/2 & 5/3

IEM Aluminum bar manifold

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

Inches (mm)

P2LCZ 3/2 Single & Double Operators – Solenoid

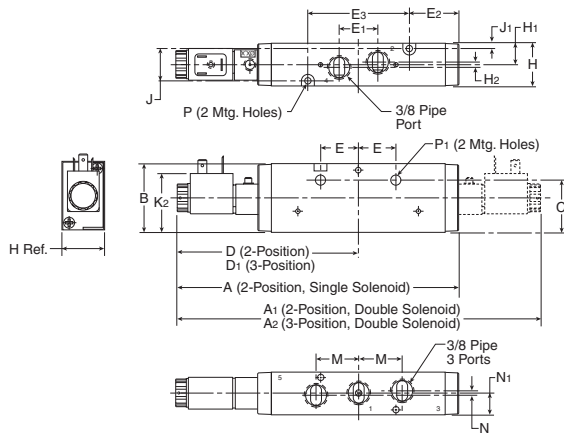


P2LCZ 3/2 (solenoid)

A	A1	B	C	D
6.50 (165)	8.66 (220)	1.89 (48)	1.46 (37)	4.33 (110)
E	E2	E3	H	H1
1.04 (26.5)	1.10 (28)	2.09 (53)	1.18 (30)	.59 (15)
H2	J	J1	K2	M
.06 (1.55)	.91 (23)	.14 (3.5)	1.50 (38)	.53 (13.5)
N1	P	P1		
.59 (15)	Ø .17 (4.4)	Ø .27 (6.9)		

Inches (mm)

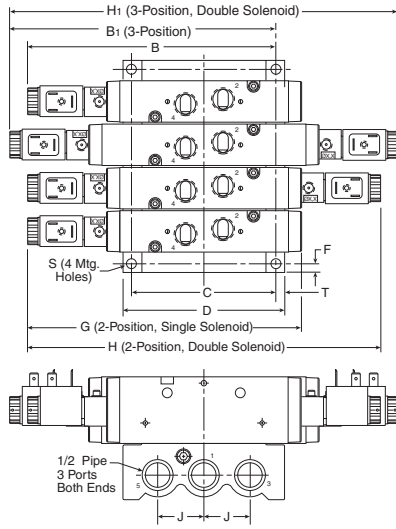
P2LCZ 5/2 & 5/3 Single & Double Operators – Solenoid



P2LBZ 5/2 & 5/3 (solenoid)

A	A1	A2	B	C
7.68 (195)	9.88 (251)	10.70 (272)	1.89 (48)	1.46 (37)
D	D1	E	E1	E2
4.94 (125.5)	5.35 (136)	1.04 (26.5)	1.06 (27)	1.71 (43.5)
E3	H	H1	H2	J
2.80 (71)	1.18 (30)	.59 (15)	.12 (.3)	.91 (23)
J1	K2	M	N	N1
.14 (3.5)	1.50 (38)	1.18 (30)	.08 (2)	.59 (15)
P	P1			
Ø .17 Ø (4.4)	Ø .27 Ø (6.9)			
Inches (mm)				

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



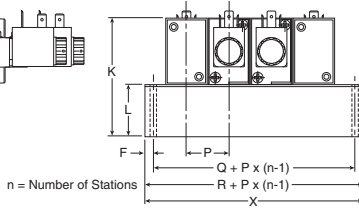
Number of valves	X
2	3.29 (84)
4	5.96 (152)
6	8.44 (215)
8	10.93 (278)
10	13.41 (341)
Inches (mm)	

Manifold bolt	Torque value
M4x50 SCHS	15 in.lb (2.0 Nm)

P2LCZ 5/2 & 5/3

IEM Aluminum bar manifold

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



Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products

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

2.5 watts to 7.3 watts

- Conduit
- Grommet
- 22mm & 30mm 3-pin (DIN 43650)

12VDC to 240VAC

Certification / approval

- IP65 Rated, RoHS, CE
- CSA Approved to 145 PSIG (10 Bar)
- 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

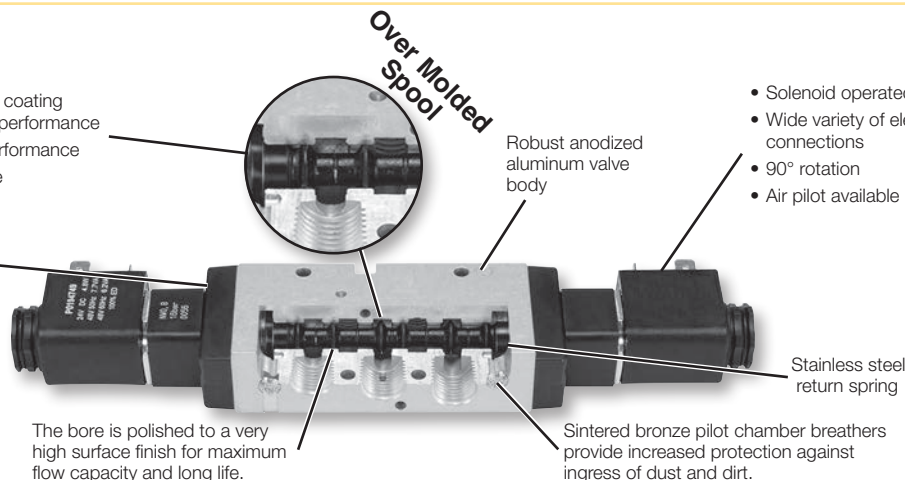
Body	Anodized aluminum
End caps	Anodized aluminum
Coils	Thermoplastic
Fasteners	Stainless steel
Spool	Aluminum and nitrile rubber
Springs	Stainless steel

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
- Wide variety of electrical connections
- 90° rotation
- Air pilot available



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 140°F (-40°C to 60°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)

Viking Lite Series

Viking Xtreme Series

B Series

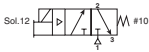



ADEX Series

N Series

D





Inline Valve Products

Single Solenoid, 3-way, 2-position, Normal Operating Pressure / Temperature

Solenoid	Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number	
  P2LAX 22mm DIN Shown	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC 120VAC	P2LAX391ESNDDDB49 P2LAX391ESNDDDB53	
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX392ESNDDDB49	
						120VAC	P2LBX392ESNDDDB53	
	3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	1.72 (0.78)	24VDC	P2LCX393ESNDDDB49
							120VAC	P2LCX393ESNDDDB53
	1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	1.72 (0.78)	24VDC	P2LDX394ESNDDDB49
120VAC							P2LDX394ESNDDDB53	
  P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC 120VAC	P2LAX391ESNDDDG49 P2LAX391ESNDDDG53	
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX392ESNDDDG49	
						120VAC	P2LBX392ESNDDDG53	
	3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	1.72 (0.78)	24VDC	P2LCX393ESNDDDG49
							120VAC	P2LCX393ESNDDDG53
	1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	1.72 (0.78)	24VDC	P2LDX394ESNDDDG49
120VAC							P2LDX394ESNDDDG53	

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).

Single Solenoid, 4-way, 2-position, Normal Operating Pressure / Temperature

Solenoid	Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number	
  P2LBX 22mm DIN Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC 120VAC	P2LAX591ESNDDDB49 P2LAX591ESNDDDB53	
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX592ESNDDDB49	
						120VAC	P2LBX592ESNDDDB53	
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	1.68 (0.76)	24VDC	P2LCX593ESNDDDB49
							120VAC	P2LCX593ESNDDDB53
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	1.68 (0.76)	24VDC	P2LDX594ESNDDDB49
120VAC							P2LDX594ESNDDDB53	
  P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC 120VAC	P2LAX591ESNDDDG49 P2LAX591ESNDDDG53	
	1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX592ESNDDDG49	
						120VAC	P2LBX592ESNDDDG53	
	3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	1.68 (0.76)	24VDC	P2LCX593ESNDDDG49
							120VAC	P2LCX593ESNDDDG53
	1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	1.68 (0.76)	24VDC	P2LDX594ESNDDDG49
120VAC							P2LDX594ESNDDDG53	




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.



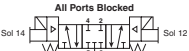



Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
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Double Solenoid, 4-way, 2-position, Normal Operating Pressure / Temperature

Solenoid	Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number
  22mm DIN P2LBX 22mm DIN Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	P2LAX591EENDDDB49 P2LAX591EENDDDB53
	1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	P2LBX592EENDDDB49 P2LBX592EENDDDB53
	3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LCX593EENDDDB49 P2LCX593EENDDDB53
	1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LDX594EENDDDB49 P2LDX594EENDDDB53
	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	P2LAX591EENDDG49 P2LAX591EENDDG53
	1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	P2LBX592EENDDG49 P2LBX592EENDDG53
 18" Grommet P2LAX 18" Grommet Shown	3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LCX593EENDDG49 P2LCX593EENDDG53
	1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LDX594EENDDG49 P2LDX594EENDDG53

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).

Double Solenoid, 4-way, 3-position All Ports Blocked, 3-position Center Exhaust, Normal Operating Pressure / Temperature

Solenoid	Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number	
							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	P2LAX691EENDDDB49 P2LAX691EENDDDB53	P2LAX891EENDDDB49 P2LAX891EENDDDB53
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC 120VAC	P2LBX692EENDDDB49 P2LBX692EENDDDB53	P2LBX892EENDDDB49 P2LBX892EENDDDB53
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LCX693EENDDDB49 P2LCX693EENDDDB53	P2LCX893EENDDDB49 P2LCX893EENDDDB53
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LDX694EENDDDB49 P2LDX694EENDDDB53	P2LDX894EENDDDB49 P2LDX894EENDDDB53
 18" Grommet P2LBX 18" Grommet Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC 120VAC	P2LAX691EENDDG49 P2LAX691EENDDG53	P2LAX891EENDDG49 P2LAX891EENDDG53
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC 120VAC	P2LBX692EENDDG49 P2LBX692EENDDG53	P2LBX892EENDDG49 P2LBX892EENDDG53
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LCX693EENDDG49 P2LCX693EENDDG53	P2LCX893EENDDG49 P2LCX893EENDDG53
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LDX694EENDDG49 P2LDX694EENDDG53	P2LDX894EENDDG49 P2LDX894EENDDG53

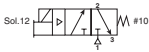

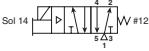

Notes: Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.
 Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

 Most popular.



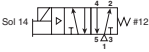

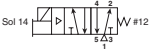

Viking Lite Series
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 ADEX Series
 N Series
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 Inline Valve Products

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

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

Notes: Above valves have Mobile Rate Coils and are rated for an operating temperature from -40°F to 140°F (-40°C to 60°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).

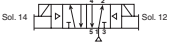


Single Solenoid, 4-way, 2-position, Xtreme Operating Pressure / Temperature

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

Notes: Above valves have Mobile Rate Coils and are rated for an operating temperature from -40°F to 140°F (-40°C to 60°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.

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

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

Notes: Above valves have Mobile Rate Coils and are rated for an operating temperature from -40°F to 140°F (-40°C to 60°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

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

Notes: Above valves have Mobile Rate Coils and are rated for an operating temperature from -40°F to 140°F (-40°C to 60°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.

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

Single & Double Solenoid Operated Valves

P2L A X 5 91 E S H D D G 49

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

Series	
Viking Xtreme	X

Voltage / frequency	
42	24VAC
45	12VDC
47*	12 VDC mobile
48*	24 VDC mobile
49	24VDC
53	120VAC
57	240VAC
Blank	Valve less coil

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

Enclosures / lead length	
A	30mm square 3-pin – ISO 4400 Form A (male only)
B	22mm rectangular 3-pin – type B industrial (male only)
E*	Intrinsically safe, FM / CSA
F†	Hazardous duty, FM / CSA
G	Grommet - 18" leads
H	1/2" NPT conduit - 18" leads
N	Solenoid pilot operator less coil

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

† Valve Type "N" Only. Solenoid coil only CSA approved.

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
<i>External pilot supply to the solenoids through ports #12 & #14</i>	
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 D31 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
1/8" NPT (P2LA)	91
1/4" NPT (P2LB)	92
1/4" NPT (P2LB) NAMUR Mount	9N*
3/8" NPT (P2LC)	93
1/2" NPT (P2LD)	94

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

Overrides	
A	No override
C*	Flush - locking
D	Extended non-locking

* Override for valve type N only.

Solenoid pilot type	
D	Pilot exhaust vented
N	Tapped pilot exhaust (M5)

Valve type	
N	Normal, vacuum to 145 PSIG (10 bar) 14°F to 122°F (-10°C to 50°C) CSA Approved
K	Xtreme, vacuum to 145 PSIG (10 bar) -40°F to 140°F (-40°C to 60°C) CSA Approved
H*	Xtreme, vacuum to 232 PSIG (16 bar) -40°F to 140°F (-40°C to 60°C)

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

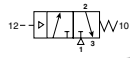
12 End operator	
Double solenoid operated valve	E
Single solenoid spring return	S*

* Not available with 3-position valves.

Most popular.



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

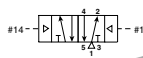
Single Remote Pilot, 4-way, 2-position, Xtreme Operating Pressure / Temperature



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



P2LBX 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 140°F (-40°C to 60°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).

Remote Air Pilot Operated Valves

P2L A X 5 91 PS

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

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

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)
13	G3/8 (P2LC)
14	G1/2 (P2LD)
91	1/8" NPT (P2LA)
92	1/4" NPT (P2LB)
93	3/8" NPT (P2LC)
94	1/2" NPT (P2LD)

Note: NAMUR Mount for P2LBX is available upon request.

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

Most popular.



Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

ATEX Certified Single & Double Solenoid Operated Valves

Vacuum to 145 PSIG (vacuum to 10 bar)
 14°F to 122°F 22mm coils (enclosure option M)
 -4°F to 122°F 30mm coils (enclosure option S)

P2L A X 5 91 E S 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

Overrides	
D	Extended non-locking

Solenoid pilot type	
D	Vented pilot exhaust
N	Tapped pilot exhaust (M5)

12 end operator	
E	Double solenoid operated valve
S	Single solenoid spring return

Valve type / function	
<i>Internal Pilot Supply to Solenoid</i>	
2-position valve	5
3-position valve APB	6
3-position valve PC	7
3-position valve CE	8
<i>External Pilot Supply to Solenoids through Ports #12 & #14</i>	
2-position valve	N
3-position valve APB	P
3-position valve PC	Q
3-position valve CE	R

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: For ATEX certified remote air pilot valves, build the valve part number from the model number index for remote pilot and add "-EX" following the number.

Example: P2LAX591PS-EX

Note: all valves include a 3 meter sealed cable with assembly.



ATEX Certified Solenoid Pilot Assemblies

P2F S 1 3 A 3 D M 49

Voltage	
49	24VDC

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

Note: all valves include a 3 meter sealed cable with assembly.

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.
 * 30mm solenoid coil option "A" not available on IEM bar manifold P2LAX or P2LBX.

IEM Bar Manifold Add-A-Fold Assembly (Viking Xtreme Solenoid / Remote 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

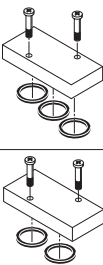
Kits include: (1) manifold, valve hold down bolts, o-rings and assembly. Replace ## with number of valve stations.
 * 30mm solenoid coil option "A" not available on IEM bar manifold P2LAX or P2LBX.

- 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: B3, 4-way manifold with station #1 blanked off with valves assembled

Line	Qty	Part number	Comment
1	1	AAP2LBXMAXN02NP	Add-A-Fold Assembly, 2-station IEM bar manifold
2	2	P2LBX591ESNNDDDB49	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

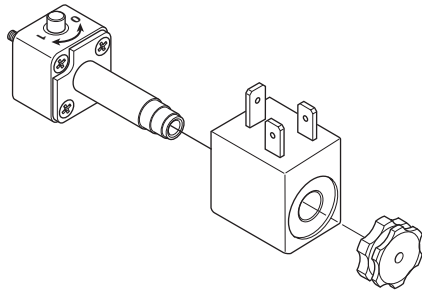
Manifold O-rings

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

Most popular.



22mm Solenoid Pilot Operators & Coils



22mm solenoid pilot options

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

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

Corrosion resistant design

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

Solenoid pilot exhaust

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

Mobile applications

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

Coils

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

Manual override options

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

Spares

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

Transients

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

Materials

Pilot Valve

- Body Polyamide
- Armature tube:
 - Normal pilot operator Brass
 - Xtreme pilot operator Stainless steel
- Plunger & core Corrosion resistant CR-NI steel
- Seals Fluorocarbon (FKM)
- Screws Stainless steel

Coil

- Encapsulation material Thermoplastic

ATEX

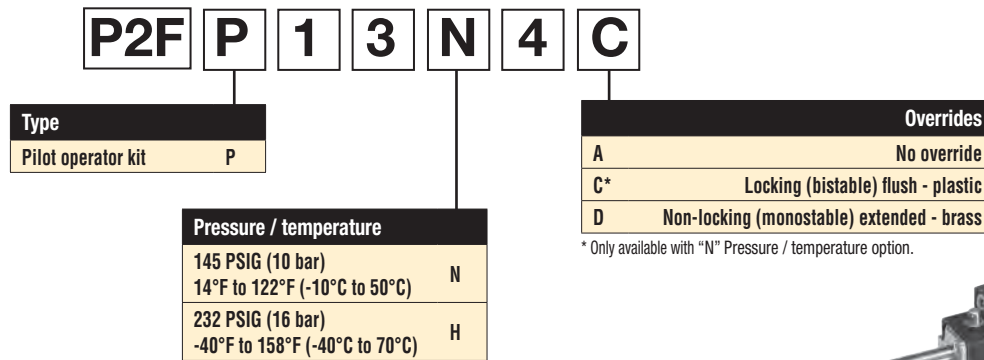


ATEX is a European Directive (94/9/EC) valid for products to be used within an explosive atmosphere.

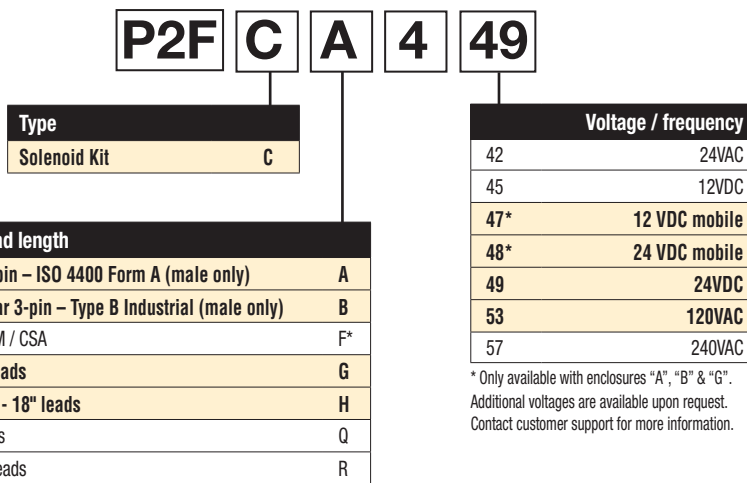
Both ATEX certified solenoid, remote pilot and manual operated valves, as well as complete solenoid pilot assemblies are available. For specific information regarding ATEX certification please visit www.parker/pneumatics.

Viking Lite Series
Viking Xtreme Series
B Series
ADEX Series
N Series
D Inline Valve Products

Pilot Operator Kits



Solenoid Kits



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

Solenoid Enclosures



Solenoid Information (Solenoids are rated for continuous duty.)

Voltage Code	Enclosure "A"			Enclosure "B" to "R"			
	AC 60Hz	DC 50Hz	DC	Power consumption	Holding (amps)	Power consumption	Holding (amps)
42	24	22		3.9VA	.14	7.3VA	.31
45	—	—	12	2.6W	.21	4.6W	.37
47*	—	—	12	6.2W	.52	5.5W	.46
48*	—	—	24	6.8W	.29	6.0W	.25
49	—	—	24	2.7W	.11	4.8W	.20
53	120	110	—	4.1VA	.04	6.3VA	.05
57	240	230	—	3.7VA	.02	6.4VA	.03

* Mobile voltages. Solenoid voltage characteristics for all coils located on page D31.

Replacement Solenoid Nut

Description	Part number	Description	Part number
Solenoid diffuser nut	PS1556	Solenoid vented nut	PS2892P

Most popular.



Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D
 Inline Valve Products

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

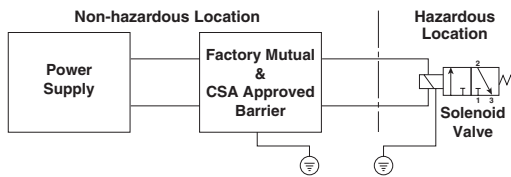
For use in low voltage (24VDC) Intrinsically Safe applications. **NO OTHER VOLTAGE IS APPROVED.**

Comes standard with non-lighted solenoid connector.

36mm Coil width.

Must be connected to an FM approved Barrier.

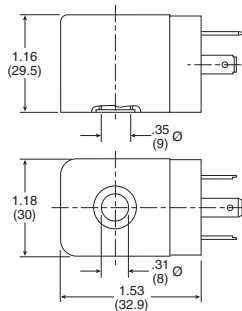
For dimensions, reference standard solenoid models. Maximum internally piloted valve pressure is 115 PSIG. Pressures to 145 PSIG can be used when external pilot is utilized and pilot pressure is limited to 115 PSIG.



Intrinsically safe solenoid pilot assembly kits

Description	Part number
24VDC	P2FS13N1AE49

Kit includes: coil, 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.

Voltage range = $\pm 10\%$

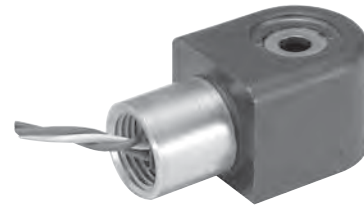
Ambient temperature range = -20°C (-4°F) to 60°C (140°F)

Duty factor = 100%

IP65 Rated (with connected conduit connector)

Notes:

1. Maximum non-hazardous location voltage not to exceed 250V RMS.
2. Connect per Barrier Manufacturers instructions.
3. Factory Mutual requires connections per ISA RP 12.6 instructions.
4. CSA requires “Installation to be in accordance with the Canadian Electrical Code. Part I.”
5. The hazardous duty coils are wider in size than size A, B, C & D valves.
If mounted on a manifold, the valves need to be staggered to fit.

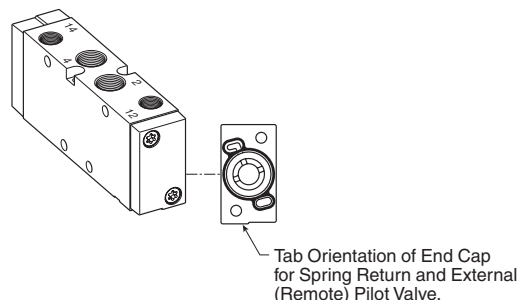
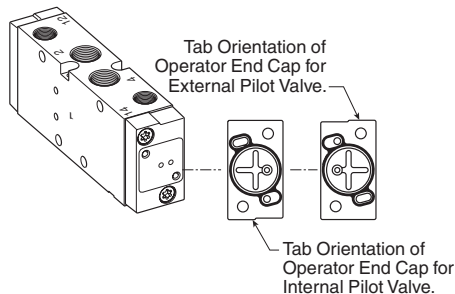


Option F
Hazardous Duty FM / CSA

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.



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 Valve Type.....145 PSIG (10 bar)
Xtreme Valve Type.....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)

Solenoid voltage characteristics

Non-mobile coils

+10% / -10% for all coils with Normal and Xtreme Operators

Mobile coils - normal pilot operator

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 - Xtreme pilot operator

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.

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D Inline Valve Products

Female Electrical Connectors / Accessories

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

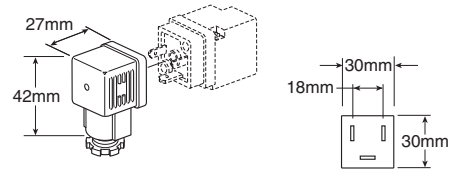
Description	Connector with 6' (2m) cord	Connector
Unlighted	PS2028JCP	PS2028BP
Light – 6-48V, 50/60Hz, 6-48VDC	PS2032J79CP*	PS203279BP
Light – 120V/60Hz	PS2032J83CP*	PS203283BP
Light – 240V/60Hz	N/A	PS203283BP

* 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.



Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

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

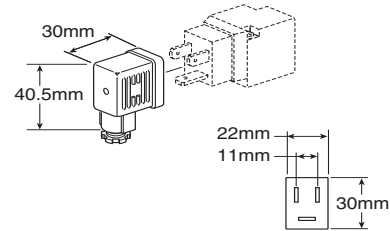
Description	Connector with 6' (2m) cord	Connector
Unlighted	PS2429JBP	PS2429BP
Light – 24V60Hz, 24VDC	PS2430J79BP*	PS243079BP
Light – 120V/60Hz	PS2430J83BP*	PS243083BP
Light – 240V/60Hz	N/A	PS243087BP

* 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.



Exhaust Mufflers

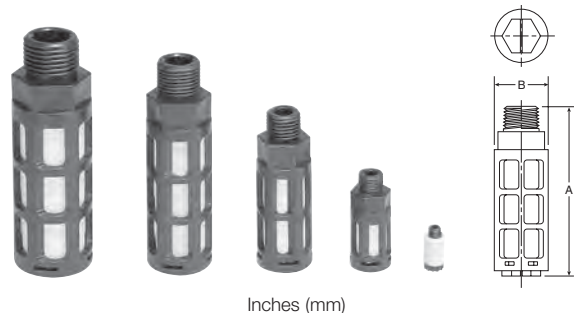
Pipe thread	Part number
M5	P6M-PAC5
1/8" NPT	EM12
1/4" NPT	EM25
3/8" NPT	EM37
1/2" NPT	EM50

P6M - Plastic; EM - Sintered bronze



Plastic Silencers

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



Inches (mm)



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

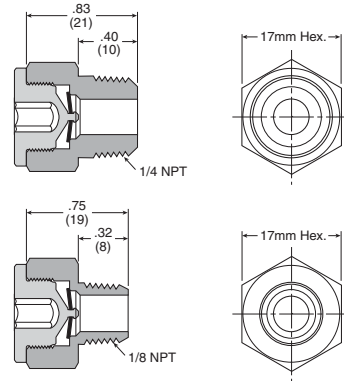
These protectors are intended for mobile applications, quick venting applications and alternative exhaust port breathers that require protection against clogging.

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.

Flow data (SCFM)

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



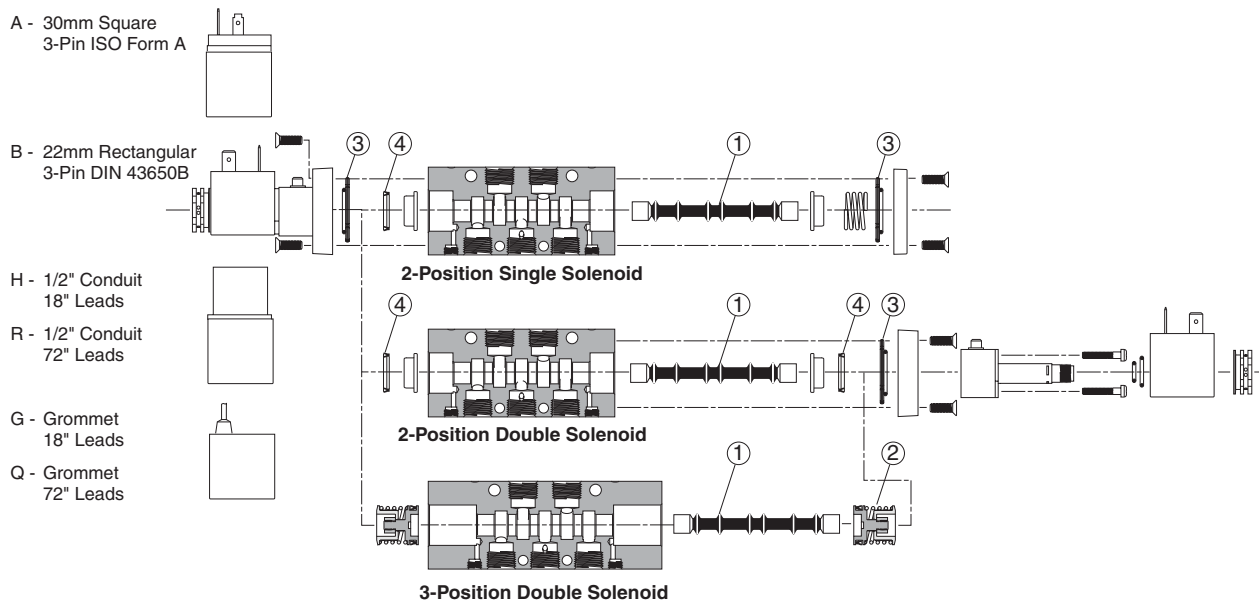
Operating information	
Operating pressure:	0 to 150 PSIG (0 to 10 bar)
Operating temperature:	-40°F to 140°F (-40°C to 60°C)

Material specifications

Body & pipe adapter	Brass
Membrane	Fluorocarbon

Spool Service Kits

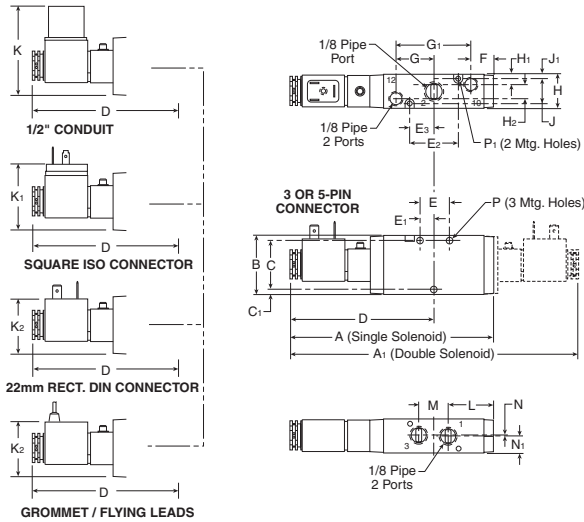
Description	Includes items (qty.)	Part number
Size A, 4-way, 2-position, solenoid & air pilot valves	1 (1), 3 (2), 4 (2)	P2LAXSK1
Size A, 4-way, 3-position, solenoid & air pilot valves	1 (1), 2 (2), 3 (2), 4 (2)	P2LAXSK2
Size A, 4-way, 2-position, manual valves	Spool only (not shown)	P2LAXSK3
Size A, 4-way, 3-position, manual valves	Spool only (not shown)	P2LAXSK4
Size B, 4-way, 2 & 3-position valves	1 (1), 3 (2), 4 (2)	P2LBXSK1
Size C & Size D, 4-way, 2 & 3-position valves	1 (1), 3 (2), 4 (2)	P2LCXDYSK1



Viking Lite Series
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P2LAX 3/2 Single & Double Operators – Solenoid

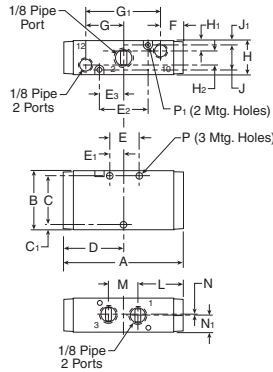


P2LAX 3/2 (solenoid)

A	A ₁	B	C	C ₁
5.35 (136)	7.60 (193)	1.57 (40)	1.26 (32)	.16 (4)
D	E	E ₁	E ₂	E ₃
3.80 (97)	.79 (20)	.39 (10)	1.26 (32)	.63 (16)
F	G	G ₁	H	H ₁
.55 (14)	.98 (25)	1.97 (50)	.87 (22)	.26 (6.6)
H ₂	J	J ₁	K	K ₁
.35 (9)	.65 (16.5)	.11 (2.9)	2.36 (60)	1.61 (41)
K ₂	L	M	N	N ₁
1.50 (38)	1.14 (29)	.79 (20)	.02 (0.5)	.42 (11)
P	P ₁			
∅ .17 ∅ (4.3)	∅ .12 ∅ (3.1)			

Inches (mm)

P2LAX 3/2 Single & Double Operators – Remote Pilot

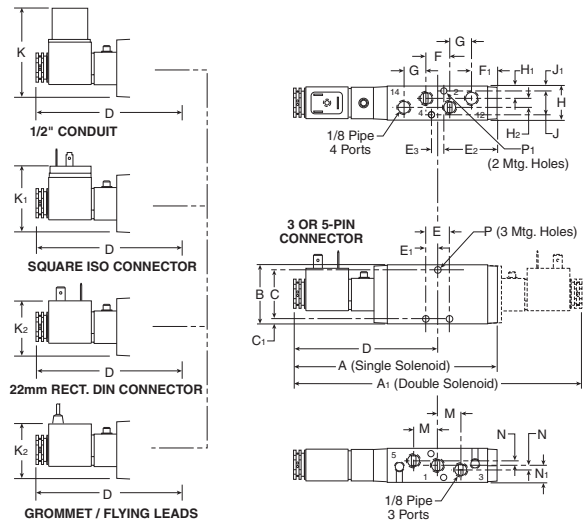


P2LAX 3/2 (remote)

A	B	C	C ₁	D
3.07 (78)	1.57 (40)	1.26 (32)	.16 (4)	1.54 (39)
E	E ₁	E ₂	E ₃	F
.79 (20)	.39 (10)	1.26 (32)	.63 (16)	.55 (14)
G	G ₁	H	H ₁	H ₂
.98 (25)	1.97 (50)	.87 (22)	.26 (6.6)	.35 (9)
J	J ₁	L	M	N
.65 (16.5)	.11 (2.9)	1.14 (29)	.79 (20)	.02 (0.5)
N ₁	P	P ₁		
.42 (11)	∅ .17 ∅ (4.3)	∅ .12 ∅ (3.1)		

Inches (mm)

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



P2LAX 5/2 & 5/3 (solenoid)

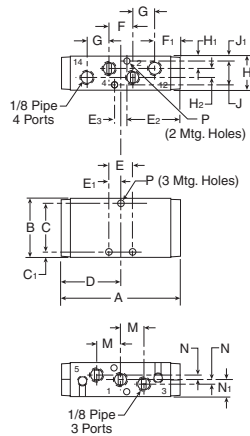
A	A ₁	B	C	C ₁
5.47 (139)	7.72 (196)	1.57 (40)	1.30 (33)	.14 (3.5)
D	E	E ₁	E ₂	E ₃
3.86 (98)	.63 (16)	.31 (8)	1.42 (36)	.33 (8.5)
F	F ₁	G	H	H ₁
.63 (16)	.67 (17)	.59 (15)	.87 (22)	.31 (8)
H ₂	J	J ₁	K	K ₁
.24 (6)	.63 (16)	.12 (3)	2.36 (60)	1.61 (41)
K ₂	M	N	N ₁	P
1.50 (38)	.63 (16)	.12 (3)	.43 (11)	∅ .17 ∅ (4.3)
P ₁				
∅ .12 ∅ (3.1)				

Inches (mm)

Viking Lite Series
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 N Series
 D Inline Valve Products



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

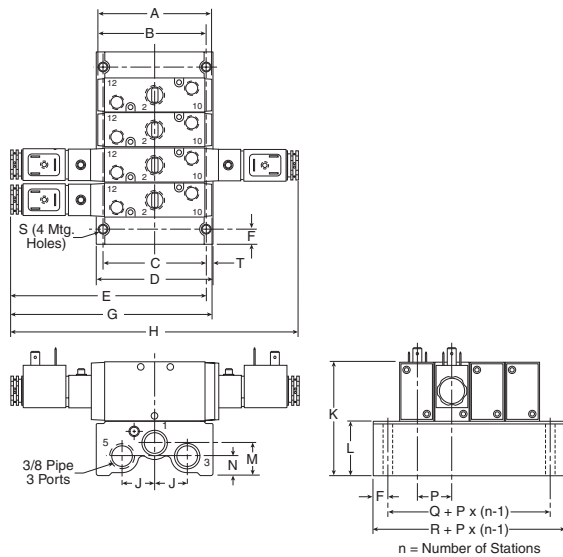


P2LAX 5/2 & 5/3 (remote)

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

Inches (mm)

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

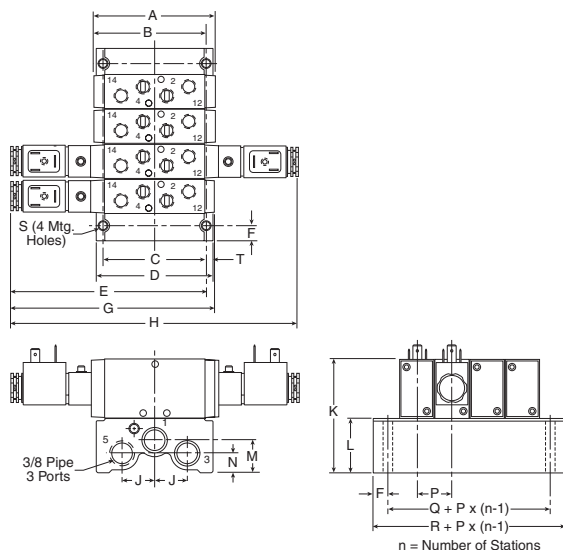


**P2LAX 3/2
 IEM Aluminum bar manifold**

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)



Viking Lite Series

Viking Xtreme Series

B Series

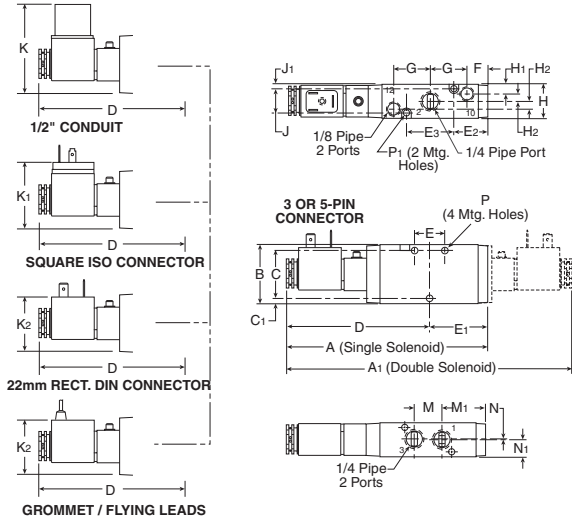
ADEX Series

N Series

D

Inline Valve Products

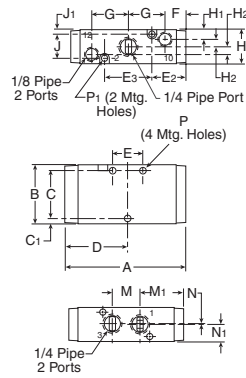
P2LBX 3/2 Single & Double Operators – Solenoid



P2LBX 3/2 (solenoid)

A	A ₁	B	C	C ₁
5.35 (136)	7.60 (193)	1.57 (40)	1.26 (32)	.16 (4)
D	E	E ₁	E ₂	E ₃
3.80 (96.5)	.79 (20)	1.54 (39)	.51 (13)	1.26 (32)
F	G	H	H ₁	H ₂
.55 (14)	.98 (25)	.87 (22)	.26 (6.6)	.18 (4.5)
J	J ₁	K	K ₁	K ₂
.65 (16.5)	.11 (2.9)	2.36 (60)	1.61 (41)	1.50 (38)
M	M ₁	N	N ₁	P
.79 (20)	1.14 (29)	.02 (0.5)	.42 (11)	Ø .17 Ø (4.3)
P ₁	Ø .12 Ø (3.1)			
Inches (mm)				

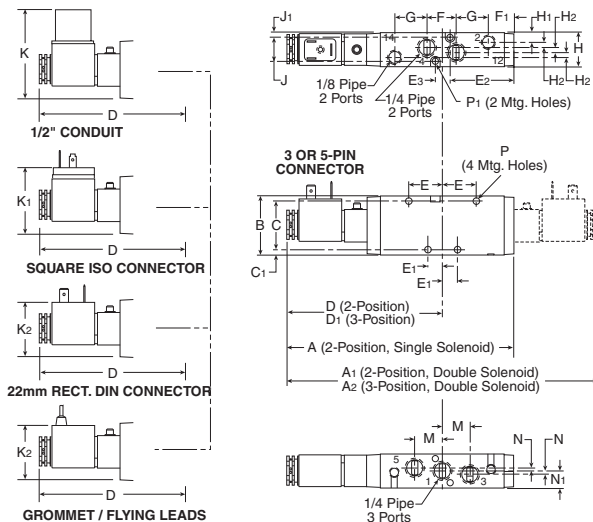
P2LBX 3/2 Single & Double Operators – Remote Pilot



P2LBX 3/2 (remote)

A	B	C	C ₁	D
3.08 (78)	1.57 (40)	1.26 (32)	.16 (4)	1.54 (39)
E	E ₂	E ₃	F	G
.79 (20)	.51 (13)	1.26 (32)	.55 (14)	.98 (25)
H	H ₁	H ₂	J	J ₁
.87 (22)	.26 (6.6)	.18 (4.5)	.65 (16.5)	.11 (2.9)
M	M ₁	N	N ₁	P
.79 (20)	1.14 (29)	.02 (0.5)	.42 (11)	Ø .17 Ø (4.3)
P ₁	Ø .12 Ø (3.1)			
Inches (mm)				

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



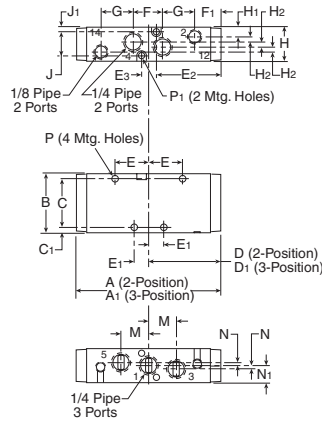
P2LBX 5/2 & 5/3 (solenoid)

A	A ₁	A ₂	B	C
6.14 (156)	8.39 (213)	9.23 (235)	1.57 (40)	1.26 (32)
C ₁	D	D ₁	E	E ₁
.16 (4)	4.21 (107)	4.64 (118)	.91 (23)	.39 (10)
E ₂	E ₃	F	F ₁	G
1.73 (44)	.39 (10)	.79 (20)	.67 (17)	.87 (22)
H	H ₁	H ₂	J	J ₁
.87 (22)	.26 (6.6)	.12 (3)	.65 (16.5)	.12 (3)
K	K ₁	K ₂	M	N
2.36 (60)	1.61 (41)	1.50 (38)	.79 (20)	.08 (2)
N ₁	P	P ₁		
.43 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)		
Inches (mm)				



Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products

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

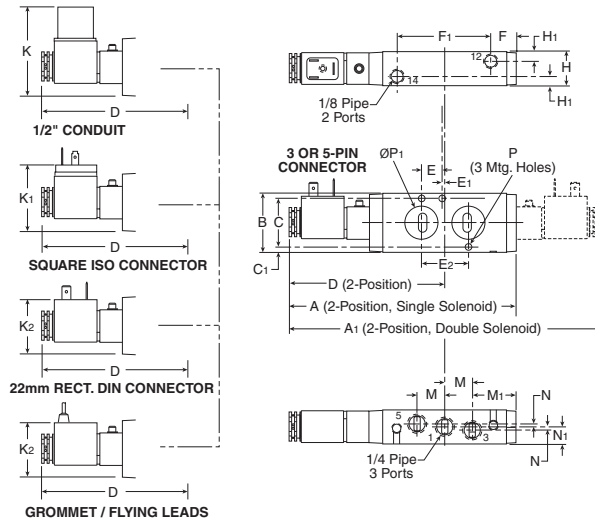


P2LBX 5/2 & 5/3 (remote)

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

Inches (mm)

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



P2LBX 5/2 (NAMUR)

A	A1	B	C	C1
6.15 (156)	8.39 (213)	1.57 (40)	1.26 (32)	.16 (4)
D	E	E1	E2	F
4.21 (107)	.47 (12)	.08 (2)	.94 (24)	.67 (17)
F1	H	H1	M	M1
2.52 (64)	.87 (22)	.26 (6.6)	.79 (20)	1.14 (29)
N	N1	P	P1	
.08 (2)	.43 (11)	∅ .22 ∅ (5.5)	∅ .76 ∅ (19.4)	

Inches (mm)

Viking Lite Series

Viking Xtreme Series

B Series

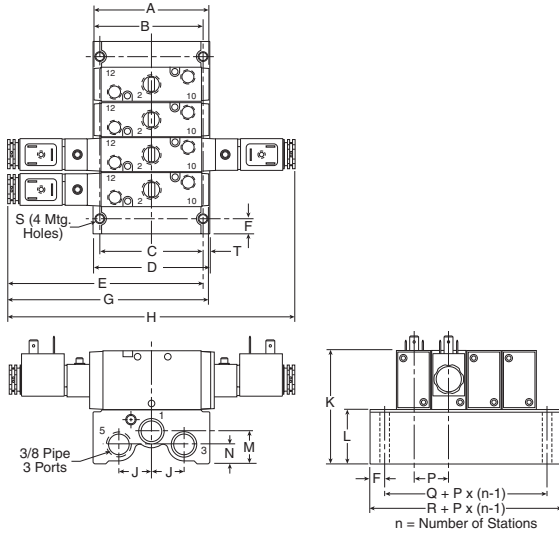
ADEX Series

N Series

D

Inline Valve Products

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

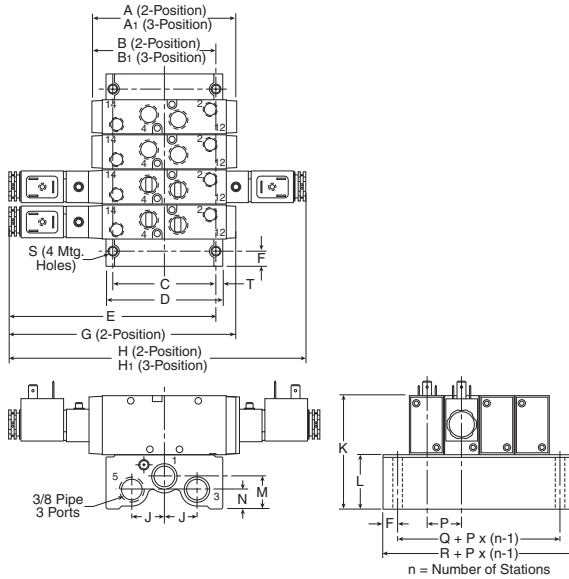


**P2LBX 3/2
 IEM Aluminum bar manifold**

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



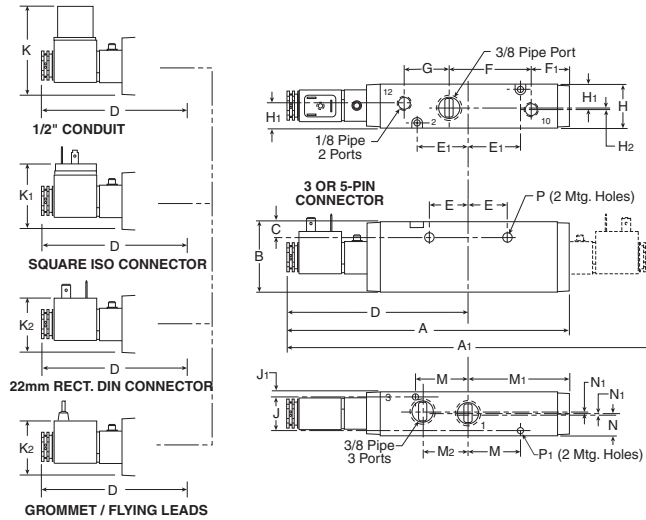
**P2LBX 5/2 & 5/3
 IEM Aluminum bar manifold**

A	A ₁	B	B ₁	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 ₁	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)

- Viking Lite Series
- Viking Xtreme Series
- B Series
- ADEX Series
- N Series
- D Inline Valve Products

P2LCX 3/2 Single & Double Operators – Solenoid

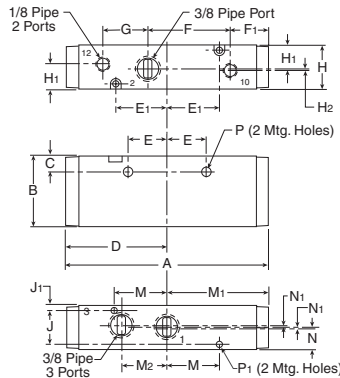


P2LCX 3/2 (solenoid)

A	A1	B	C	D
7.66 (194.5)	9.80 (249)	1.89 (48)	.43 (11)	4.90 (124.5)
E	E1	F	F1	G
1.04 (26.5)	1.40 (35.5)	2.24 (57)	1.02 (26)	1.22 (31)
H	H1	H2	J	J1
1.18 (30)	.67 (17)	.02 (0.5)	.91 (23)	.14 (3.5)
K	K1	K2	M	M1
2.52 (64)	1.77 (45)	1.65 (42)	1.40 (35.5)	2.76 (70)
M2	N	N1	P	P1
1.18 (30)	.55 (14)	.04 (1)	∅ .27 (∅ 6.9)	∅ .17 (∅ 4.4)

Inches (mm)

P2LCX 3/2 Single & Double Operators – Remote Pilot



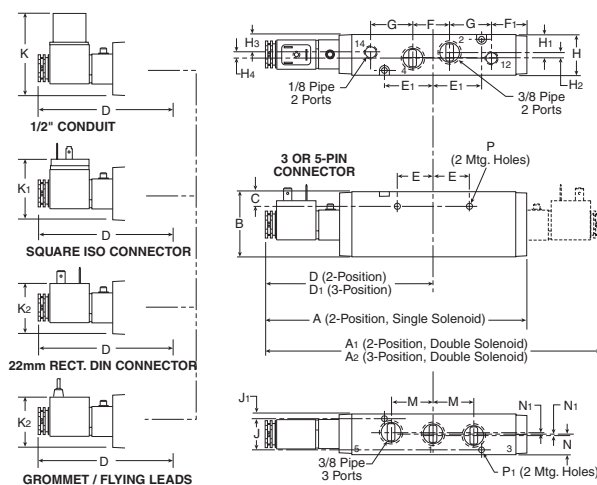
P2LCX 3/2 (remote)

A	B	C	D	E
5.51 (140)	1.89 (48)	.43 (11)	2.76 (70)	1.04 (26.5)
E1	F	F1	G	H
1.40 (35.5)	2.24 (57)	1.02 (26)	1.22 (31)	1.18 (30)
H1	H2	J	J1	M
.67 (17)	.02 (0.5)	.91 (23)	.14 (3.5)	1.40 (35.5)
M1	M2	N	N1	P
2.76 (70)	1.18 (30)	.55 (14)	.04 (1)	∅ .27 (∅ 6.9)

P1
 ∅ .17
 ∅ (4.4)

Inches (mm)

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



P2LCX 5/2 & 5/3 (solenoid)

A	A1	A2	B	C
7.68 (195)	9.84 (250)	10.71 (272)	1.89 (48)	.43 (11)
D	D1	E	E1	F
4.92 (125)	5.35 (136)	1.04 (26.5)	1.40 (35.5)	1.06 (27)
F1	G	H	H1	H2
1.02 (26)	1.22 (31)	1.18 (30)	.53 (13.5)	.12 (3)
H3	H4	J	J1	K
.51 (13)	.16 (4)	.91 (23)	.14 (3.5)	2.52 (64)
K1	K2	M	N	N1
1.77 (45)	1.65 (42)	1.18 (30)	.55 (14)	.04 (1)

P ∅ .27 ∅ (6.9)
P1 ∅ .17 ∅ (4.4)

Inches (mm)



Viking Lite
Series

Viking Xtreme
Series

B
Series

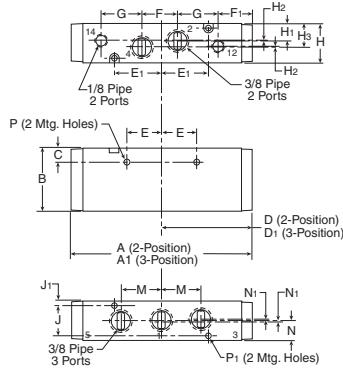
ADEX
Series

N
Series

D

Inline
Valve Products

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

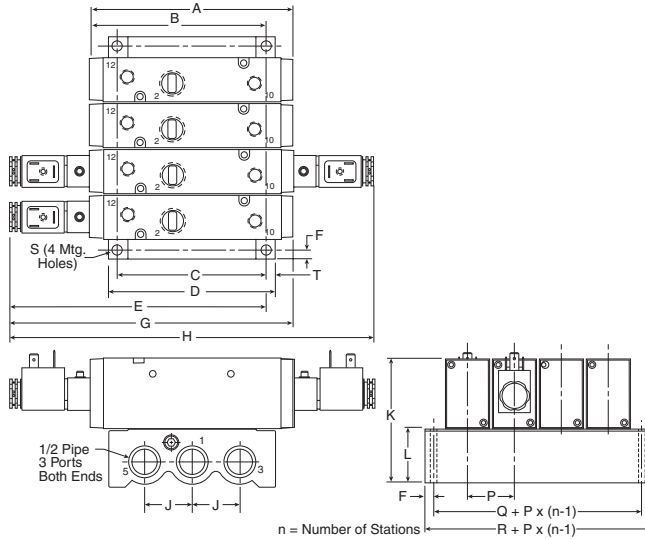


P2LCX 5/2 & 5/3 (remote)

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

Inches (mm)

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

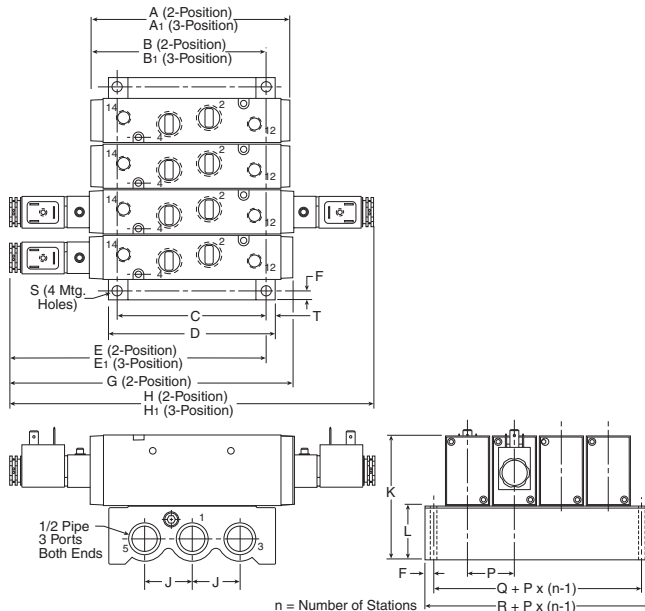


P2LCX 3/2
IEM Aluminum bar manifold

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

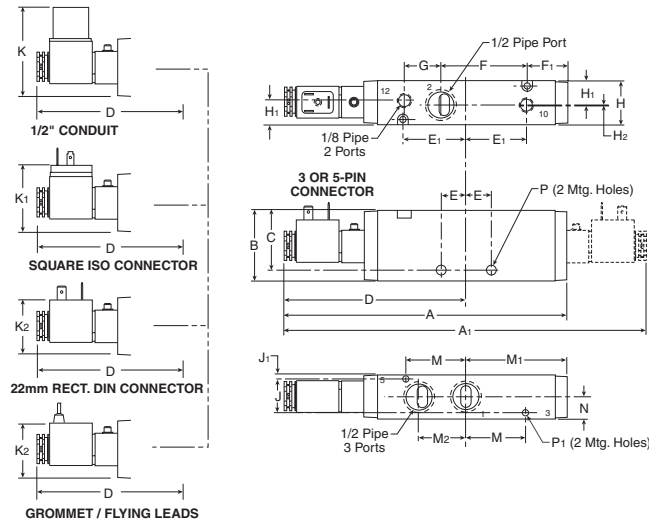
A	A ₁	B	B ₁	C
5.51 (140)	6.38 (162)	4.72 (120)	5.16 (131)	3.94 (100)
D	E	E ₁	F	G
4.41 (112)	6.89 (170)	7.13 (181)	.24 (6)	7.68 (195)
H	H ₁	J	K	L
9.84 (250)	10.71 (272)	1.26 (32)	3.43 (87)	1.54 (39)
P	Q	R	S	T
1.24 (31.5)	1.77 (45)	2.24 (57)	∅ .26 ∅ (6.5)	.24 (6)

Inches (mm)

Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products



P2LDX 3/2 Single & Double Operators – Solenoid

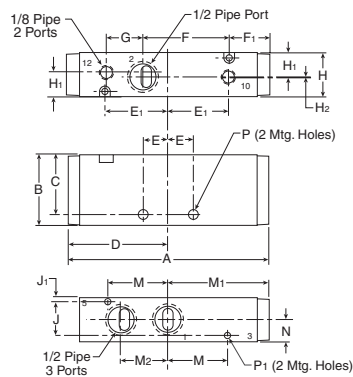


P2LDX 3/2 (solenoid)

A	A₁	B	C	D
7.66 (194.5)	9.80 (249)	1.89 (48)	1.59 (40.5)	4.90 (124.5)
E	E₁	F	F₁	G
.67 (17)	1.65 (42)	2.36 (60)	1.08 (27.5)	.98 (25)
H	H₁	H₂	J	J₁
1.18 (30)	.67 (17)	.02 (0.5)	.91 (23)	.14 (3.5)
K	K₁	K₂	M	M₁
2.52 (64)	1.77 (45)	1.65 (42)	1.65 (42)	2.76 (70)
M₂	N	P	P₁	
1.30 (33)	.59 (15)	∅ .26 ∅ (6.6)	∅ .17 ∅ (4.4)	

Inches (mm)

P2LDX 3/2 Single & Double Operators – Remote Pilot

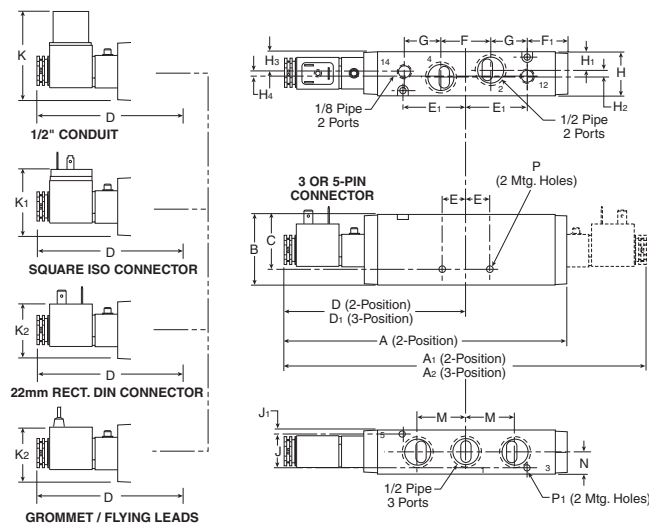


P2LDX 3/2 (remote)

A	B	C	D	E
5.51 (140)	1.89 (48)	1.59 (40.5)	2.76 (70)	.67 (17)
E₁	F	F₁	G	H
1.65 (42)	2.36 (60)	1.08 (27.5)	.98 (25)	1.18 (30)
H₁	H₂	J	J₁	M
.67 (17)	.02 (0.5)	.91 (23)	.14 (3.5)	1.65 (42)
M₁	M₂	N	P	P₁
2.76 (70)	1.30 (33)	.59 (15)	∅ .26 ∅ (6.6)	∅ .17 ∅ (4.4)

Inches (mm)

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

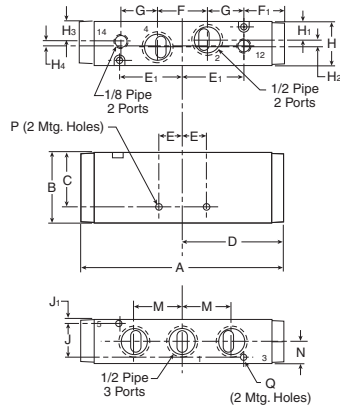


P2LDX 5/2 & 5/3 (solenoid)

A	A₁	A₂	B	C
7.67 (195)	9.84 (250)	10.7 (272)	1.89 (48)	1.59 (40.5)
D	D₁	E	E₁	F
4.92 (125)	5.79 (147)	.67 (17)	1.65 (42)	1.34 (34)
F₁	G	H	H₁	H₂
1.10 (28)	.98 (25)	1.18 (30)	.49 (12.5)	.20 (5)
H₃	H₄	J	J₁	K
.51 (13)	.16 (4)	.91 (23)	.14 (3.5)	2.52 (64)
K₁	K₂	M	N	P
1.77 (45)	1.65 (42)	1.30 (33)	.59 (15)	∅ .26 ∅ (6.6)
P₁				
∅ .17 ∅ (4.4)				

Inches (mm)

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



P2LDX 5/2 & 05/3 (remote)

A	B	C	D	E
5.47 (139)	1.89 (48)	1.59 (40.5)	2.63 (67)	.67 (17)
E1	F	F1	G	H
1.65 (42)	1.34 (34)	1.08 (27.5)	.98 (25)	1.18 (30)
H1	H2	H3	H4	J
.49 (12.5)	.20 (5)	.51 (13)	.16 (4)	.91 (23)
J1	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)

- Viking Lite Series
- Viking Xtreme Series
- B Series
- ADEX Series
- N Series
- D**
- Inline Valve Products

B 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, making it ideally suited for OEM applications.

Ports

- B3: 1/8, 1/4 inch
- B5: 1/4, 3/8 inch
- B6: 3/8 inch
- B7: 1/2 inch
- B8: 3/4 inch

Mounting

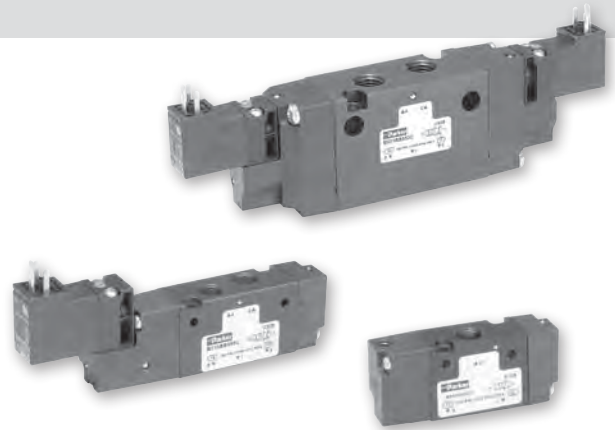
- Inline
- Subbase
- IEM stackable base
- IEM aluminum bar
- 5-port subbase aluminum bar

Solenoids

- 1.2 W – 15mm, 3-pin EN175301-803
- 2.5 to 7.3 watt - conduit, grommet, 22mm & 30mm, 3-pin DIN (433650)
- 12VDC to 240VAC
- Female DIN electrical connectors

Certification / Approval

- Approved to be CE marked
- IP65 rated
- CSA, C/US



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	B7	B8
1. G. H	Single solenoid - air return					
2. A. J. S	Double solenoid	20 (138)	20 (138)	20 (138)	35 (241)	35 (241)
3. K. L	Single remote pilot - air return					
4. M	Double remote pilot	Vacuum				
5. 6. 7	Double solenoid - APB, CE, PC	30 (207)	30 (207)	30 (207)	45 (310)	45 (310)
8. 9. 0	Double remote pilot - APB, CE, PC	Vacuum				
E. V. W	Single solenoid - air return / spring assist	35 (241)	35 (241)	35 (241)	35 (241)	35 (241)
F. X. Y	Single remote pilot - air return / spring assist					
	External pilot*†					
All	"B" series	Vacuum				

* External Pilot Pressure / Remote Pilot Signal 35-145 PSIG (241-1000 kPa).

† Not Available with B3 Dual 3/2.

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)
B3	120 (827)
B5 & B6	145 (1000)*§
B7 & B7	145 (1000)*†

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

† Not Available with Enclosure 5

§ Not available with Enclosures 0. 5 & X

Most popular.

Viking Lite Series

Viking Xtreme Series

B Series

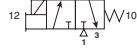
ADEX Series

N Series

D

Inline Valve Products

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



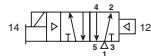
B3 shown, 3-Pin DIN 43650C electrical connection. Non-locking flush override.

Symbol	Port size	Cv	Voltage	Valve type	Part number
	1/8"	0.75 Cv	120VAC 24VDC	B3 Inline	B3G0BB553C B3G0BB549C
	1/4"	1.4 Cv	120VAC 24VDC	B5 Inline	B5G1BB553C B5G1BB549C
	3/8"	1.4 Cv	120VAC 24VDC	B5 Inline	B5G2BB553C B5G2BB549C
	3/8"	2.7 Cv	120VAC 24VDC	B6 Inline	B6V2BB553A B6V2BB549A
	1/2"	5.9 Cv	120VAC 24VDC	B7 Inline	B7V3BB553A B7V3BB549A
	3/4"	7.0 Cv	120VAC 24VDC	B8 Inline	B8V4BB553A B8V4BB549A

Viking Lite Series

Viking Xtreme Series

Single Solenoid, 4-way, 2-position



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

Symbol	Port size	Cv	Voltage	Valve type	Part number
	1/8"	0.75 Cv	120VAC 24VDC	B3 Inline	B310BB553C B310BB549C
	1/4"	1.4 Cv	120VAC 24VDC	B5 Inline	B511BB553C B511BB549C
	3/8"	1.4 Cv	120VAC 24VDC	B5 Inline	B512BB553C B512BB549C
	3/8"	2.7 Cv	120VAC 24VDC	B6 Inline	B612BB553A B612BB549A
	1/2"	5.9 Cv	120VAC 24VDC	B7 Inline	B713BB553A B713BB549A
	3/4"	7.0 Cv	120VAC 24VDC	B8 Inline	B814BB553A B814BB549A
	Less base	0.65 Cv	120VAC 24VDC	B3 Subbase	B31VBB553C B31VBB549C

B Series

ADEX Series

N Series

Double Solenoid, 4-way, 2-position



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

Symbol	Port size	Cv	Voltage	Valve type	Part number
	1/8"	0.75 Cv	120VAC 24VDC	B3 Inline	B320BB553C B320BB549C
	1/4"	1.4 Cv	120VAC 24VDC	B5 Inline	B521BB553C B521BB549C
	3/8"	1.4 Cv	120VAC 24VDC	B5 Inline	B522BB553C B522BB549C
	3/8"	2.7 Cv	120VAC 24VDC	B6 Inline	B622BB553A B622BB549A
	1/2"	5.9 Cv	120VAC 24VDC	B7 Inline	B723BB553A B723BB549A
	3/4"	7.0 Cv	120VAC 24VDC	B8 Inline	B824BB553A B824BB549A
	Less base	0.65 Cv	120VAC 24VDC	B3 Subbase	B32VBB553C B32VBB549C

D

Inline Valve Products

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



Symbol	Port size	Cv	Voltage	Valve type	Part number
	1/8"	0.60 Cv	120VAC 24VDC	B3 Inline	B350BB553C B350BB549C
	1/4"	1.1 Cv	120VAC 24VDC	B5 Inline	B551BB553C B551BB549C
	3/8"	1.1 Cv	120VAC 24VDC	B5 Inline	B552BB553C B552BB549C
	3/8"	2.1 Cv	120VAC 24VDC	B6 Inline	B652BB553A B652BB549A
	1/2"	5.7 Cv	120VAC 24VDC	B7 Inline	B753BB553A B753BB549A
	3/4"	6.6 Cv	120VAC 24VDC	B8 Inline	B854BB553A B854BB549A
	Less base	0.50 Cv	120VAC 24VDC	B3 Subbase	B35VBB553C B35VBB549C

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

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



Symbol	Port size	Cv	Voltage	Valve type	Part number
	1/8"	0.60 Cv	120VAC 24VDC	B3 Inline	B360BB553C B360BB549C
	1/4"	1.1 Cv	120VAC 24VDC	B5 Inline	B561BB553C B561BB549C
	3/8"	1.1 Cv	120VAC 24VDC	B5 Inline	B562BB553C B562BB549C
	3/8"	2.1 Cv	120VAC 24VDC	B6 Inline	B662BB553A B662BB549A
	1/2"	5.7 Cv	120VAC 24VDC	B7 Inline	B763BB553A B763BB549A
	3/4"	6.6 Cv	120VAC 24VDC	B8 Inline	B864BB553A B864BB549A
	Less base	0.50 Cv	120VAC 24VDC	B3 Subbase	B36VBB553C B36VBB549C

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

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



Symbol	Port size	Cv	Voltage	Valve type	Part number
	1/8"	0.60 Cv	120VAC 24VDC	B3 Inline	B370BB553C B370BB549C
	1/4"	1.1 Cv	120VAC 24VDC	B5 Inline	B571BB553C B571BB549C
	3/8"	1.1 Cv	120VAC 24VDC	B5 Inline	B572BB553C B572BB549C
	3/8"	2.1 Cv	120VAC 24VDC	B6 Inline	B672BB553A B672BB549A
	1/2"	5.7 Cv	120VAC 24VDC	B7 Inline	B773BB553A B773BB549A
	3/4"	6.6 Cv	120VAC 24VDC	B8 Inline	B874BB553A B874BB549A
	Less base	0.50 Cv	120VAC 24VDC	B3 Subbase	B37VBB553C B37VBB549C

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

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

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



Symbol	Port size	Cv	Valve type	Part number
	1/8"	0.75 Cv	B3 Inline, remote pilot	B3K0000XXC
	1/4"	1.4 Cv	B5 Inline, remote pilot	B5K1000XXC
	3/8"	1.4 Cv	B5 Inline, remote pilot	B5K2000XXC
	3/8"	2.7 Cv	B6 Inline, remote pilot	B6X2000XXA
	1/2"	5.9 Cv	B7 Inline, remote pilot	B7X3000XXA
	3/4"	7.0 Cv	B8 Inline, remote pilot	B8X4000XXA
	Less base	0.65 Cv	B3 Subbase, remote pilot	B33V000XXC

B3 Shown, M5 remote pilot ports

Single Remote Pilot, 4-way, 2-position



Symbol	Port size	Cv	Valve type	Part number
	1/8"	0.75 Cv	B3 Inline, remote pilot	B330000XXC
	1/4"	1.4 Cv	B5 Inline, remote pilot	B531000XXC
	3/8"	1.4 Cv	B5 Inline, remote pilot	B532000XXC
	3/8"	2.7 Cv	B6 Inline, remote pilot	B632000XXA
	1/2"	5.9 Cv	B7 Inline, remote pilot	B733000XXA
	3/4"	7.0 Cv	B8 Inline, remote pilot	B834000XXA
	Less base	0.65 Cv	B3 Subbase, remote pilot	B33V000XXC

B5 Shown, M5 remote pilot ports

Double Remote Pilot, 4-way, 2-position



Symbol	Port size	Cv	Valve type	Part number
	1/8"	0.75 Cv	B3 Inline, remote pilot	B340000XXC
	1/4"	1.4 Cv	B5 Inline, remote pilot	B541000XXC
	3/8"	1.4 Cv	B5 Inline, remote pilot	B542000XXC
	3/8"	2.7 Cv	B6 Inline, remote pilot	B642000XXA
	1/2"	5.9 Cv	B7 Inline, remote pilot	B743000XXA
	3/4"	7.0 Cv	B8 Inline, remote pilot	B844000XXA
	Less base	0.65 Cv	B3 Subbase, remote pilot	B34V000XXC

B5 Shown, M5 remote pilot ports

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



Symbol	Port size	Cv	Valve type	Part number
	1/8"	0.60 Cv	B3 Inline, remote pilot	B380000XXC
	1/4"	1.1 Cv	B5 Inline, remote pilot	B581000XXC
	3/8"	1.1 Cv	B5 Inline, remote pilot	B582000XXC
	3/8"	2.1 Cv	B6 Inline, remote pilot	B682000XXA
	1/2"	5.7 Cv	B7 Inline, remote pilot	B783000XXA
	3/4"	6.6 Cv	B8 Inline, remote pilot	B884000XXA
	Less Base	0.50 Cv	B3 Subbase, remote pilot	B38V000XXC

B5 Shown, M5 remote pilot ports

Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products

B3 Subbase Side Ported Subbase Manifold, Subbase Valves Only



Valve series	Valve function	## – Stations	Manifold only (NPT)	Manifold only (BSPP)
B3	4-way	02 to 12	PSJ3B1N##NP	PSJ3B1G##NP

Kits include: (1) manifold, valve hold down bolts, gaskets. For external pilot valve option "X", external manifold galley must be pressurized. Replace ## with number of valve stations.

B3 Subbase Side Ported Subbase Manifold Add-A-Fold Assembly



Valve series	Valve function	## – Stations	Manifold assembly (NPT)	Manifold assembly (BSPP)
B3	4-way	02 to 12	AAPSJ3B1N##NP	AAPSJ3B1G##GP

Kits include: (1) manifold, valve hold down bolts, gaskets and assembly. For external pilot valve option "X", external manifold galley must be pressurized.

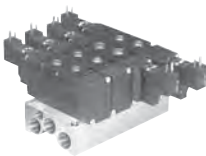
IEM Bar Manifold, Inline Valves Only



Valve series	Valve function	## – Stations	Manifold only (NPT)	Manifold only (BSPP)
B3	3-way	02 to 12	PSG3BXN##NP	PSG3BXG##NP
B3	4-way	02 to 12	PSM3BXN##NP	PSM3BXG##NP
B5	3-way	02 to 12	PSG5BXN##NP	PSG5BXG##NP
B5	4-way	02 to 12	PSM5BXN##NP	PSM5BXG##NP
B6	3-way	02 to 12	PSG6BXN##NP	PSG6BXG##NP
B6	4-way	02 to 12	PSM6BXN##NP	PSM6BXG##NP
B7, B8	4-way	02 to 12	PSM7BXN##NP	PSM7BXG##NP

Kits include: (1) manifold, valve hold down bolts, gaskets. For external pilot valve option "X", external manifold galley must be pressurized.

IEM Bar Manifold Add-A-Fold Assembly



Valve series	Valve function	## – Stations	Manifold assembly (NPT)	Manifold assembly (BSPP)
B3	3-way	02 to 12	AAPSG3BXN##NP	AAPSG3BXG##NP
B3	4-way	02 to 12	AAPSM3BXN##NP	AAPSM3BXG##NP
B5	3-way	02 to 12	AAPSG5BXN##NP	AAPSG5BXG##NP
B5	4-way	02 to 12	AAPSM5BXN##NP	AAPSM5BXG##NP
B6	3-way	02 to 12	AAPSG6BXN##NP	AAPSG6BXG##NP
B6	4-way	02 to 12	AAPSM6BXN##NP	AAPSM6BXG##NP
B7, B8	4-way	02 to 12	AAPSM7BXN##NP	AAPSM7BXG##NP

Kits include: (1) manifold, valve hold down bolts, gaskets and assembly. For external pilot valve option "X", external manifold galley must be pressurized.

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: B3, 4-way manifold with station #1 blanked off with valves assembled

Line	Qty	Part number	Comment
1	1	AAPSM3BXN03NP	Add-A-Fold Assembly
2	1	PS2920P	Blank Plate - station 1
3	2	B3100BB549C	4-way B3 - station 2, 3

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

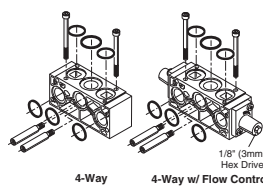
D

Inline Valve Products

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.

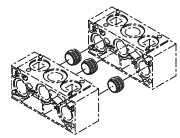
Series	Type	Kit number	
		Standard	Flow control
B3	4-way	PS2917P	PS2918P
B5	4-way	PS2817P	PS2818P



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

Isolator Plugs

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

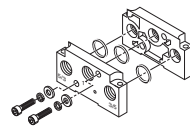


Used to isolate the #1, #3 or #5 gallery between two manifold bases. (IEM stackable only)

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

End Plate Kits

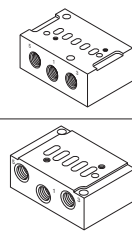
Series	Type	Kit number
B3	4-way, NPT	PS2915P
B5	4-way, NPT	PS2815P



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

Single Subbase, Subbase Valves Only

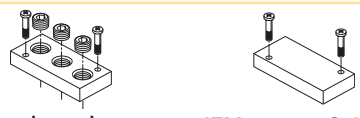
Series	Type	Kit number
B3	4-way, 1/4" NPT	PS2934P
B5	4-way, 3/8" NPT	PS2834P



Kit includes: (1) subbase.
 (Hold down bolts & gasket are included with valve.)

Blanking Plate

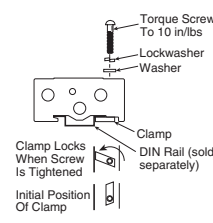
Series	Type	IEM universal		IEM Subbase	
		NPT	BSPP "G"	Blank	Blank
B3	3-way	PS2966P	PS2967P	PS2968P	—
	4-way	PS2920P	PS2921P	PS2969P	PS2994P
B5	3-way	PS2866P	PS2867P	PS2868P	—
	4-way	PS2820P	—	PS2869P	—
B6	3-way	PS2620P	—	—	—
	4-way	—	—	—	—
B7-B8	4-way	PS2520P	—	PS2569P	—



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

DIN Rail Hardware Kit

Valve type	IEM bar	Part number
B3	(2) Screws, (2) Nuts, (2) Clamps	PS2991P



Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products

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
Single remote pilot, 2-position NC - air return	K
Single remote pilot, 2-position NO - air return	L
Double remote pilot, 2-position	M
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
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
Single solenoid, 2-position - air return / spring assist	E
Single remote pilot, 2-position - air return / spring assist	F

Options	
Blank	None
02	Solenoid rotated 180° - pins down

	Voltage [§]		
	AC		DC
	60Hz	50Hz	
42	24	22	
45			12
49			24
53	120	110	
57	240	230	
XX	Remote pilot - M5 or valve less 15mm solenoid		
YY	Remote pilot - 5/32" (4mm) tube		

Enclosure / lead length	
0	None, remote pilot valve
5	15mm 3-pin DIN 43650C (male only)
X	Valve less 15mm solenoid

Overrides [§]	
0	None, remote pilot valve
B	Flush - non-locking
C	Flush - locking
D	Extended - non-locking
E	Extended - locking
X	Valve less 15mm solenoid

Port size / thread type	
3-way	
1/8" NPT inline	0*
1/8" BSPP "G" inline	5*
4-way	
1/8" NPT inline	0*
1/8" BSPP "G" inline	5*
1/4" NPT subbase	H†
1/8" NPT face mount	T**
Subbase valve less base	V‡

* Available for use on IEM Manifolds.
 ** 4-way only.
 ‡ Subbase valves available for 4-way valves only.

Pilot source / pilot exhaust	
0	None, remote pilot valve
B†	Internal - port #1 / vented
E*	Dual pressure - port #3 / vented
K†	External - body / tapped M5
X‡	External - manifold / vented

* Not available for 3-way Valves.
 † Not available for Remote Pilot Valves.
 ‡ See Pilot Source Note below.

§ Enclosure '5'
 - Override / Voltage Availability
 S - Standard
 O - Option

Voltage code	Override code Standard			
	B	C	D	E
42	O	O	-	-
45	O	O	-	-
49	S	S	O	O
53	S	S	O	O
57	O	O	-	-

Voltage code	"02" Option			
	B	C	D	E
42	O	O	-	-
45	O	O	-	-
49	S	S	O	O
53	S	S	O	O
57	O	O	-	-

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

Pilot Source 'X'
 External-Manifold / Vented

INLINE & SUBBASE Valves -
 Only used IF an IEM or 5-Ported Subbase Aluminum Bar Manifold requires a common external pilot signal through the manifold for low pressure / vacuum applications OR when used with Sandwich Regulators.

Most popular.



B5 Series

B5 1 1 B B 5 49 - C

Basic series
 B5 series **B5**

Engineering level
 Current **C**

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
Single remote pilot, 2-position NC - air return	K*
Single remote pilot, 2-position NO - air return	L*
Double remote pilot, 2-position	M*
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*
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*
Single solenoid, 2-position - air return / spring assist	E
Single remote pilot, 2-position - air return / spring assist	F*

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

Port Size / Thread Type	
3-way	
1/4" NPT inline	1*
3/8" NPT inline	2*
1/4" BSPP "G" inline	6*
3/8" BSPP "G" inline	7*
4-way	
1/4" NPT inline	1*
3/8" NPT inline	2*
1/4" BSPP "G" inline	6*
3/8" BSPP "G" inline	7*
3/8" NPT subbase	J†
1/4" NPT NAMUR mount	T††
Subbase valve less base - NPT	V‡
1/4" BSPP "G" NAMUR mount	W††

* Available for use on IEM manifolds.
 † 4-way only.
 ‡ Available with pilot source "0", "A", and "B" only.

Pilot Source / Pilot Exhaust	
Enclosures "0, 5 & X"	
None, remote pilot valve	0
Internal - port #1 / tapped M5	A†
Internal - port #1 / vented	B†
Dual pressure - port #3 / vented	E*
External - body / tapped M5	K†
External - manifold / vented	X†
Enclosures "A, B, C, D, E, F, G, H, N, Q & R"	
Internal - port #1 / tapped M5	A†
Internal - port #1 / vented	B†
Dual pressure - port #3 / tapped M5	D††
External - body / tapped 1/8"	K†

* Not available for 3-way valves.
 † Not available for remote pilot valves.
 ‡ See pilot source note below.

Overrides‡	
None. Remote pilot valve	0
No override	A†
Flush - non-locking	B*
Flush - locking	C
Extended - non-locking	D
Extended - locking	E*
Valve less 15mm solenoid	X

* Only available with encl. "5".
 † Only available with encl. "E".

Options	
Blank	None
02	Solenoid rotated 180° - pins down
MD††	Manual detent
VO*	Fluorocarbon seals

* Not available with enclosure "0", "5", "X", "E" or "F".
 †† Only available with operator function 1 & 3 and Enclosure "N", "X" or mobile voltages upon request.

	AC		DC
	60Hz	50Hz	
42	24	22	
45			12
49			24
53	120	110	
57	240	230	
XX	Remote pilot - M5 or valve less solenoid		
YY	Remote pilot - 5/32" (4mm) tube		

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)
C	3-pin automotive - mini
D	5-pin automotive - mini
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
Q†	Grommet - 72" leads
R	1/2" NPT conduit - 72" leads
X	Valve less 15mm solenoid

* 24 VDC & override "A" only.
 ** 12 VDC, 24 VDC, 120 VAC or 240 VAC.
 † 24 VDC only.

Note: for mobile voltages, contact the application team.

§ Enclosure '5' - Override / Voltage Availability

S - Standard
 O - Option

Voltage code	Override code Standard				Voltage code	Override code "02" Option			
	B	C	D	E		B	C	D	E
42	O	O	-	-	42	O	O	-	-
45	O	O	-	-	45	O	O	-	-
49	S	S	O	O	49	S	S	O	O
53	S	S	O	O	53	S	S	O	O
57	O	O	-	-	57	O	O	-	-

□ Most popular.

Pilot Source 'X'
 External-Manifold / Vented or Tapped M5

INLINE & SUBBASE Valves -
 Only used IF an IEM Aluminum Bar Manifold requires a common external pilot signal through the manifold for low pressure / vacuum applications.



B6 Series

B6 1 2 B B 5 49 - A

Basic series	
B6 series	B6

Engineering level	
A	Current

Operator function	
3-way	
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
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
Single solenoid, 2-position - air return / spring assist	E
Single remote pilot, 2-position - air return / spring assist	F

Options	
Blank	None
02	Solenoid rotated 180° - pins down
42*	Series cylinder mount replacement

* Only available with port size "T" and "0", "A" and "B" pilot source.

	Voltage [§]		
	AC		DC
	60Hz	50Hz	
42	24	22	
45			12
49			24
53	120	110	
57	240	230	
XX	Remote pilot - M5 or valve less 15mm solenoid		
YY	Remote pilot - 5/32" (4mm) tube		

Port size / thread type	
3-way / 4-way	
3/8" NPT inline	2*
3/8" BSPP "G" inline	7*
3/8" NPT NAMUR mount	T†

* Available for use on IEM manifolds.

† 4-way only. Available with pilot source "0", "A" and "B" only.

Pilot source / pilot exhaust	
Enclosures "0, 5 & X"	
None. Remote pilot valve	0
Internal - Port #1 / tapped M5	A†
Internal - Port #1 / vented	B†
Dual pressure - port #5 / vented	H*
External - Body / tapped M5	K†
Enclosures "A, B, C, D, E, F, G, H, N, Q & R"	
Internal - Port #1 / tapped M5	A†
Internal - Port #1 / vented	B†
External - Body / tapped 1/8"	K†

* Not available for 3-way valves.

† Not available for remote pilot valves.

Overrides [§]	
None, remote pilot valve	0
No override	A†
Flush - non-locking	B*
Flush - locking	C
Extended - non-locking	D
Extended - locking	E*
Valve less 15mm solenoid	X

* Only available with enclosure "5".

† Only available with enclosure "E".

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
Q	Grommet - 72" leads
R	1/2" NPT conduit - 72" leads
X	Valve less 15mm solenoid

* 24 VDC & override "A" only.

** 12 VDC, 24 VDC, 120 VAC or 240 VAC.

† 24 VDC only.

§ Enclosure '5' - Override / Voltage Availability

S - Standard

O - Option

Voltage code	Override code Standard				Voltage code	Override code "02" Option			
	B	C	D	E		B	C	D	E
42	O	O	-	-	42	O	O	-	-
45	O	O	-	-	45	O	O	-	-
49	S	S	O	O	49	S	S	O	O
53	S	S	O	O	53	S	S	O	O
57	O	O	-	-	57	O	O	-	-

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

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.



B7 & B8 Series

B7 1 3 A B G 53 - A

Basic series	
B7 series	B7
B8 series	B8

Engineering level	
A	Current

Options	
Blank	None

Operator function	
3-way	
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
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
Single solenoid, 2-position - air return / spring assist	E
Single remote pilot, 2-position - air return / spring assist	F

	Voltage [§]		
	AC		DC
	60Hz	50Hz	
42	24	22	
45			12
49			24
53	120	110	
57	240	230	
XX	Remote pilot - M5 or valve less solenoid		
YY	Remote pilot - 5/32" (4mm) tube		

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
R	1/2" NPT conduit - 72" leads
X	Valve less 15mm solenoid

* 24 VDC & Override "A" only.

** 12 VDC, 24 VDC, 120 VAC or 240 VAC.

Port size / thread type	
B7 series	
1/2" NPT inline	3*
1/2" BSPP "G" inline	8*
B8 series	
3/4" NPT inline	4*
3/4" BSPP "G" inline	9*

* Available for use on IEM manifolds.

Pilot source / pilot exhaust	
Enclosures "0, 5 & X"	
None. Remote pilot valve	0
Internal - Port #1 / tapped M5	A†
Internal - Port #1 / vented	B†
External - Body / tapped M5	K†
Enclosures "A, B, C, D, E, F, G, H, N, Q & R"	
Internal - Port #1 / tapped M5	A†
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
Extended - non-locking	D
Extended - locking	E*
Valve less 15mm solenoid	X

* Only available with encl. "5".

† Only available with encl. "E".

§ Enclosure '5' - Override / Voltage Availability

S - Standard

O - Option

Voltage code	Override code			
	B	C	D	E
42	O	O	-	-
45	O	O	-	-
49	S	S	O	O
53	S	S	O	O
57	O	O	-	-

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

INLINE Valves -

Only used IF an IEM Aluminum Bar Manifold requires a common external pilot signal through the manifold for low pressure / vacuum applications.



Voltage		Enclosure "5"			Voltage		Enclosure "A"			Enclosure "B" to "R"		
AC		Power consumption	Holding (Amps)	Code	AC		Power consumption	Holding (Amps)	Power consumption	Holding (Amps)	Code	
60Hz	50Hz				60Hz	50Hz						
42	24	22	1.6VA	.065	42	24	22	3.9VA	.136	7.3VA	.309	
45		12	1.2W	.098	45		12	2.6W	.208	4.6W	.365	
47*		12	0.91W	.074	47*		12	—	—	4.9W	.298	
48*		24	0.91W	.033	48*		24	—	—	4.8W	.142	
49		24	1.2W	.049	49		24	2.7W	.112	4.8W	.200	
53	120	110	1.6W	.013	53	120	110	4.1VA	.033	6.3VA	.047	
57	240	230	1.6W	.007	57	240	230	3.7VA	.017	6.4VA	.026	

Note: For enclosure "5" with "02" Option, solenoid wattage is 1.8W (2.4VA). Response time is 10% faster. Voltage rated +10 / -15%.

* 47 and 48 code are mobile voltages. voltage +25 / -30%.

15mm 3-Pin DIN 43650C

Description	Cord length	Connector	
		Connector only	Connector with cord
Unlighted	18 Inches	PS2932BP	PS2932HBP
Unlighted	6 Feet	PS2932BP	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
- 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.

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

Description	Connector with 6' (2m) cord	Connector
Unlighted	PS2028JCP	PS2028BP
Light – 6-48V, 50/60Hz, 6-48VDC	PS2032J79CP*	PS203279BP
Light – 120V/60Hz	PS2032J83CP*	PS203283BP
Light – 240V/60Hz	N/A	PS203283BP

* 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	PS2429JBP	PS2429BP
Light – 24V60Hz, 24VDC	PS2430J79BP*	PS243079BP
Light – 120V/60Hz	PS2430J83BP*	PS243083BP
Light – 240V/60Hz	N/A	PS243087BP

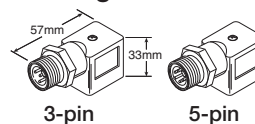
* LED with surge suppression.

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)



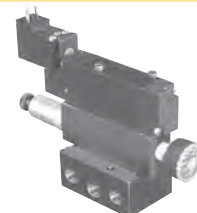
Description	3-pin	5-pin
Unlighted	PS2893CP	PS2893DP
Lighted - Voltage	PS2893C##P	PS2893D##P

– 79 = 6 to 48VAC/VDC

83 = 100 to 240VAC/48 to 120 VDC

Sandwich Regulators

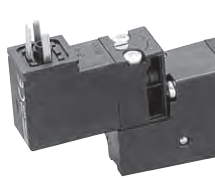
- Use with B3 subbase valves on 5-ported subbase bar manifolds.
- Common port or dual port regulation control.
- Unregulated pressure supplied to valve pilot - use pilot source - 'X'.
- Easy adjust knob control.



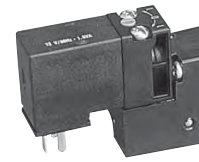
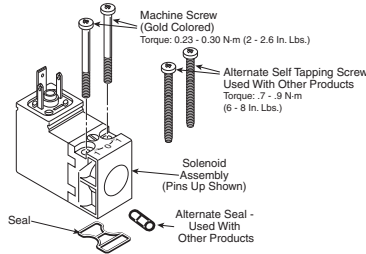
Pressure range	Cv	Common port with gauge *	Dual port without gauge
5-125 PSI	.33	PS2930166P	PS2930233P

* Gauge is 160 PSI. Gauge shipped unassembled. For different gauge mounting configuration, use brass adapters listed at bottom of page.

Solenoid Kits – B3 ‘C’, B5 ‘C’, B6 ‘A’, B7 ‘A’, B8 ‘A’ 3-Pin, EN175301-803 (Former DIN 43650C), 15mm



Standard



“02” Option

PS2982*##P – Enclosure ‘5’

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

PS3541*##P – Enclosure ‘5 with “02” Option

	## Voltage				
Override	42	45	49	53	57
B	O	O	S	S	O
C	O	O	S	S	O
D	-	-	O	O	-
E	-	-	O	O	-

Solenoid Kits Alternate Enclosures

P2FC A 4 49

Enclosures / lead length	
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 72" leads	Q
1/2" Conduit 72" leads	R

Voltage / frequency	
42	24VAC
45	12VDC
47*	12 VDC mobile
48*	24 VDC mobile
49	24VDC
53	120VAC
57	240VAC

* Only available with enclosures "A", "B" & "G".

* 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



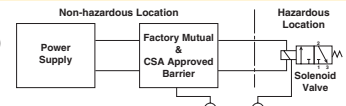
Option G & Q
 Grommet, 18" or 72" Leads



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

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.

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	P2FS13N1AE49

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

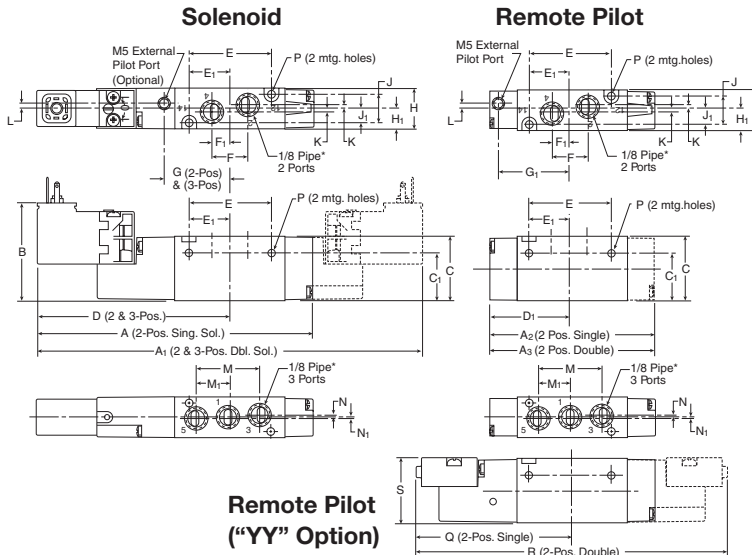


Comes standard with 1/2" conduit connection.
 Voltage range = ± 10%
 Ambient temperature range = -20°C (-4°F) to 60°C (140°F)
 Duty factor = 100%
 IP65 rated (with connected conduit connector)

Notes:

1. Maximum non-hazardous location voltage not to exceed 250V RMS.
2. Connect per Barrier Manufacturers instructions.
3. Factory Mutual requires connections per ISA RP 12.6 instructions.
4. CSA requires "Installation to be in accordance with the Canadian Electrical Code. Part I."
5. 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.

B3 Single & Double Operators – 4-way Inline

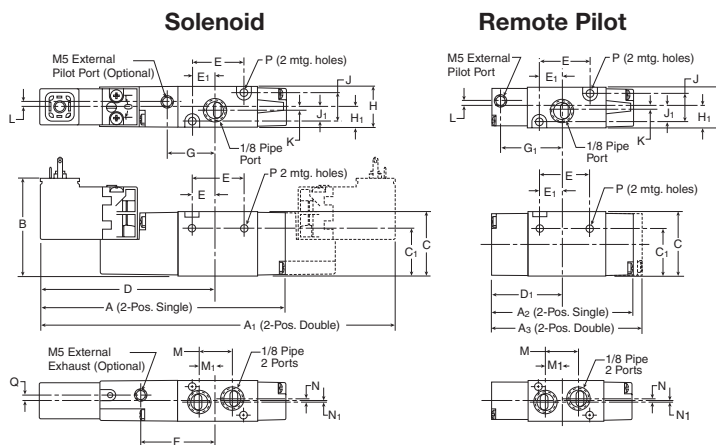


B3 4-way Inline

A	A1	A2	A3	B
4.67 (119)	6.44 (164)	3.12 (79)	3.33 (85)	1.66 (42)
C	C1	D	D1	E
1.13 (39)	.84 (21)	3.22 (82)	1.66 (42)	1.47 (37)
E1	F	F1	G	G1
.74 (19)	.63 (16)	.32 (8)	1.13 (29)	1.50 (38)
H	H1	J	J1	K
.71 (18)	.36 (9)	.51 (13)	.26 (7)	.06 (2)
L	M	M1	N	N1
.11 (3)	1.12 (28)	.56 (14)	.05 (1)	.05 (1)
P	Q	R	S	
∅ .13 (3.3)	2.69 (68)	5.37 (136)	1.16 (29)	

Inches (mm)

B3 Single & Double Operators – 3-way Inline

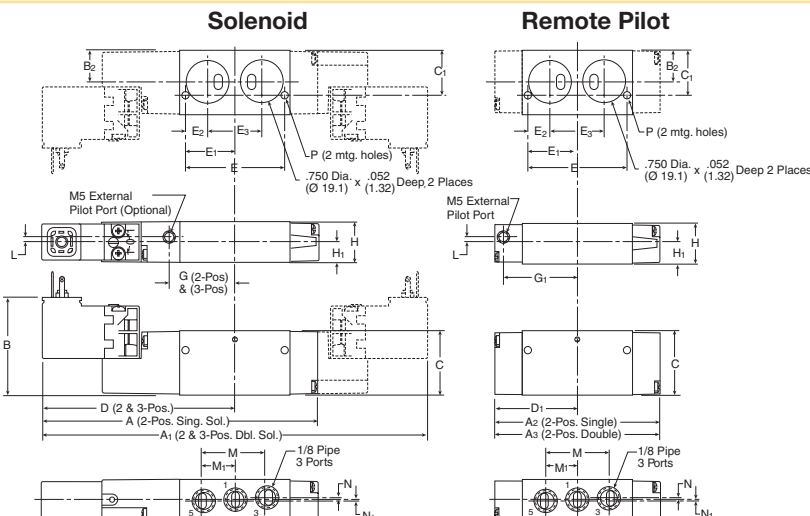


B3 3-way Inline

A	A1	A2	A3	B
4.20 (107)	5.96 (151)	2.65 (67)	2.86 (73)	1.66 (42)
C	C1	D	D1	E
1.13 (39)	.84 (21)	2.93 (74)	1.38 (35)	.98 (25)
E1	F	G	G1	H
.44 (11)	1.32 (34)	.85 (22)	1.22 (31)	.71 (18)
H1	J	J1	K	L
.36 (9)	.51 (13)	.26 (7)	.06 (2)	.11 (3)
M	M1	N	N1	P
.63 (16)	.27 (7)	.12 (3)	.06 (2)	∅ .13 (3.3)
Q				
.08 (2)				

Inches (mm)

B3 Single & Double Operators – 4-way Face Mount



B3 4-way Face Mount

A	A1	A2	A3	B
4.67 (119)	6.44 (164)	3.12 (79)	3.33 (85)	1.66 (42)
B2	C	C1	D	D1
.58 (15)	1.13 (29)	.81 (21)	3.22 (82)	1.66 (42)
E	E1	E2	E3	G
1.74 (44)	.87 (22)	.39 (10)	.95 (24)	1.13 (29)
G1	H	H1	L	M
1.50 (38)	.71 (18)	.36 (9)	.11 (3)	1.12 (28)
M1	N	N1	P	
.56 (14)	.05 (1)	.05 (1)	∅ .13 (3.3)	

Inches (mm)



Viking Lite Series
 Viking Xtreme Series

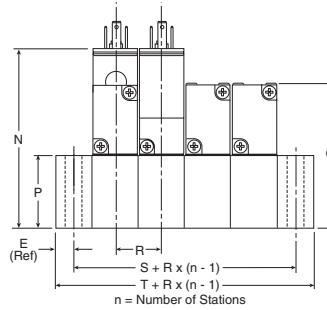
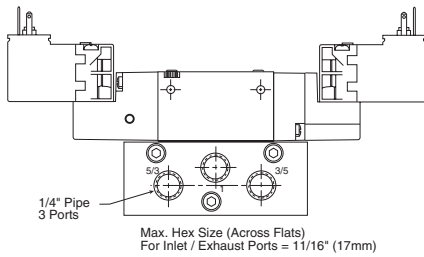
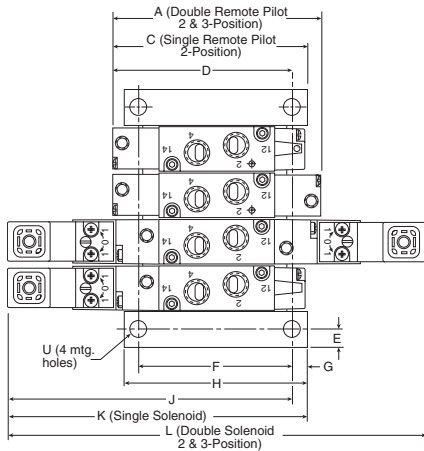
B Series

ADEX Series

N Series

D
 Inline Valve Products

B3 Single & Double Operators – 4-way IEM Stackable



B3 4-way IEM Stackable

A	C	D	E	F
3.33 (84.6)	3.12 (79.2)	2.91 (73.9)	.30 (7.6)	2.49 (63.3)
G	H	J	K	L
.25 (6.4)	3.00 (76.2)	4.46 (113.3)	4.67 (118.6)	6.43 (163.3)
N	P	Q	R	
2.91 (73.9)	1.25 (31.8)	2.38 (60.5)	.74 ±.01 (18.8) ± .3	
S	T	U		
1.34 (34.0)	1.94 (49.3)	Ø .28 (7.1)		

Inches (mm)

Viking Lite Series

Viking Xtreme Series

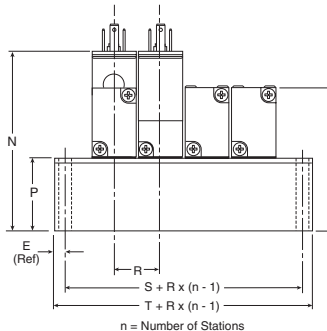
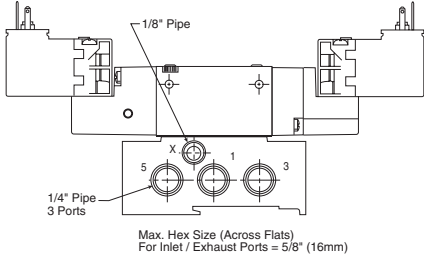
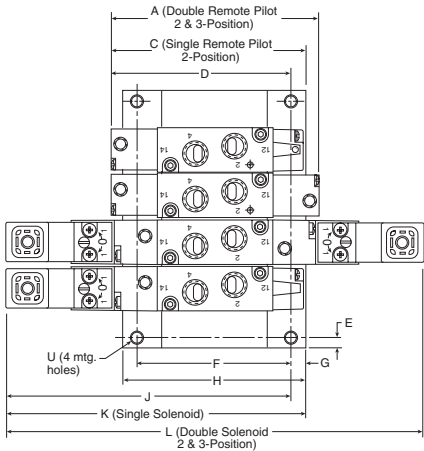
B Series

ADEX Series

N Series

D Inline Valve Products

B3 Single & Double Operators – 4-way IEM Aluminum Bar

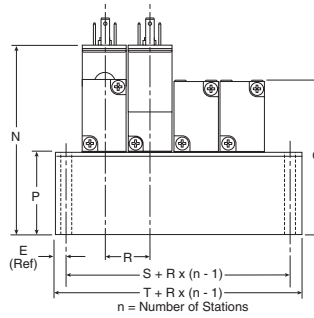
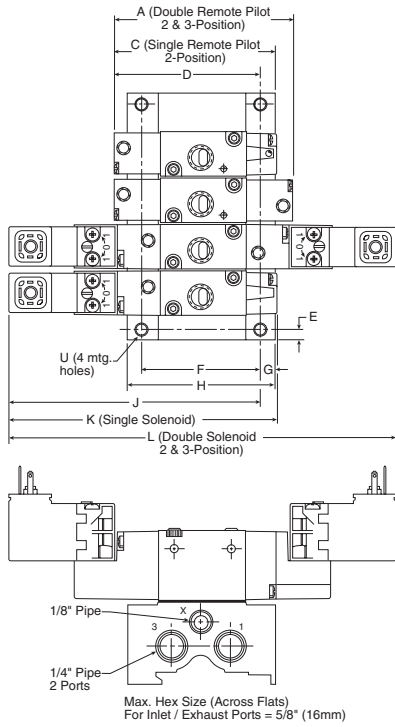


B3 4-way IEM Aluminum Bar Manifold

A	C	D	E	F
3.33 (84.6)	3.17 (80.5)	2.94 (74.7)	.25 (6.4)	2.54 (64.5)
G	H	J	K	L
.23 (5.9)	3.00 (76.2)	4.50 (114.2)	4.73 (120.1)	6.43 (163.3)
N	P	Q	R	S
2.94 (74.7)	1.28 (32.5)	2.41 (61.2)	.81 (20.5)	1.13 (28.8)
T	U			
1.64 (41.6)	Ø .23 (5.8)			

Inches (mm)

B3 Single & Double Operators – 3-way IEM Aluminum Bar

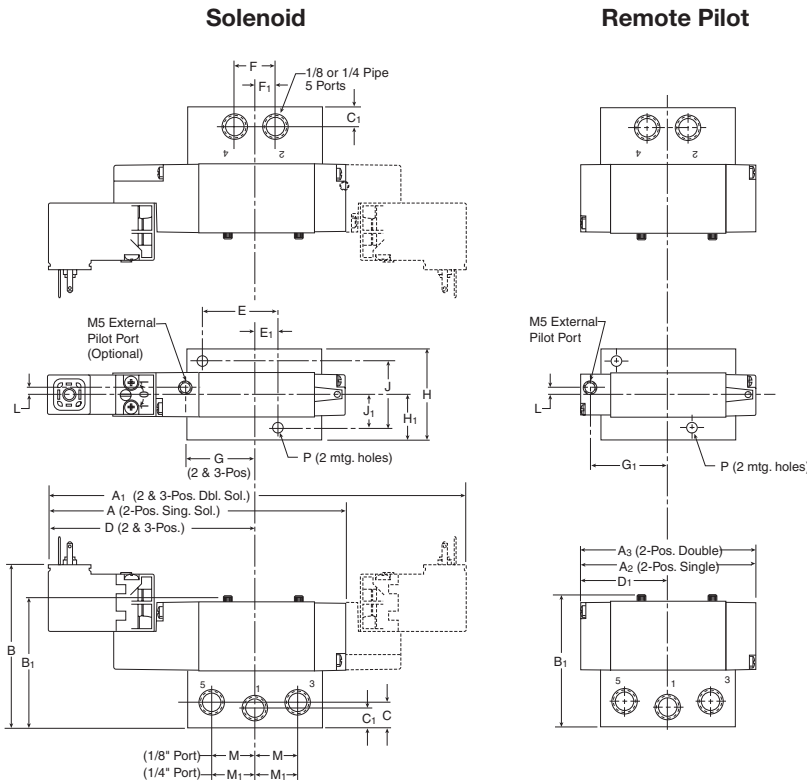


B3 4-way IEM Aluminum Bar Manifold

A	C	D	E	F
2.86 (72.6)	2.65 (67.3)	2.33 (59.2)	.25 (6.4)	1.80 (45.7)
G	H	J	K	L
.23 (5.9)	2.25 (57.2)	3.88 (98.6)	4.20 (106.7)	5.96 (151.4)
N	P	Q	R	S
2.93 (74.5)	1.27 (32.4)	2.40 (61.1)	.81 (20.5)	1.13 (28.8)
T	U			
1.64 (41.6)	Ø .23 (5.8)			

Inches (mm)

B3 Single & Double Operators – 4-way Single Subbase



B3 4-way Single Subbase

A	A₁	A₂	A₃	B
4.67 (119)	6.44 (164)	3.12 (79)	3.33 (85)	2.63 (67)
B₁	C	C₁	D	D₁
2.21 (56)	.47 (12)	.37 (9)	3.22 (82)	1.66 (42)
E	E₁	F	F₁	G
1.25 (32)	.38 (10)	.69 (18)	.34 (9)	1.13 (29)
G₁	H	H₁	J	J₁
1.50 (38)	1.50 (38)	.75 (19)	1.12 (28)	.56 (14)
L	M	M₁	P	
.11 (3)	.71 (18)	.76 (19)	Ø .18 (4)	

Inches (mm)

Viking Lite Series

Viking Xtreme Series

B Series

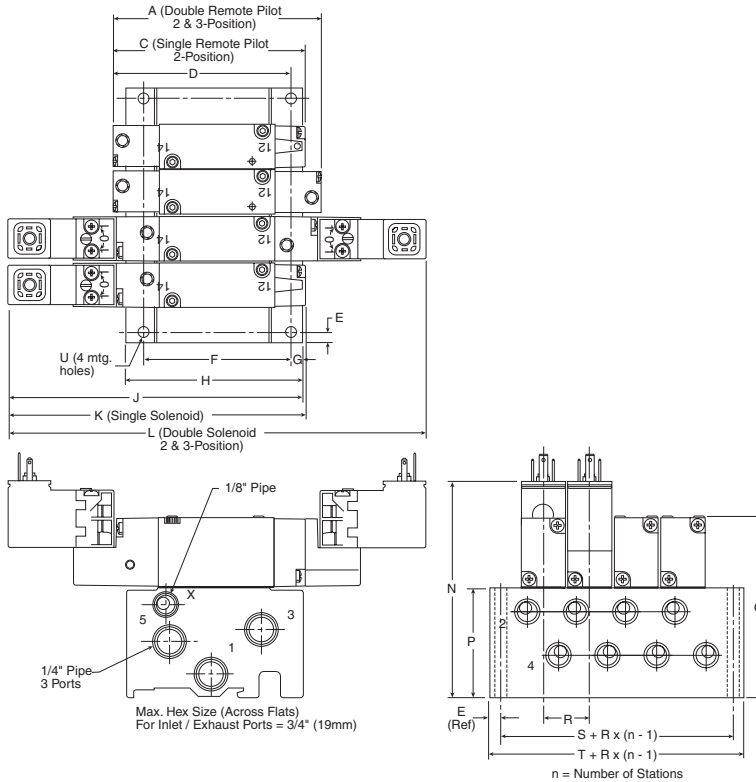
ADEX Series

N Series

D

Inline Valve Products

B3 Single & Double Operators – 5-port Subbase Bar Manifold



B3 5-port Subbase Bar Manifold

A	C	D	E	F
3.33 (84.6)	3.12 (79.2)	2.88 (73.2)	.25 (6.3)	2.43 (61.7)
G	H	J	K	L
.22 (5.5)	2.93 (74.5)	4.66 (118.3)	4.67 (118.6)	6.43 (166.3)
N	P	Q	R	S
3.47 (88.2)	1.81 (46.0)	2.94 (74.7)	.81 (20.5)	1.39 (35.4)
T	U			
1.89 (48.0)	Ø .22 Ø (5.6)			

Inches (mm)

Viking Lite
Series

Viking Xtreme
Series

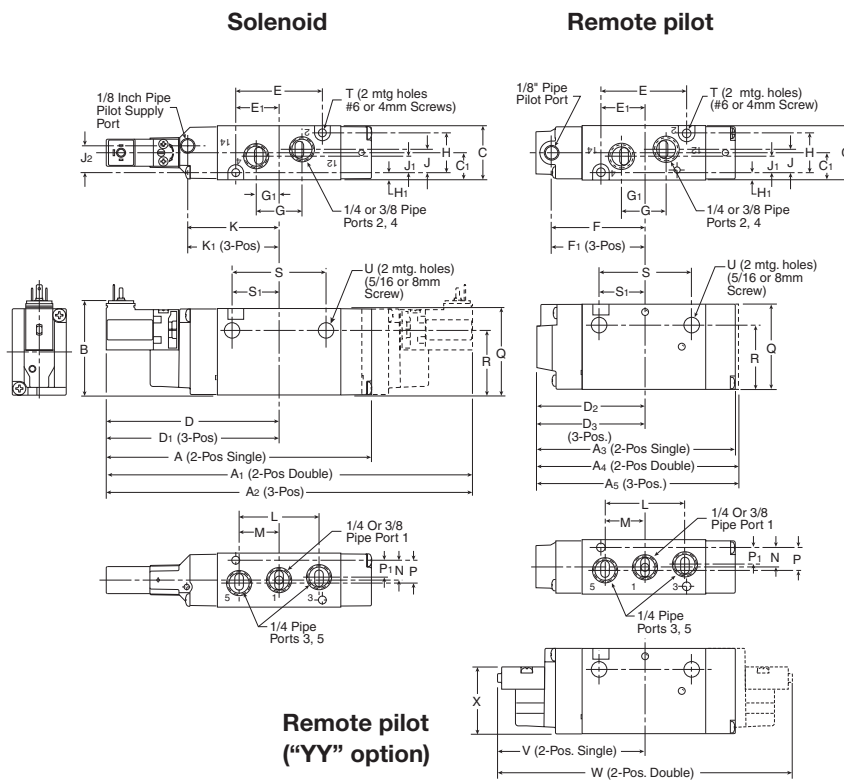
B
Series

ADEX
Series

N
Series

D
Inline
Valve Products

B5 Single & Double Operators – 4-way Inline



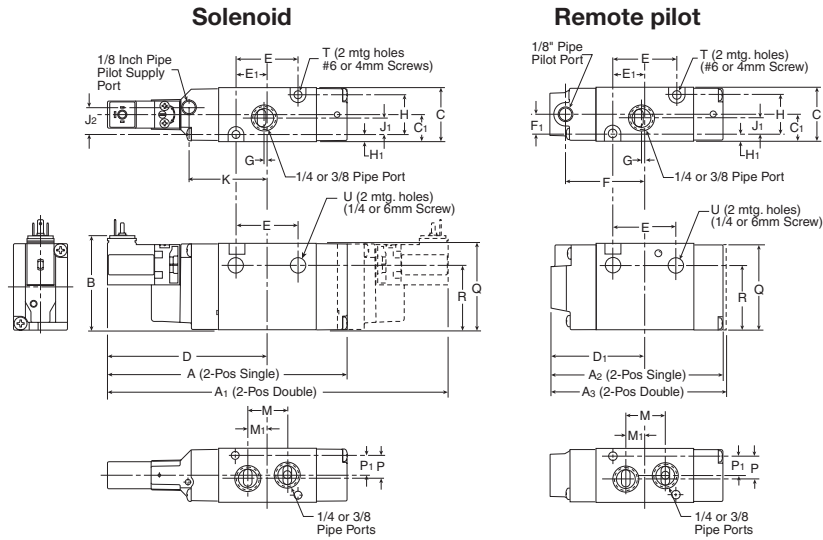
B5 4-way Inline

A	A1	A2	A3	A4
5.78 (147)	7.51 (191)	8.45 (215)	4.37 (110)	4.70 (119)
A5	B	C	C1	D
5.64 (143)	2.06 (52)	1.18 (30)	.59 (15)	3.76 (96)
D1	D2	D3	E	E1
4.23 (107)	2.35 (60)	2.82 (72)	1.89 (48)	.95 (24)
F	F1	G	G1	H
2.01 (51)	2.47 (63)	1.00 (25)	.50 (13)	.87 (22)
H1	J	J1	J	K
.16 (4)	.51 (13)	.36 (9)	.58 (15)	2.00 (51)
K1	L	M	N	P
2.47 (63)	1.75 (44)	.88 (22)	.43 (48)	.50 (13)
P1	Q	R	S	S1
.37 (92)	1.89 (48)	1.41 (36)	2.05 (52)	1.03 (26)
T	U	V	W	X
Ø .177 Ø (4.5)	Ø .34 Ø (9)	3.24 (82)	6.48 (165)	1.50 (383)

Inches (mm)



B5 Single & Double Operators – 3-way Inline

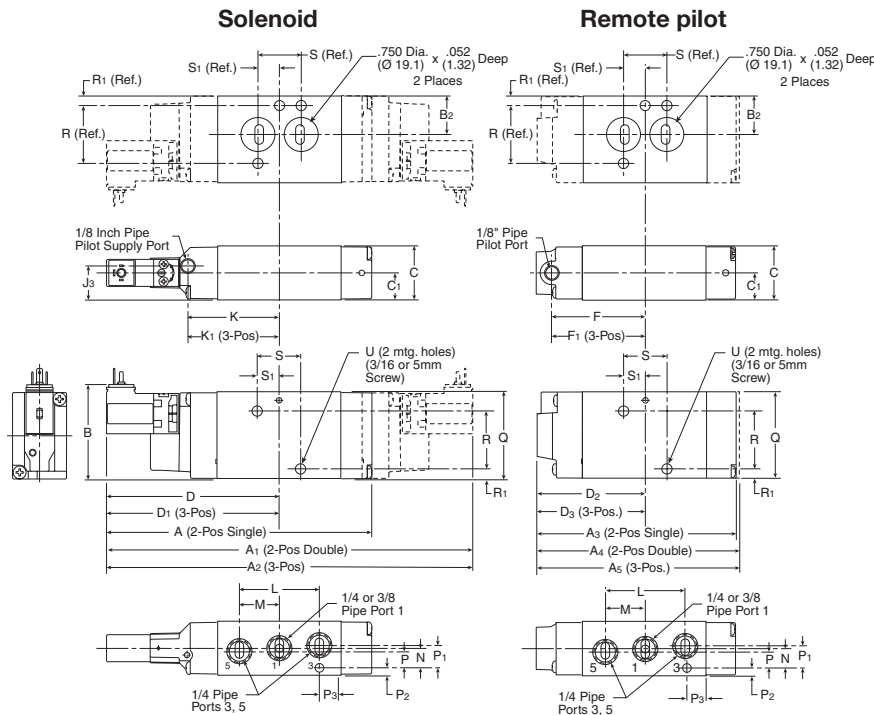


B5 3-way Inline

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

Inches (mm)

B5 Single & Double Operators – 4-way NAMUR Mount

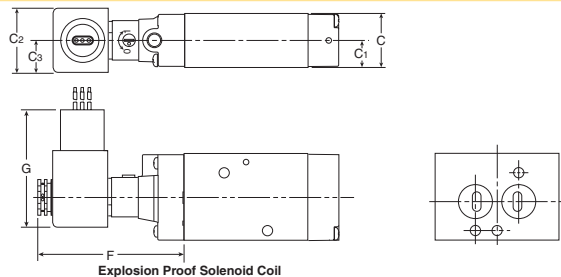


B5 4-way NAMUR Mount

A 5.78 (147)	A₁ 7.51 (191)	A₂ 8.45 (215)	A₃ 4.37 (110)	A₄ 4.70 (119)
A₅ 5.64 (143)	B 2.06 (52)	B₂ .84 (21)	C 1.18 (30)	C₁ .59 (15)
D 3.76 (96)	D₁ 4.23 (107)	D₂ 2.35 (60)	D₃ 2.82 (72)	F 2.01 (51)
F₁ 2.47 (63)	J₃ .74 (19)	K 2.00 (51)	K₁ 2.47 (63)	L 1.75 (44)
M .88 (22)	N .44 (11)	P .37 (9.4)	P₁ .50 (13)	P₂ .16 (4)
P₃ .40 (10)	Q 1.89 (48)	R 1.26 (32)	R₁ .21 (5)	S .94 (24)
S₁ .47 (12)		U Ø .224 Ø (5.7)		

Inches (mm)

B5 Alternative Electrical Enclosure Option F



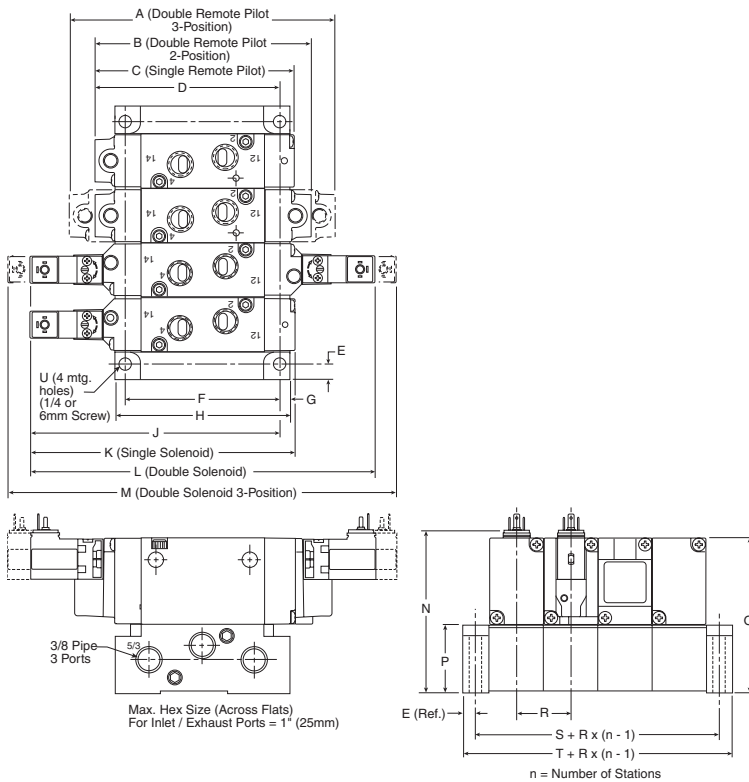
B5 4-way NAMUR Mount with Option F Enclosure

C 1.18 (30)	C₁ .59 (15)	C₂ 1.42 (36)	C₃ .71 (18)	F 3.15 (80)
G 2.60 (66)				

Inches (mm)



B5 Single & Double Operators – 4-way IEM Stackable

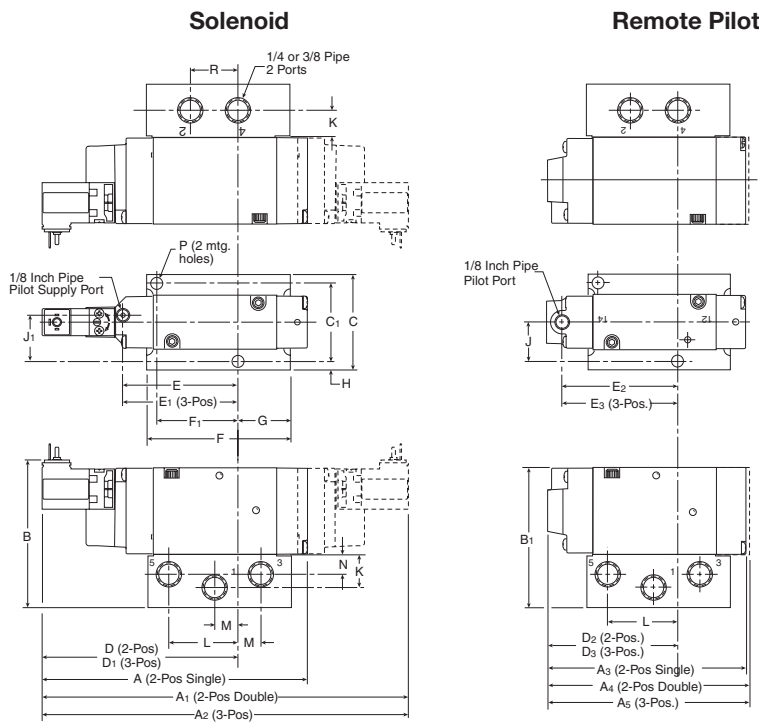


B5 4-way IEM Stackable

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 (7.1)	

Inches (mm)

B5 Single & Double Operators – 4-way Single Subbase

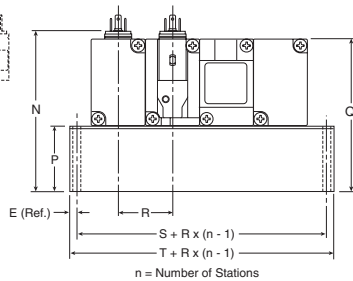
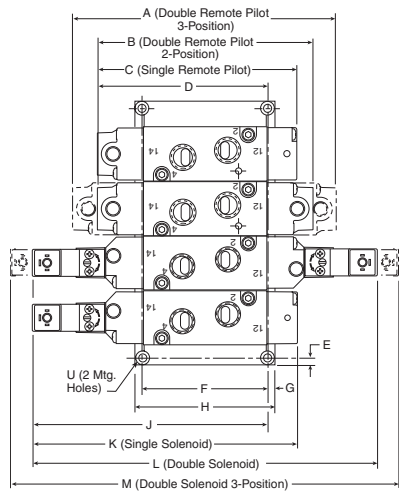


B5 4-way Subbase

A	A ₁	A ₂	A ₃	A ₄
5.78 (147)	7.52 (191)	8.46 (215)	4.37 (110)	4.70 (119)
A ₅	B	B ₁	C	C ₁
5.64 (143)	3.21 (82)	3.03 (77)	2.12 (54)	1.69 (43)
D	D ₁	D ₂	D ₃	E
4.26 (108)	4.73 (120)	2.85 (72)	3.32 (84)	2.51 (65)
E ₁	E ₂	E ₃	F	F ₁
2.98 (76)	2.60 (66)	3.07 (78)	2.90 (74)	1.69 (43)
G	H	J	J ₁	K
.95 (24)	.22 (5)	.84 (21)	.99 (25)	.71 (18)
L	M	N	P	R
1.50 (38)	.50 (13)	.46 (12)	Ø .27 (7)	1.00 (25)

Inches (mm)

B5 Single & Double Operators – 4-way IEM Aluminum Bar

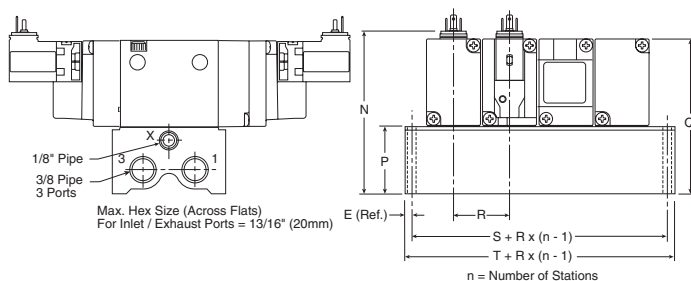
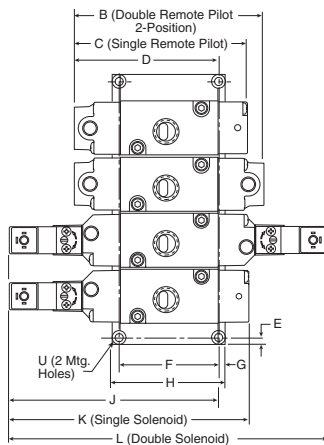


B5 4-way IEM Aluminum Bar Manifold

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)

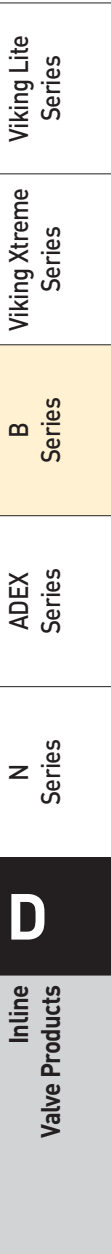
B5 Single & Double Operators – 3-way IEM Aluminum Bar



B5 3-way IEM Aluminum Bar Manifold

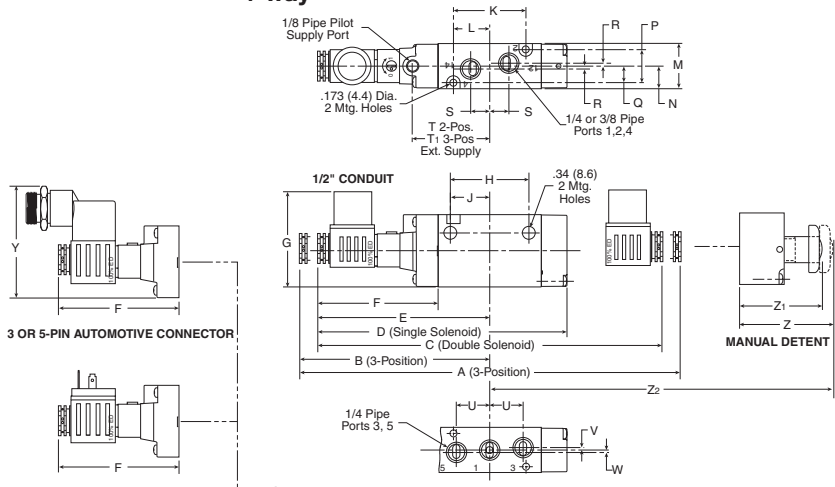
B	C	D	E	F
4.21 (106.9)	3.88 (98.6)	3.41 (86.6)	.18 (4.6)	2.12 (53.8)
G	H	J	K	L
.17 (4.3)	2.46 (62.5)	4.82 (122.4)	5.29 (134.4)	7.03 (178.6)
N	P	Q	R	S
3.50 (89.0)	1.44 (36.6)	3.36 (85.3)	1.26 (32.0)	1.76 (44.7)
T	U			
2.12 (53.8)	Ø .18 Ø (4.6)			

Inches (mm)

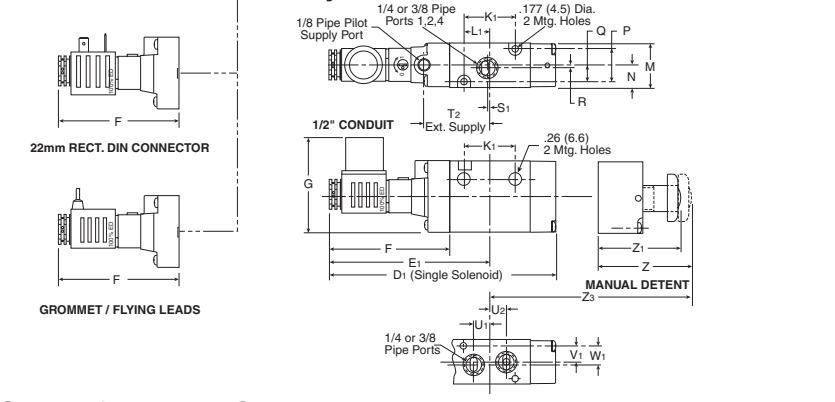


B5 3 & 4-way Alternative Electrical Enclosures

4-way



3-way



B5 Alternative – Electrical Enclosures

A	A1	B	C	D
9.94 (252.5)	.872 (221.4)	4.97 (126.2)	9.00 (228.6)	6.52 (165.6)
D1	E	E1	F	G
6.02 (152.9)	4.50 (114.3)	4.26 (108.1)	3.15 (80.0)	2.47 (62.8)
H	J	K	K1	L
2.05 (52.1)	1.03 (26.2)	1.89 (48.0)	1.40 (35.5)	.95 (24.1)
L1	M	N	P	Q
.70 (17.8)	1.18 (30.0)	.59 (15.0)	.87 (22.1)	.43 (10.9)
R	S	S1	T	T1
.08 (2.0)	.50 (12.7)	.06 (1.5)	2.01 (51.1)	2.47 (62.7)
T2	U	U1	U2	V
1.76 (44.8)	.87 (22.1)	.43 (10.9)	.45 (11.3)	.06 (1.5)
V1	W	W1	Y	Z
.37 (9.3)	.07 (1.8)	.50 (13)	2.90 (73.6)	2.40 (60.9)
Z1	Z2	Z3		
2.12 (53.8)	3.75 (95.2)	4.17 (105.8)		

Inches (mm)

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

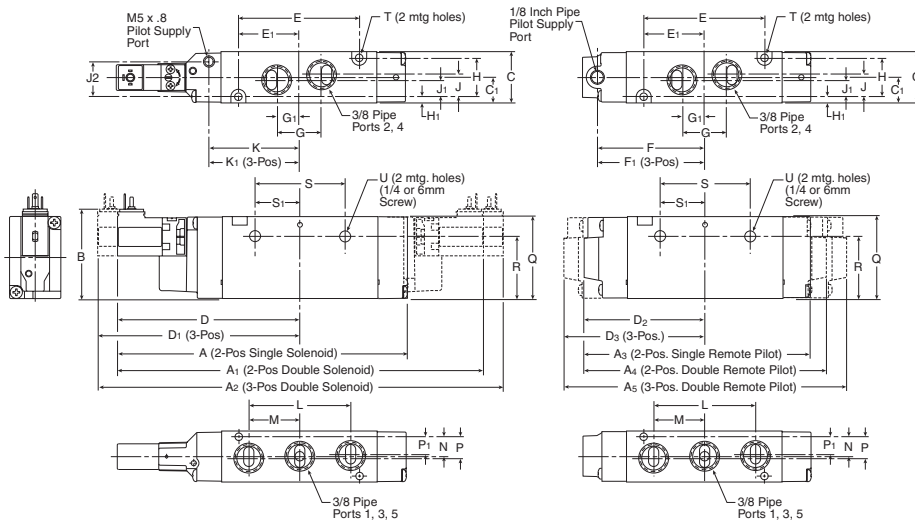
D

Inline Valve Products

B6 Single & Double Operators – 4-way Inline

Solenoid

Remote pilot



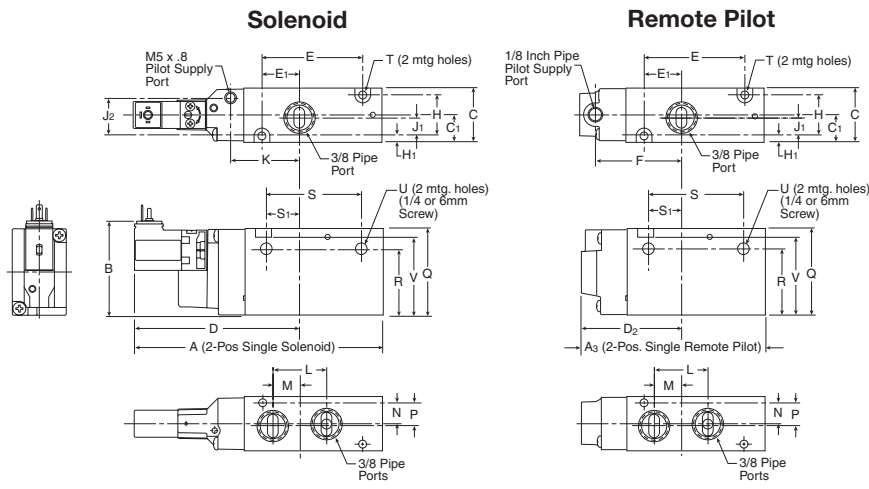
B6 4-way Inline

A	A1	A2	A3	A4
6.67 (169.5)	8.41 (213.7)	9.35 (237.6)	5.26 (133.7)	5.59 (142.1)
A5	B	C	C1	D
6.54 (166)	2.06 (52)	1.18 (30.0)	.59 (15)	4.21 (106.8)
D1	D2	D3	E	E1
4.68 (118.8)	2.80 (71)	3.27 (83.0)	2.79 (70.8)	1.39 (35.4)
F	F1	G	G1	H
2.45 (62.3)	2.92 (74.3)	1.03 (26.1)	.51 (13.1)	.91 (23)
H1	J	J1	J2	K
.14 (3.5)	.51 (13.1)	.39 (10)	.81 (20.6)	2.09 (53)
K1	L	M	N	P
2.56 (64.9)	2.34 (59.4)	1.17 (29.7)	.45 (11.5)	.49 (12.5)
P1	Q	R	S	S1
.41 (10.5)	1.89 (48)	1.45 (36.8)	2.09 (53)	1.04 (26.5)
T	U			
Ø .17 Ø (4.4)	Ø .27 Ø (6.9)			

Inches (mm)



B6 Single Operators – 3-way Inline

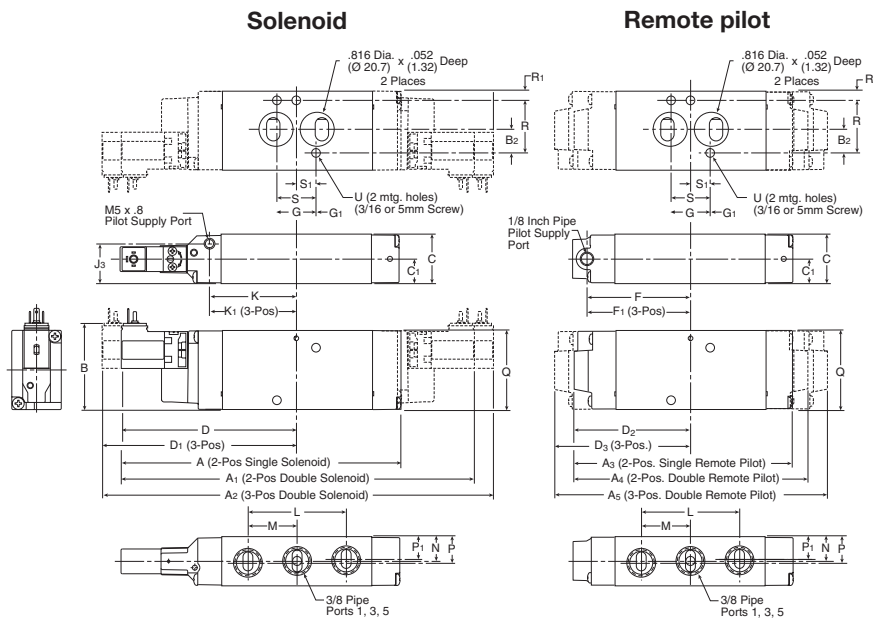


B6 3-way Inline

A 5.42 (137.7)	A3 4.01 (101.9)	B 2.06 (52)	C 1.18 (30.0)	C1 .59 (15.0)
D 3.63 (92.1)	D2 2.22 (56.3)	E 2.19 (55.6)	E1 0.82 (20.7)	F 1.87 (47.6)
H .91 (23.0)	H1 .14 (3.5)	J1 .39 (10.0)	J2 .81 (20.6)	K 1.51 (38.3)
L 1.17 (29.7)	M .59 (15.0)	N .45 (11.5)	P .49 (12.5)	Q 1.89 (48.0)
R 1.45 (36.8)	S 2.09 (53.0)	S1 0.76 (19.4)	T Ø .17 Ø (4.4)	U Ø .27 Ø (6.9)
V 1.69 (43.0)				

Inches (mm)

B6 Single & Double Operators – 4-way NAMUR Mount

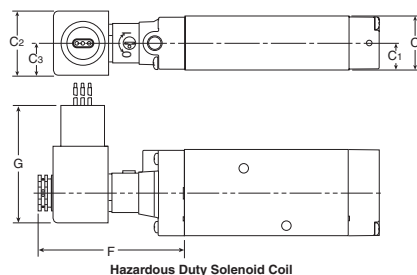


B6 4-way NAMUR Mount

A 6.67 (169.5)	A1 8.41 (213.7)	A2 9.35 (237.6)	A3 5.26 (133.7)	A4 5.59 (142.1)
A5 6.54 (166.0)	B 2.06 (52)	B2 .57 (14.4)	C 1.18 (30.0)	C1 .59 (15)
D 4.21 (106.8)	D1 4.68 (118.8)	D2 2.80 (71.0)	D3 3.27 (83.0)	F 2.45 (62.3)
F1 2.92 (74.3)	G .95 (24.2)	G1 .02 (0.53)	J3 .95 (24.1)	K 2.09 (53.0)
K1 2.56 (64.9)	L 2.34 (59.4)	M 1.17 (29.7)	N .59 (15)	P .63 (16)
P1 .55 (14)	Q 1.89 (48.0)	R 1.26 (32)	R1 .22 (5.5)	S .94 (24)
S1 .47 (12)	T Ø .17 Ø (4.4)	U Ø .27 Ø (6.9)		

Inches (mm)

B6 Alternative Electrical Enclosure Option F



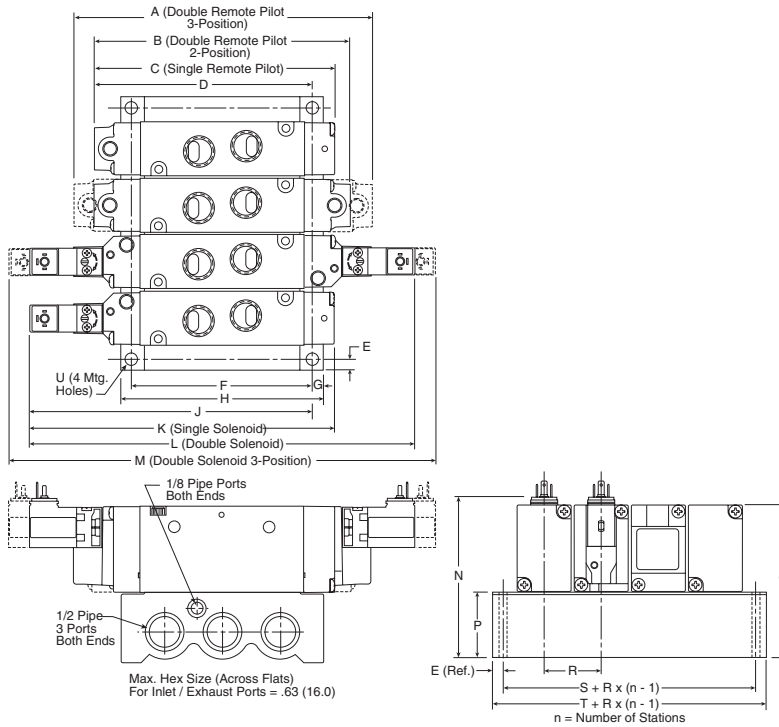
Hazardous Duty Solenoid Coil

B6 4-way NAMUR Mount with Option F Enclosure

C 1.18 (30)	C1 .59 (15)	C2 1.42 (36)	C3 .71 (18)	F 3.15 (80)
G 2.60 (66)				

Inches (mm)

B6 Single & Double Operators – 4-way IEM Aluminum Bar

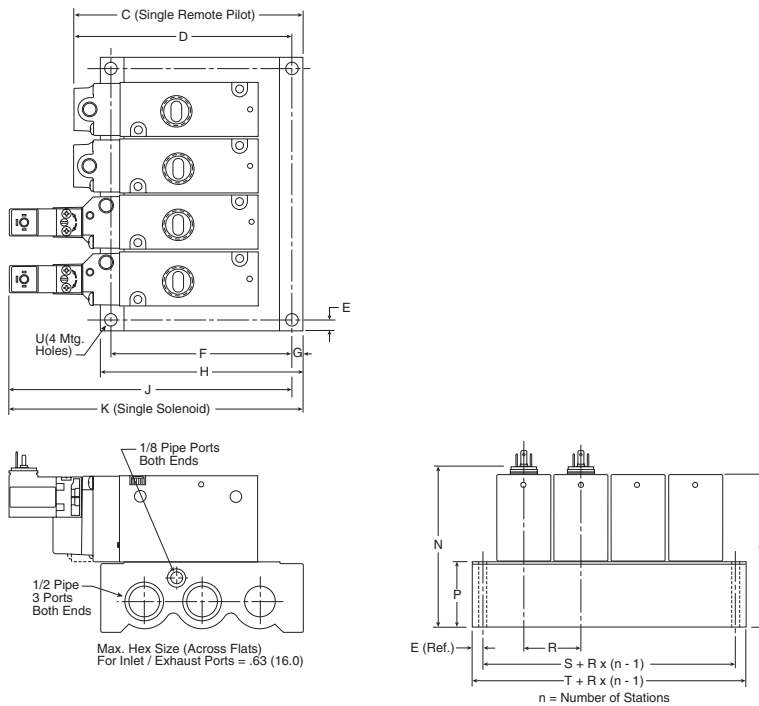


B6 4-way IEM Aluminum Bar Manifold

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)

B6 Single Operators – 3-way IEM Aluminum Bar

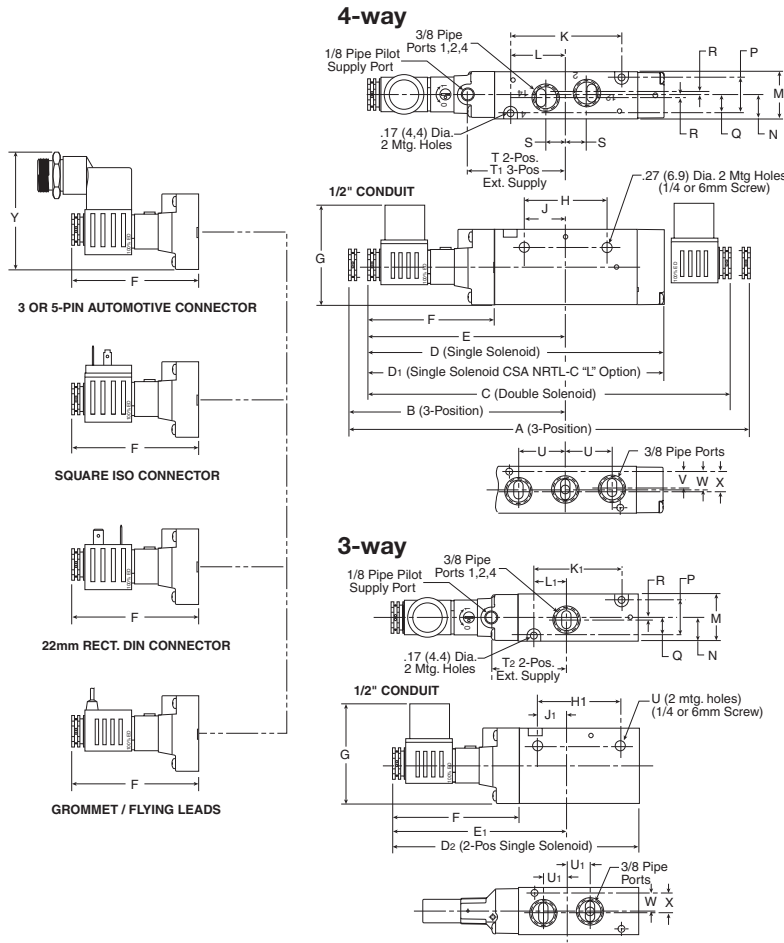


B6 3-way IEM Aluminum Bar Manifold

C	D	E	F	G
5.00 (127.0)	4.76 (121.0)	.24 (6.0)	3.94 (100.0)	.24 (6.0)
H	J	K	N	P
4.41 (112.0)	6.17 (156.8)	6.41 (162.8)	3.60 (91.3)	1.54 (39.0)
Q	R	S	T	U
3.43 (87.0)	1.24 (31.5)	1.77 (45.0)	2.24 (57.0)	Ø .26 Ø (6.5)

Inches (mm)

B6 3 & 4-way Alternative Electrical Enclosures

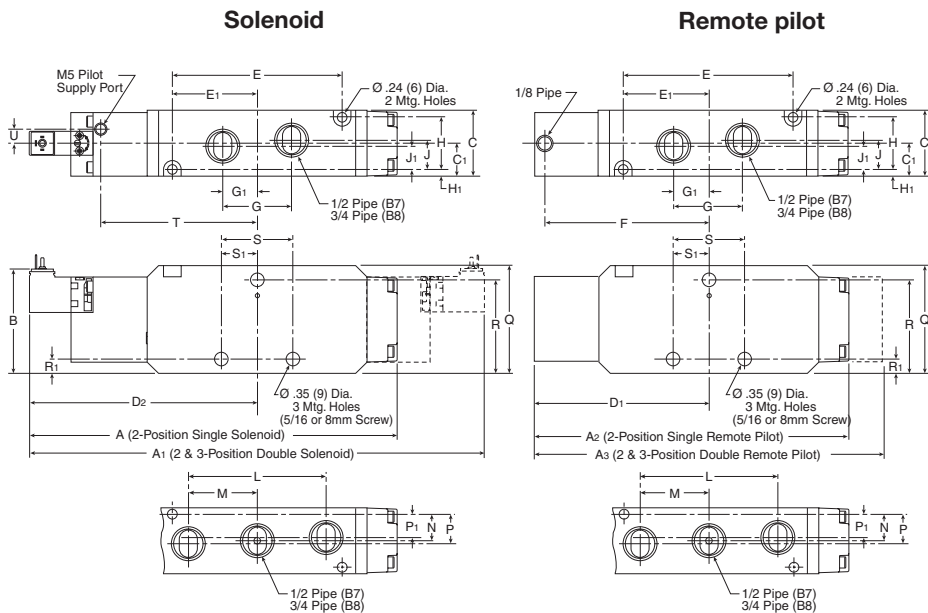


B6 Alternative – Electrical Enclosures

A	B	C	D	D1
10.84 (275.3)	5.41 (137.5)	9.89 (251.3)	7.41 (188.2)	7.74 (196.6)
D2	E	E2	F	G
6.17 (156.6)	4.94 (125.6)	4.37 (111.0)	3.15 (80.0)	2.47 (62.8)
H	H1	J	J1	K
2.09 (53.0)	2.09 (53.0)	1.04 (26.5)	0.76 (19.4)	2.79 (70.8)
K1	L	L1	M	N
2.19 (55.6)	1.39 (35.4)	.82 (20.7)	1.18 (30.0)	.59 (15.0)
P	Q	R	S	T
.91 (23.0)	.45 (11.5)	.06 (1.6)	.51 (13.1)	2.45 (62.3)
T1	T2	U	U1	V
2.93 (29.7)	1.89 (48.0)	.59 (15.0)	.59 (15.0)	.41 (10.5)
W	X	Y		
.45 (11.5)	.49 (12.5)	2.90 (73.6)		

Inches (mm)

B7& B8 Single & Double Operators – 4-way Inline



B7 & B8 4-way Inline

A	A1	A2	A3	B
9.13 (232)	11.29 (287)	7.79 (198)	8.62 (219)	2.59 (66)
C	C1	D1	D2	E
1.65 (42)	.83 (21)	4.29 (109)	5.63 (143)	4.21 (107)
E1	F	G	G1	H
2.13 (54)	4.06 (103)	1.73 (44)	.87 (22)	1.29 (33)
H1	J	J1	L	M
.16 (4)	.75 (19)	.59 (15)	3.39 (86)	1.69 (43)
N	P	P1	Q	R
.67 (17)	.75 (19)	.59 (15)	2.68 (68)	2.32 (59)
R1	S	S1	T	U
.35 (9)	1.81 (46)	.90 (23)	3.94 (100)	.35 (9)

Inches (mm)



Viking Lite Series

Viking Xtreme Series

B Series

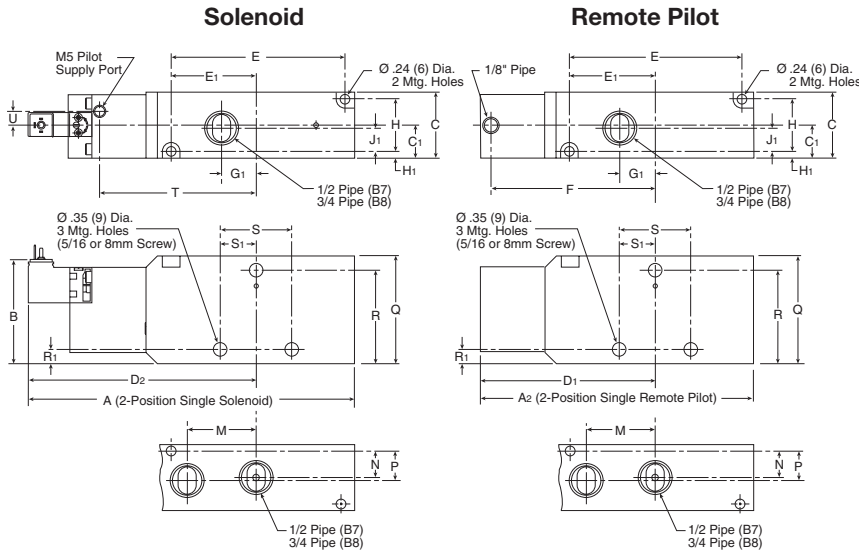
ADEX Series

N Series

D

Inline Valve Products

B7 & B8 Single Operators – 3-way Inline

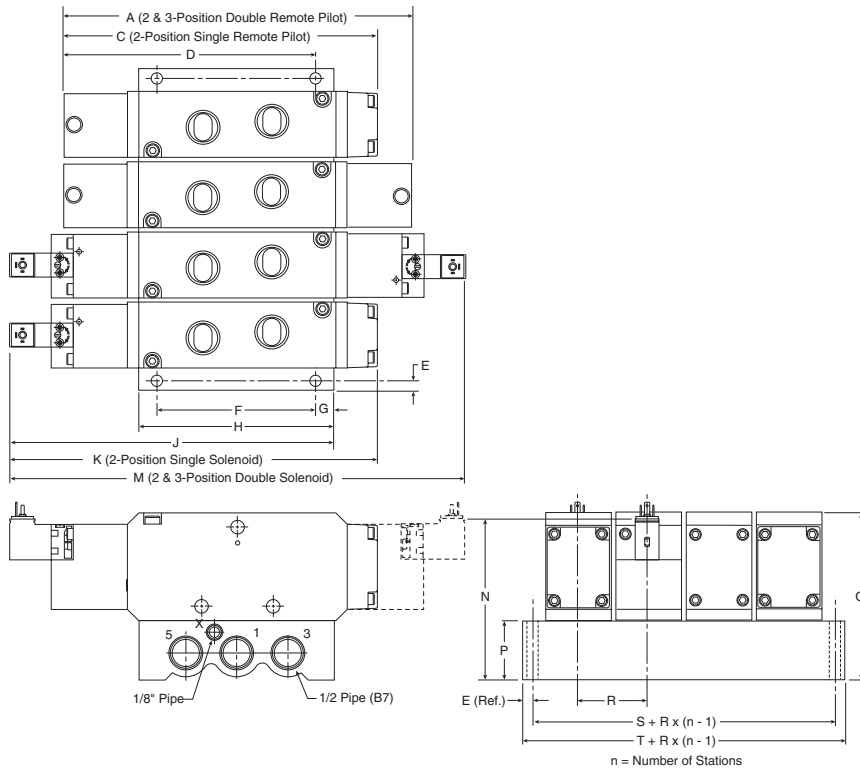


B7 & B8 3-way Inline

A	A₂	B	C	C₁
7.99 (203)	6.65 (169)	2.59 (66)	1.65 (42)	.83 (21)
D₁	D₂	E	E₁	F
4.29 (109)	5.63 (143)	4.21 (107)	2.13 (54)	4.06 (103)
G₁	H	H₁	J₁	M
.86 (22)	1.29 (33)	.16 (4)	.59 (15)	1.69 (43)
N	P	Q	R	R₁
.67 (17)	.75 (19)	2.68 (68)	2.32 (59)	.35 (9)
S	S₁	T	U	
1.81 (46)	.90 (23)	3.94 (100)	.35 (9)	

Inches (mm)

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

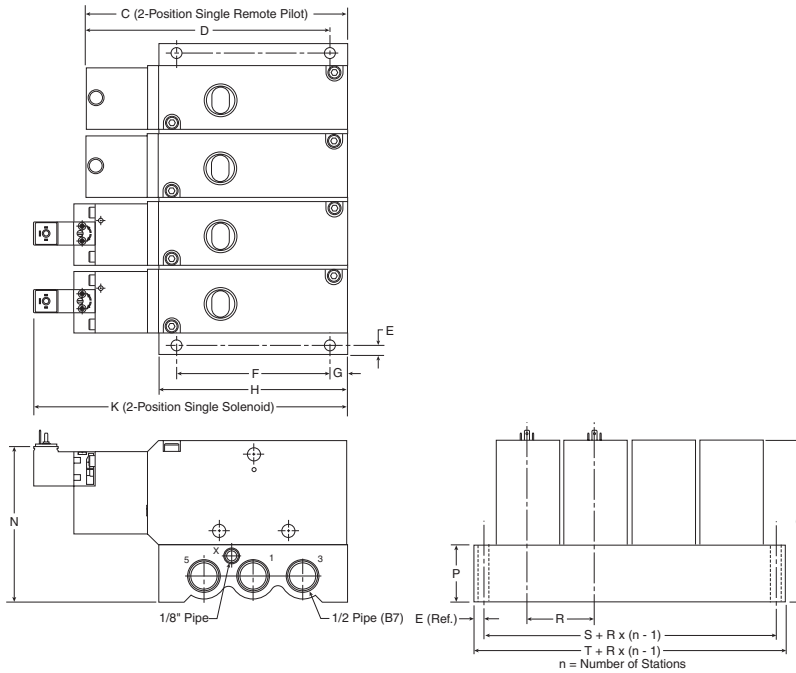


**B7 & B8 4-way IEM
 Aluminum Bar Manifold**

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

Inches (mm)

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

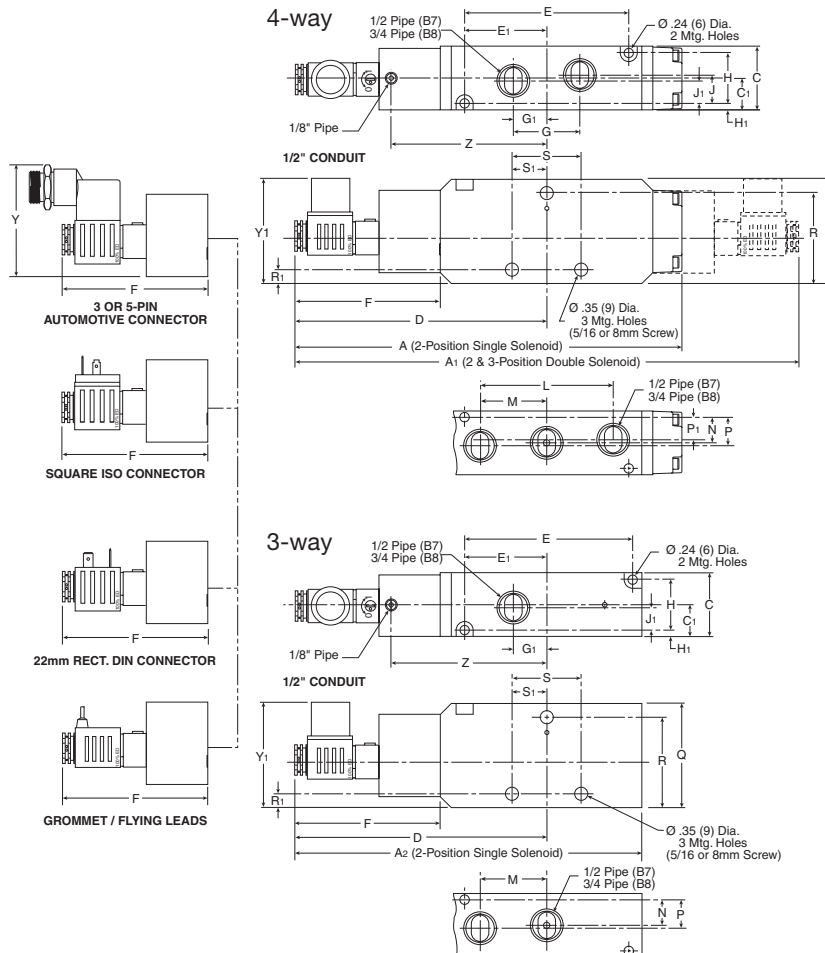


**B7 & B8 3-way IEM
 Aluminum Bar Manifold**

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	A ₁	A ₂	C	C ₁
9.92 (252)	12.91 (328)	8.78 (223)	1.65 (42)	.83 (21)
D	E	E ₁	F	G
6.46 (164)	4.21 (107)	2.13 (54)	3.74 (95)	1.73 (44)
G ₁	H	H ₁	J	J ₁
.86 (22)	1.29 (33)	.16 (4)	.75 (19)	.59 (15)
L	M	N	P	P ₁
3.39 (86)	1.69 (43)	.67 (17)	.75 (19)	.59 (15)
Q	R	R ₁	S	S ₁
2.68 (68)	2.32 (59)	.35 (9)	1.81 (46)	.90 (23)
Y	Y ₁	Z		
2.87 (73)	2.71 (69)	3.98 (101)		

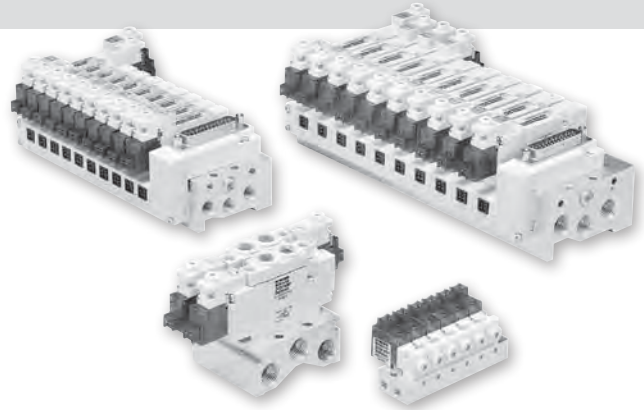
Inches (mm)



Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
D
 Inline Valve Products

ADEX Series

ADEX Series are miniature low power consumption solenoid valves, ideal for powering small to mid-sized pneumatic actuators used in automation and process applications. ADEX's versatility is further enhanced through its three mounting styles and electronic connectivity options.



Features

- Compact body size
- Fast response < 10ms

Ports

- A00S: M3 – .02 Cv
- A05: M5 – .18 Cv
- A12: 1/8 inch – .47 Cv

Mounting

- Inline
- Subbase mount

Solenoids

- 0.6 W
- 5VDC, 12VDC, 24VDC and 110/220VAC
- LED and surge suppression

Operating information

Maximum operating pressure*:

A05 & A12	Vacuum to 100 PSIG (Vacuum to 6.8 bar)
A00S (NC)	Vacuum to 100 PSIG (Vacuum to 6.8 bar)
A00S (NO)	Vacuum to 70 PSIG (Vacuum to 4.8 bar)

Minimum operating pressure: See chart below

Operating temperature:

Intermittent Duty (AC & DC Voltage):	32°F to 122°F (0°C to 50°C)
	Voltage Rated +10 / -10%
Continuous Duty (DC Voltage Only):	32°F to 104°F (0°C to 40°C)
	Voltage Rated +0 / -10%

* When using vacuum and pressure simultaneously on ports 1 & 3, normally closed valve, the maximum pressure is 85 PSIG (586 kPa).

When using vacuum and pressure simultaneously on ports 1 & 3, normally open valve, the maximum pressure is 58 PSIG (400 kPa).

Material specifications

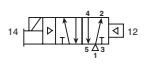
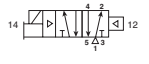
Body	Anodized aluminum
End caps	Anodized aluminum
Coils	Thermoplastic
Fasteners	Stainless steel
Spool	Aluminum and nitrile rubber

Minimum operating pressure

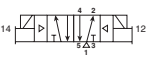

Description	Internal pilot		External pilot	
	PSIG	kPa	PSIG	kPa
4-way	Single Solenoid	22	152	Vacuum
				36
	Double Solenoid – 2-position	15	104	Vacuum
36				248
Double Solenoid – 3-position	30	207	Vacuum	
			36	248
3-way	A00 Series	Vacuum		

Most popular.

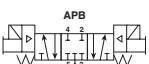
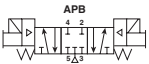
Single Solenoid, 4-way, 2-position

Symbol	Port size	Cv	Voltage	Valve type	Part number
	M5	.17 Cv	24VDC	A05 inline	A05RS251PM5MF
	M5	.17 Cv	12VDC	A05 inline	A05RS252PM5MF
	1/8"	.47 Cv	24VDC	A12 inline	A12RS251PN1MF
	1/8"	.47 Cv	12VDC	A12 inline	A12RS252PN1MF
	Less base	.18 Cv	24VDC	A06 subbase	A05PS251P
	Less base	.18 Cv	12VDC	A06 subbase	A05PS252P
	Less base	.44 Cv	24VDC	A12 subbase	A12PS251P
	Less base	.44 Cv	12VDC	A12 subbase	A12PS252P

Double Solenoid, 4-way, 2-position

Symbol	Port size	Cv	Voltage	Valve type	Part number
	M5	.17 Cv	24VDC	A05 inline	A05RD251PM5MF
	M5	.17 Cv	12VDC	A05 inline	A05RD252PM5MF
	1/8"	.47 Cv	24VDC	A12 inline	A12RD251PN1MF
	1/8"	.47 Cv	12VDC	A12 inline	A12RD252PN1MF
	Less base	.18 Cv	24VDC	A06 subbase	A05PD251P
	Less base	.18 Cv	12VDC	A06 subbase	A05PD252P
	Less base	.44 Cv	24VDC	A12 subbase	A12PD251P
	Less base	.44 Cv	12VDC	A12 subbase	A12PD252P

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

Symbol	Port size	Cv	Voltage	Valve type	Part number
	M5	.16 Cv	24VDC	A05 inline	A05RD351PM5MF
	M5	.16 Cv	12VDC	A05 inline	A05RD352PM5MF
	1/8"	.43 Cv	24VDC	A12 inline	A12RD351PN1MF
	1/8"	.43 Cv	12VDC	A12 inline	A12RD352PN1MF
	Less base	.16 Cv	24VDC	A06 subbase	A05PD351P
	Less base	.16 Cv	12VDC	A06 subbase	A05PD352P
	Less base	.40 Cv	24VDC	A12 subbase	A12PD351P
	Less base	.40 Cv	12VDC	A12 subbase	A12PD352P

Locking flush override. Mounting screws and gaskets included with valve.

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



A00SC231P Shown

* Screwdriver-Operated, Locking Manual Override (LMOR).

A00S	C23	—	1	P
Function Single solenoid normally open 023 Single solenoid normally closed C23				Connector Position P With indicator light & surge suppression
Flow Standard type Blank Large flow type J			Voltage 1 24VDC 2 12VDC 4* 5VDC 8* 110/50 VAC 9 120/60 VAC	

* Special Order

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

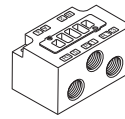
A00 Valve Subbase



Valve type	All Ports	Part number
A00	M3	A00SBM3

Mounting screws and gaskets included with valve.

A05 & A12 Subbases



A05PB

Valve type	Port size	Part number
A05	1/8" NPT	A05PBN1
	1/8" BSPP "G"	A05PBG1
A12	1/4" NPT	A12PBN2
	1/4" BSPP "G"	A12PBG2

Kit Includes: (1) Subbase (Holddown bolts and gasket are included with valve)

A00 Valve Manifold*



MMFS6A00M3 Shown

* Normally closed valves (A00SC23•P) and Normally open valves (A00S023•P) cannot be mounted on the same manifold simultaneously.

MMFS	2	A00	M5
Number of stations		Port size	
2 Stations	2	M3	
3 Stations	3	M5	
4 Stations	4		
•	•		
•	•		
20 Stations	20		

A05 Valve IEM Bar Manifold



MMFU10A05F Shown

4-way, NPTF (Individual wiring type)	MMFU##A05F
4-way, NPTF (Collective wiring type)	MMCU##A05F

– stations 2 to 20
 ## – stations 2 to 12
 (Even numbers only)

A12 Valve IEM Bar Manifold



MMFU10A12F Shown

4-way, NPTF (Individual wiring type)	MMFU##A12F
4-way, NPTF (Collective wiring type)	MMCU##A12F

– stations 2 to 20
 ## – stations 2 to 12
 (Even numbers only)

A05 Valve Subbase Bar Manifold (5-Ported)



4-way, M5 (Individual Wiring Type)	MMFS##A05FM5
4-way, M5 (Collective Wiring Type)	MMCS##A05FM5

– stations 2 to 20
 ## – stations 2 to 12
 (Even numbers only)

A12 Valve Subbase Bar Manifold (5-Ported)



4-way, 1/8" NPTF (Individual Wiring Type)	MMFS##A12FF1
4-way, 1/8" NPTF (Collective Wiring Type)	MMCS##A12FF1

– stations 2 to 20
 ## – stations 2 to 12
 (Even numbers only)

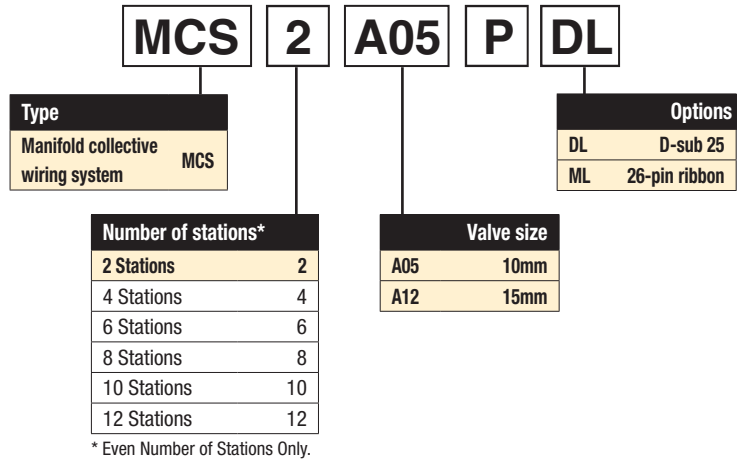
Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products



Collective Wiring



MCS10A05PDL Shown



Individual Wired Connectors P / R Type

Size	Voltage	Length	Part number
 A00 A05 A12	DC	.5 meter	A05PDCCL5
		1 meter	A05PDCCL10
		3 meter	A05PDCCL30
A05PDCCL##	AC	.5 meter	A05PACCL5
		1 meter	A05PACCL10

DC Voltage: Positive "+" (Red Wire)
 Negative "-" (Black Wire)
 AC Voltage: Both Wires are Blue (Polarity Neutral)

Wired Connectors with Protective Cover - P / R Type

Size	Length	Part number
A00	1 meter	A05PDCCB10
A05		
A12		

The cover is made of chloroprene rubber for electrical use, assuring excellent weather and insulation resistance. However, be careful not to place it under splash of cutting oil.

Collective Wired Connectors P / R Type

Size	Part number	Part number	
		PNP	NPN
A05 Single	A05PSCCM	A05PSCC	
A12 Double	A05PDCCM	A05PDCC	

A05PDCC

PNP = SOURCING = "Negative Common" = Yellow Wires
 NPN = SINKING = "Positive Common" = Red Wires

Cable with Female D-Sub, 25-Pin Connector

Description	Part number
 25-Pin, D-Sub cable, 1 meter (3.3 ft.)	DSS25FB1K

Note: For use with ADEX MCS system only.
 Connection to control system is through 25 colored wires AWG 24. Includes (2) M2.5 mm screws.

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

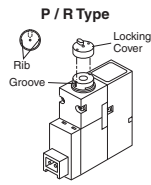
Blanking Plate

Size	Type	Part number
A00	Subbase	A00SBP
A05	Body ported	A05RGBP
	Subbase	A05PGBP
A12	Body ported	A12RGBP
	Subbase	A12PGBP

A00SBP A05RGBP A05PGBP

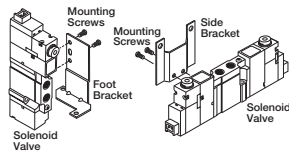
* Outlet pin cover used with collective wiring system only.

Extended Override Cover



Size	Orange: for 14 side solenoid	Green: for 12 side solenoid
A00	A05PLA	A05PLB
A05		
A12		

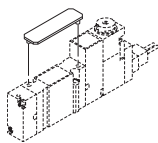
Mounting Bracket



Size	Type	Part number
A05	Side	A05RBS
	Foot	A05RBF
A12	Side	A12RBS
	Foot	A12RBF

Kit Includes: (1) Bracket, (2) Screws

Labeling Tag



Size	Description	Part number
A05	White Label Tag	A05PN
A12		

Exhaust Mufflers



Pipe thread	Part number
M5	P6M-PAC5
1/8" NPT	EM12
1/4" NPT	EM25

P6M - Plastic; EM - Sintered Bronze

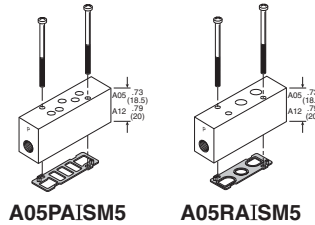
Plastic Silencers



Thread size	Part number	
	NPT	BSPT
M5	AS-5	N/A
1/8"	ASN-6	AS-6
1/4"	ASN-8	AS-8

Individual Air Supply Spacer

Mounts between valve and manifold. Supply from the manifold is blocked and only the valve mounted on the spacer receives the individual supply.



Size	Type	Port size	Internal pilot part number	External pilot* part number
A05	Inline	M5	A05RAISM5	A05RAXISM5
	Subbase	M5	A05PAISM5	A05PAXISM5
A12	Inline	1/8" NPT	A12RAISN1	A12RAXISN1
	Subbase	1/8" NPT	A12PAISN1	A12PAXISN1

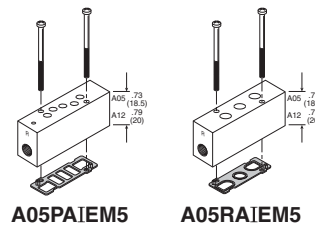
Can only be used on Collective wiring type manifolds.

* Can only be used with External Piloted valve. External pilot is located on the X Port of the manifold

Kit Includes: (1) Spacer, (2) Screws, and (1) Gasket

Individual Air Exhaust Spacer

Mounts between valve and manifold. Exhaust from the manifold is blocked and only the valve mounted on the spacer has the individual exhaust.



Size	Type	Port size	Internal pilot part number	External pilot* part number
A05	Inline	M5	A05RAIEM5	A05RAXIEM5
	Subbase	M5	A05PAIEM5	A05PAXIEM5
A12	Inline	1/8" NPT	A12RAIEN1	A12RAXIEN1
	Subbase	1/8" NPT	A12PAIEN1	A12PAXIEN1

Can only be used on Collective wiring type manifolds.





* Can only be used with External Piloted valve. External pilot is located on the X Port of the manifold

Kit Includes: (1) Spacer, (2) Screws, and (1) Gasket

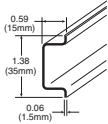
Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products



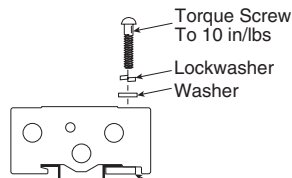
M3 & M5 Fittings

	Description	Part number
	M5 Plug Fitting	N220-1900J
	M3 to 3mm Barb	BC03M3
	M3 to 4mm Barb	BC04M3
	M5 to 3mm Barb	BC03M5

DIN Rail

	Length	Part number
	6 Feet	AM1DE200

DIN Rail Hardware Kit



Size	Type	Dimensions			Part number
		A	B	C	
A05	IEM	2.24	1.00	.31	MFUA05DB
	Subbase	(57)	(25)	(8)	MFSA05DB
A12	IEM	2.91	1.00	.39	MFUA12DB
	Subbase	(74)	(25)	(10)	MFSA12DB

Kit includes: (2) Screws, (2) Clamps

Replacement Cylinder Port Plate Kits

Size	Fitting	Part number
A05	M5	A05RABM5
A12	1/8" NPT	A12RABN1
	1/8" BSPP "G"	A12RABG1

Replacement Base Gasket Kits

Size	Type	Gaskets	
		Gasket only	Screw
A00	Subbase	A00SG	A00SS
	Body Ported	A05RG	A05RS
A05	Subbase Int.	A05PG	A05PS
	Subbase Ext.	A05PXG	A05PS
A12	Body Ported	A12RG	A12RS
	Subbase Int.	A12PG	A12PS
	Subbase Ext.	A12PXG	A12PS

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

Viking Lite Series

Viking Xtreme Series

B Series

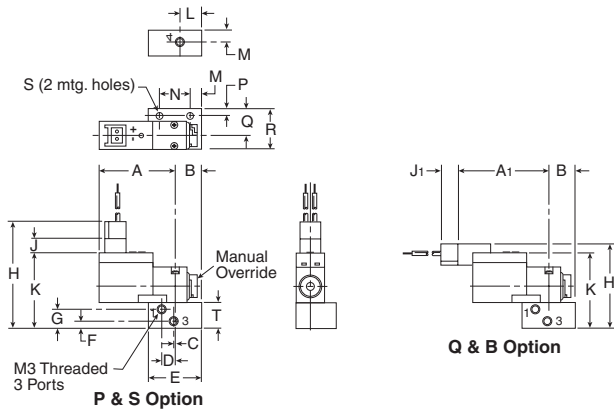
ADEX Series

N Series

D

Inline Valve Products

A00 Subbase

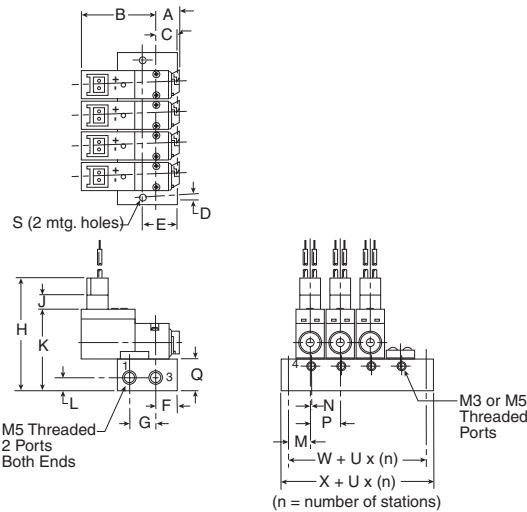


A00 - Subbase

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

Inches (mm)

A00 Manifold

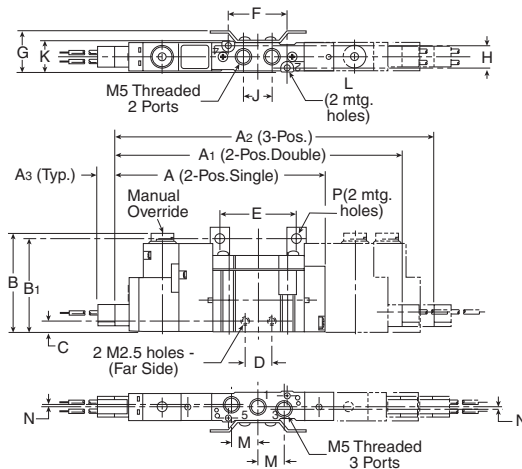


A00 - Manifold

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

Inches (mm)

A05R Single & Double Operators – Inline

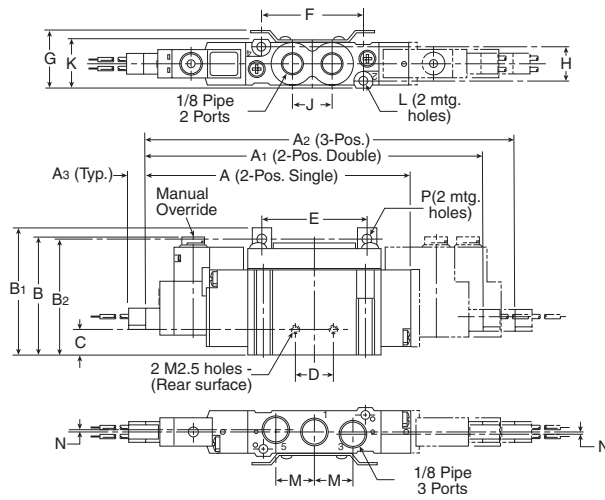


A05R – Inline

A	A1	A2	A3	B
2.91 (74)	3.94 (100)	4.25 (108)	.24 (6)	1.38 (35)
B1	C	D	E	F
1.30 (33)	.16 (4)	.38 (10)	1.06 (27)	.83 (21)
G	H	J	K	L
.57 (15)	.33 (9)	.40 (10)	.45 (11.4)	∅ .08 ∅ (2.1)
M	N	P		
.37 (10)	.04 (1)	∅ .14 ∅ (3.5)		

Inches (mm)

A12R Single & Double Operators – Inline

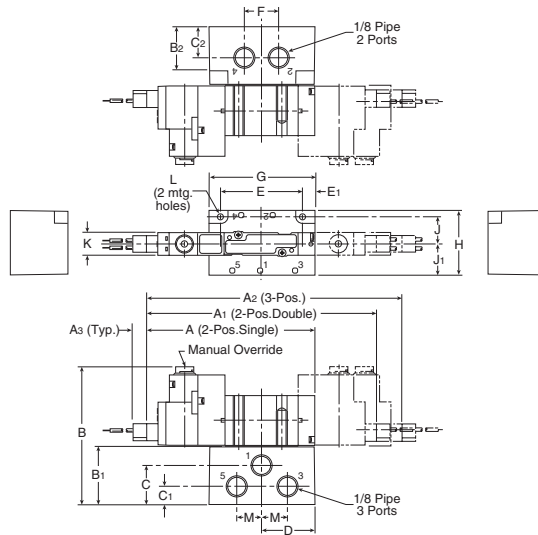


A12R – Inline

A	A1	A2	A3	B
3.68 (94)	4.69 (119)	5.12 (130)	.24 (6)	1.64 (42)
B1	B2	C	D	E
1.77 (45)	1.70 (43)	.35 (9)	.51 (13)	1.46 (37)
F	G	H	J	K
1.42 (36)	.80 (20)	.47 (12)	.55 (14)	.68 (17)
L	M	N	P	
Ø .12 Ø (3.1)	.55 (14)	.03 (0.8)	Ø .14 Ø (3.5)	

Inches (mm)

A05P Single & Double Operators – Subbase



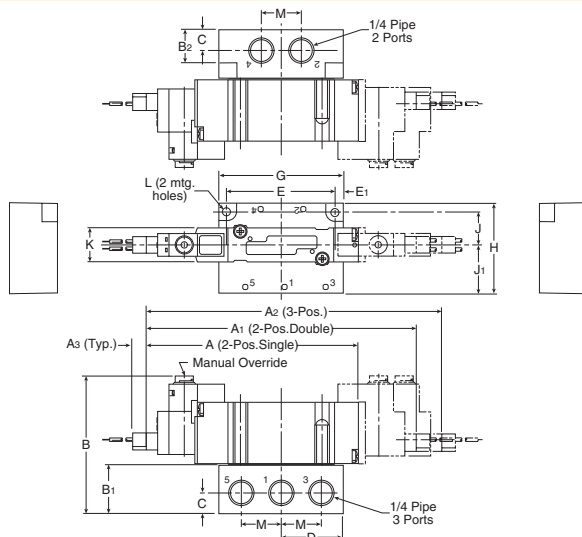
A05P – Subbase

A	A1	A2	A3	B
2.91 (74)	3.94 (100)	4.25 (108)	.24 (6)	2.35 (60)
B1	B2	C	C1	C2
.96 (25)	.75 (19)	.65 (17)	.30 (8)	.53 (14)
D	E	E1	F	G
.89 (23)	1.38 (35)	.20 (5)	.57 (15)	1.77 (45)
H	J	J1	K	L
.08 (28)	.45 (11.5)	.51 (13)	.39 (10)	Ø .13 Ø (3.2)

M
 .45
 (12)

Inches (mm)

A12P Single & Double Operators – Subbase



A12P – Subbase

A	A1	A2	A3	B
3.68 (94)	4.69 (119)	5.12 (130)	.24 (6)	2.41 (61)
B1	B2	C	D	E
.87 (22)	.75 (19)	.37 (10)	1.10 (28)	1.89 (48)
E1	G	H	J	J1
.16 (4)	2.20 (56)	1.59 (41)	.57 (14.5)	.87 (22)
K	L	M		
.59 (15)	Ø .17 Ø (4.3)	.71 (18)		

Inches (mm)



Viking Lite
Series

Viking Xtreme
Series

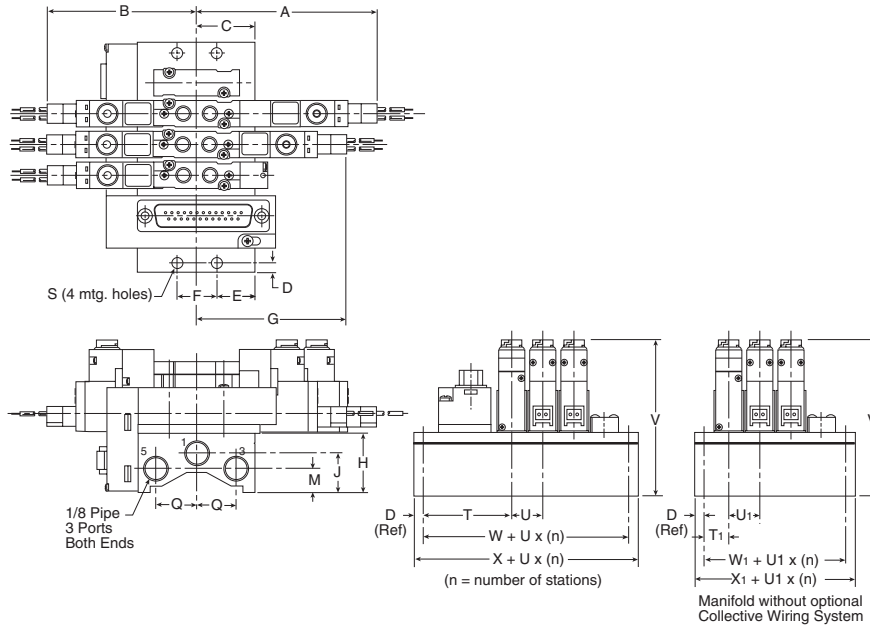
B
Series

ADEX
Series

N
Series

D
 Inline
 Valve Products

A05R Manifold – Valve Inline

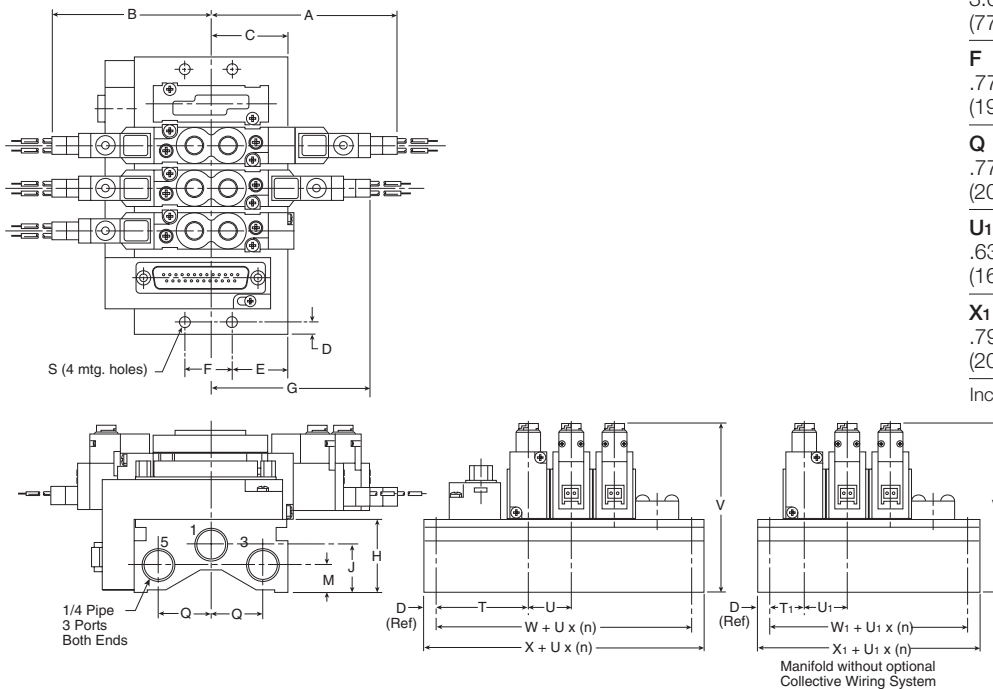


A05R - Manifold, Valve Inline

A	B	C	D	E
2.52 (64)	2.21 (56)	.94 (24)	.16 (4)	.61 (16)
F	G	H	J	M
.63 (16)	2.21 (56)	.94 (24)	.61 (16)	.37 (10)
Q	S	T	T ₁	U
.63 (16)	∅ .18 ∅ (4.5)	1.34 (34)	.51 (13)	.49 (12.5)
U ₁	V	W	W ₁	X
.41 (10.5)	2.32 (59)	1.36 (35)	.37 (9.5)	.167 (43)
X ₁	.68 (17.5)			

Inches (mm)

A12R Manifold – Valve Inline

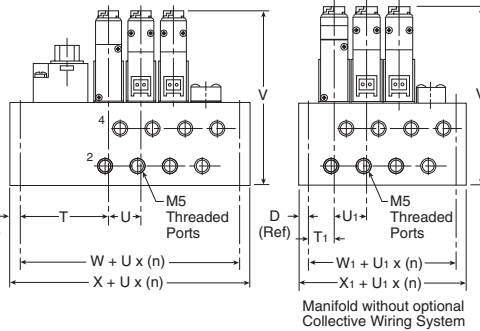
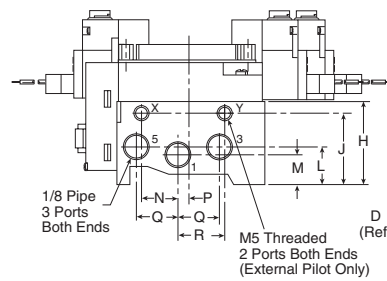
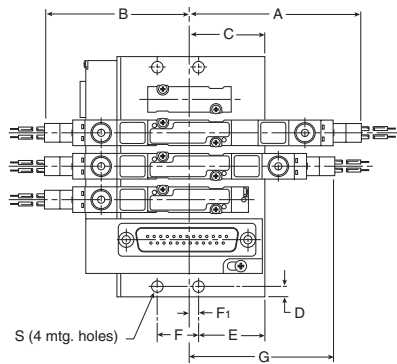


A12R - Manifold, Valve Inline

A	B	C	D	E
3.01 (77)	2.58 (66)	1.14 (29)	.20 (5)	.76 (19)
F	G	H	J	M
.77 (19.6)	2.58 (66)	1.08 (28)	.71 (18)	.41 (11)
Q	S	T	T ₁	U
.77 (20)	∅ .18 ∅ (4.5)	1.48 (38)	.51 (13)	.69 (17.5)
U ₁	V	W	W ₁	X
.63 (16)	2.74 (70)	1.34 (34)	.39 (10)	1.73 (44)
X ₁	.79 (20)			

Inches (mm)

A05P Manifold – Side Ports

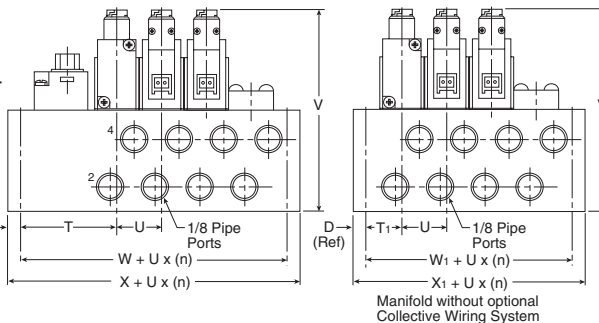
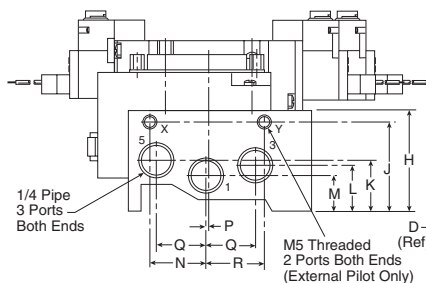
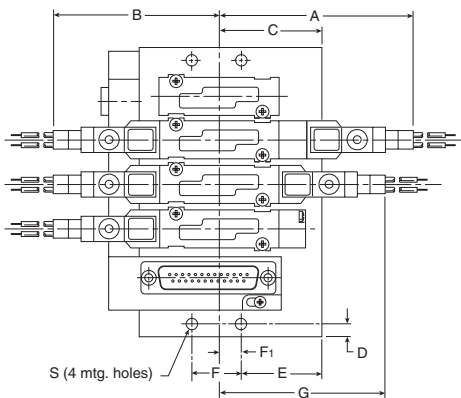


A05P – Manifold, Side Ports

A	B	C	D	E
2.52 (64)	2.21 (56)	1.12 (29)	.16 (4)	1.00 (26)
F	F1	G	H	J
.63 (16)	.19 (5)	2.21 (56)	1.26 (32)	1.08 (28)
L	M	N	P	Q
.59 (15)	.45 (11.5)	.55 (14)	.13 (3)	.63 (16)
R	S	T	T1	U
.71 (18)	∅ .18 ∅ (4.5)	1.34 (34)	.39 (10)	.49 (12.5)
U1	V	W	W1	X
.41 (10.5)	2.64 (67)	1.32 (34)	.37 (10)	1.65 (42)
X1	.67 (18)			

Inches (mm)

A12P Manifold – Side Ports



A12P – Manifold, Side Ports

A	B	C	D	E	F
3.01 (77)	2.58 (66)	1.59 (40)	.20 (5)	1.25 (32)	.77 (20)
F	G	H	J	K	L
.34 (9)	2.58 (66)	1.57 (40)	1.38 (35)	.79 (20)	.71 (18)
M	N	P	Q	R	S
.55 (14)	.87 (22)	.04 (1)	.77 (20)	.91 (23)	∅ .18 ∅ (4.5)
T	T1	U	V	W	W1
1.48 (38)	.59 (13)	.69 (17.5)	3.09 (79)	1.34 (34)	.33 (9)
X	X1				
1.73 (44)	.73 (19)				

Inches (mm)

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
- 3/4" Body – 1/2", 3/4", 1" NPT
- 1-1/4" Body – 1", 1-1/4", 1-1/2" NPT
- BSPP "G" threads available

Certification / approval

- Approved to be CE marked (Standard L-Pilot & P-Pilot)
- NEMA 4 Option
- Hazardous Duty Option IP 65 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.

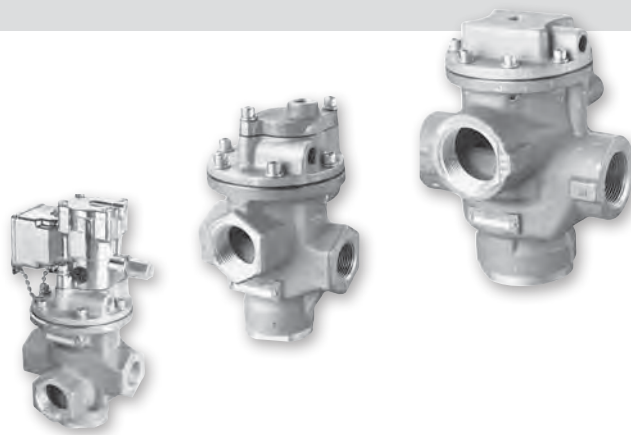
F442 lubricating oil is recommended. This oil is specially formulated to provide peak performance and maximum service life from air-operated equipment.

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.

 Most popular.



Operating information

Operating pressure:

Solenoid valves - internal pilot

3/8" Basic	3/4" Basic
20 to 140 PSIG (standard)	25 to 140 PSIG (200 PSIG option available)

Solenoid valves - external 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.

$$\text{Duty cycle} = \frac{\text{Time energized}}{\text{Time energized} + \text{time off}} \times 100\% = \% \text{ Duty Cycle}$$

Viking Lite Series

Viking Xtreme Series

B Series



ADEX Series

N Series

D



Inline Valve Products

Single Solenoid, Non-locking manual override, internal "P" 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"	3.0 to 4.4	3/8"	1/2"	120VAC	N3153904553	N3553904553	N3753904553	
					24VDC	N3153904549	N3553904549	N3753904549	
			1/2"	1/2"	120VAC	N3154904553	N3554904553	N3754904553	
					24VDC	N3154904549	N3554904549	N3754904549	
			1/2"	3/4"	120VAC	N3155904553	N3555904553	N3755904553	
					24VDC	N3155904549	N3555904549	N3755904549	
	3/4"	9.0 to 11.0	3/4"	1"	120VAC	N3156904553	N3556904553	N3756904553	
					24VDC	N3156904549	N3556904549	N3756904549	
			1"	1"	120VAC	N3157904553	N3557904553	N3757904553	
					24VDC	N3157904549	N3557904549	N3757904549	



Normally Closed Normally Open

Single Solenoid, Non-locking manual override, internal "P" pilot 125 PSI, standard service, P-pilot 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
 	1-1/4"	20.0 to 30.0	1"	1-1/4"	120VAC	N3257904753	N3657904753	N3857904753	
			1-1/4"	1-1/2"	120VAC	N3258904753	N3658904753	N3858904753	
			1-1/2"	1-1/2"	120VAC	N3259904753	N3659904753	N3859904753	



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
 	3/8"	3.0 to 4.4	3/8"	1/2"	N31431091	N35431091	N37431091	
					N31441091	N35441091	N37441091	
			1/2"	3/4"	N31451091	N35451091	N37451091	
	3/4"	9.0 to 11.0	3/4"	1"	N31461091	N35461091	N37461091	
					N31471091	N35471091	N37471091	

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"	20.0 to 30.0	1"	1-1/4"	N32471091	N36471091	N38471091	
			1-1/4"	1-1/2"	N32481091	N36481091	N38481091	
			1-1/2"	1-1/2"	N32491091	N36491091	N38491091	

Normally Closed Normally Open

Viking Lite Series
Viking Xtreme Series
B Series
ADEX Series
N Series
D
Inline Valve Products

"N" Series 3/8", 3/4" & 1-1/4" Body Sizes - Solenoid 'L' Pilot

N 315 3 9 0 45 53

Valve function - solenoid	
3/8" & 3/4" Body	
2-way, normally closed	315
3-way, normally closed	355
3-way, normally open	375
1-1/4" Body	
2-way, normally closed	325
3-way, normally closed	365
3-way, normally open	385

Port size / thread type	
3/8" Body size	
3/8" Inlet & cyl - 1/2" exhaust - NPT	3
1/2" inlet & cyl - 1/2" exhaust - NPT	4
1/2" inlet & cyl - 1/2" exhaust - BSPP	N
3/4" body size	
1/2" inlet & cyl - 3/4" exhaust - NPT	5
3/4" inlet & cyl - 1" exhaust - NPT	6
3/4" inlet & cyl - 1" exhaust - BSPP	Q
1" inlet & cyl - 1" exhaust - NPT	7
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
1-1/4" inlet & cyl - 1-1/2" exhaust - BSPP	S*
1-1/2" inlet & cyl - 1-1/2" exhaust - NPT	9
1-1/2" inlet & cyl - 1-1/2" exhaust - BSPP	T*

* Not available with valve function 325.
 Note: BSPP is to the ISO 228 standard, and requires an R-BSPT male fitting.

Code	Voltage			Solenoid enclosure options		
	AC 60hz	AC 50hz	DC	Standard duty (01, 45)	Cont. duty (04, 48)	200 PSI (46)
	49			24	1, 2, 3, 5, 6, 8, 9, W	6, 8, 9
53	120	110		1, 2, 3, 5, 6, 8, 9, E, N, W	1, 6, 8, 9, N	8, 9, E
57	240	220		1, 3, W		

"L" pilot configuration	
01*	External pilot, std service, 140 PSI
04*	External pilot, cont duty, 140 PSI
45	Internal pilot, std service, 140 PSI
48	Internal pilot, cont duty, 140 PSI

* Not available with valve function 325, 365, and 385 (1-1/4" body).

Solenoid type	
0	Standard

Solenoid enclosure	
1	Basic pilot
2	Basic pilot NLMO
3	Basic pilot LMO
5	Junction box NLMO
6	Junction box LMO
8	Junction box NLMO w/ light
9	Junction box LMO w/ light
W	Basic pilot ext. LMO

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

D

Inline Valve Products

"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
1-1/4" inlet & cyl - 1-1/2" exhaust - BSPP	S
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.

Code	Voltage			Enclosure options	
	AC 60hz	AC 50hz	DC	Standard duty	
	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	
5	Junction box NLMO
6	Junction box LMO
8	Junction box NLMO w/ light
9	Junction box LMO w/ light

Replacement Pilots

Description	Standard L-pilot		Continuous duty L-pilot	
	Locking	Non-locking	Locking	Non-locking
Basic with override	K0653035**	K0652035**	K0853025**	K0852025**
JIC with junction box & override	K0656035**	K0655035**	K0856025**	K0855025**
JIC pilot with junction box & override & indicator lights (120VAC only)	K0659035**	K0658035**	K0859025**	K0858025**

** Voltage code - (reference model index for availability)



Replacement Pilots

Description	Hazardous duty L-pilot		NEMA 4 L-pilot	
	Locking	Non-Locking	Locking	Non-Locking
Hazardous duty L-pilot - UL & CSA	K0451025**	N/A		
Hazardous duty with override	K0453025**	K0452025**		
NEMA 4 with override			K2553025**	K255202549

** Voltage code - 49 & 53



Replacement Pilots

Description	Heavy duty P-Pilot		
	No override	Non-locking	Locking
Basic with override	K1351045**	N/A	N/A
JIC with junction box & override	N/A	K1355045**	K1356045**
JIC Pilot with junction box & override & indicator lights (120VAC only)	N/A	K135804553	K135904553

** Voltage code - 49 & 53



Coils for L-Pilot Operated Valves

Voltage Code **	Voltage			Coil	
	60Hz	50Hz	DC	19" Leads	72" Leads
40	12	—	—	K593007	—
41,42	24	—	6	K593003	—
45*	—	—	12	K593010	—
49*	—	—	24 (Standard)	K593014	—
79	—	—	24 (Arc Suppressed)	K593271	—
51*	—	—	48	—	K593185
53*	120	110	—	K593025	—
57*	240	240	—	K593035	—
60	240	220	—	K593035	—
61	—	—	120	K593041	—

* Indicates voltages approved for solenoid operators designed for use in hazardous locations.

Coils for P-Pilot Operated Valves

Voltage Code **	Voltage			Coil	
	60Hz	50Hz	DC	19" Leads	72" Leads
42	24	—	—	K593099	—
43	—	24	—	K593098	—
45	—	—	12	K593094	—
49	—	—	24	K593097	—
51	—	—	48	—	K593254
53	115	—	—	K593108	—
58	—	230	—	K593111	—

N □ □ □ □ □ □ □ * *
 Voltage Code

Viking Lite Series

Viking Xtreme Series

B Series

ADEX Series

N Series

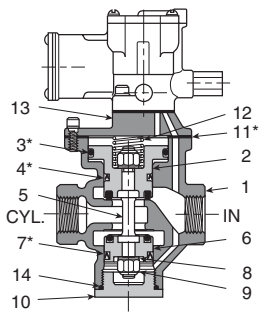
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Inline Valve Products

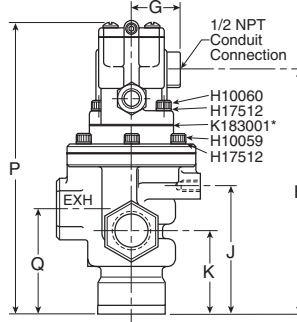
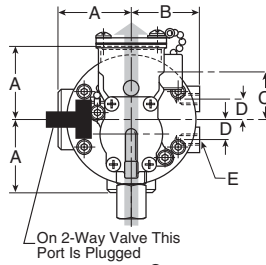
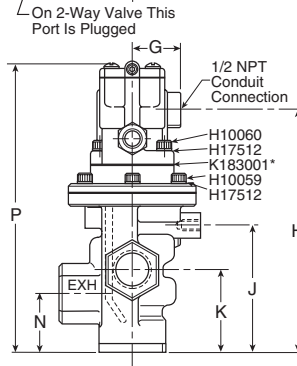
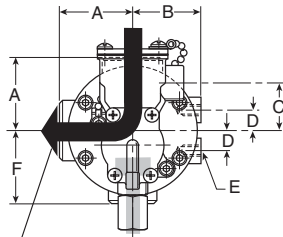
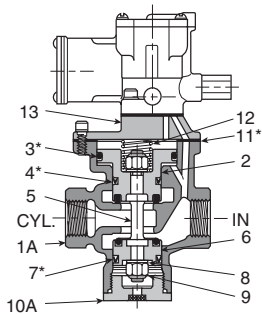


Internal Pilot - 3/8" & 3/4" Basic Body

Normally Closed



Normally Open



Exhaust
Pressure

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

Internal Pilot - 3/8" & 3/4" Basic Body

Key	3/8" Body		3/4" Body	
	Inch	mm	Inch	mm
A	1.56	40	2.13	54
B	1.50	38	1.94	49
C	1.81	46	1.34	34
D	.56	14	.56	14
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep	
F	1.75	44	2.25	57
G	1.50	38	1.50	38
H	5.92	150	7.14	181
J	3.19	81	3.75	95
K	1.88	47	2.44	62
N	1.44	37	1.78	45
P	7.36	196	8.58	218
Q	2.31	59	3.09	84

Service Kits

Include all parts normally required for in-service maintenance:

- 3/8" Basic valve with standard service L-Pilots..... **K352076**
- 3/8" Basic valve with continuous duty L-Pilots..... **K352276**
- 3/4" Basic valve with standard service L-Pilots..... **K352077**
- 3/4" Basic valve with continuous duty L-Pilots..... **K352277**

Key	3/8" Valve	3/4" Valve	Description
1	—	1/2" Tap K053075	Body (N.C.)
	3/8" Tap K053022	3/4" Tap K053076	
	1/2" Tap K053023	1" Tap K053220	
1A	—	3/4" Tap K053077	Body (N.O.)
	3/8" Tap K053025	3/4" Tap K053078	
	1/2" Tap K053026	1" Tap K053218	
2	K212001	K212002	Upper piston assy
3*	H13648	H13728	Seal

Key	3/8" Valve	3/4" Valve	Description
4*	H14510	H13676	U-cup (3/8), o-ring (3/4)
5	K493002	K493009	Stem
6	K202001	K202002	Lower piston assy.
7*	H14509	H13676	U-cup (3/8), o-ring (3/4)
8	H17811	H17813	Washer (2)
9	H06326	H06332	Stop nut (2)
10	K103035	K103053	Bottom cap (N.C.)
10A	K092020	K092034	Bottom cap assy. (N.O.)
11*	K183049	K183057	Gasket
12	K473014	K473015	Spring
13	K563015	K563017	Adapter
14*	K41RB72121	K41RB72221	O-ring

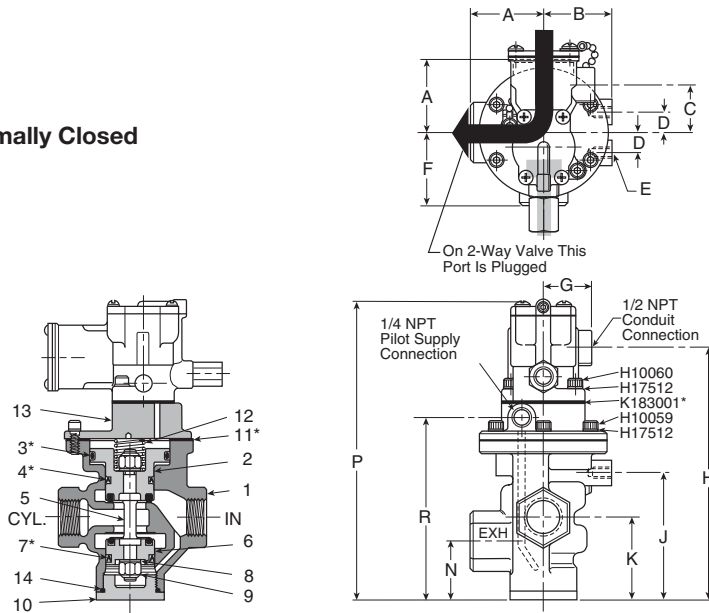
* Parts included in seal kit



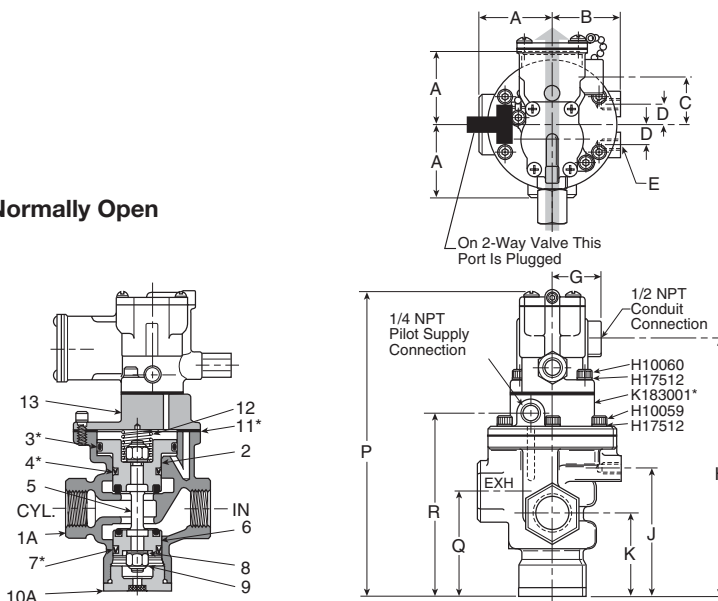
Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products

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

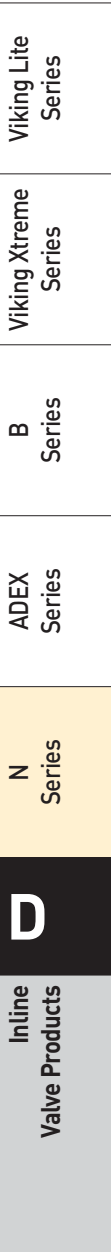
Include all parts normally required for in-service maintenance:

- 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 K053067	Body (N.C.)
	3/8" Tap K053019	3/4" Tap K053069	
	1/2" Tap K053157	1" Tap K053221	
1A	—	3/4" Tap K053065	Body (N.O.)
	3/8" Tap K053018	3/4" Tap K053070	
	1/2" Tap K053064	1" Tap K053219	
2	K212001	K212002	Upper piston Assy
3*	H13648	H13728	Seal

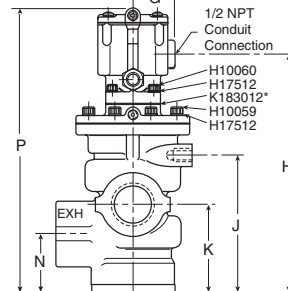
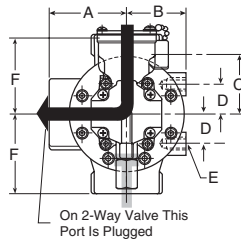
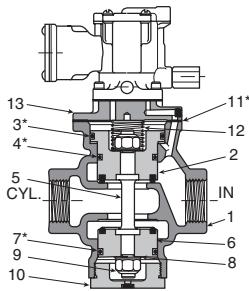
Key	3/8" Valve	3/4" Valve	Description
4*	K41RB72211	H13676	O-ring
5	K493002	K493009	Stem
6	K202001	K202002	Lower piston Assy.
7*	K41RB72210	H13676	O-ring
8	H17811	H17813	Washer (2)
9	H06326	H06332	Stop nut (2)
10	K103035	K103053	Bottom cap (N.C.)
10A	K092020	K092034	Bottom cap Assy. (N.O.)
11	K473014	K473015	Spring
12*	K183049	K183057	Gasket
13	K563016	K563021	Adapter
14*	K41RB72121	K41RB72221	O-ring

* Parts included in seal kit

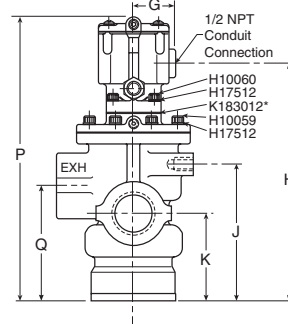
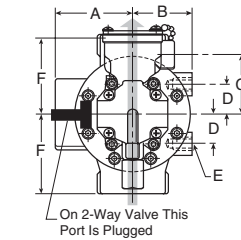
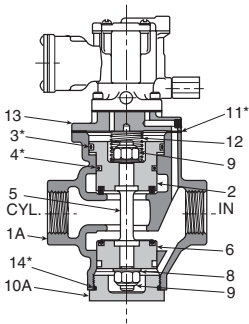


Internal Pilot - 1-1/4" Basic Body

Normally Closed



Normally Open



Exhaust
Pressure

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

Internal Pilot - 1-1/4" Basic Body

Key	1-14" Body	
	Inch	mm
A	3.00	76
B	2.25	57
C	1.34	34
D	1.19	30
E	1/2-13 UNC	3/4 Deep
F	3.13	80
G	1.50	38
H	9.30	236
J	5.34	136
K	3.44	87
N	2.31	59
P	11.14	283
Q	4.56	116

Service Kits

Include all parts normally required for in-service maintenance:

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

Key	1-1/4" Valve	Description
1	1" Tap K053111	Body (N.C.)
	1-1/4" Tap K053112	
	1-1/2" Tap K053113	
1A	1" Tap K053114	Body (N.O.)
	1-1/4" Tap K053115	
	1-1/2" Tap K053116	
2	K313029	Upper piston assy
3*	H13752	O-ring

Key	1-1/4" Valve	Description
4*	H13728	Seal
5	K493016	Stem
6	K313028	Lower piston
7*	H13728	Seal
8	H17817	Washer
9	H06338	Stop nut
10	K092046	Bottom cap (N.C.)
10A	K103061	Bottom cap (N.O.)
11*	K183058	Gasket
12	K473016	Spring
13	K012003	Adapter
14*	K41RB72143	O-ring

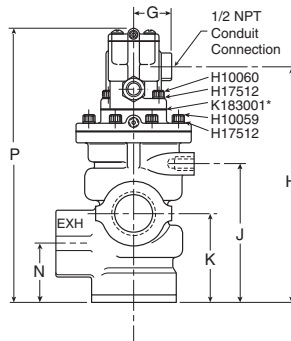
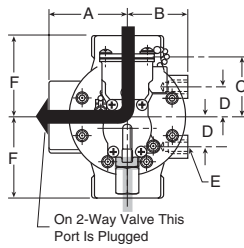
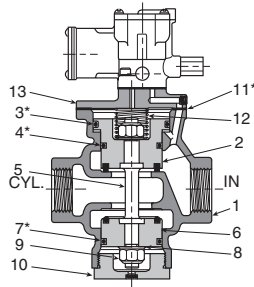
* Parts included in seal kit



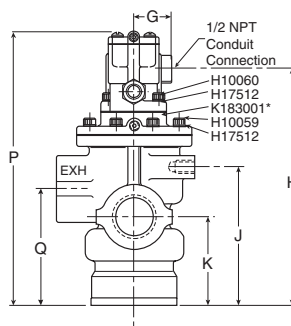
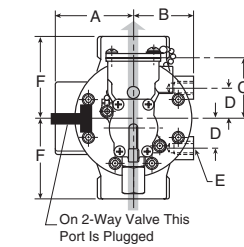
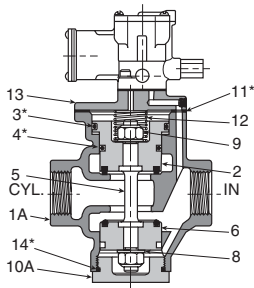
Viking Lite Series
 Viking Xtreme Series
 B Series
 ADEX Series
 N Series
 D Inline Valve Products

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 K053111	Body (N.C.)
	1-1/4" Tap K053112	
	1-1/2" Tap K053113	
1A	1" Tap K053114	Body (N.O.)
	1-1/4" Tap K053115	
	1-1/2" Tap K053116	
2	K313029	Upper piston assy
3*	H13752	O-Ring

Key	1-1/4" Valve	Description
4*	H13728	Seal
5	K493016	Stem
6	K313028	Lower piston
7*	H13728	Seal
8	H17817	Washer
9	H06338	Stop nut
10	K092046	Bottom cap (N.C.)
10A	K103061	Bottom cap (N.O.)
11*	K183058	Gasket
12	K473016	Spring
13	K012003	Adapter
14*	K41RB72143	O-ring

* Parts included in seal kit



Viking Lite Series

Viking Xtreme Series

B Series

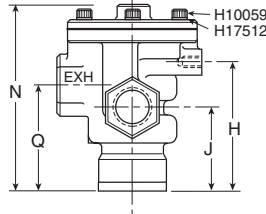
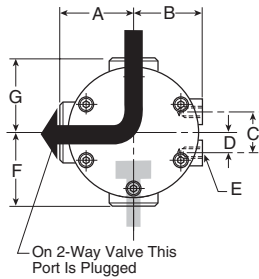
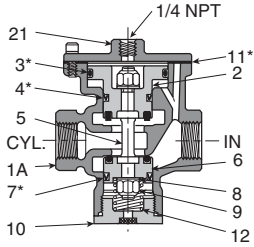
ADEX Series

N Series

D Inline Valve Products

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

Normally Closed



Exhaust
Pressure

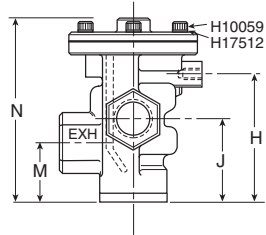
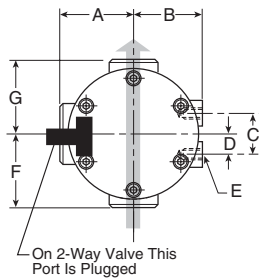
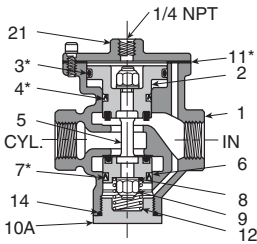
Top view indicates flow through 3-Way valve.

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
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

Normally Open



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 K053075	1" Tap K053111	Body (N.O.)
	3/8" Tap K053022	3/4" Tap K053076	1-1/4" Tap K053112	
	1/2" Tap K053023	1" Tap K053220	1-1/2" Tap K053113	
1A	—	1/2" Tap K053077	1" Tap K053114	Body (N.C.)
	3/8" Tap K053025	3/4" Tap K053078	1-1/4" Tap K053115	
	1/2" Tap K053026	1" Tap K053218	1-1/2" Tap K053116	
2	K212001	K212002	K313029	Upper piston assy
3*	H13648	H13728	H13752	Seal
4*	H14510	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 (N.C.)
10A	K103035	K103053	K103061	Bottom cap (N.O.)
11*	K183049	K183057	K183058	Gasket
12	K473014	K473015	K473016	Spring
14*	K41RB72121	K41RB72221	K41RB72143	O-ring
21	K123018	K123021	K123024	Cover

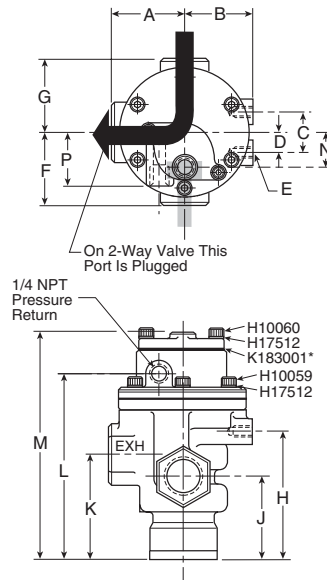
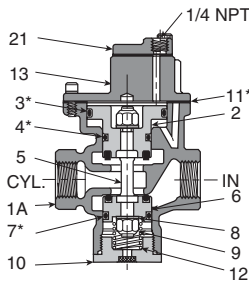
* Parts included in seal kit



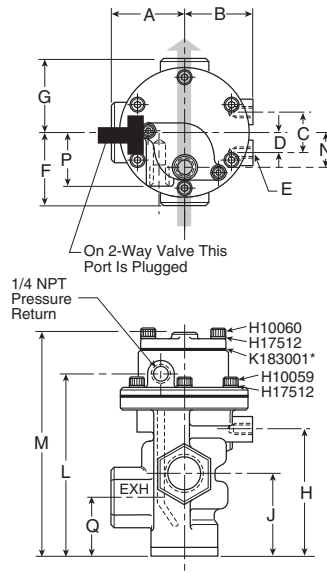
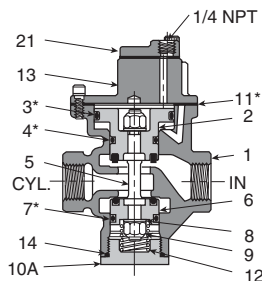
Viking Lite Series
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 ADEX Series
 N Series
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External Return - 3/8", 3/4", 1-1/4" Basic Body

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
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

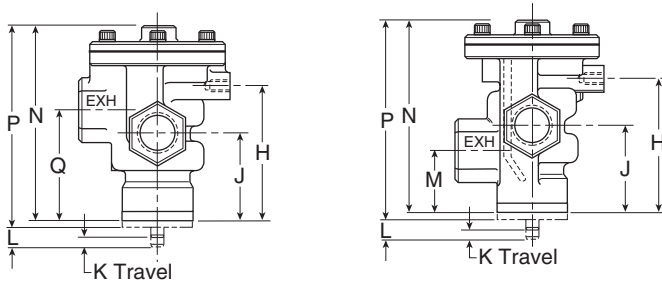
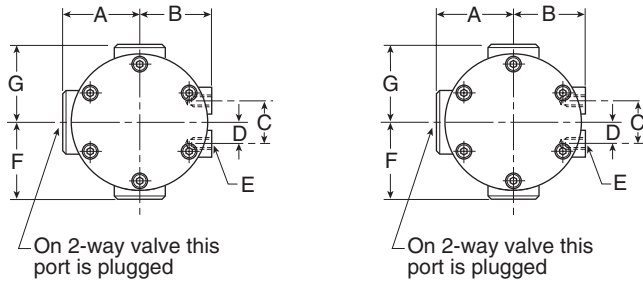
Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
1	1/4" Tap K053011	1/2" Tap K053067	1" Tap K053143	Body (N.O.)
	—	3/4" Tap K053069	1-1/4" Tap K053110	
	1/2" Tap K053157	1" Tap K053221	1-1/2" Tap K053146	
1A	1/4" Tap K053010	1/2" Tap K053065	1" Tap K053159	Body (N.C.)
	—	3/4" Tap K053070	1-1/4" Tap K053144	
	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



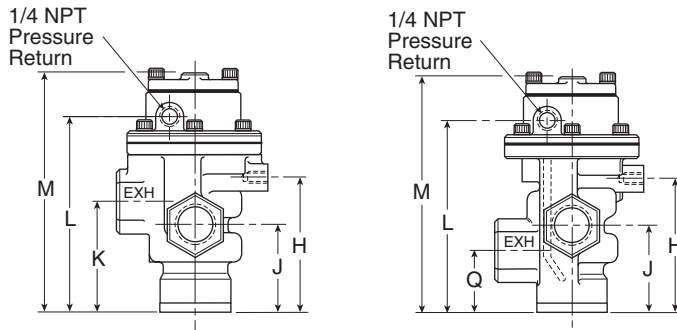
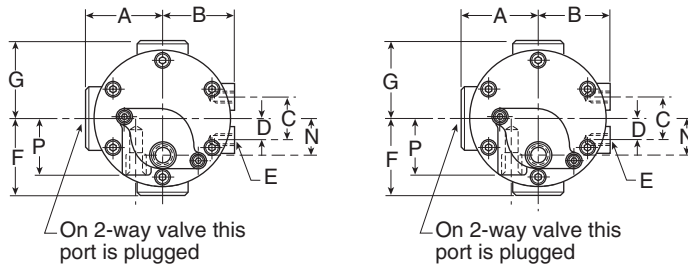
Internal Return - 3/8" & 3/4" Basic Body



Internal Return - 3/8" & 3/4" 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" Basic Body



Internal Return - 3/8" & 3/4" 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
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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

Moduflex Series

The Moduflex Valve System redefines flexibility for pneumatic users. Whether configured from basic components or ordered as a pre-assembled and tested valve manifold, Moduflex flexibility is unmatched in the market place.

Ports

- Size 1: Push-in connectors for 5/32, 1/4 inch, 4, 6mm OD tube
- Size 2: Push-in connectors for 1/4, 3/8, 1/2 inch, 6, 8, 10, 12 mm OD tube

Mounting

- S Series – Individual subbase
- T Series – Manifold mount with individual connectors
- V Series – Manifold mount with collective wiring or fieldbus

Fieldbus options

- DeviceNet, Profibus, CANopen, AS-i, Interbus-S

Solenoids

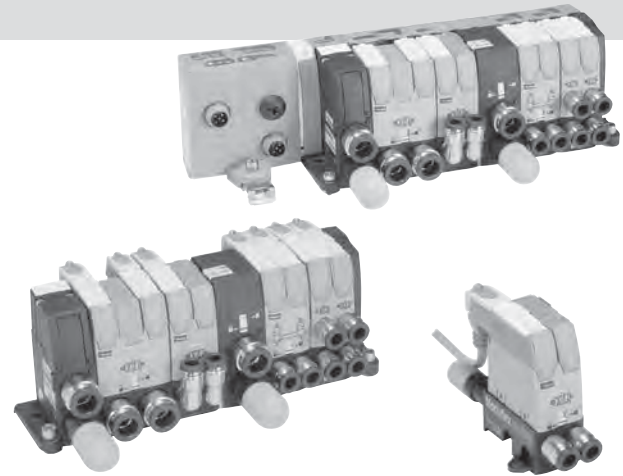
- 1.0 Watt
- 24 VDC
- Compatible with PNP or NPN outputs

Certification / approval

- IP65 rated
- CE, as marked

Material specifications

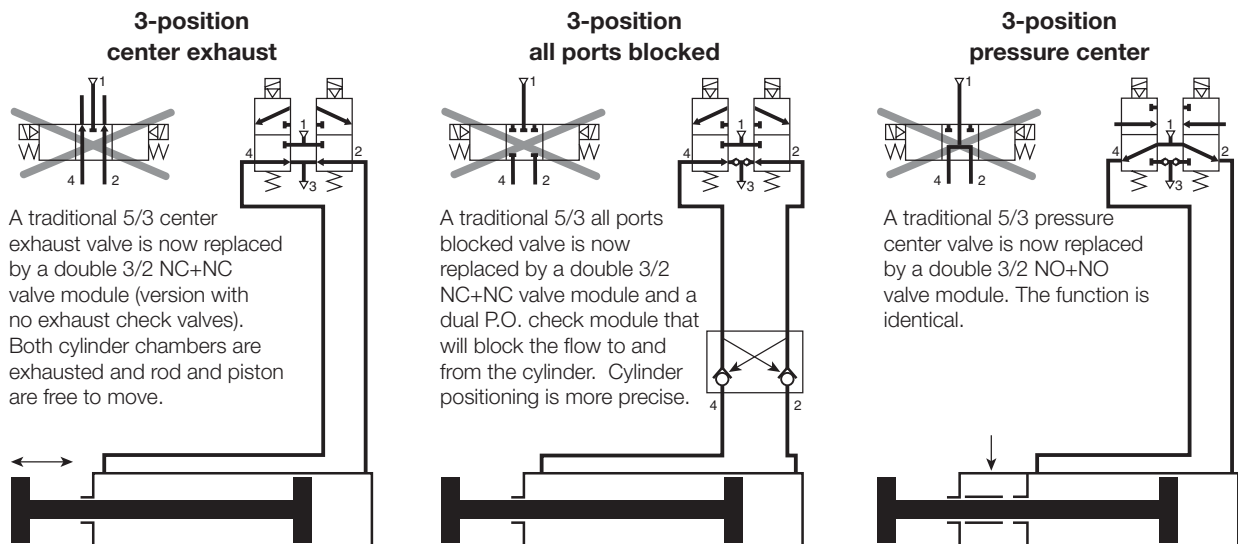
End plates (T and V series)	Plastic
Fasteners	Nickel plated steel
Spool	Aluminum and nitrile rubber or ceramic plate
Subbase or manifold	Plastic
Valve body	Plastic



Operating information

Operating pressure:	Vacuum to 123 PSIG (Vacuum to 8.3 bar)
Operating temperature:	5°F to 140°F (-15°C to 60°C)
Fieldbus operating temperature:	32°F to 130°F (0°C to 55°C)

Dual 3/2 valves replace all 3-position valves for a better performance



 Most popular.



Moduflex Series

Isys Micro Series

Isys ISO Series

Fieldbus









DX ISOMAX Series

Valvair II Series









D

Subbase & Manifold Valve Products











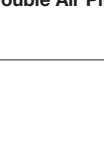



“S” Series Individual Subbase Valves Size 1 (Valve & Base without Pneumatic Connectors)

	Symbol	Type	Cv	Operator	Part number	
Moduflex Series			4-way, 2-position	0.32	Single solenoid Single air pilot	P2M1S4ES2C P2M1S4PS
				0.32	Double solenoid Double air pilot	P2M1S4EE2C P2M1S4PP
			3-way, 2-position, dual valve, NC/NC w/ exhaust check	0.22	Double solenoid Double air pilot	P2M1SDEE2C P2M1SDPP
				0.22	Double solenoid Double air pilot	P2M1SCEE2C P2M1SCPP
Isys Micro Series			3-way, 2-position, dual valve, NO/NO w/ exhaust check	0.22	Double solenoid	P2M1SEEE2C
				0.22	Single solenoid Single air pilot	P2M1S3ES2C P2M1S3PS
Isys ISO Series			3-way, 2-position, dual valve, NC/NO w/ exhaust check	0.22	Double solenoid	P2M1SDEE2C
				0.22	Double solenoid	P2M1SGEE2C













“S” Series Size 1 Accessories

	Description	Tube Size	Option	Part number	
DX ISOMAX Series		Size 1 push to connect fitting	5/32"	Elbow	CMD04-1
				Straight	FMD04-1
Valvair II Series		Size 1 push to connect fitting	1/4"	Elbow	CMD07-1B
				Straight	FMD07-1B
D Subbase & Manifold Valve Products		Size 1 push to connect fitting	6mm	Elbow	CMD06-1
				Straight	FMD06-1
		Muffler for exhaust port		MMDVA1	
		Plug		PMDYY1	
		Double male union	Connecting peripheral modules	HMDXX1	
		M8 female connector to flying lead - IP67 LED and surge protection	2m Cable	P8LS08L226C	
5m Cable			P8LS08L526C		
9m Cable			P8LS08L926C		
		Field wireable connector	M8 Connector	P8CS0803J	
M12 Connector			P8CS1204J		

“S” Series Individual Subbase Valves Size 2 (Valve & Base without Pneumatic Connectors)

	Symbol	Type	Cv	Operator	Part number
 Single Solenoid		4-way, 2-position	0.8	Single solenoid	P2M2S4ES2C
				Single air pilot	P2M2S4PS
 Single Air Pilot		4-way, 2-position	0.8	Double solenoid	P2M2S4EE2C
				Double air pilot	P2M2S4PP
 Double Solenoid		3-way, 2-position, dual valve, NC/NC w/ exhaust check	0.44	Double solenoid	P2M2SDEE2C
				Double air pilot	P2M2SDPP
 Double Air Pilot		3-way, 2-position, dual valve, NO/NO w/ exhaust check	0.44	Double solenoid	P2M2SCEE2C
				Double air pilot	P2M2SCPP
 Double Solenoid		3-way, 2-position, dual valve, NC/NO w/ exhaust check	0.44	Double solenoid	P2M2SEEE2C
				Single solenoid	P2M2S3ES2C
 Double Air Pilot		3-way, 2-position, dual valve, NC/NO w/ exhaust check	0.44	Single air pilot	P2M2S3PS
				Double solenoid	P2M2SGEE2C
 Double Solenoid		3-way, 2-position, dual valve, NC/NC	0.44	Double solenoid	P2M2SGEE2C

“S” Series Size 2 Accessories

	Description	Tube Size	Option	Part number
	Size 2 push to connect fitting	1/4" OD tube	Elbow	CMD07-2B
			Straight	FMD07-2B
	Size 2 push to connect fitting	3/8" OD tube	Elbow	CMD09-2B
			Straight	FMD09-2B
	Size 2 push to connect fitting	1/2" OD tube	Straight	FMD13-2B
			Elbow	CMD06-2
	Size 2 push to connect fitting	6mm OD tube	Straight	FMD06-2
			Elbow	CMD08-2
	Size 2 push to connect fitting	8mm OD tube	Straight	FMD08-2
			Elbow	CMD10-2
	Size 2 push to connect fitting	10mm OD tube	Straight	FMD10-2
			Elbow	CMD12-2
	Size 2 push to connect fitting	12mm OD tube	Straight	FMD12-2
			Elbow	CMD12-2
	Muffler for exhaust port			MMDVA2
	Plug			PMDYY2
	Double male union		Connecting peripheral modules	HMDXX2
	M8 female connector to flying lead - IP67 LED and surge protection		2m Cable	P8LS08L226C
			5m Cable	P8LS08L526C
			9m Cable	P8LS08L926C
	Field wireable connector		M8 Connector	P8CS0803J
			M12 Connector	P8CS1204J

Moduflex Series

Isys Micro Series

Isys ISO Series

Fieldbus Series

DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

“S” Series Individual Subbase Valve
(Complete with Pneumatic and Electrical Connectors)

- Moduflex Series
- Isys Micro Series
- Isys ISO Series
- Fieldbus
- DX ISOMAX Series
- Valvair II Series
- D** Subbase & Manifold Valve Products

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	
3-way / 2-position	
Single solenoid, NC spring return	3ES
Single air pilot, NC spring return	3PS
4-way / 2-position	
Single solenoid, spring return	4ES
Single air pilot, spring return	4PS
Double solenoid	4EE
Double air pilot	4PP
Dual 3-way, 2-position, spring return	
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

Ports (all ports)	
C0*	10mm Elbow fitting
C2*	12mm Elbow fitting
C4	5/32" (4mm) Elbow fitting
C6	6mm Elbow fitting
C7	1/4" Elbow fitting
C8*	8mm Elbow fitting
C9*	3/8" Elbow fitting
F0*	10mm Straight fitting
F2*	12mm Straight fitting
F3*	1/2" Straight fitting
F4	5/32" (4mm) Straight fitting
F6	6mm Straight fitting
F7	1/4" Straight fitting
F8*	8mm Straight fitting
F9*	3/8" Straight fitting

* Only available with size 2 valves.

Fitting configuration	
A*	Straight fittings
B*	Elbow fittings
C*†	Straight fitting & muffler
D*†	Elbow fitting & muffler

* Ports 1 & 3 fittings sizes are same as ports 2 & 4 (see example at left.)
 † Fitting in port 1, muffler in port 3.

LED / Cable	
00	No cable, no LED, no surge suppression
V2	2 Meter cable with LED and surge suppression
V5	5 Meter cable with LED and surge suppression
V9	9 Meter cable with LED and surge suppression

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

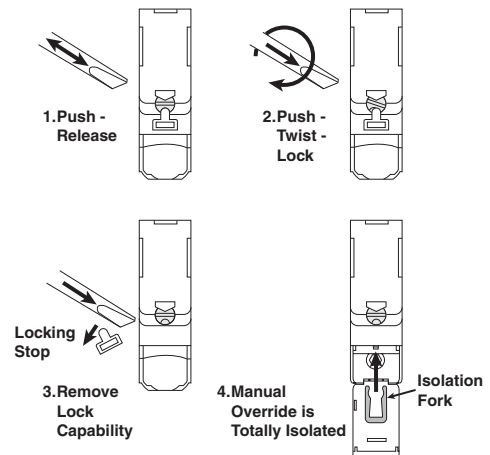
Operator voltage	
24VDC	2C
Remote pilot - 5/32" (4mm) Tube	00

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















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



“T” Series Manifold Valves with Individual Connectors Size 1

	Symbol	Type	Cv	Operator	Part number
 Single Solenoid		4-way, 2-position	0.32	Single solenoid	P2M1T4ES2C
				Single air pilot	P2M1T4PS
 Single Air Pilot		4-way, 2-position	0.32	Double solenoid	P2M1T4EE2C
				Double air pilot	P2M1T4PP
 Double Solenoid		4-way, 2-position, dual valve w/ exhaust check	0.18	Double solenoid	P2M1TJEE2C
				Double air pilot	P2M1TJPP
 Double Air Pilot		3-way, 2-position, dual valve, NC/NC w/ exhaust check	0.22	Double solenoid	P2M1TDEE2C
				Double air pilot	P2M1TDPP
 Double Solenoid		3-way, 2-position, dual valve, NO/NO w/ exhaust check	0.22	Double solenoid	P2M1TCEE2C
				Double air pilot	P2M1TCPP
 Double Air Pilot		3-way, 2-position, dual valve, NC/NO w/ exhaust check	0.22	Double solenoid	P2M1TEEE2C
				Single solenoid	P2M1T3ES2C
 Double Solenoid		3-way, 2-position, NC w/ exhaust check	0.22	Single air pilot	P2M1T3PS
				Double solenoid	P2M1TGEE2C

“T” Series Size 1 Accessories

	Description	Tube size	Option	Part number
 	Size 1 push to connect fitting	5/32" or 4mm	Elbow	CMD04-1
			Straight	FMD04-1
 	Size 1 push to connect fitting	1/4"	Elbow	CMD07-1B
			Straight	FMD07-1B
 	Size 1 push to connect fitting	6mm	Elbow	CMD06-1
			Straight	FMD06-1
	Muffler for exhaust port			MMDVA1
	Plug			PMDYY1
	Double male union		Connecting peripheral modules	HMDXX1
	M8 female connector to flying lead - IP67 LED and surge protection		2M cable	P8LS08L226C
			5M cable	P8LS08L526C
			9M cable	P8LS08L926C
	Field wireable connector		M8 connector	P8CS0803J
			M12 connector	P8CS1204J
	Torx screwdriver			P2M1K0TASD

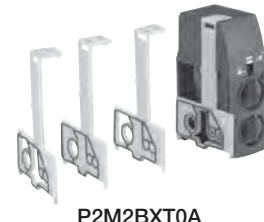
Manifold Options

Module	Part number
Pneumatic end plate kit	P2M2HXT01*
Pneumatic end plate kit with torx screwdriver	P2M2HXT0T*
Intermediate supply module (Includes 4 configuration plates)	P2M2BXT0A*

* Use Fittings for Size 2 Modules Only











P2M2HXT01






P2M2BXT0A

“T” Series Manifold Valves with Individual Connectors Size 2

	Symbol	Type	Cv	Operator	Part number
 <p>Single Solenoid Single Air Pilot</p>		4-way, 2-position	0.8	Single solenoid	P2M2T4ES2C
				Single air pilot	P2M2T4PS
		4-way, 2-position	0.8	Double solenoid	P2M2T4EE2C
				Double air pilot	P2M2T4PP
 <p>Double Solenoid Double Air Pilot</p>		3-way, 2-position, dual valve, NC/NC w/ exhaust check	0.44	Double solenoid	P2M2TDEE2C
				Double air pilot	P2M2TDPP
		3-way, 2-position, dual valve, NO/NO w/ exhaust check	0.44	Double solenoid	P2M2TCEE2C
				Double air pilot	P2M2TCPP
	3-way, 2-position, dual valve, NC/NO w/ exhaust check	0.44	Double solenoid	P2M2TEEE2C	
			Single solenoid	P2M2T3ES2C	
	3-way, 2-position, dual valve, NC/NC	0.44	Single air pilot	P2M2T3PS	
			Double solenoid	P2M2TGEE2C	

“T” Series Size 2 Accessories

	Description	Tube size	Option	Part number	
	Size 2 push to connect fitting	1/4"	Elbow	CMD07-2B	
			Straight	FMD07-2B	
	Size 2 push to connect fitting	3/8"	Elbow	CMD09-2B	
			Straight	FMD09-2B	
	Size 2 push to connect fitting	1/2"	Straight	FMD13-2B	
			Size 2 push to connect fitting	6mm	Elbow
	Straight	FMD06-2			
	Size 2 push to connect fitting	8mm	Elbow	CMD08-2	
			Straight	FMD08-2	
	Size 2 push to connect fitting	10mm	Elbow	CMD10-2	
Straight			FMD10-2		
Size 2 Push to connect fitting	12mm	Elbow	CMD12-2		
		Straight	FMD12-2		
	Muffler for exhaust port			MMDVA2	
	Plug			PMDYY2	
	Double male union		Connecting peripheral modules	HMDXX2	
	M8 female connector to flying lead - IP67 LED and surge protection			2M cable	P8LS08L226C
				5M cable	P8LS08L526C
				9M cable	P8LS08L926C
	Field wireable connector			M8 connector	P8CS0803J
				M12 connector	P8CS1204J
	Torx screwdriver				P2M1K0TASD

Manifold Options

Module	Part number
Pneumatic end plate kit	P2M2HXT01*
Pneumatic end plate kit with torx screwdriver	P2M2HXT0T*
Intermediate supply module (Includes 4 configuration plates)	P2M2BXT0A*

* Use Fittings for Size 2 Modules Only



“T” Series Valve Manifold with Individual Connectors
(Complete with Pneumatic and Electrical Connectors)

P2M 1 T 4ES 2C 00 0 F4

Basic series			
Valvetronic modules	P2M		
Size			
Size 1	1		
Size 2	2		
Valve series			
Individual wire	T		
Valve type / function			
3-way / 2-position			
Single solenoid, NC spring return	3ES		
Single air pilot, NC spring return	3PS		
4-way / 2-position			
Single solenoid, spring return	4ES		
Single air pilot, spring return	4PS		
Double solenoid	4EE		
Double air pilot	4PP		
Dual 3-way, 2-position, spring return			
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		
Dual 4-way, 2-position, Spring Return			
Solenoid	JEE**		
Air pilot	JPP**		

	Ports 2 & 4
	C0* 10mm Elbow fitting
	C2* 12mm Elbow fitting
	C4 5/32" (4mm) Elbow fitting
	C6 6mm Elbow fitting
	C7 1/4" Elbow fitting
	C8* 8mm Elbow fitting
	C9* 3/8" Elbow fitting
	F0* 10mm Straight fitting
	F2* 12mm Straight fitting
	F3* 1/2" Straight fitting
	F4 5/32" (4mm) Straight fitting
	F6 6mm Straight fitting
	F7 1/4" Straight fitting
	F8* 8mm Straight fitting
	F9* 3/8" Straight fitting

* Only available with size 2 valves.

	Ports 1 & 3
	0 None

Led / Cable	
00	No cable, no led, no surge suppression
V2	2 Meter cable with led and surge suppression
V5	5 Meter cable with led and surge suppression
V9	9 Meter cable with led and surge suppression

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

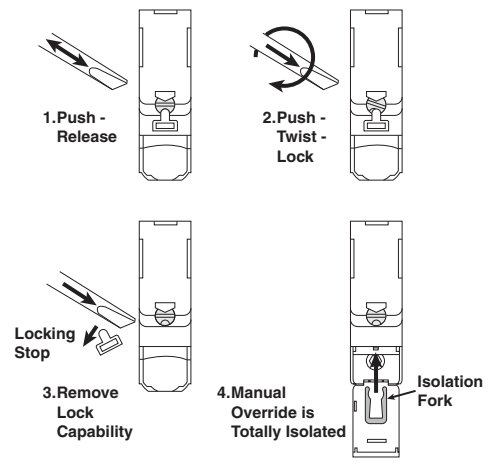
* Valve includes peripheral P. O. check valve and union fittings.
 ** Size 1 only.

Moduflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products









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



“V” Series Manifold Valves with Collective Wiring Size 1

	Symbol	Type	Cv	Operator	Part number
 <p>Single Solenoid</p> <p>Double Solenoid</p>		4-way, 2-position	0.32	Single solenoid	P2M1V4ES2CV
		4-way, 2-position	0.32	Double solenoid	P2M1V4EE2CV
		4-way, 2-position, dual valve, w/ exhaust check	0.18		P2M1VJEE2CV
		3-way, 2-position, dual valve, NC/NC w/ exhaust check	0.22	Double solenoid	P2M1VDEE2CV
		3-way, 2-position, dual valve, NO/NO w/ exhaust check	0.22	Double solenoid	P2M1VCEE2CV
		3-way, 2-position, dual valve, NC/NO w/ exhaust check	0.22	Double solenoid	P2M1VEEE2CV
		3-way, 2-position, NC w/ exhaust check	0.22	Single solenoid	P2M1V3ES2CV
		3-way, 2-position, dual valve, NC/NC	0.22	Double solenoid	P2M1VGEE2CV

“V” Series Size 1 Accessories

	Description	Tube size	Option	Part number
	Size 1 push to connect fitting	5/32"	Elbow	CMD04-1
			Straight	FMD04-1
	Size 1 push to connect fitting	1/4"	Elbow	CMD07-1B
			Straight	FMD07-1B
	Size 1 push to connect fitting	6mm	Elbow	CMD06-1
			Straight	FMD06-1
	Muffler for exhaust port			MMDVA1
	Plug			PMDYY1
	Double male union		Connecting peripheral modules	HMDXX1
	Electrical 20-pin multi-connector cable with flying leads	IP65 rated	2M cable	P8LMH20M2A
			5M cable	P8LMH20M5A
			9M cable	P8LMH20M9A
	Electrical 25-pin D-sub cable	IP20 rated	3M cable	P8LMH25M3A
			9M cable	SCD259D
			IP65 rated	3M cable
	9M cable	SCD259WE		
Field wireable connector for power supply	Female	M12 - A code	P8CS1205AA	
Line termination resistor	Profibus DP	M12 type B	P8BPA00MB	
	Devicenet or Canopen	M12 type A	P8BPA00MA	
AS-i M12 cable with jack for addressing		1M cable	P8LS12JACK	
	Torx screwdriver			P2M1K0TASD

Electrical Connections

Description	Part number
20-pin, Multi-connector electrical head module	P2M2HEV0A
25-pin, D-sub, electrical head module	P2M2HEV0D

Fieldbus Connections

Description	Part number	
Profibus DP	P2M2HBVP21600	
DeviceNet	P2M2HBVD21600	
CANopen	P2M2HBVC21600	
Interbus S	P2M2HBVS11600	
AS-i	0 inputs and 8 solenoid outputs	P2M2HBVA10800
AS-i	8 (PNP) inputs on eight (M8) connectors and 8 solenoid outputs	P2M2HBVA10808A
AS-i	8 (PNP) inputs on four (M12) connectors and 8 solenoid outputs	P2M2HBVA10808B
AS-i Version 2.1 Protocol	AS-i 0 inputs and 6 solenoid outputs	P2M2HBVA20600
AS-i Version 2.1 Protocol	AS-i 8 (PNP) inputs on eight (M8) connectors and 6 solenoid outputs	P2M2HBVA20608A
AS-i Version 2.1 Protocol	AS-i 8 (PNP) inputs on four (M12) connectors and 6 solenoid outputs	P2M2HBVA20608B

Manifold Options

Module	Part number
Pneumatic end plate kit	P2M2HXT01*
Pneumatic end plate kit with torx screwdriver	P2M2HXT0T*
Intermediate supply module (Includes 4 configuration plates)	P2M2BXV0A*

* Use Fittings for Size 2 Modules Only



P2M2HXT01



P2M2BXV0A

Moduflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus









DX ISOMAX
Series

Valvair II
Series








D

Subbase & Manifold
Valve Products

“V” Series Manifold Valves with Collective Wiring Size 2

	Symbol	Type	Cv	Operator	Part number
 <p>Single Solenoid</p> <p>Double Solenoid</p>		4-way, 2-position	0.8	Single solenoid	P2M2V4ES2CV
		4-way, 2-position	0.8	Double solenoid	P2M2V4EE2CV
		3-way, 2-position, dual valve, NC/NC w/ exhaust check	0.44	Double solenoid	P2M2VDEE2CV
		3-way, 2-position, dual valve, NO/NO w/ exhaust check	0.44	Double solenoid	P2M2VCEE2CV
		3-way, 2-position, dual valve, NC/NO w/ exhaust check	0.44	Double solenoid	P2M2VEEE2CV
		3-way, 2-position, NC w/ exhaust check	0.44	Single solenoid	P2M2V3ES2CV
		3-way, 2-position, dual valve, NC/NC	0.44	Double solenoid	P2M2VGEE2CV

“V” Series Size 2 Accessories

	Description	Tube size	Option	Part number
	Size 2 push to connect fitting	1/4" OD tube	Elbow	CMD07-2B
			Straight	FMD07-2B
	Size 2 push to connect fitting	3/8" OD tube	Elbow	CMD09-2B
			Straight	FMD09-2B
	Size 2 push to connect fitting	1/2" OD tube	Straight	FMD13-2B
			Size 2 push to connect fitting	6mm OD tube
	Straight	FMD06-2		
	Size 2 push to connect fitting	8mm OD tube	Elbow	CMD08-2
			Straight	FMD08-2
	Size 2 push to connect fitting	10mm OD tube	Elbow	CMD10-2
			Straight	FMD10-2
	Size 2 push to connect fitting	12mm OD tube	Elbow	CMD12-2
Straight			FMD12-2	
	Muffler for exhaust port			MMDVA2
	Plug			PMDYY2
	Double Male Union		Connecting peripheral modules	HMDXX2
	Electrical 20-pin multi-connector cable with flying leads	IP65 rated	2M cable	P8LMH20M2A
			5M cable	P8LMH20M5A
			9M cable	P8LMH20M9A
	Electrical 25-pin D-sub cable	IP20 rated	3M cable	P8LMH25M3A
			9M cable	SCD259D
			IP65 rated	3M cable
9M cable	SCD259WE			
	Torx screwdriver			P2M1K0TASD

Electrical Connections

Description	Part number
20-pin, Multi-connector electrical head module	P2M2HEV0A
25-pin, D-sub, electrical head module	P2M2HEV0D

Fieldbus Connections

Description	Part number	
Profibus DP	P2M2HBVP21600	
DeviceNet	P2M2HBVD21600	
CANopen	P2M2HBVC21600	
Interbus S	P2M2HBVS11600	
AS-i	0 inputs and 8 solenoid outputs	P2M2HBVA10800
AS-i	8 (PNP) inputs on eight (M8) connectors and 8 solenoid outputs	P2M2HBVA10808A
AS-i	8 (PNP) inputs on four (M12) connectors and 8 solenoid outputs	P2M2HBVA10808B
AS-i Version 2.1 Protocol AS-i	0 inputs and 6 solenoid outputs	P2M2HBVA20600
AS-i Version 2.1 Protocol AS-i	8 (PNP) inputs on eight (M8) connectors and 6 solenoid outputs	P2M2HBVA20608A
AS-i Version 2.1 Protocol AS-i	8 (PNP) inputs on four (M12) connectors and 6 solenoid outputs	P2M2HBVA20608B

Manifold Options

Module	Part number
Pneumatic end plate kit	P2M2HXT01*
Pneumatic end plate kit with torx screwdriver	P2M2HXT0T*
Intermediate supply module (Includes 4 configuration plates)	P2M2BXV0A*

* Use Fittings for Size 2 Modules Only



P2M2HXT01



P2M2BXV0A

Moduflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus

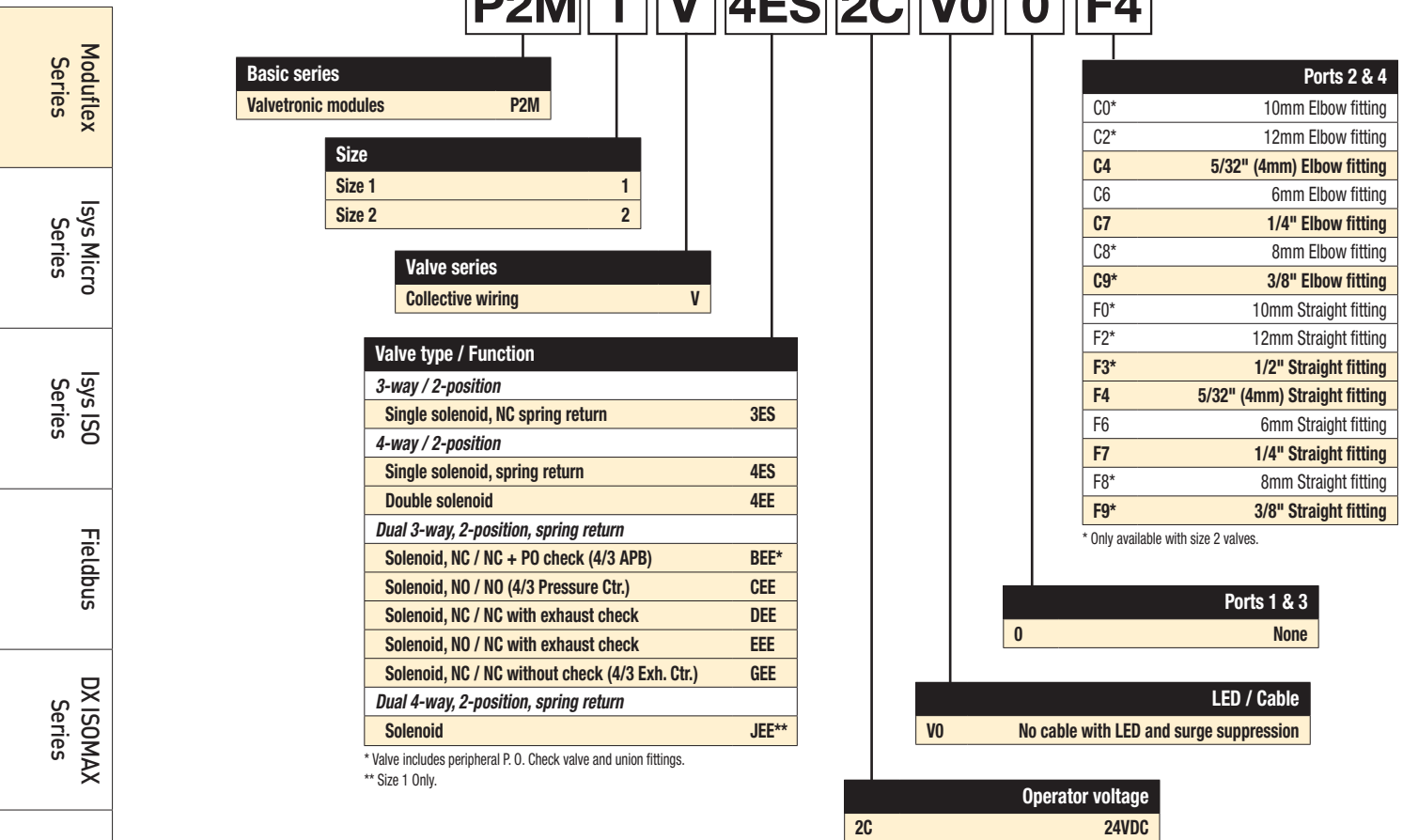
DX ISOMAX
Series

Valvair II
Series

D

Subbase & Manifold
Valve Products

“V” Series Valve Manifold with Collective Wiring
(Complete with Pneumatic Connectors)

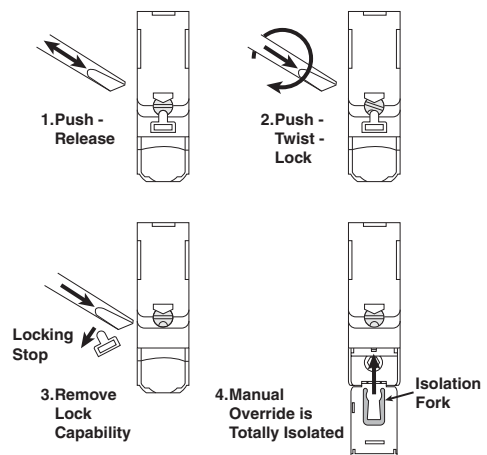


* Valve includes peripheral P. O. Check valve and union fittings.
 ** Size 1 Only.

With only one universal solenoid pilot for all configurations












24VDC is now a global standard for all machines. The Moduflex 24VDC unique solenoid pilot is supplied with the multi-function manual override that can be adapted to all requirements, as explained by the drawings.

Multi-function adaptable manual override



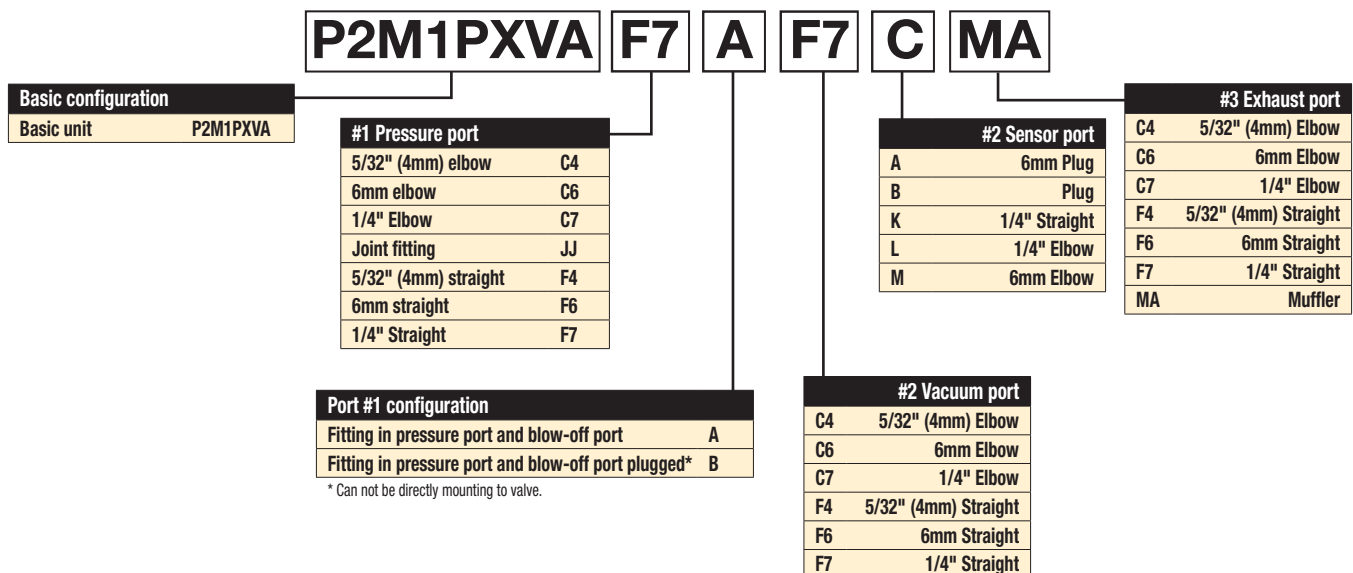
Moduflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products

Peripheral Modules Size 1

Accessories	Description	Option	Part number
	Pressure regulator without gauge	0 to 30 PSI	P2M1PXST
		0 to 60 PSI	P2M1PXSL
		0 to 120 PSI	P2M1PXSX
	Pressure regulator with gauge	0 to 30 PSI	P2M1PXSR
		0 to 60 PSI	P2M1PXSM
		0 to 120 PSI	P2M1PXSG
	Gauge	0 to 30 PSI	P2M1K0GT
		0 to 60 PSI	P2M1K0GL
		0 to 120 PSI	P2M1K0GN
	Dual P.O. Check valve		P2M1PXCA
	Dual flow control		P2M1PXFA
	Vacuum generator	See ordering information below	P2M1PXVA
	Size 1 push to connect fitting	5/32" or 4mm OD tube	Elbow CMD04-1 Straight FMD04-1
		1/4" OD tube	Elbow CMD07-1B Straight FMD07-1B
	Size 1 push to connect fitting	6mm OD tube	Elbow CMD06-1 Straight FMD06-1
			Connecting peripheral modules
	Double male union		HMDXX1
	Muffler for vacuum exhaust port		MMDVA1
	Plug		PMDYY1










Moduflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series

Vacuum Generator Model Number Index

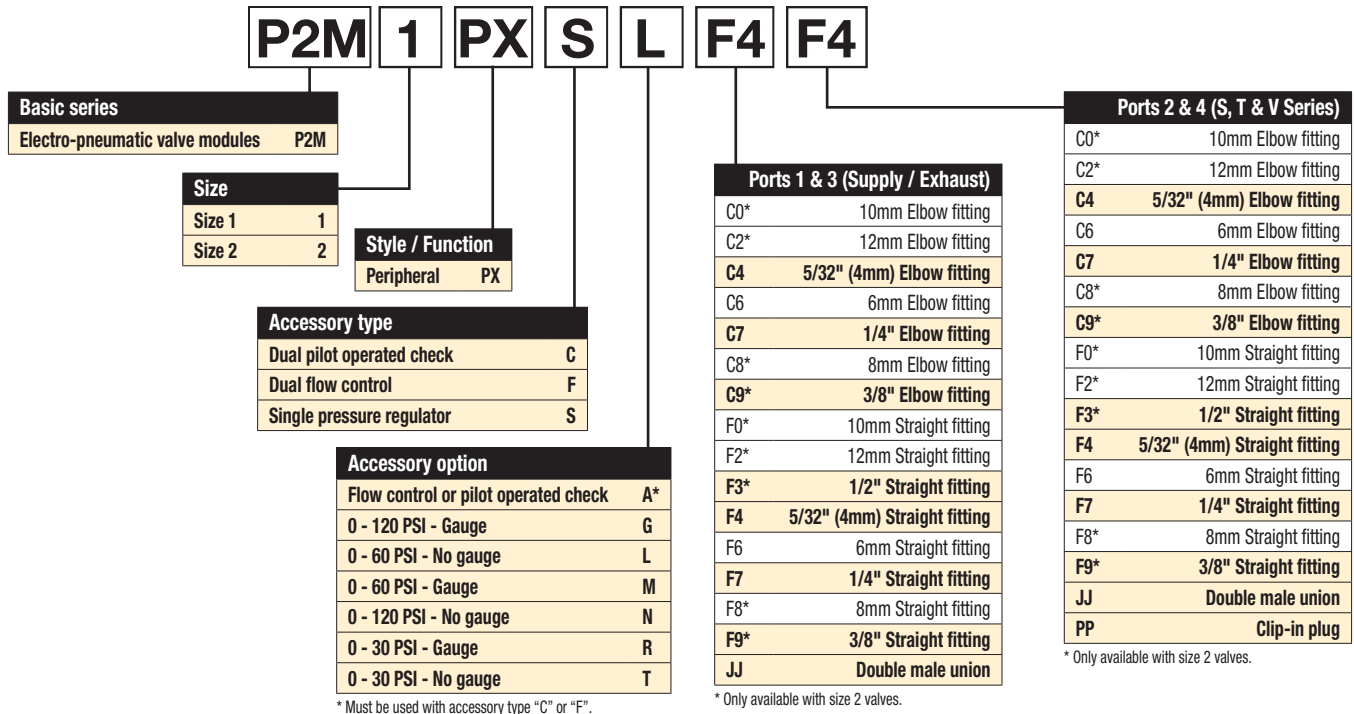


D
 Subbase & Manifold Valve Products

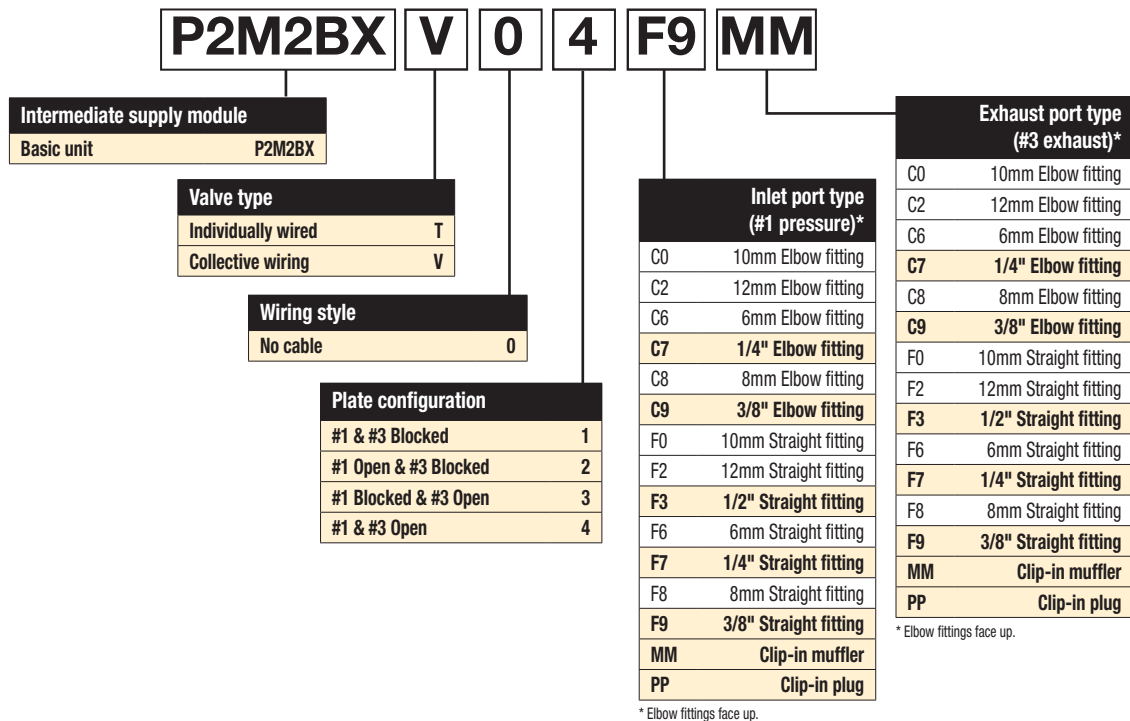
Peripheral Modules Size 2

	Acessories	Description	Option	Part number
Moduflex Series		Pressure regulator without gauge	0 to 30 PSI	P2M2PXST
			0 to 60 PSI	P2M2PXSL
			0 to 120 PSI	P2M2PXSN
Moduflex Series		Pressure regulator with gauge	0 to 30 PSI	P2M2PXSR
			0 to 60 PSI	P2M2PXSM
			0 to 120 PSI	P2M2PXSG
Isys Micro Series		Gauge	0 to 30 PSI	P2M1K0GT
			0 to 60 PSI	P2M1K0GL
			0 to 120 PSI	P2M1K0GN
Isys ISO Series		Dual P.O. check valve		P2M2PXCA
				Dual flow control
Fieldbus		Size 2 push to connect fitting	1/4" OD tube	Elbow CMD07-2B
			3/8" OD tube	Straight FMD07-2B
		Size 2 push to connect fitting	1/2" OD tube	Elbow CMD09-2B
			3/8" OD tube	Straight FMD09-2B
DX ISOMAX Series		Size 2 push to connect fitting	6mm OD tube	Elbow CMD06-2
			8mm OD tube	Straight FMD06-2
		Size 2 push to connect fitting	8mm OD tube	Elbow CMD08-2
			10mm OD tube	Straight FMD08-2
		Size 2 push to connect fitting	10mm OD tube	Elbow CMD10-2
			12mm OD tube	Straight FMD10-2
Valvair II Series		Size 2 push to connect fitting	12mm OD tube	Elbow CMD12-2
			12mm OD tube	Straight FMD12-2
Subbase & Manifold Valve Products		Muffler for exhaust port		MMDVA2
		Plug		PMDYY2
		Double Male Union	Connecting peripheral modules	HMDXX2

“P” Series Peripheral Modules Model Number Index
(Complete with Pneumatic Connectors)



Intermediate Supply Module Model Number Index



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 [†]	
01 - 19*	V-Type
01 - 30	T-Type

* Max. number of addresses for V type is 19. Single solenoid valves equal one address. Double solenoid valves equal two addresses. Maximum address may depend upon choice of bus protocol.

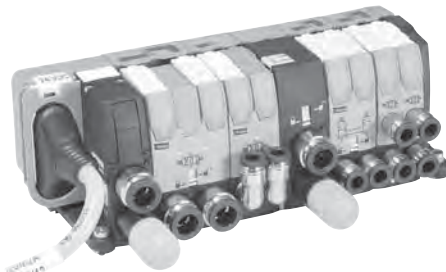
† Intermediate modules are considered stations, but do not count against maximum number of addresses for manifold.

Exhaust port type (#3 Exhaust)*	
C0	10mm Elbow fitting
C2	12mm Elbow fitting
C6	6mm Elbow fitting
C7	1/4" Elbow fitting
C8	8mm Elbow fitting
C9	3/8" Elbow fitting
F0	10mm Straight fitting
F2	12mm Straight fitting
F3	1/2" Straight fitting
F6	6mm Straight fitting
F7	1/4" Straight fitting
F8	8mm Straight fitting
F9	3/8" Straight fitting
MM	Clip-in muffler
PP	Clip-in plug

* Elbow fittings face up.

Inlet port type (#1 pressure)*	
C0	10mm Elbow fitting
C2	12mm Elbow fitting
C6	6mm Elbow fitting
C7	1/4" Elbow fitting
C8	8mm Elbow fitting
C9	3/8" Elbow fitting
F0	10mm Straight fitting
F2	12mm Straight fitting
F3	1/2" Straight fitting
F6	6mm Straight fitting
F7	1/4" Straight fitting
F8	8mm Straight fitting
F9	3/8" Straight fitting
MM	Clip-in muffler
PP	Clip-in plug

* Elbow fittings face up.



"V" Series with 20-pin Connector



"V" Series with Field Bus Connection

Moduflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products

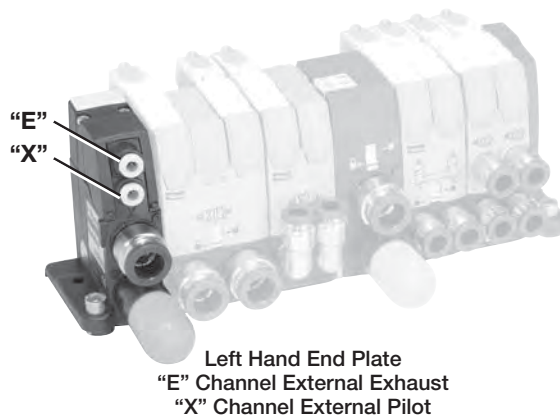
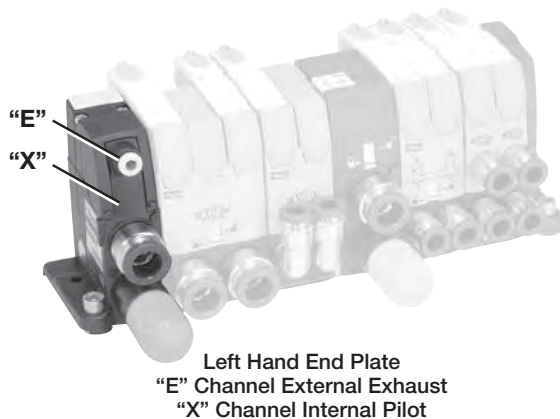
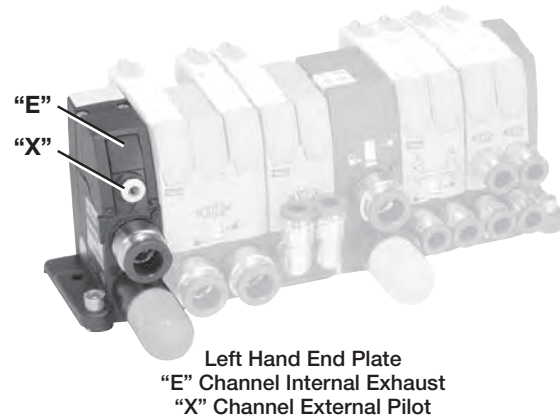
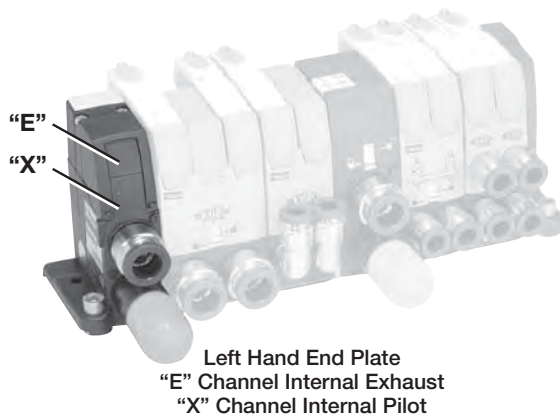
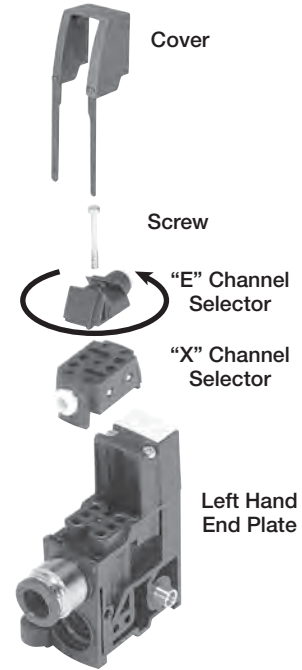
Internal and external pilot supply options

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.



Moduflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

Solenoid Pilot 24VDC

Description	Part number
Solenoid pilot (without plug-in electrical connector)	P2D8V32C5
Air pilot with 5/32" (4mm) tube fitting	P2M2K0PA



P2D8V32C5



P2M2K0PA

Moduflex Series

Isys Micro Series

Size 1 Valve Without Solenoid Pilot and Without Subbase
4-way / 2-position / Single Valve



P2M1X4EE

Solenoid	Part number
Single solenoid (Monostable)	P2M1X4ES
Double solenoid (Bistable)	P2M1X4EE

4-way / 2-position / Dual Valve

Solenoid	Part number
Solenoid spring with exhaust check	P2M1XJEE

3-way / 2-position / Dual Valve

Solenoid	Part number
Double solenoid NC + NC with exhaust check	P2M1XDDE
Double solenoid NO + NO with exhaust check	P2M1XCEE
Double solenoid NC + NO with exhaust check	P2M1XEEE
Single solenoid NC with exhaust check	P2M1X3ES

Size 2 Valve Without Solenoid Pilot and Without Subbase
4-way / 2-position / Dual Valve



P2M2X4EE

Solenoid	Part number
Single solenoid (Monostable)	P2M2X4ES
Double solenoid (Bistable)	P2M2X4EE

3-way / 2-position / Dual Valve

Solenoid	Part number
Double solenoid NC + NC with exhaust check	P2M2XDDE
Double solenoid NO + NO with exhaust check	P2M2XCEE
Double solenoid NC + NO with exhaust check	P2M2XEEE
Single solenoid NC with exhaust check	P2M2X3ES

Isys ISO Series

Fieldbus

DX ISOMAX Series

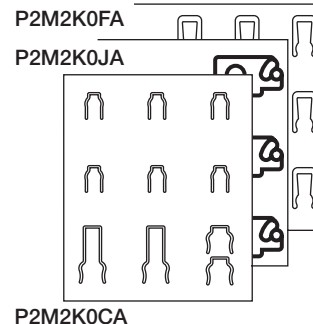
Valvair II Series

D

Subbase & Manifold Valve Products

Set of Maintenance Parts

Description	Part number
Clips Set of 10 clips: 6 for size 1 valves, 2 for size 2 valves, 2 for end plate and intermediate modules	P2M2K0CA
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)	P2M2K0JA
Forks Set of 10 isolation forks for solenoid pilot manual override	P2M2K0FA



“S” Series Individual Subbase Valve Dimensions and Mounting

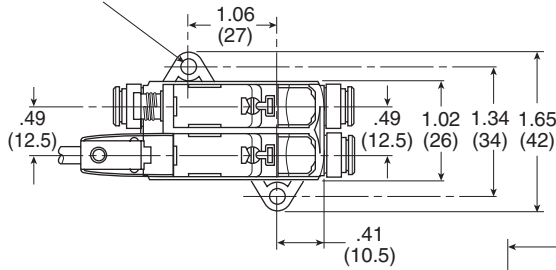
Subbase Valve Size 1



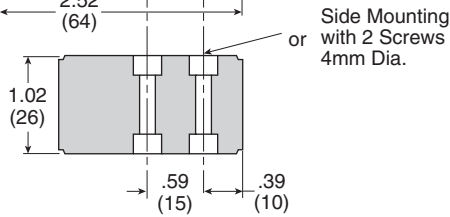
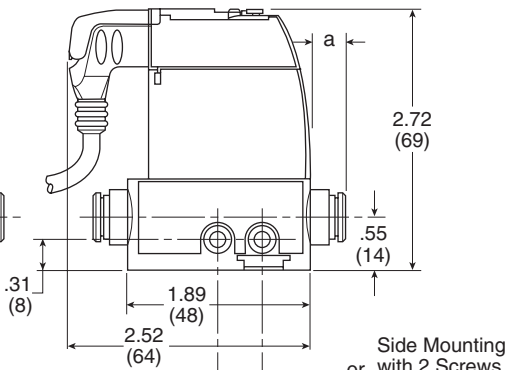
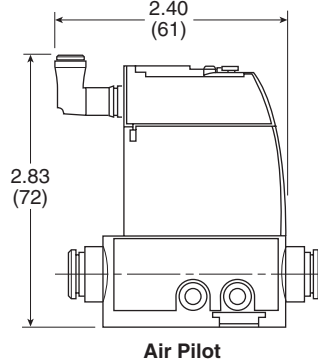
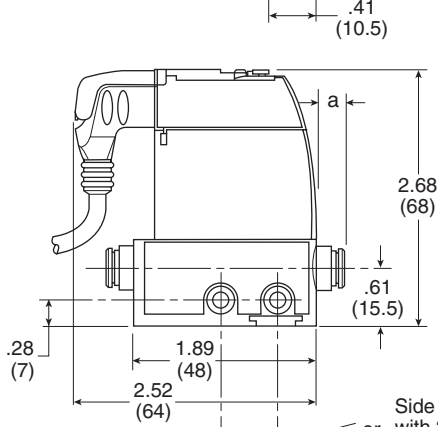
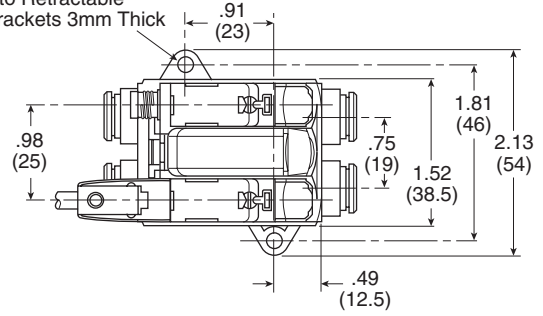
Subbase Valve Size 2



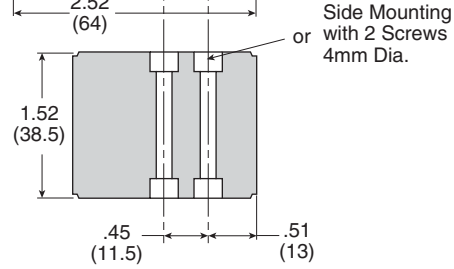
Surface Mounting with Screws 4 mm Dia. into Retractable Brackets 3mm Thick



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



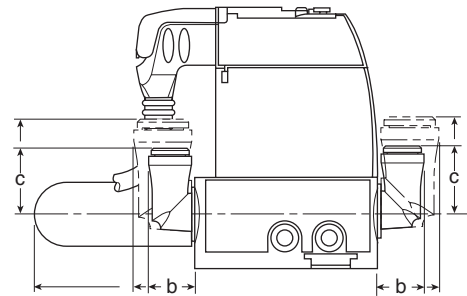
Size 1



Size 2

	OD Tube Ext.	a	b	c
Size 1 Valves	5/32" (4 mm)	8	10	12
	6 mm	8	13	16
	1/4"	15	18	22
	Muffler	31		
Size 2 Valves	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.



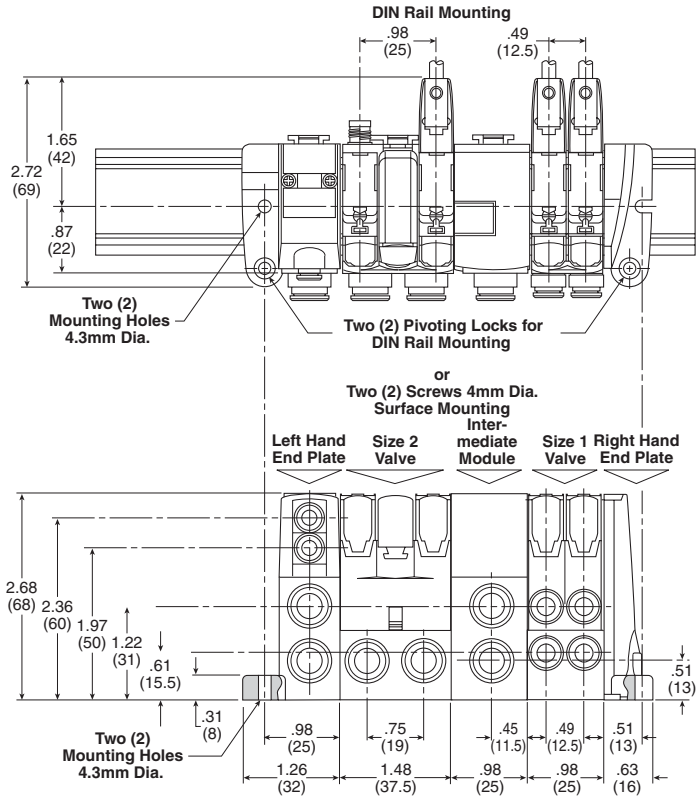
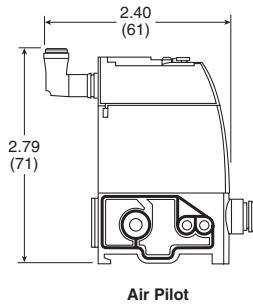
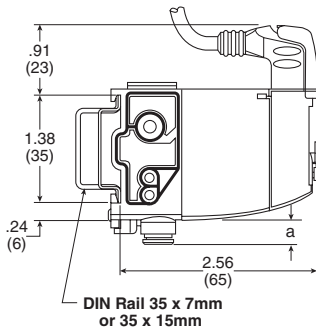
Moduflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

"T" Series Manifold Dimensions and Mounting

- Moduflex Series
- Isys Micro Series
- Isys ISO Series
- Fieldbus
- DX ISOMAX Series
- Valvair II Series
- D**
- Subbase & Manifold Valve Products



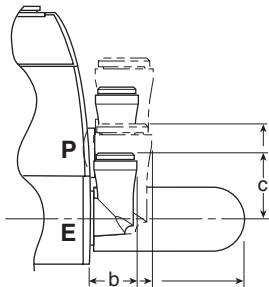
Total Width Depends on Valve Composition



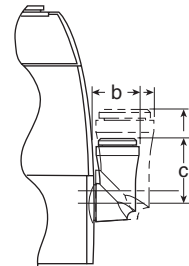
Special Case: 4/3 all ports blocked function within island version, add the dimensions of the dual P.O. check valve plugged into the island.

End Plate and Intermediate Modules

	a	b	c
6 mm Tube OD	8	13	16
1/4" Tube OD	12	18	22
8 mm Tube OD	9	16	19
3/8" Tube OD	16	23	26
10 mm Tube OD	13	18	25
12 mm Tube OD	13	19	25
1/2" Tube OD	13		
Muffler	40		



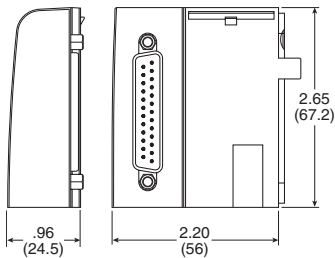
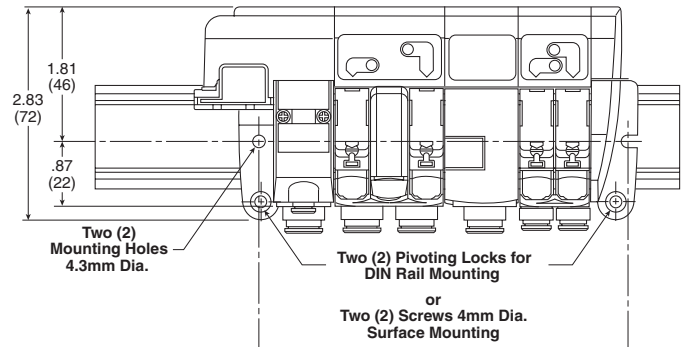
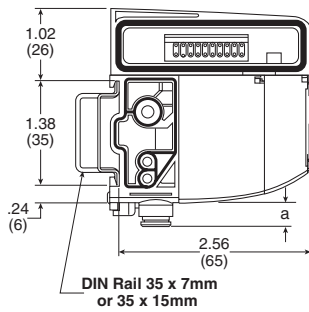
OD Tube	Ext.	a	b	c
Size 1 Valves	5/32" (4 mm)	8	10	12
	6 mm	8	13	16
	1/4"	15	18	22
Size 2 Valves	1/4"	12	18	22
	8 mm	9	16	19
	3/8"	16	23	26
	10 mm	13	18	22



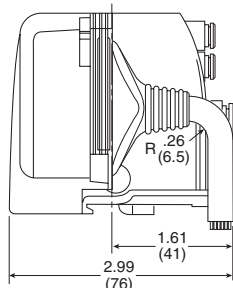
“V” Series Manifold Dimensions and Mounting
 20-pin, Multi-Connector Valve Manifold



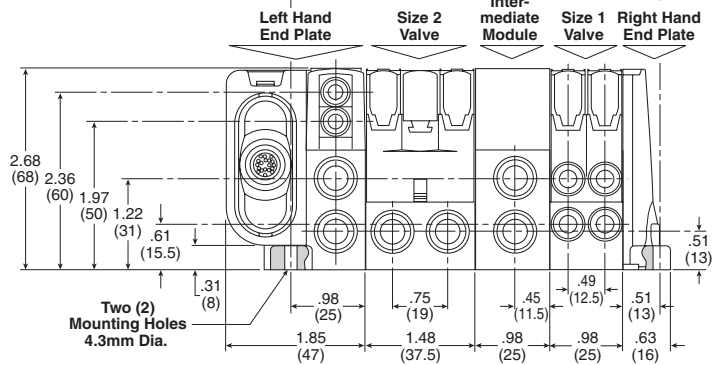
Total Width Depends
 on Valve Composition



25-pin,
 D-Sub

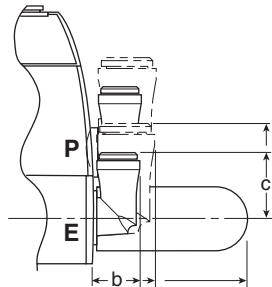


20-pin,
 Multi-Connector

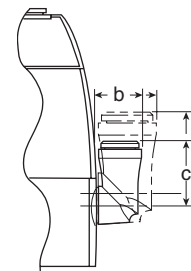


**End Plate and
 Intermediate Modules**

	a	b	c
6 mm Tube OD	8	13	16
1/4" Tube OD	12	18	22
8 mm Tube OD	9	16	19
3/8" Tube OD	16	23	26
10 mm Tube OD	13	18	25
12 mm Tube OD	13	19	25
1/2" Tube OD	13		
Muffler	40		



OD Tube	Ext.	a	b	c
	5/32" (4 mm)	8	10	12
Size 1 Modules	6 mm	8	13	16
	1/4"	15	18	22
Size 2 Modules	1/4"	12	18	22
	8 mm	9	16	19
	3/8"	16	23	26
	10 mm	13	18	22



Moduflex
 Series

Isys Micro
 Series

Isys ISO
 Series

Fieldbus

DX ISOMAX
 Series

Valvair II
 Series

D

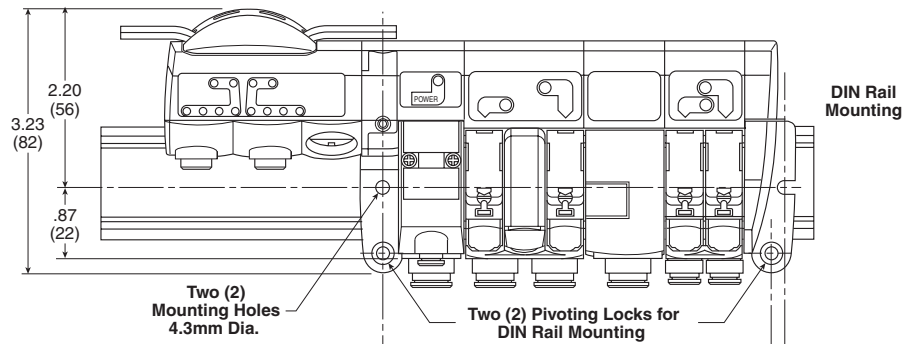
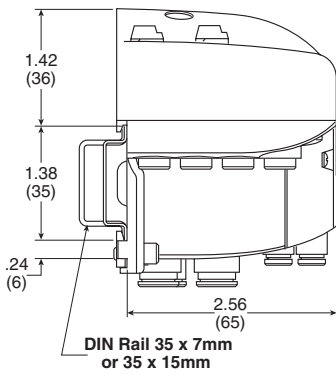
Subbase & Manifold
 Valve Products

“V” Series Manifold Dimensions and Mounting
 Fieldbus Connected Manifolds

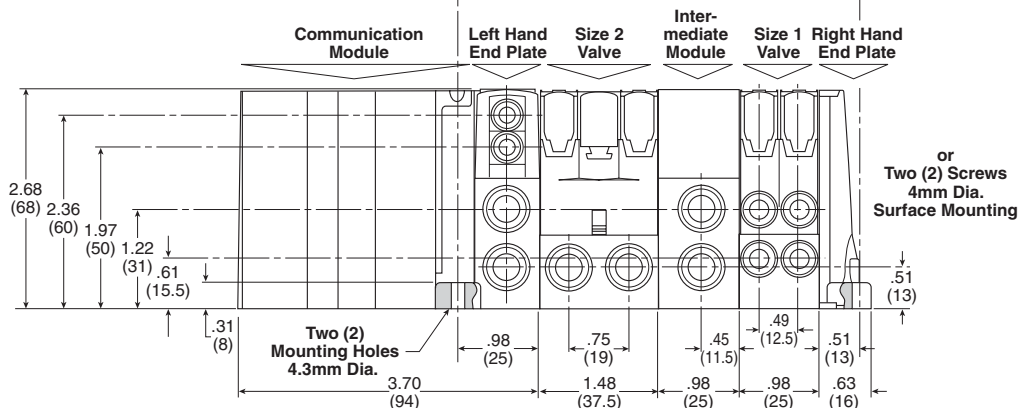
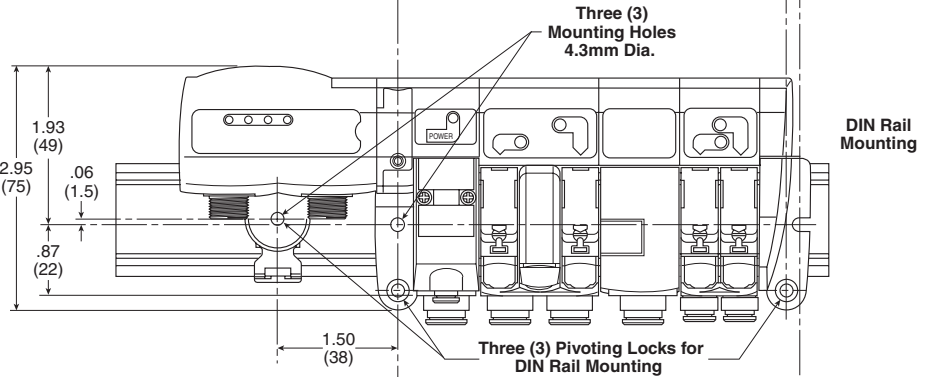
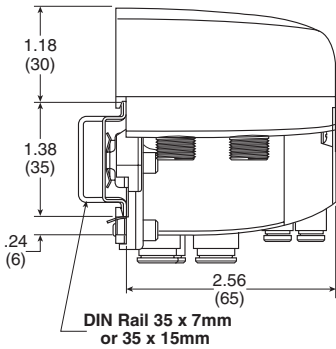
Total Width Depends
 on Valve Composition



AS-i Bus Islands



Device Bus Islands

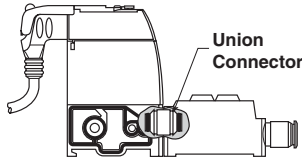


Moduflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

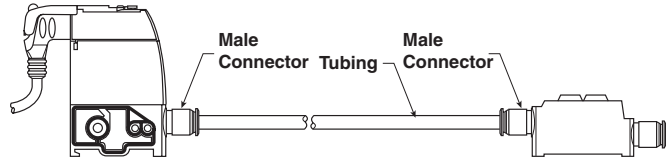
“P” Series Peripheral Modules Dimensions and Mounting

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

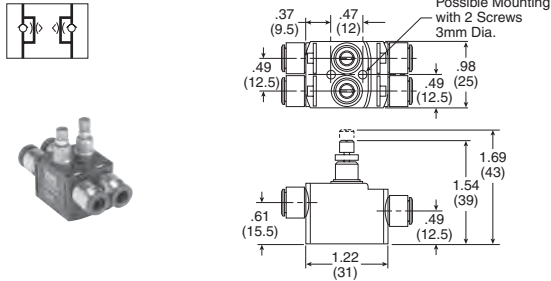
Peripheral Module
 Plugged in a Valve



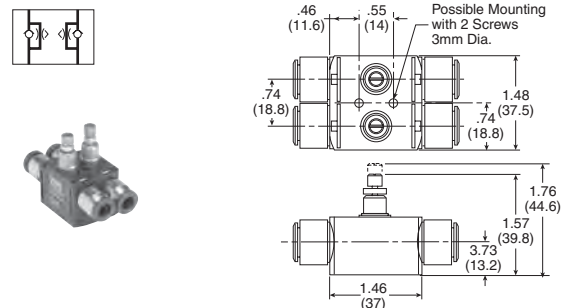
In-Line Peripheral Modules:
 Mounting is Required



Dual Flow Control Size 1

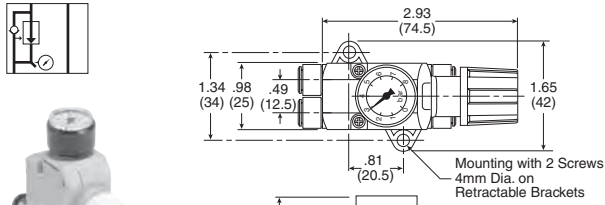


Dual Flow Control Size 2



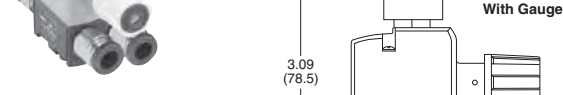
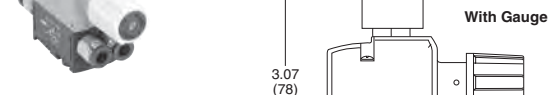
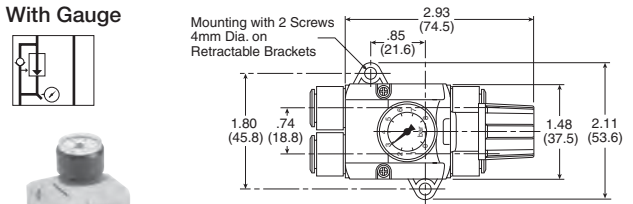
Pressure Regulator Size 1

With Gauge

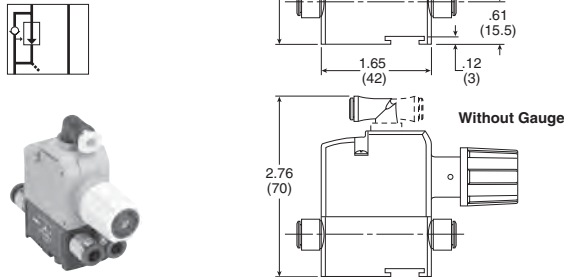


Pressure Regulator Size 2

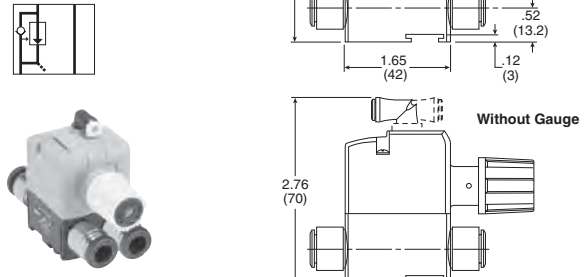
With Gauge



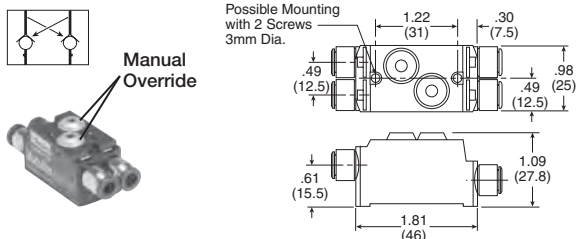
Without Gauge



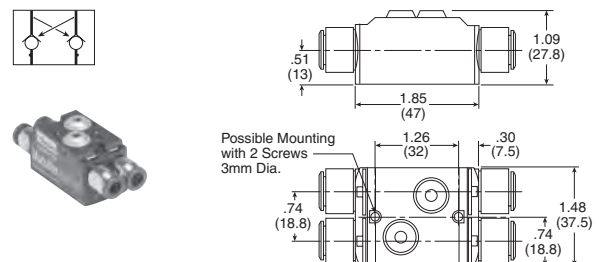
Without Gauge



Dual P.O. Check Valve Size 1



Dual P.O. Check Valve Size 2



Moduflex
 Series

Isys Micro
 Series

Isys ISO
 Series

Fieldbus

DX ISOMAX
 Series

Valvair II
 Series

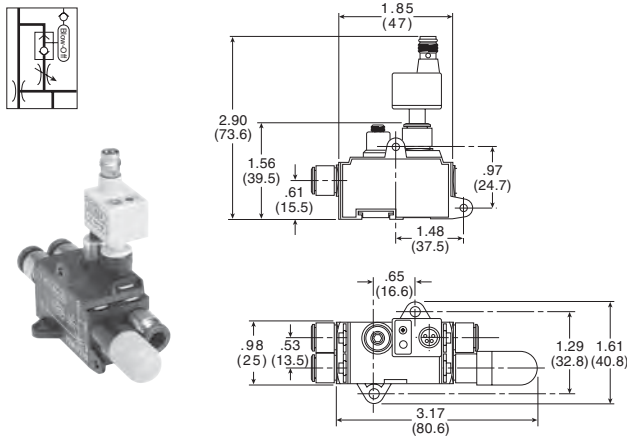
D

Subbase & Manifold
 Valve Products

“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.

Vacuum Generator Size 1

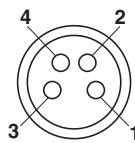


Sensor specifications

Fieldbus	Media	Air and non-corrosives gases
	Proof pressure	(V) 72.5 PSI
	Operating temperature	32 to 122°F (0 to 50°C)
DX ISOMAX Series	Storage temperature	14 to 140°F (-10 to 60°C)
	Humidity	35 to 85% RH
	Electrical connection	(C) 4-pin, M8 connector
Valvar II Series	Power supply	10.8 to 30 VDC, ripple Vp-p 10% max., reverse voltage protection
	Switch output	1 output signal open and closed, NPN or PNP, 30VDC, 125mA
	Linear output	Analog output 1 to 5 VDC
Subbase & Manifold Valve Products	Switch point setting	2/3 turn trimmer
	Hysteresis setting	< 2% of F.S.
	Output response time	<1ms
	Repeatability	<0.2% F.S.
	Shock resistance	100 G, XYZ
	Material	Housing: Polycarbonate, pressure port: Zinc die-cast
	Mass	T Port: 0.25 oz. (7g)

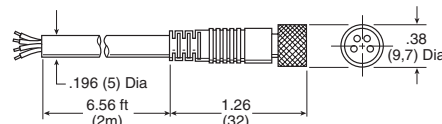
Sensor pin out

- Pin #
- 1 Brown: 24VDC
 - 2 White: NPN / PNP open collector output
 - 3 Blue: 0VDC
 - 4 Black: NPN / PNP open collector output

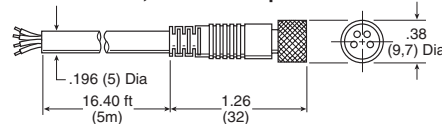


Cables

CB-M8-4P-2M, Female to Open Lead



CB-M8-4P-5M, Female to Open Lead



Isys Micro Series

The Isys 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

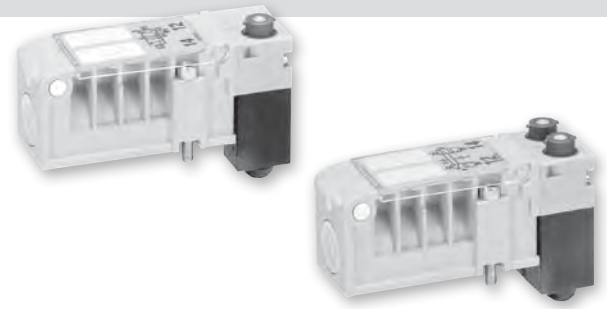
Material specifications

Body	Polyamide reinforced fiberglass
End plates	Aluminum
Fasteners	Zinc plated steel
Manifolds	Aluminum
Spool	Brass and nitrile rubber
Spool enclosure	Brass

Pilot configuration

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 inside of the right hand end plate and replacing it with a fitting allows an external pilot to be used.

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 inside of the right hand end plate and replacing it with a fitting allows an external pilot to be used.



Operating information

Operating pressure: Vacuum to 145 PSIG (Vacuum to 10 bar)

Pilot pressure requirements:

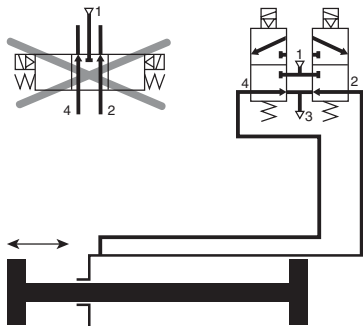
Valve number	Minimum pilot pressure	Maximum pilot pressure
HMEVX2049A	40 PSI	120 PSI
HM2VX2049A	25 PSI	120 PSI
HM5VX2049A	45 PSI	120 PSI
HMN VX2049A	40 PSI	120 PSI
HMPVX2049A	40 PSI	120 PSI
HMQVX2049A	40 PSI	120 PSI

Temperature range: 5°F to 120°F (-15°C to 49°C)

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

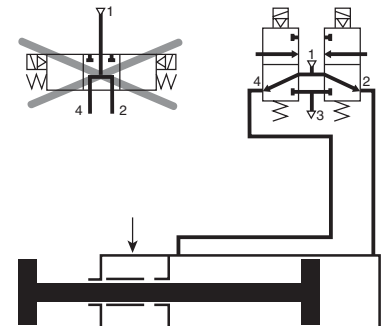
3-position center exhaust

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.



Most popular.

Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

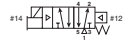
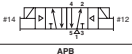
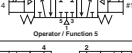
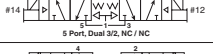
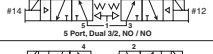


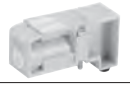
DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

Isys Micro Valves









	Symbol	Type	Cv	Operator	Part number
Modulflex Series		4-way, 2-position	0.35	Single solenoid	HMEVX2049A
		4-way, 2-position	0.35	Double solenoid	HM2VX2049A
		4-way, 3-position, all ports blocked	0.3	Double solenoid	HM5VX2049A
Isys Micro Series		3-way, 2-position, dual valve, NC/NC	0.35	Double solenoid	HMNVX2049A
		3-way, 2-position, dual valve, NO/NO	0.35	Double solenoid	HMPVX2049A
		3-way, 2-position, dual valve, NO/NC	0.35	Double solenoid	HMQVX2049A
Isys ISO Series		Blanking plate	N/A	N/A	HMBVX00XXA
Isys ISO Series		Intermediate air supply	N/A	N/A	HMCVX00XXA

Manifold Bases

	Part numbers
Plug-in valve manifolds	
Single solenoid outputs only	PSM21JAP
Double or single solenoid outputs	PSM21MAP



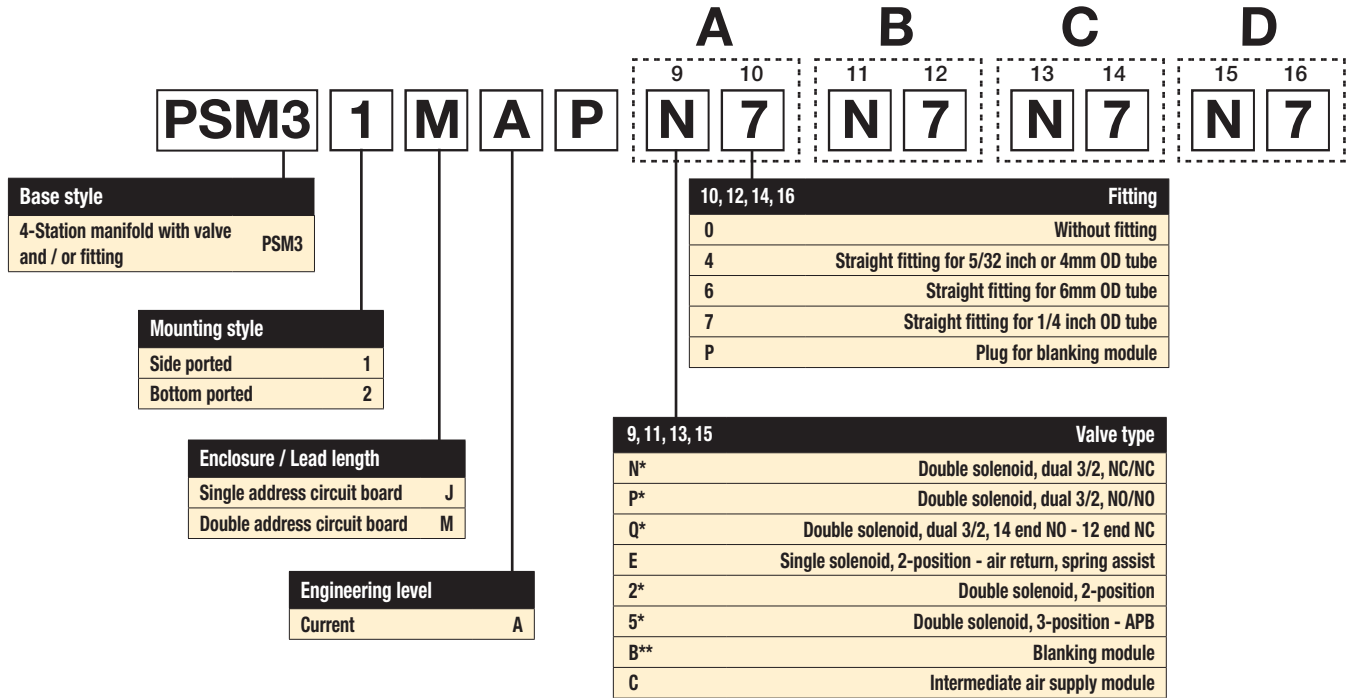
Internal Pilot End Plate Kits

	Electrical option	Porting	Side port	Bottom port
	25-pin, D-sub	NPT	PSML25AP	PSML26AP
		BSPP	PSML21AP	PSML22AP
	Turck fieldbus with valve driver module - 16 outputs	NPT	PSMT15AP	PSMT16AP
		BSPP	PSMT11AP	PSMT12AP
	Turck fieldbus with valve driver module - 32 outputs	NPT	PSMT25AP	PSMT26AP
		BSPP	PSMT21AP	PSMT22AP
	Modulflex 16 outputs	NPT	PSMM45AP	PSMM46AP
		BSPP	PSMM41AP	PSMM42AP
	Isysnet with valve driver module	NPT	PSML65AP	PSML66AP
		BSPP	PSML61AP	PSML62AP
	Isysnet with valve driver module and bus extension connector	NPT	PSMM55AP	PSMM56AP
		BSPP	PSMM51AP	PSMM52AP
	Isysnet with valve driver module and 24VDC connector	NPT	PSMM65AP	PSMM66AP
		BSPP	PSMM61AP	PSMM62AP
	Isysnet with valve driver module, bus extension connector and 24VDC connector	NPT	PSMM75AP	PSMM76AP
		BSPP	PSMM71AP	PSMM72AP

Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
 Subbase & Manifold Valve Products

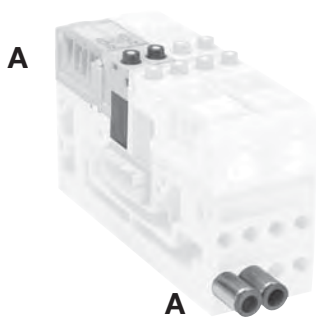
Simple Manifold Assemblies

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

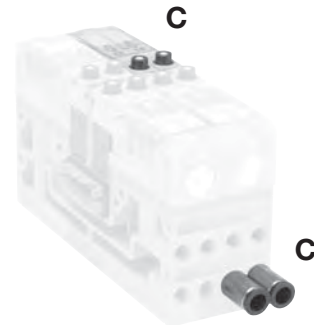


BOLD OPTIONS ARE MOST POPULAR.

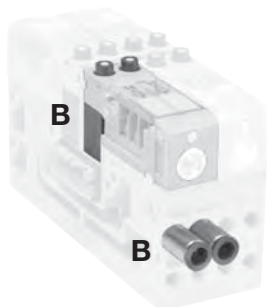
* Requires double address circuit board, enclosure "M".
 ** Requires fitting "P".



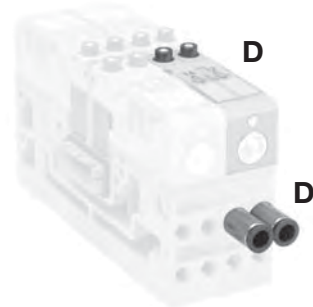
Valve Position A - Character 9
 Fitting Position A - Character 10



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

Modulflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

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

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List Simple Manifold Assemblies. List left to right, LOOKING AT THE CYLINDER PORTS on the manifold.

Maximum Number of Solenoids (Maximum Energized Simultaneously)

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

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

Add-A-Fold Assembly Model Number

AAHM D 3 24 0 0 0 0

Valve series	
Isys 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
Isysnet with valve drive module - 32 outputs	Y
Isysnet with valve drive module and bus extension connector - 32 outputs	W
Isysnet with valve drive module and 24VDC connector - 32 outputs	X
Isysnet with valve drive module and bus extension and 24VDC connector - 32 outputs	Z
Moduflex - 16 outputs	T

Isysnet and Moduflex communication modules must be ordered separately.

End plate type		
BSPP Threads	BSPP side port, internal pilot	1
	BSPP bottom port, internal pilot	2
	BSPP side port, external pilot	3
	BSPP bottom port, external pilot	4
NPT Threads	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 stations 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	BSPP Threads
6	Straight fitting for 6mm OD tube	
4	Straight fitting for 5/32 inch OD tube	NPT Threads
7	Straight fitting for 1/4 inch OD tube	

M7 pilot port on end plate		
<i>Internal pilot end plate</i>		
0	With standard plug	
<i>External pilot end plate</i>		
0	Without fitting	
4	Straight fitting for 4mm OD tube	BSPP Threads
6	Straight fitting for 6mm OD tube	
4	Straight fitting for 5/32 inch OD tube	NPT Threads
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	BSPP Threads
A	Straight fitting for 10mm OD tube	
7	Straight fitting for 1/4 inch OD tube	NPT Threads
9	Straight fitting for 3/8 inch OD tube	

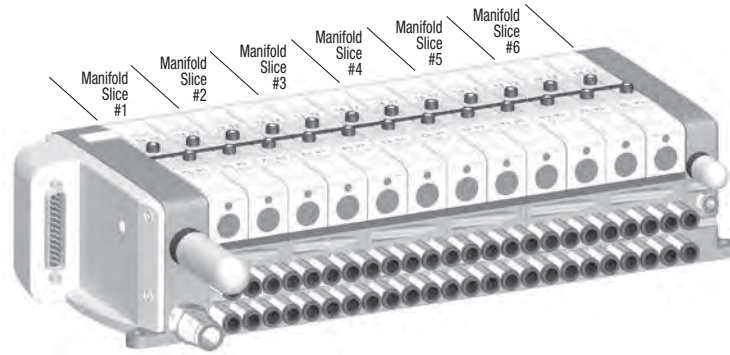
3/8" inlet port on end plate		
0	Without fitting	
8	Straight fitting for 8mm OD tube	BSPP Threads
A	Straight fitting for 10mm OD tube	
7	Straight fitting for 1/4 inch OD tube	NPT Threads
9	Straight fitting for 3/8 inch OD tube	

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



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	AAHMD5249M0M
02	6	4 valve simple manifold slices #1-6	PSM31JAPE7E7E7E7

Component Level

Item	Qty	Description	Part number
01	1	25-pin, D-sub, end plate	PSML25AP
02	24	Single solenoid valve	HMEVX2049A
03	6	Manifold, side ported, single address	PSM21JAP
04	50	1/4" Tube fittings (in box quantity)	PS567925
05	10	3/8" Tube fittings (in box quantity)	PS568338
06	1	3/8" Exhaust muffler	P6M-PAB3
07	1	1/8" Exhaust muffler	P6M-PAB1




Sandwich Regulator

Description	Kit number
 Common port regulator, 5 to 125 PSI with gauge	PSMRAX6AP


Note: 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.

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


Mufflers

Description	Part number
 1/8" pilot exhaust – BSPP or NPT	P6M-PAB1
 3/8" main exhaust – BSPP or NPT	P6M-PAB3
 M7 bottom port pilot exhaust (must be ordered in multiples of 10)	PS568800




Flow Controls

Description	Kit number
 4mm to 4mm or 5/32" to 5/32" OD tube	FC800-5/32
1/4" to 1/4" O.D. tube	FC800-4

25-pin, D-Sub Cable (Female)

Description	Length	Part number
 25-pin, D-sub cable, IP20	3 meters	P8LMH25M3A
25-pin, D-sub cable, IP20	9 meters	SCD259D
25-pin, D-sub cable, IP65	3 meters	SCD253W
25-pin, D-sub cable, IP65	9 meters	SCD259WE

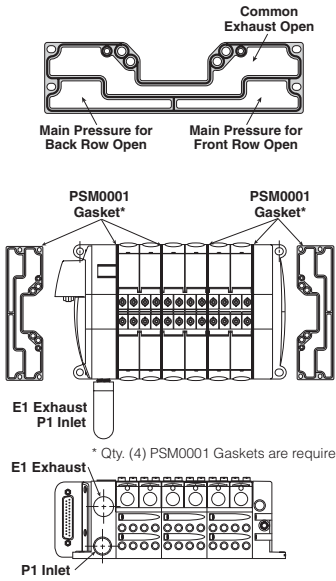
Fittings – Must be ordered in multiples of 10

Thread	Tube O.D.	Part number
Manifold or pilot supply ports – straight		
 M7	4mm or 5/32"	PS567904
M7	6mm	PS567906
M7	1/4"	PS567925
Main inlet or exhaust ports		
 3/8" NPT	1/4"	PS568325
3/8" NPT	3/8"	PS568338
3/8" BSPP	8mm	PS568308
3/8" BSPP	10mm	PS568310
Pilot exhaust ports		
 1/8" NPT	5/32"	PS568215
1/8" NPT	1/4"	PS568225
1/8" BSPP	4mm	PS568204
1/8" BSPP	6mm	PS568206

Multiple Pressure Zones

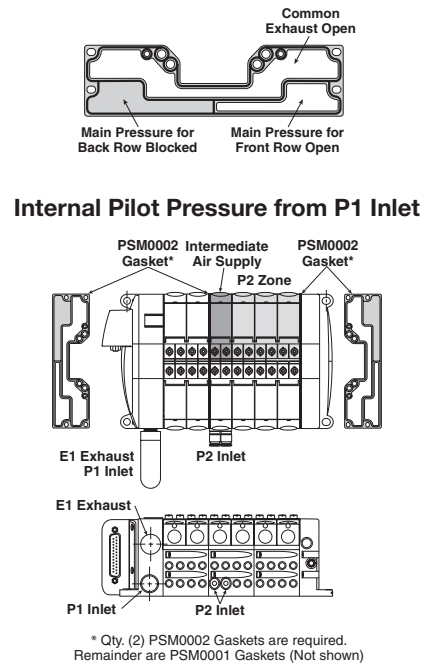
PSM0001 –

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



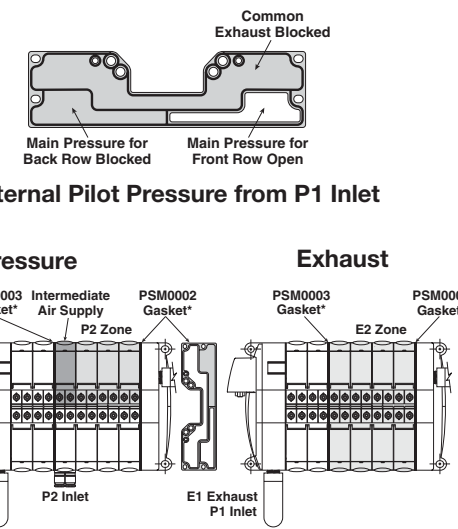
PSM0002 –

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



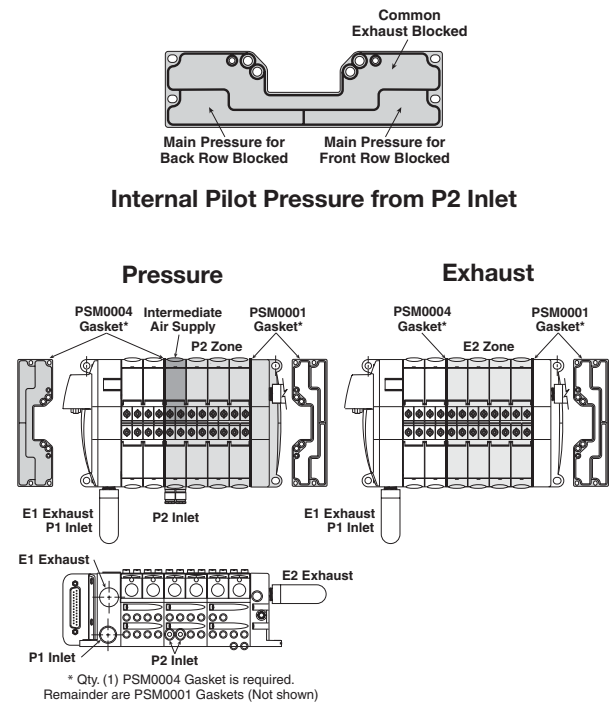
PSM0003 –

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.



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus Series





DX ISOMAX Series

Valvair II Series

D


Subbase & Manifold Valve Products

Manifold to Manifold Gaskets*


Description	Part number
 All galleys passing	PSM0001
 Main pressure to rear or front valves blocked, exhaust passing	PSM0002
 Main pressure to rear or front valves blocked, exhaust blocked	PSM0003
 All galleys blocked	PSM0004

* Includes 1 Gasket


Solenoid Kit

Description	Part number
 24VDC solenoid kit with screws	PSM0010


Override Caps

Description	Part number
 Set of 10 manual override caps	PSM0011


Gaskets and Valve Screws

Description	Part number
 Set of 5 valve to manifold gaskets and 10 screws	PSM0012

Plugs

Description	Part number
 Set of 10 M7 plugs (Part No. PS567900) for auxiliary and pilot pressure ports	PSM0013

Screws


Description	Part number
 Set of 10 manifold to manifold M3 screws	PSM0014

Valve Labels*


Description	Part number
Single solenoid diagram	PSM002E
Double solenoid diagram	PSM0022
Double solenoid diagram – APB	PSM0025
Double solenoid diagram – Dual 3/2 NC/NC	PSM002N
Double solenoid diagram – Dual 3/2 NO/NO	PSM002P
Double solenoid diagram – Dual 3/2, 14 end NO, 12 end NC	PSM002Q

*Includes 10 Labels.

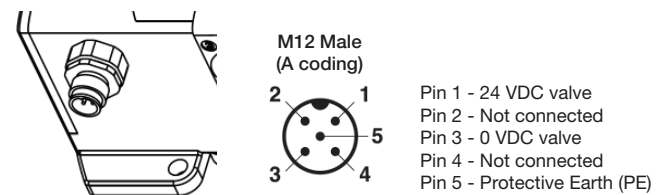
Regulator Gauge

Description	Part number
 5 to 125 PSI Gauge	P0566202

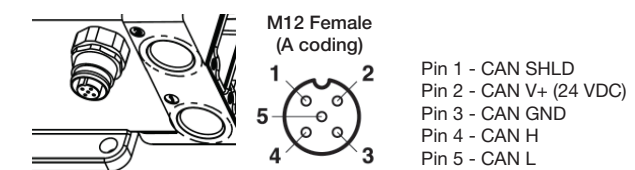
Protective Cover

Description	Part number
 Protective Polyester Cover Set of 10	PS5706

Valve power supply connector (As seen on module)



Local bus connector (As seen on module)



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

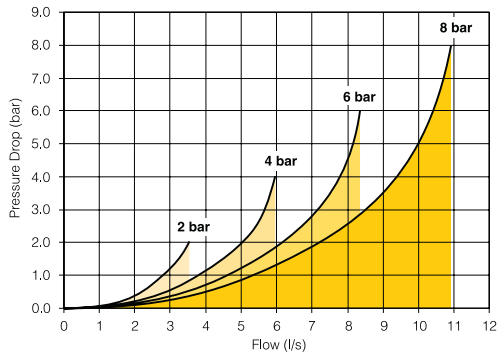
Valvair II Series

D

Subbase & Manifold Valve Products

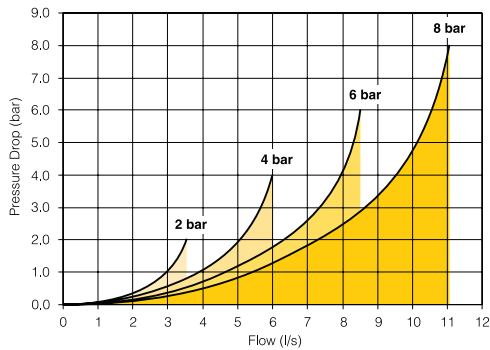
Flow Characteristics

Dual 3/2



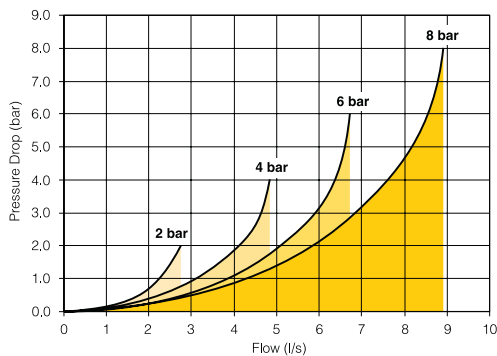
Operating pressure: 39 to 120.3 PSI (2.7 to 8.3 bar)
 Change-over time (side 14): Actua. 15 ms
 Return 20 ms P = 6b
 Change-over time (side 12): 15 ms / 25 ms P = 6b
 Flow (acc. to ISO 6358): c = 1.2 NI/s x bar
 b = 0.13
 Qn = 4.6 NI/s
 Qmax = 8.4 NI/s

5/2 single and double solenoid



Operating pressure:
 Single solenoid 39 to 120.3 PSI (2.7 to 8.3 bar)
 Double solenoid 24.6 to 120.3 PSI (1.7 to 8.3 bar)
 Change-over time:
 Single solenoid Actua. 15 ms
 Return 20 ms P = 6b
 Double solenoid 13 ms / 13 ms P = 6b
 Flow (acc. to ISO 6358): c = 1.2 NI/s x bar
 b = 0.13
 Qn = 4.7 NI/s
 Qmax = 8.5 NI/s

5/3 all ports blocked



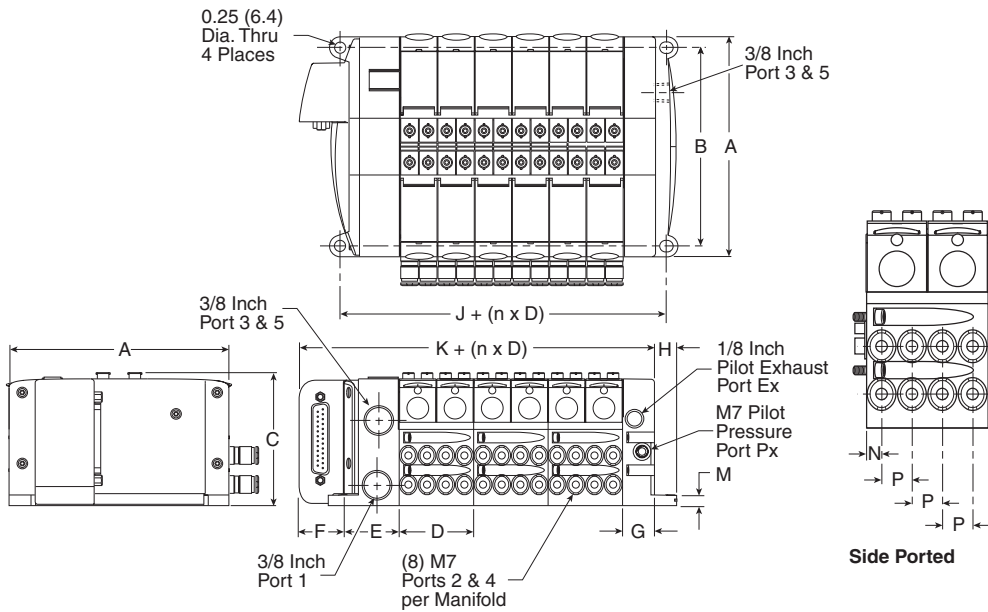
Operating pressure: 39 to 120.3 PSI (2.7 to 8.3 bar)
 Change-over time: Actua. 20 ms
 Return 20 ms P = 6b
 Flow (acc. to ISO 6358): c = 1 NI/s x bar
 b = 0.14
 Qn = 3.8 NI/s
 Qmax = 6.7 NI/s

Characteristics

Fluid: Air or inert gas
 Filtered 40 μ
 Class 5 (according to ISO 8573-1)
 Dry class 4 (according to ISO 8573-1)
 Non-lubricated or lubricated
 Storage temperature: 104°F to 158°F (-40°C to 70°C)
 Working temperature: 5°F to 122°F (-15°C to 50°C)
 Vibration: according to IEC 68-2-6
 2G to 150 Hz
 Shock: according to IEC 68-2-27
 15G 11 ms

Operating pressure: -13 to 120.3 PSI (-0.9 to 8.3 bar)
 with external pressure 87 PSI (6 bar)
 Piloting pressure: 37 to 120.3 PSI (2.7 to 8.3 bar)
 Exhaust collection: Independant exhaust collection
 Rated coil voltage: 24 VDC -15 % / +10 %
 Electrical connection: Not polarized
 Coil insulation: Class B
 Power consumption: 1 W (42 mA) with LED
 Duty factor: 100 % at 68°F (20°C)

25-pin, D-Sub with Isys 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)

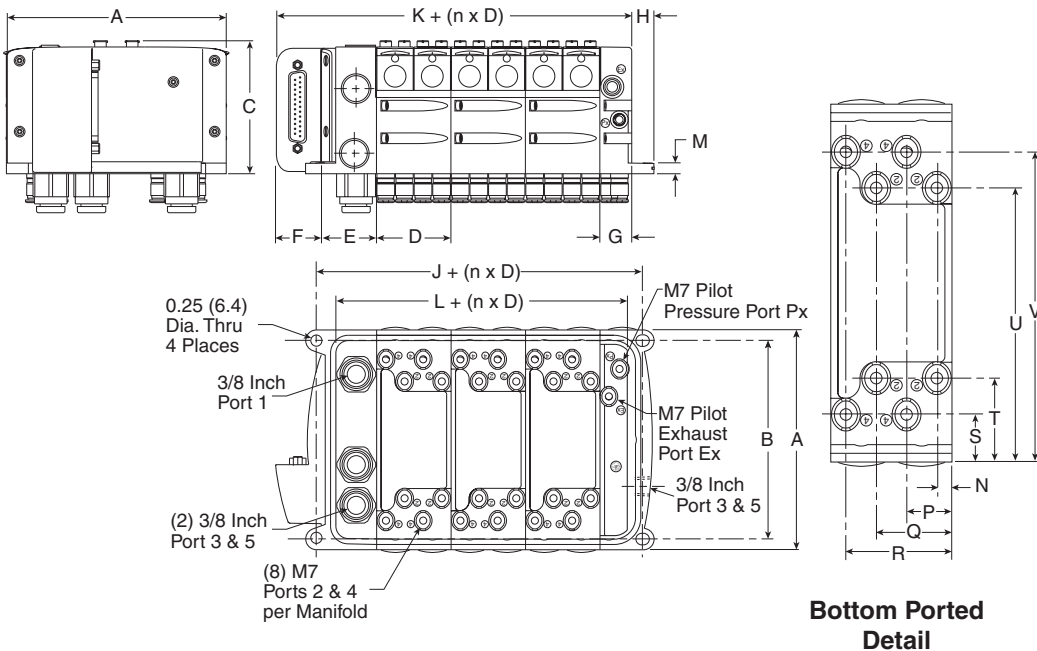
E	F	G	H
1.22	1.02	0.71	0.49
(31.0)	(26.0)	(18.0)	(12.5)

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

25-pin, D-Sub with Isys 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)

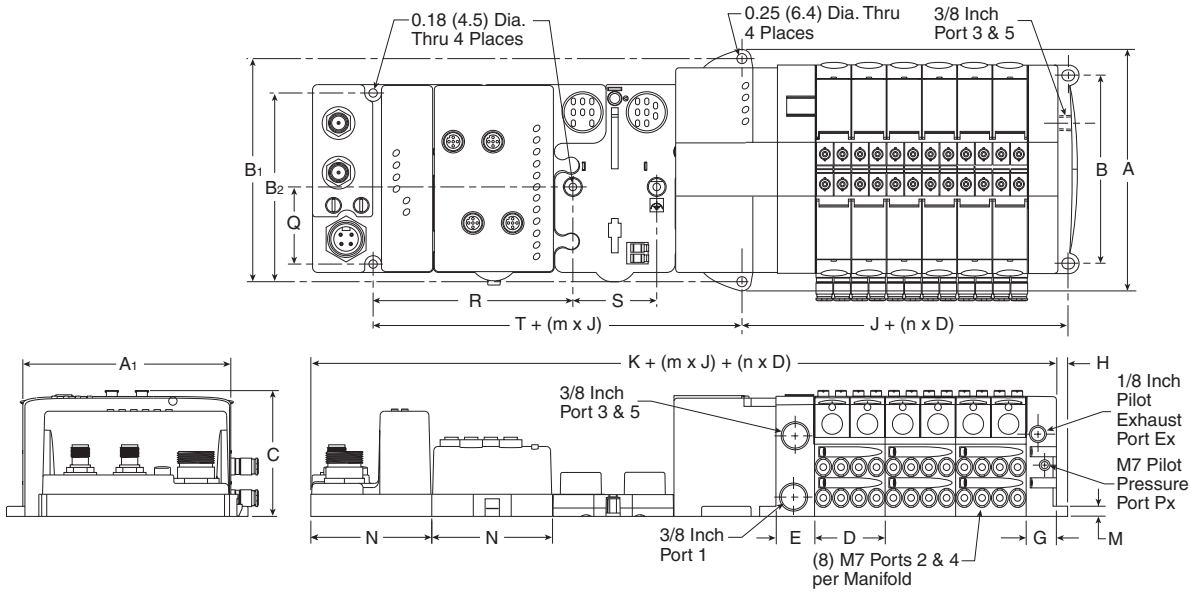
N	P	Q	R
0.21	0.62	1.03	1.45
(5.3)	(15.8)	(26.3)	(36.8)

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

Note:
 See Fieldbus Section for the dimensions of manifolds utilizing the Isysnet, Turck, or Moduflex end plate type.

Isysnet with Isys Micro Valves, Side Ported

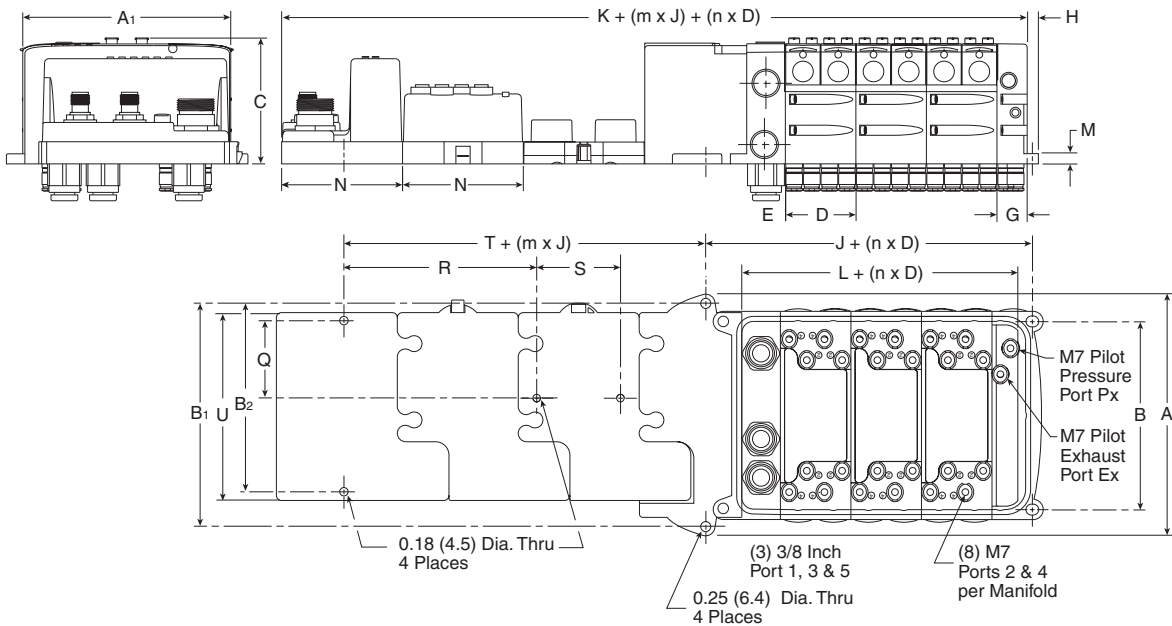


Dimensions

A	A₁	B	B₁	B₂	C	D	E	G
5.67 (144.0)	4.88 (124.0)	4.41 (112.0)	5.24 (133.0)	4.02 (102.0)	2.95 (75.0)	1.65 (42.0)	0.91 (23.0)	0.71 (18.0)
H	J	K	M	N	Q	R	S	T
0.49 (12.5)	2.72 (69.0)	7.32 (186.0)	0.24 (6.1)	2.83 (72.0)	1.81 (46.0)	4.72 (120.0)	2.01 (51.0)	2.01 (51.0)

Inches (mm)
 n = Number of Manifolds
 m = Number of Modules

Isysnet with Isys Micro Valves, Bottom Ported

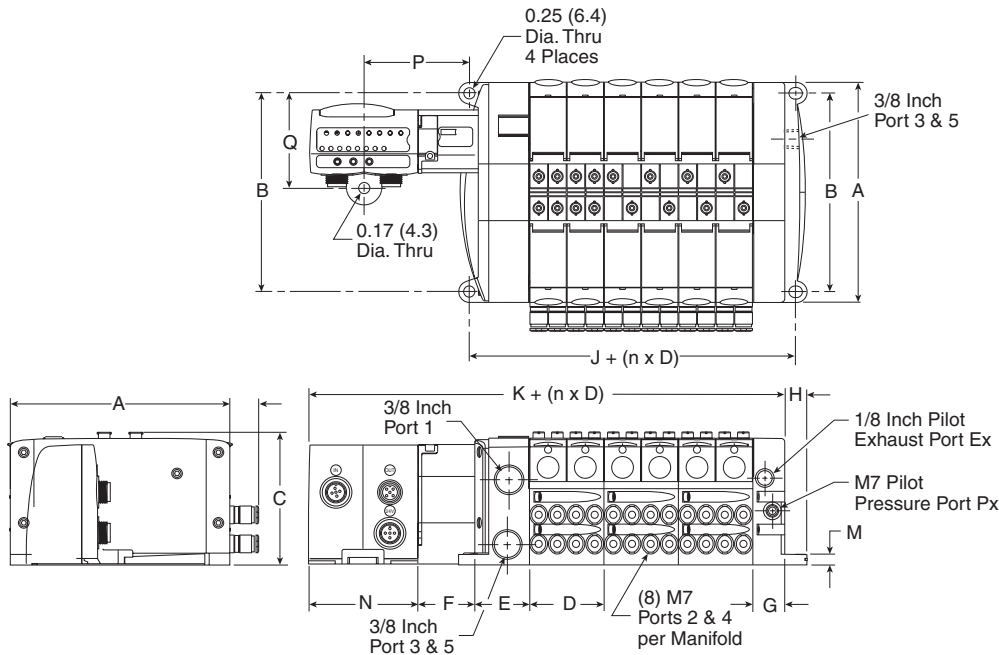


Dimensions

A	A₁	B	B₁	B₂	C	D	E	G	H
5.67 (144.0)	4.88 (124.0)	4.41 (112.0)	5.24 (133.0)	4.02 (102.0)	2.95 (75.0)	1.65 (42.0)	0.91 (23.0)	0.71 (18.0)	0.49 (12.5)
J	K	L	M	N	Q	R	S	T	U
2.72 (69.0)	7.32 (186.0)	1.69 (43.0)	0.24 (6.1)	2.83 (72.0)	1.81 (46.0)	4.72 (120.0)	2.01 (51.0)	2.01 (51.0)	4.41 (112)

Inches (mm)
 n = Number of Manifolds
 m = Number of Modules

Moduflex with Isys Micro Valves, Side Ported

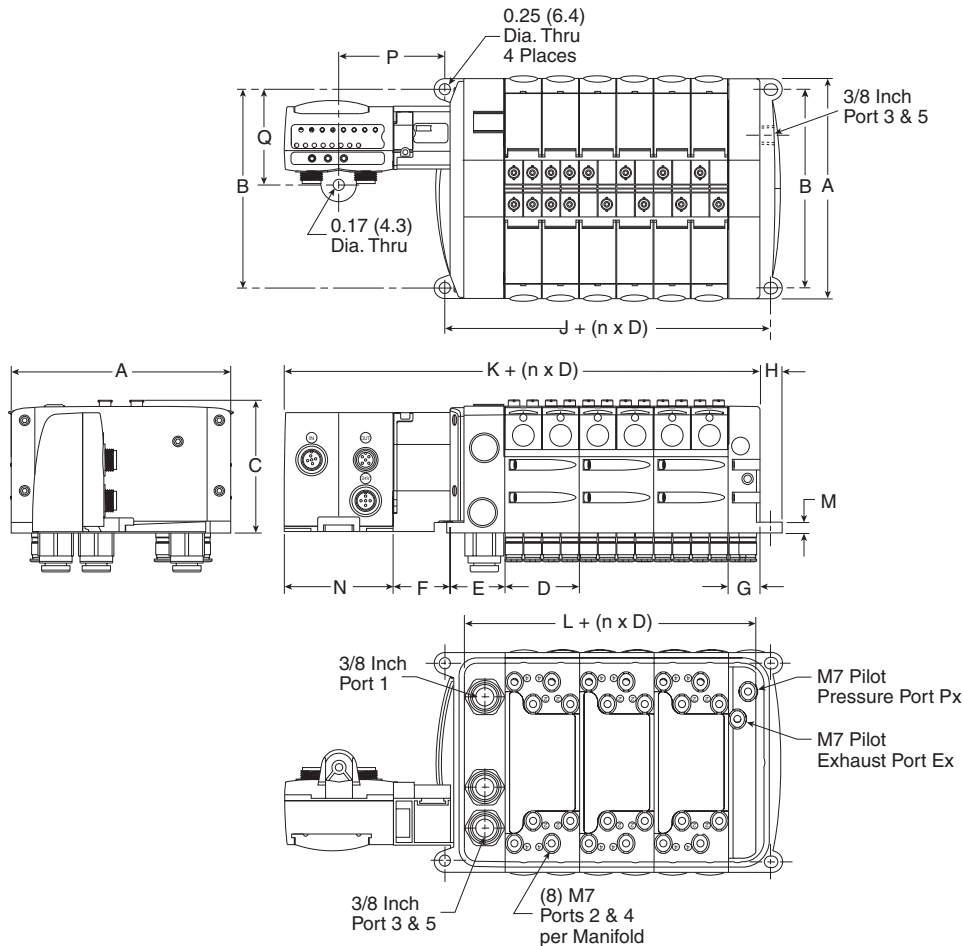


Dimensions

A	B	C	D
4.88 (124.0)	4.41 (112.0)	2.95 (75.0)	1.65 (42.0)
E	F	G	H
1.22 (31.0)	1.28 (32.5)	0.71 (18.0)	0.49 (12.5)
J	K	M	N
2.28 (58.0)	6.10 (155.0)	0.24 (6.1)	2.40 (61.0)
P	Q		
2.36 (60.0)	2.07 (52.55)		

Inches (mm)
 n = Number of manifolds

Moduflex with Isys Micro Valves, Bottom Ported



Dimensions

A	B	C	D
4.88 (124.0)	4.41 (112.0)	2.95 (75.0)	1.65 (42.0)
E	F	G	H
1.22 (31.0)	1.02 (26.0)	0.71 (18.0)	0.49 (12.5)
J	K	L	M
2.28 (58.0)	6.10 (155.0)	1.69 (43.0)	0.24 (6.1)
N	P	Q	
2.40 (61.0)	2.36 (60.0)	2.07 (52.55)	

Inches (mm)
 n = Number of manifolds

Moduflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

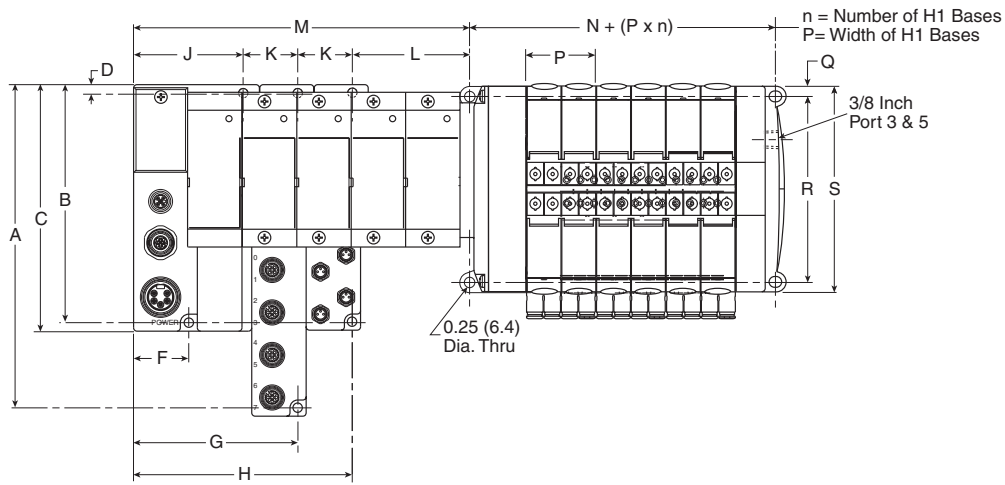
DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

Turck with Isys 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)

- Modulflex Series
- Isys Micro Series
- Isys ISO Series
- Fieldbus
- DX ISOMAX Series
- Valvair II Series
- D**
- Subbase & Manifold Valve Products

Isys ISO Series

The Isys ISO valve conforms to international standards 15407 and 5599, providing maximum flexibility for end users. As Parker's premier manifold mount product offering, Isys 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. Individual wiring is available with DIN or central connectors, and collective solutions offer installation time savings with either multi-pin connectors or fieldbus solutions.

Ports, Flow

- 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
- H3: 3/4 inch, 6.0 Cv

Mounting

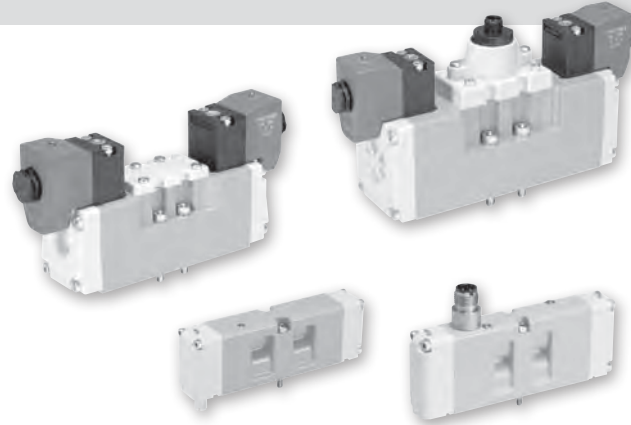
- Manifold or subbase

Solenoids

- HB & HA: 24 VDC, 1.0 Watt, and 120 VAC, 1.0 VA
- H1, H2, & H3: 24 VDC, 3.2 Watt, and 120 VAC, 4.5 VA

Certification / approval

- IP65 rated
- CSA / C-US approved



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:

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	Isys	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.

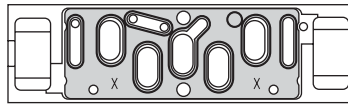
Most popular.



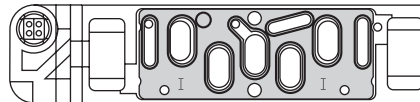
ISO Pneumatic Valve Standard Definitions

Modulflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

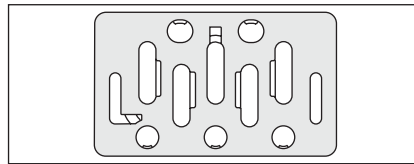
15407-1: Non-Plug-in Standards for Size 01 (26mm) & Size 02 (18mm) Wide Valves



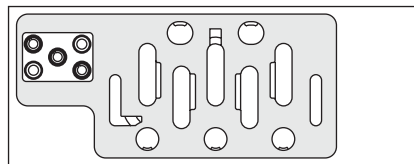
15407-2: Plug-in Standards for Size 01 (26mm) & Size 02 (18mm) Wide Valves



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

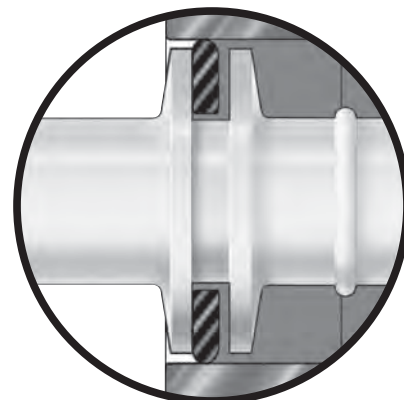


5599-2: Plug-in Standards for Size 1, 2, 3

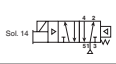
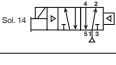

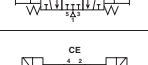

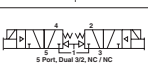
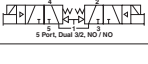




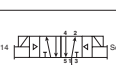
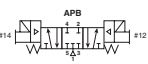
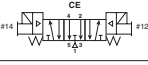

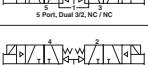

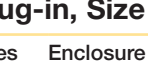
Wear Compensation System

- Maximum Performance
 - Low Friction
 - Fast Response
 - Lower Operating Pressures
 - 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.





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	HBEVXBG0G9A	HBEVXBH0G9A
					External	HBEVXLG0G9A	HBEVXLH0G9A
	4-way, 2-position, air return	0.55	Single solenoid	24 VDC	Internal	HB1VXBG0G9A	HB1VXBH0G9A
					External	HB1VXLG0G9A	HB1VXLH0G9A
	4-way, 2-position	0.55	Double solenoid	24 VDC	Internal	HB2VXBG0G9A	HB2VXBH0G9A
					External	HB2VXLG0G9A	HB2VXLH0G9A
	4-way, 3-position, all ports blocked	0.5	Double solenoid	24 VDC	Internal	HB5VXBG0G9A	HB5VXBH0G9A
					External	HB5VXLG0G9A	HB5VXLH0G9A
	4-way, 3-position, center exhaust	0.5	Double solenoid	24 VDC	Internal	HB6VXBG0G9A	HB6VXBH0G9A
					External	HB6VXLG0G9A	HB6VXLH0G9A
	4-way, 3-position, pressure center	0.5	Double solenoid	24 VDC	Internal	HB7VXBG0G9A	HB7VXBH0G9A
					External	HB7VXLG0G9A	HB7VXLH0G9A
	3-way, 2-position, dual valve, NC/NC	0.45	Double solenoid	24 VDC	Internal	HBNVXBG0G9A	HBNVXBH0G9A
					External	HBPVXLG0G9A	HBPVXLH0G9A
	3-way, 2-position, dual valve, NO/NO	0.45	Double solenoid	24 VDC	Internal	HBPVXBG0G9A	HBPVXBH0G9A
					External	HBPVXLG0G9A	HBPVXLH0G9A

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	0.55	Single solenoid	120 VAC	Internal	HBEVXBG023A	HBEVXBH023A
					External	HBEVXLG023A	HBEVXLH023A
	4-way, 2-position, air return	0.55	Single solenoid	120 VAC	Internal	HB1VXBG023A	HB1VXBH023A
					External	HB1VXLG023A	HB1VXLH023A
	4-way, 2-position	0.55	Double solenoid	120 VAC	Internal	HB2VXBG023A	HB2VXBH023A
					External	HB2VXLG023A	HB2VXLH023A
	4-way, 3-position, all ports blocked	0.5	Double solenoid	120 VAC	Internal	HB5VXBG023A	HB5VXBH023A
					External	HB5VXLG023A	HB5VXLH023A
	4-way, 3-position, center exhaust	0.5	Double solenoid	120 VAC	Internal	HB6VXBG023A	HB6VXBH023A
					External	HB6VXLG023A	HB6VXLH023A
	4-way, 3-position, pressure center	0.5	Double solenoid	120 VAC	Internal	HB7VXBG023A	HB7VXBH023A
					External	HB7VXLG023A	HB7VXLH023A
	3-way, 2-position, dual valve, NC/NC	0.45	Double solenoid	120 VAC	Internal	HBNVXBG023A	HBNVXBH023A
					External	HBPVXLG023A	HBPVXLH023A
	3-way, 2-position, dual valve, NO/NO	0.45	Double solenoid	120 VAC	Internal	HBPVXBG023A	HBPVXBH023A
					External	HBPVXLG023A	HBPVXLH023A

15407-2, Plug-in, Size 18mm (HB), 2-Station Manifold Bases

End ported bases	Enclosure / Lead length	Solenoid addresses	1/8" NPT	1/8" BSPP
	Circuit board	Single solenoid - 1 address	PS561151JP	PS561152JP
	Circuit board	Double solenoid - 2 addresses	PS561151MP	PS561152MP
	Circuit board with 32 output expansion	Single solenoid - 1 address	PS561151NP	PS561152NP
	Circuit board with 32 output expansion	Double solenoid - 2 addresses	PS561151PP	PS561152PP
Bottom / end ported bases				
	Circuit board	Single solenoid - 1 address	PS561161JP	PS561162JP
	Circuit board	Double solenoid - 2 addresses	PS561161MP	PS561162MP
	Circuit board with 32 output expansion	Single solenoid - 1 address	PS561161NP	PS561162NP
	Circuit board with 32 output expansion	Double solenoid - 2 addresses	PS561161PP	PS561162PP



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus








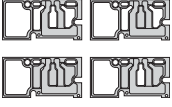
DX ISOMAX Series

Valvair II Series

D







Subbase & Manifold Valve Products

15407-2, Plug-in, Size 18mm (HB) Accessories

	Accessories	Description	Part number
Modulflex Series	 Sandwich regulator	Common pressure 2-60 PSIG w/ gauge	PS5638155P
		Common pressure 5-125 PSIG w/ gauge	PS5638166P
		Independent pressure 2-60 PSIG w/ gauge	PS5638255P
		Independent pressure 5-125 PSIG w/ gauge	PS5638266P
	 Gauge adapter kit	Includes 1/8" coupling and long nipple	PS5651160P
Isys Micro Series	 Blanking plate kit		PS5634P
	 Sandwich supply module	1/8" NPT	PS561600P
1/8" BSPP		PS561601P	
Isys ISO Series	 Sandwich exhaust module	1/8" NPT	PS561700P
		1/8" BSPP	PS561701P
	 Intermediate air supply module	1/8" NPT	D02P-01-80
Fieldbus	 Sandwich flow control		PS5635P
	 Manifold to manifold gasket kits	Standard	PS561AP
Blocked #1 port		PS561BP	
Blocked #1, 3, 5, ports		PS561CP	
Blocked #3, 5 ports		PS561DP	







Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products

15407-2, Plug-in, Size 26mm (HA)

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
 Sol. 14	4-way, 2-position, spring return	1.1	Single solenoid	24 VDC	Internal	HAEVXBG0G9A	HAEVXBH0G9A
					External	HAEVXLG0G9A	HAEVXLH0G9A
 Sol. 14	4-way, 2-position, air return	1.1	Single solenoid	24 VDC	Internal	HA1VXBG0G9A	HA1VXBH0G9A
					External	HA1VXLG0G9A	HA1VXLH0G9A
 Sol. 14 Sol. 12	4-way, 2-position	1.1	Double solenoid	24 VDC	Internal	HA2VXBG0G9A	HA2VXBH0G9A
					External	HA2VXLG0G9A	HA2VXLH0G9A
 #14 #12	4-way, 3-position, all ports blocked	1.0	Double solenoid	24 VDC	Internal	HA5VXBG0G9A	HA5VXBH0G9A
					External	HA5VXLG0G9A	HA5VXLH0G9A
 #14 #12	4-way, 3-position, center exhaust	1.0	Double solenoid	24 VDC	Internal	HA6VXBG0G9A	HA6VXBH0G9A
					External	HA6VXLG0G9A	HA6VXLH0G9A
 #14 #12	4-way, 3-position, pressure center	1.0	Double solenoid	24 VDC	Internal	HA7VXBG0G9A	HA7VXBH0G9A
					External	HA7VXLG0G9A	HA7VXLH0G9A

Modulflex Series

Isys Micro Series


Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
 Sol. 14	4-way, 2-position, spring return	1.1	Single solenoid	120 VAC	Internal	HAEVXBG023A	HAEVXBH023A
					External	HAEVXLG023A	HAEVXLH023A
 Sol. 14	4-way, 2-position, air return	1.1	Single solenoid	120 VAC	Internal	HA1VXBG023A	HA1VXBH023A
					External	HA1VXLG023A	HA1VXLH023A
 Sol. 14 Sol. 12	4-way, 2-position	1.1	Double solenoid	120 VAC	Internal	HA2VXBG023A	HA2VXBH023A
					External	HA2VXLG023A	HA2VXLH023A
 #14 #12	4-way, 3-position, all ports blocked	1.0	Double solenoid	120 VAC	Internal	HA5VXBG023A	HA5VXBH023A
					External	HA5VXLG023A	HA5VXLH023A
 #14 #12	4-way, 3-position, center exhaust	1.0	Double solenoid	120 VAC	Internal	HA6VXBG023A	HA6VXBH023A
					External	HA6VXLG023A	HA6VXLH023A
 #14 #12	4-way, 3-position, pressure center	1.0	Double solenoid	120 VAC	Internal	HA7VXBG023A	HA7VXBH023A
					External	HA7VXLG023A	HA7VXLH023A

Isys ISO Series

Fieldbus Series

DX ISOMAX Series



15407-2, Plug-in, Size 26mm (HA), Single Subbase

Enclosure / Lead length	Solenoid addresses	1/4" NPT	1/4" BSPP
 Terminal strip in the base	Double solenoid - 2 addresses	PS55113CP	PS55114CP

Valvair II Series








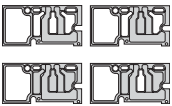
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15407-2, Plug-in, Size 26mm (HA), 2-Station Manifold Bases

End ported bases	Enclosure / Lead length	Solenoid addresses	1/4" NPT	1/4" BSPP
	Circuit board	Single solenoid - 1 address	PS551153JP	PS551154JP
	Circuit board	Double solenoid - 2 addresses	PS551153MP	PS551154MP
	Circuit board with 32 output expansion	Single solenoid - 1 address	PS551153NP	PS551154NP
	Circuit board with 32 output expansion	Double solenoid - 2 addresses	PS551153PP	PS551154PP
	Terminal strip in the base	Double solenoid - 2 addresses	PS551153CP	PS551154CP
Bottom / end ported bases				
	Circuit board	Single solenoid - 1 address	PS551163JP	PS551164JP
	Circuit board	Double solenoid - 2 addresses	PS551163MP	PS551164MP
	Circuit board with 32 output expansion	Single solenoid - 1 address	PS551163NP	PS551164NP
	Circuit board with 32 output expansion	Double solenoid - 2 addresses	PS551163PP	PS551164PP
	Terminal strip in the base	Double solenoid - 2 addresses	PS551163CP	PS551164CP










Subbase & Manifold Valve Products

15407-2, Plug-in, Size 26mm (HA) Accessories


	Accessories	Description	Part number
Modulflex Series	 Sandwich regulator	Common pressure	2-60 PSIG w/ gauge PS5538155P
		Common pressure	5-125 PSIG w/ gauge PS5538166P
		Independent pressure	2-60 PSIG w/ gauge PS5538255P
		Independent pressure	5-125 PSIG w/ gauge PS5538266P
	 Gauge adapter kit	Includes 1/8" coupling and long nipple	PS5651160P
Isys Micro Series	 Blanking plate kit		PS5534P
	 Sandwich supply module	1/4" NPT	PS551600P
		1/4" BSPP	PS551601P
Isys ISO Series	 Sandwich exhaust module	1/4" NPT	PS551700P
		1/4" BSPP	PS551701P
	 Intermediate air supply module	1/4" NPT	D01P-02-80
Fieldbus	 Sandwich flow control		PS5535P
	 Manifold to manifold gasket kits	Standard	PS561AP
Blocked #1 port		PS561BP	
Blocked #1, 3, 5, ports		PS561CP	
Blocked #3, 5 ports		PS561DP	

Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products

15407-2, Plug-in, Size 18mm & 26mm End Plate Kits

	Electrical option	NPT port	BSP port
	No connector - use with terminal strip in base	PS5631010P	PS5631011P
	25-pin, D-Sub	PS5620L20P	PS5620L21P
	19-pin, round, Brad Harrison	PS5620L30P	PS5620L31P
	12-pin, M23	PS5620L40P	PS5620L41P
	16-point terminal strip	PS5620L50P	PS5620L51P
	19-pin, M23	PS5620M20P	PS5620M21P
	Moduflex fieldbus	PS5620M40P	PS5620M41P
	Isysnet, with valve driver module	PS5620L60P	PS5620L61P
	Turck fieldbus with valve driver module - 16 outputs	PS5620T10P	PS5620T11P
	Turck fieldbus with valve driver module - 32 outputs	PS5620T20P	PS5620T21P

15407-2 End Plate Kits with Transition to H2

	Electrical option	NPT port	BSP port
	25-pin, D-sub	PS5624L20P	PS5624L21P
	19-pin, round, Brad Harrison	PS5624L30P	PS5624L31P
	12-pin, M23	PS5624L40P	PS5624L41P
	16-point terminal strip	PS5624L50P	PS5624L51P
	19-pin, M23	PS5624M20P	PS5624M21P
	Moduflex fieldbus	PS5624M40P	PS5624M41P
	Isysnet, with valve driver module	PS5624L60P	PS5624L61P
	Turck fieldbus with valve driver module - 16 outputs	PS5624T10P	PS5624T11P
	Turck fieldbus with valve driver module - 32 outputs	PS5624T20P	PS5624T21P

Turck, Isysnet, and Moduflex communication modules must be ordered separately. See Fieldbus Section for more information.

Note:
 For cable part numbers and pin out information see Fieldbus System Accessories.

Moduflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products



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

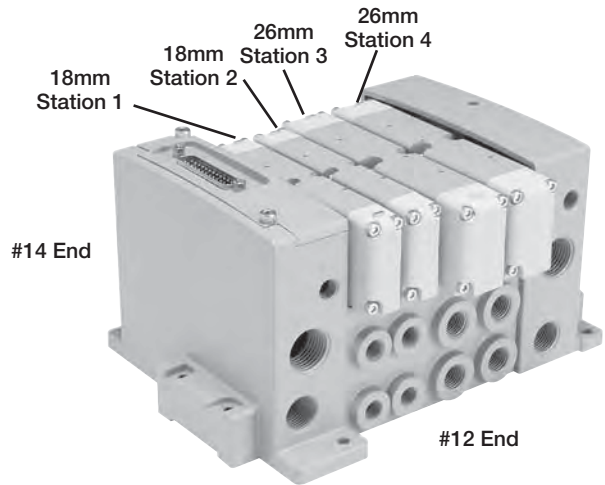
1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete Valve, Regulator, Flow Control and Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)

Example

Application requires a 4-Station manifold.
 (Two 18mm + Two 26mm Stations)

Item	Qty.	Part No.	Location
01	1	AAHBD004	
02	1	HB1VXBGOG9A	Station 1
03	1	HB2VXLGOG9A	Station 2
04	1	PS561151MP	Station 1 & 2
05	2	HA1VXBGOG9A	Station 3 & 4
06	1	PS551151MP	Station 3 & 4

NOTE: Construct manifold assemblies from left to right while looking at the ports. Valves must be ordered as External Pilot when using Sandwich Regulator.



Example:
 4-Station Manifold with (2) 18mm and (2) 26mm Valves on Manifold Bases with 25-pin, D-Sub End Plates

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

Voltage	Voltage code	25-pin D-sub	19-pin M23 or		Modulflex Isysnet	Turck		
			Brad Harrison	12-pin M23		16	32	
24VDC	G9	24 (24)	16 (16)	8 (8)	16 (16)	32 (32)	16 (16)	32 (32)
120VAC*	23	24 (24)	16 (16)	8 (8)	N/A	N/A	N/A	N/A

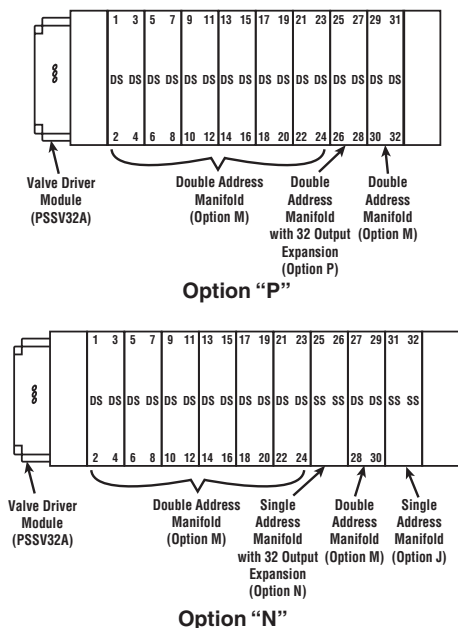
* Not CSA certified for 25-pin, D-Sub option.

When using an HA or HB manifold base with the "N" Enclosure / Lead Length option:

- Outputs 1 – 24 can be single or double address bases. Use a base with "J" or "M" Enclosure / Lead Length option.
- Outputs 25 – 26 are a single address base. Use a base with "N" Enclosure / Lead Length option (this is a single address board with a ribbon connection from the valve driver module, PSSV32A).
- Outputs 27 – 32 can be single or double. Use a base with "J" or "M" Enclosure / Lead Length option.

When using an HA or HB manifold base with the "P" Enclosure / Lead Length option:

- Outputs 1 – 24 can be single or double address bases. Use a base with "J" or "M" Enclosure / Lead Length option.
- Outputs 25 – 28 are a double address base. Use a base with "P" Enclosure / Lead Length option (this is a double address board with a ribbon connection from the valve driver module, PSSV32A).
- Outputs 29 – 32 can be single or double. Use a base with "J" or "M" Enclosure / Lead Length option.



Add-A-Fold Assembly Model Number

AA HB D 0 04

Valve series
 Right & left end plate
 15407-2 (plug-in,
 HB 18mm & HA 26mm)

Number of stations*
 02
 04
 •
 24
 •
 32

End plate type
 Turck fieldbus with valve driver module - 16 outputs A*
 Turck fieldbus with valve driver module - 32 outputs B*
 25-pin, D-sub D
 19-pin, Brad Harrison E
 16 Point terminal strip F
 12-pin, M23 G
 19-pin, M23 H
 Modulflex fieldbus T*
 Isysnet, with valve driver module Y*

Thread type
 0 NPT
 1* BSPP "G"

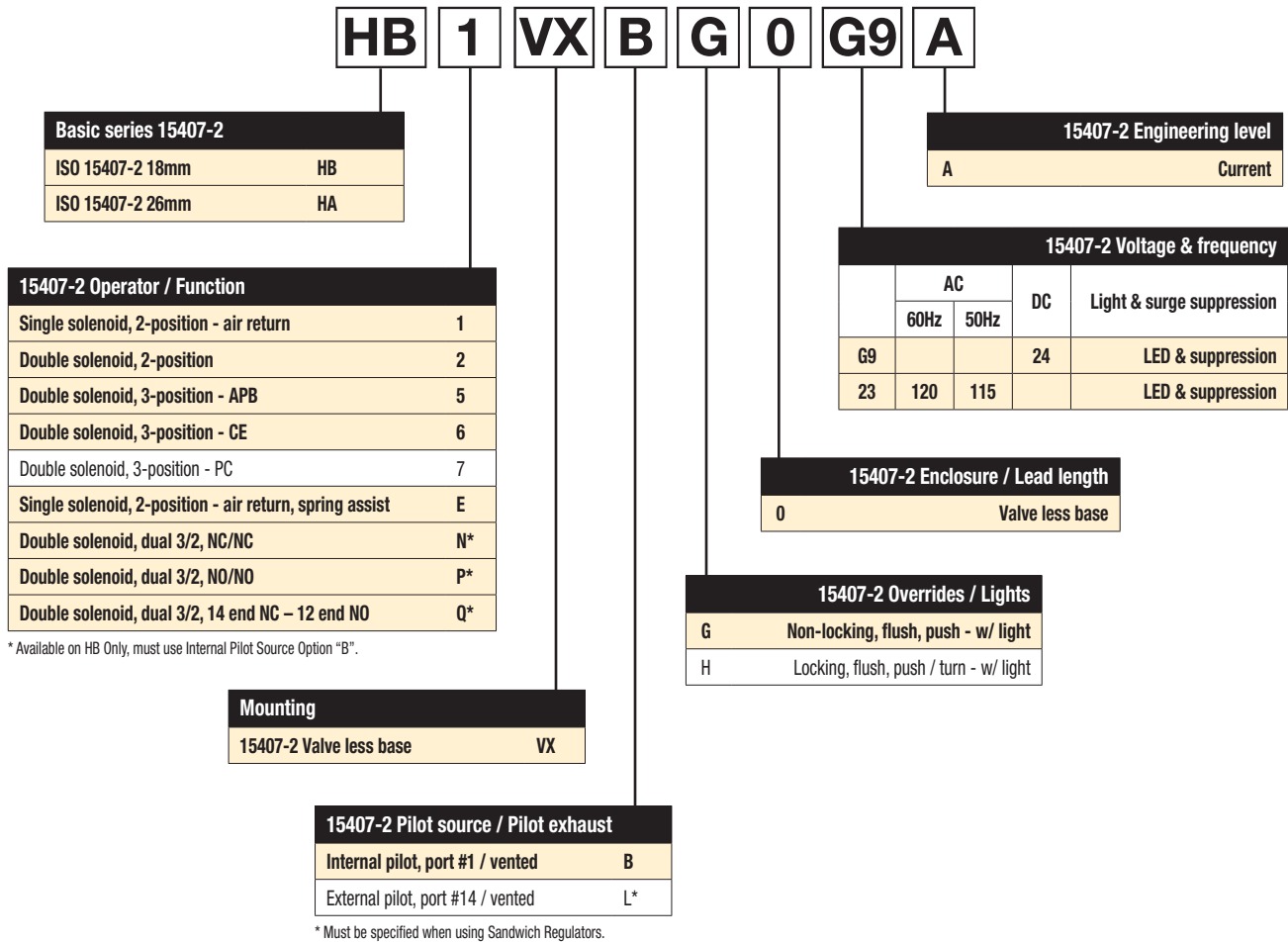
* Must be ordered in multiples of (2) unless using the HB / HA to H2 Transition Plate.

* BSPP conforms to ISO 1179-1 with 228-1 threads.

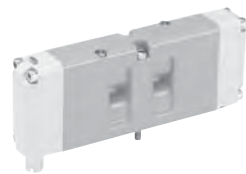
*Must order communication modules separately.



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



* Must be specified when using Sandwich Regulators.



HB: 18mm


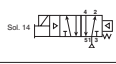
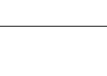


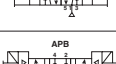

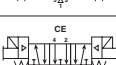

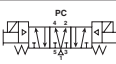





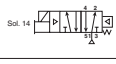



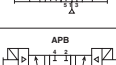

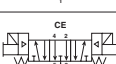

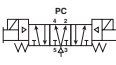


HA: 26mm

 Most popular.


Modulflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

5599-2, Plug-in, Size 1 (H1)


Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
 Sol. 14		4-way, 2-position, spring return	1.5	Single solenoid	24 VDC	Internal	H1EVXBG0B9D	H1EVXBH0B9D
						External	H1EVXXG0B9D	H1EVXXH0B9D
 Sol. 14		4-way, 2-position, air return	1.5	Single solenoid	24 VDC	Internal	H11VXBG0B9D	H11VXBH0B9D
						External	H11VXXG0B9D	H11VXXH0B9D
 Sol. 14		4-way, 2-position	1.5	Double solenoid	24 VDC	Internal	H12VXBG0B9D	H12VXBH0B9D
						External	H12VXXG0B9D	H12VXXH0B9D
 #14		4-way, 3-position, all ports blocked	1.2	Double solenoid	24 VDC	Internal	H15VXBG0B9D	H15VXBH0B9D
						External	H15VXXG0B9D	H15VXXH0B9D
						 #14		4-way, 3-position, center exhaust
External	H16VXXG0B9D	H16VXXH0B9D						
 #14		4-way, 3-position, pressure center	1.2	Double solenoid	24 VDC	Internal	H17VXBG0B9D	H17VXBH0B9D
						External	H17VXXG0B9D	H17VXXH0B9D

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking	
 Sol. 14		4-way, 2-position, spring return	1.5	Single solenoid	120 VAC	Internal	H1EVXBG023D	H1EVXBH023D
						External	H1EVXXG023D	H1EVXXH023D
 Sol. 14		4-way, 2-position, air return	1.5	Single solenoid	120 VAC	Internal	H11VXBG023D	H11VXBH023D
						External	H11VXXG023D	H11VXXH023D
 Sol. 14		4-way, 2-position	1.5	Double solenoid	120 VAC	Internal	H12VXBG023D	H12VXBH023D
						External	H12VXXG023D	H12VXXH023D
 #14		4-way, 3-position, all ports blocked	1.2	Double solenoid	120 VAC	Internal	H15VXBG023D	H15VXBH023D
						External	H15VXXG023D	H15VXXH023D
						 #14		4-way, 3-position, center exhaust
External	H16VXXG023D	H16VXXH023D						
 #14		4-way, 3-position, pressure center	1.2	Double solenoid	120 VAC	Internal	H17VXBG023D	H17VXBH023D
						External	H17VXXG023D	H17VXXH023D

5599-2, Plug-in Single Subbase, Size 1 (H1)




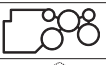
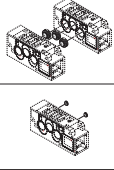

Side ported	Enclosure / Lead length	Solenoid addresses	3/8" NPT	3/8" BSPP
	Terminal strip in base	Double solenoid - 2 address	PS401115CDP	PS401116CDP
	6" flying leads	Double solenoid - 2 addresses	PS401115ADP	PS401116ADP
	4-pin, M12 micro connector in base, SAE / Ford wiring	Double solenoid - 2 addresses	PS4011158FDP	PS4011168FDP

5599-2, Plug-in Manifold Bases, Size 1 (H1)








Bottom / End	Enclosure / Lead length	Solenoid addresses	3/8" NPT	3/8" BSPP
	Circuit board	Single solenoid - 1 address	PS401165JCP	PS401166JCP
	Circuit board	Double solenoid - 2 addresses	PS401165MCP	PS401166MCP
	Terminal strip in base	Double solenoid - 2 address	PS401165CCP	PS401166CCP
	6" flying leads	Double solenoid - 2 addresses	PS401165ACP	PS401166ACP
	4-pin, M12 micro connector in base, SAE / Ford wiring	Double solenoid - 2 addresses	PS4011658FCP	PS4011668FCP

End Ported	Enclosure / Lead length	Solenoid addresses	3/8" NPT	3/8" BSPP
	Circuit board	Single solenoid - 1 address	PS401155JCP	PS401156JCP
	Circuit board	Double solenoid - 2 addresses	PS401155MCP	PS401156MCP
	Terminal strip in base	Double solenoid - 2 address	PS401155CCP	PS401156CCP
	6" flying leads	Double solenoid - 2 addresses	PS401155ACP	PS401156ACP

5599-2, Size 1 (H1) Accessories

Accessory	Description	Part number
	Common pressure	5-125 PSIG w/ gauge PS4038166CP
	Independent pressure	5-125 PSIG w/ gauge PS4038266CP
	Blanking plate kit	PS4034CP
	Sandwich flow control	PS4035CP
	Manifold to manifold gasket kits	PS4013P
	Main galley (1, 3, 5)	PS4032CP
	Pilot galley	PS4033CP
	1/4" & 3/8"	NPT PS403000CP
		BSPP PS403001CP

Plug-in, 5599-2 End Plate Kits, Size 1 (H1)

Electrical option	Description	NPT port	BSPP port
	No connector - use with individually wired base	PS4031010DP	PS4031011DP
	25-pin, D-sub	PS4020L20DP	PS4020L21DP
	19-pin, round, Brad Harrison	PS4020L30DP	PS4020L31DP
	12-pin, M23	PS4020L40DP	PS4020L41DP
	19-pin, M23	PS4020M20DP	PS4020M21DP
	Moduflex fieldbus	PS4020M40DP	PS4020M41DP
	Isysnet, with valve driver module	PS4020L60DP	PS4020L61DP
	Turck fieldbus with valve driver module - 16 outputs	PS4020T10DP	PS4020T11DP
	Turck fieldbus with valve driver module - 24 outputs	PS4020T20DP	PS4020T21DP

Turck, Isysnet, and Moduflex communication modules must be ordered separately. See Fieldbus Section for more information.

Note:
 For cable part numbers and pin out information see Fieldbus System Accessories.

Moduflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

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

1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete Valve, Regulator, Flow Control and Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)

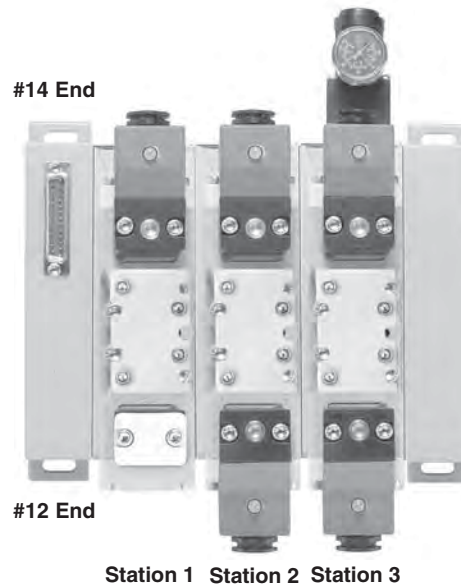
Example

Application requires a 3-Station manifold with a valve, regulator on Station 3.

Item	Qty.	Part No.	Location
01	1	AAH1D003	
02	1	H11VXBG0B9D	Station 1
03	1	PS401155MCP	Station 1
04	1	H12VXBG0B9D	Station 2
05	1	PS401155MCP	Station 2
06	1	H12VXXG0B9D	Station 3
07	1	PS4038166CP	Station 3
08	1	PS401155MCP	Station 3

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-Station Manifold with (3) H1 Valves
 on Manifold Bases
 and Regulator at Station 3**

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

Voltage	Voltage code	25-pin D-sub	19-pin M23 or Brad Harrison		12-pin M23	Modulflex	Isysnet	Turck	
			16	32				16	32
24VDC	G9	24 (24)	16 (16)	8 (8)	16 (16)	24 (21)	16 (16)	24 (21)	
120VAC*	23	24 (24)	16 (16)	8 (8)	N/A	N/A	N/A	N/A	

* Not CSA certified for 25-pin, D-Sub option.

Add-A-Fold Assembly Model Numbers

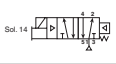
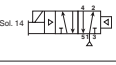
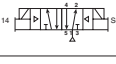
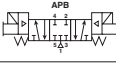
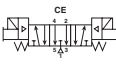
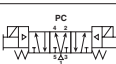
AA	H1	D	0	03
Valve series Right & left end plate H1				Number of stations 01 02 03 04 • • 24
End plate type Turck fieldbus with valve driver module - 16 outputs A* Turck fieldbus with valve driver module - 32 outputs B* 25-pin, D-sub D 19-pin, brad harrison E 12-pin, M23 G 19-pin, M23 H Standard, non-collective wiring S Modulflex fieldbus T* Isysnet, with valve driver module X*				Thread type 0 NPT 1* BSPP "G"

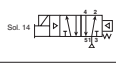
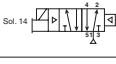

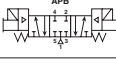
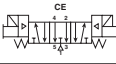
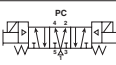
* Must order communication modules separately.

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


Modulflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

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	H2EVXBG0B9D	H2EVXBH0B9D					
					External	H2EVXXG0B9D	H2EVXXH0B9D					
	4-way, 2-position, air return	3.0	Single solenoid	24 VDC	Internal	H21VXBG0B9D	H21VXBH0B9D					
					External	H21VXXG0B9D	H21VXXH0B9D					
	4-way, 2-position	3.0	Double solenoid	24 VDC	Internal	H22VXBG0B9D	H22VXBH0B9D					
					External	H22VXXG0B9D	H22VXXH0B9D					
						4-way, 3-position, all ports blocked	2.8	Double solenoid	24 VDC	Internal	H25VXBG0B9D	H25VXBH0B9D
										External	H25VXXG0B9D	H25VXXH0B9D
	4-way, 3-position, center exhaust	2.8	Double solenoid	24 VDC	Internal	H26VXBG0B9D	H26VXBH0B9D					
					External	H26VXXG0B9D	H26VXXH0B9D					
	4-way, 3-position, pressure center	2.8	Double solenoid	24 VDC	Internal	H27VXBG0B9D	H27VXBH0B9D					
					External	H27VXXG0B9D	H27VXXH0B9D					

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	3.0	Single solenoid	120 VAC	Internal	H2EVXBG023D	H2EVXBH023D
					External	H2EVXXG023D	H2EVXXH023D
	4-way, 2-position, air return	3.0	Single solenoid	120 VAC	Internal	H21VXBG023D	H21VXBH023D
					External	H21VXXG023D	H21VXXH023D
	4-way, 2-position	3.0	Double solenoid	120 VAC	Internal	H22VXBG023D	H22VXBH023D
					External	H22VXXG023D	H22VXXH023D
	4-way, 3-position, all ports blocked	2.8	Double solenoid	120 VAC	Internal	H25VXBG023D	H25VXBH023D
					External	H25VXXG023D	H25VXXH023D
	4-way, 3-position, center exhaust	2.8	Double solenoid	120 VAC	Internal	H26VXBG023D	H26VXBH023D
					External	H26VXXG023D	H26VXXH023D
	4-way, 3-position, pressure center	2.8	Double solenoid	120 VAC	Internal	H27VXBG023D	H27VXBH023D
					External	H27VXXG023D	H27VXXH023D

5599-2, Plug-in Single Subbase, Size 2 (H2)





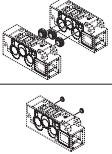
Side ported base	Enclosure / Lead length	Solenoid addresses	1/2" NPT	1/2" BSPP
	Terminal strip in base	Double solenoid - 2 address	PS411117CCP	PS411118CCP
	6" flying leads	Double solenoid - 2 addresses	PS411117ACP	PS411118ACP

5599-2, Plug-in Manifold Bases, Size 2 (H2)








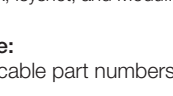
Bottom / End ported bases	Enclosure / Lead length	Solenoid addresses	1/2" NPT	1/2" BSPP
	Circuit board	Single solenoid - 1 address	PS411167JCP	PS411168JCP
	Circuit board	Double solenoid - 2 addresses	PS411167MCP	PS411168MCP
	Terminal strip in base	Double solenoid - 2 address	PS411167CCP	PS411168CCP
	6" flying leads	Double solenoid - 2 addresses	PS411167ACP	PS411168ACP

End Ported	Enclosure / Lead length	Solenoid addresses	1/2" NPT	1/2" BSPP
	Circuit board	Single solenoid - 1 address	PS411157JCP	PS411158JCP
	Circuit board	Double solenoid - 2 addresses	PS411157MCP	PS411158MCP
	Terminal strip in base	Double solenoid - 2 address	PS411157CCP	PS411158CCP
	6" flying leads	Double solenoid - 2 addresses	PS411157ACP	PS411158ACP

5599-2, Size 2 (H2) Accessories

	Accessory	Description	Part number
Modulflex Series		Common pressure 5-125 PSIG w/ gauge	PS4138166CP
		Independent pressure 5-125 PSIG w/ gauge	PS4138266CP
Isys Micro Series		Blanking plate kit	PS4134CP
		Sandwich flow control	PS4135CP
		Manifold to manifold gasket kits	PS4113P
Isys ISO Series		Main galley (1, 3, 5)	PS4132CP
		Pilot galley	PS4033CP

Plug-in, 5599-2 End Plate Kits, Size 2 (H2)

	Electrical option	Description	NPT port	BSPP port
DX ISOMAX Series		No connector - use with individually wired base	PS4131010DP	PS4131011DP
			25-pin, D-sub	PS4120L20DP
Valvair II Series		19-pin, round, Brad Harrison	PS4120L30DP	PS4120L31DP
			12-pin, M23	PS4120L40DP
Subbase & Manifold Valve Products			19-pin, M23	PS4120M20DP
			Modulflex fieldbus	PS4120M40DP
		Isysnet, with valve driver module	PS4120L60DP	PS4120L61DP
			Turck fieldbus with valve driver module - 16 outputs	PS4120T10DP
	Turck fieldbus with valve driver module - 24 outputs		PS4120T20DP	PS4120T21DP

Turck, Isysnet, and Modulflex communication modules must be ordered separately. See Fieldbus Section for more information.

Note:

For cable part numbers and pin out information see Fieldbus System Accessories.

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

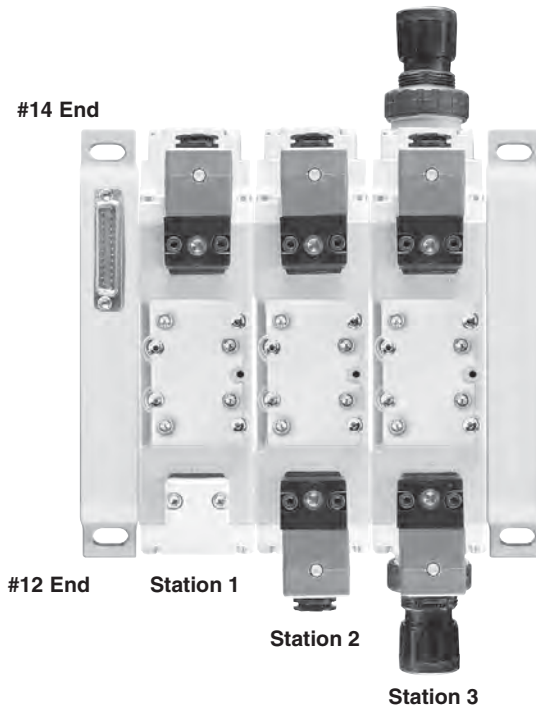
1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete Valve, Regulator, Flow Control and Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)

Example

Application requires a 3-Station manifold with a valve and regulator on Station 3.

Item	Qty.	Part No.	Location
01	1	AAH2D003	
02	1	H21VXBG0B9D.....	Station 1
03	1	PS411157MCP.....	Station 1
04	1	H22VXBG0B9D.....	Station 2
05	1	PS411157MCP.....	Station 2
06	1	H22VXXG0B9D.....	Station 3
07	1	PS4138166CP.....	Station 3
08	1	PS411157MCP.....	Station 3

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-Station Manifold with (3) H2 Valves
 on Manifold Bases and Regulator at Station 3**

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

Voltage	Voltage code	25-pin D-sub	19-pin M23 or Brad Harrison		12-pin M23	Modulflex	Isysnet	Turck	
			16	32				16	32
24VDC	G9	24 (24)	16 (16)	8 (8)	16 (16)	24 (21)	16 (16)	24 (21)	
120VAC*	23	24 (24)	16 (16)	8 (8)	N/A	N/A	N/A	N/A	

* Not CSA certified for 25-pin, D-Sub option.

Add-A-Fold Assembly Model Numbers

AA H2 D 0 03

Valve series	
Right & left end plate	H2
End plate type	
Turck fieldbus with valve driver module - 16 outputs	A*
Turck fieldbus with valve driver module - 32 outputs	B*
25-pin, D-sub	D†
19-pin, brad harrison	E†
12-pin, M23	G†
19-pin, M23	H†
Standard, non-collective wiring	S
Modulflex fieldbus	T*
Isysnet, with valve driver module	Y*

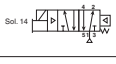
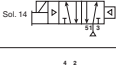
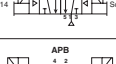
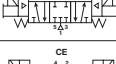
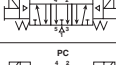
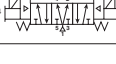
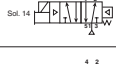

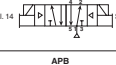
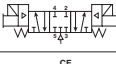
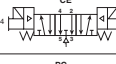
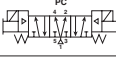
Number of stations	
01	
02	
03	
04	
•	
•	
24	

Thread type	
0	NPT
1*	BSPG "G"


* BSPG conforms to ISO 1179-1 w 228-1 threads.

* Must order communication modules separately.
 † Collective wiring module included.


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

	Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
Modulflex Series		4-way, 2-position, spring return	6.0	Single solenoid	24 VDC	Internal	H3EVXBG0B9D	H3EVXBH0B9D
		External	H3EVXXG0B9D	H3EVXXH0B9D				
		4-way, 2-position, air return	6.0	Single solenoid	24 VDC	Internal	H31VXBG0B9D	H31VXBH0B9D
		External	H31VXXG0B9D	H31VXXH0B9D				
		4-way, 2-position	6.0	Double solenoid	24 VDC	Internal	H32VXBG0B9D	H32VXBH0B9D
		External	H32VXXG0B9D	H32VXXH0B9D				
Isys Micro Series		4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	Internal	H35VXBG0B9D	H35VXBH0B9D
		External	H35VXXG0B9D	H35VXXH0B9D				
		4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC	Internal	H36VXBG0B9D	H36VXBH0B9D
		External	H36VXXG0B9D	H36VXXH0B9D				
		4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	Internal	H37VXBG0B9D	H37VXBH0B9D
		External	H37VXXG0B9D	H37VXXH0B9D				
Isys ISO Series		4-way, 2-position, spring return	6.0	Single solenoid	120 VAC	Internal	H3EVXBG023D	H3EVXBH023D
		External	H3EVXXG023D	H3EVXXH023D				
		4-way, 2-position, air return	6.0	Single solenoid	120 VAC	Internal	H31VXBG023D	H31VXBH023D
		External	H31VXXG023D	H31VXXH023D				
		4-way, 2-position	6.0	Double solenoid	120 VAC	Internal	H32VXBG023D	H32VXBH023D
		External	H32VXXG023D	H32VXXH023D				
Fieldbus Series		4-way, 3-position, all ports blocked	5.0	Double solenoid	120 VAC	Internal	H35VXBG023D	H35VXBH023D
		External	H35VXXG023D	H35VXXH023D				
		4-way, 3-position, center exhaust	5.0	Double solenoid	120 VAC	Internal	H36VXBG023D	H36VXBH023D
		External	H36VXXG023D	H36VXXH023D				
		4-way, 3-position, pressure center	5.0	Double solenoid	120 VAC	Internal	H37VXBG023D	H37VXBH023D
		External	H37VXXG023D	H37VXXH023D				




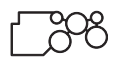
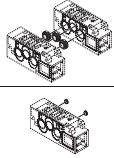
5599-2, Plug-in Single Subbase, Size 3 (H3)

Side ported base	Enclosure / Lead length	Solenoid addresses	3/4" NPT	3/4" BSPP
	Terminal strip in base	Double solenoid - 2 address	PS42119CCP	PS401110CCP
	6" flying leads	Double solenoid - 2 addresses	PS42119ACP	PS421110ACP








5599-2, Plug-in Manifold Bases, Size 3 (H3)

Bottom / End ported bases	Enclosure / Lead length	Solenoid addresses	3/4" NPT	3/4" BSPP
	Circuit board	Single solenoid - 1 address	PS421169JCP	PS421160JCP
	Circuit board	Double solenoid - 2 addresses	PS421169MCP	PS421160MCP
	Terminal strip in base	Double solenoid - 2 address	PS421169CCP	PS421160CCP
	6" flying leads	Double solenoid - 2 addresses	PS421169ACP	PS421160ACP
End Ported	Enclosure / Lead length	Solenoid addresses	3/4" NPT	3/4" BSPP
	Circuit board	Single solenoid - 1 address	PS421159JCP	PS421150JCP
	Circuit board	Double solenoid - 2 addresses	PS421159MCP	PS421150MCP
	Terminal strip in base	Double solenoid - 2 address	PS421159CCP	PS421150CCP
	6" flying leads	Double solenoid - 2 addresses	PS421159ACP	PS421150ACP

5599-2, Size 3 (H3) Accessories

Accessory	Description	Part number
 Sandwich regulator	Common pressure 5-125 PSIG w/ gauge	PS4238166CP
	Independent pressure 5-125 PSIG w/ gauge	PS4238266CP
 Blanking plate kit		PS4234CP
 Sandwich flow control		PS4235CP
 Manifold to manifold gasket kits		PS4213P
 Manifold port isolation kit	Main galley (1, 3, 5)	PS4232CP
	Pilot galley	PS4033CP

Plug-in, 5599-2 End Plate Kits, Size 3 (H3)

Electrical option	NPT port	BSPP port
 No connector - use with individually wired base	PS4231010DP	PS4231011DP
 25-pin, D-sub	PS4220L20DP	PS4220L21DP
 19-pin, round, Brad Harrison	PS4220L30DP	PS4220L31DP
 12-pin, M23	PS4220L40DP	PS4220L41DP
	19-pin, M23	PS4220M20DP
 Moduflex fieldbus	PS4220M40DP	PS4220M41DP
 Isysnet, with valve driver module	PS4220L60DP	PS4220L61DP
 Turck fieldbus with valve driver module - 16 outputs	PS4220T10DP	PS4220T11DP
	Turck fieldbus with valve driver module - 24 outputs	PS4220T20DP

Turck, Isysnet, and Moduflex communication modules must be ordered separately. See Fieldbus Section for more information.

Note:
 For cable part numbers and pin out information see Fieldbus System Accessories.

Moduflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

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

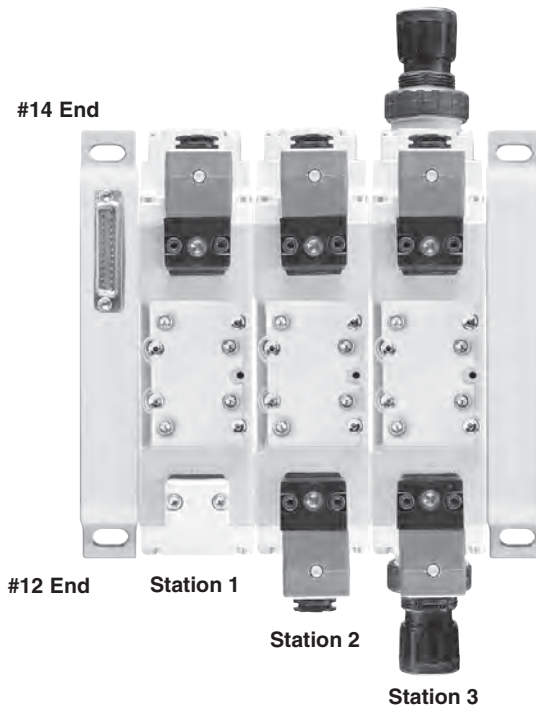
1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete Valve, Regulator, Flow Control and Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)

Example

Application requires a 3-Station manifold with a valve and regulator on Station 3.

Item	Qty.	Part No.	Location
01	1	AAH3D003	
02	1	H31VXBG0B9D.....	Station 1
03	1	PS421159MCP.....	Station 1
04	1	H32VXBG0B9D.....	Station 2
05	1	PS421159MCP.....	Station 2
06	1	H32VXXG0B9D.....	Station 3
07	1	PS4238166CP.....	Station 3
08	1	PS421159MCP.....	Station 3

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-Station Manifold with (3) H3 Valves
 on Manifold Bases and Regulator at Station 3**

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

Voltage	Voltage code	25-pin D-sub	19-pin M23 or		Modulflex	Isysnet	Turck	
			Brad Harrison	12-pin M23			16 Outputs	32 Outputs
24VDC	G9	24 (24)	16 (16)	8 (8)	16 (16)	24 (21)	16 (16)	24 (21)
120VAC*	23	24 (24)	16 (16)	8 (8)	N/A	N/A	N/A	N/A

* Not CSA certified for 25-pin, D-Sub option.

Add-A-Fold Assembly Model Numbers

AA	H3	D	0	03
Valve series Right & left end plate	H3			
End plate type				
Turck fieldbus with valve driver module - 16 outputs	A*			
Turck fieldbus with valve driver module - 32 outputs	B*			
25-pin, D-sub	D†			
19-pin, brad harrison	E†			
12-pin, M23	G†			
19-pin, M23	H†			
Standard, non-collective wiring	S			
Modulflex fieldbus	T*			
Isysnet, with valve driver module	Y*			
				Number of stations
				01
				02
				03
				04
				•
				•
				24
				Thread type
			0	NPT
			1*	BSPP "G"

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

* Must order communication modules separately.
 † Collective wiring module included.

Plug-in, 5599-2, Size 1, 2, & 3

H1 E VX B G O B9 D

Basic series 5599-2	
ISO 5599-2 Size 1	H1
ISO 5599-2 Size 2	H2
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
23	120	115		LED & suppression
57	240			

5599-2 Mounting	
5599-2 Valve less vase	VX

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

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

Plug-in, 5599-2 Transition Plate Kits

PS4026 L2 0 C P

Transition plate type*	
H1 to H2 to H3	PS4025
H1 to H3	PS4026
H1 to H2	PS4027
H2 to H3	PS4028

* Includes Left Hand and Right Hand End Plates

Engineering level	
C	Basic series PS40

Thread type	
0	NPT
1*	BSPP "G"

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


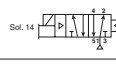

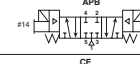

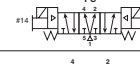
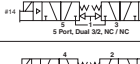

Options	
25-pin, D-sub	L2
19-pin, round, brad harrison	L3
12-pin, M23	L4
19-pin, M23	M2
Modulflex fieldbus	M4*
Isysnet, with valve driver module	L6*
Turck fieldbus with valve driver module - 16 outputs	T1
Turck fieldbus with valve driver module - 32 outputs	T2

* Must order communication module separately
 turck, isysnet, and modulflex communication modules must be ordered separately.
 See fieldbus section for more information.






Modulflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products







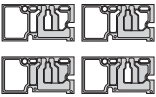
15407-1, Non Plug-in, Size 18mm (HB)

	Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
Modulflex Series		4-way, 2-position, spring return	0.55	Single solenoid	24 VDC	Internal	HBEWXBG2G9000FA	HBEWXBH2G9000FA
						External	HBEWXLG2G9000FA	HBEWXLH2G9000FA
		4-way, 2-position, air return	0.55	Single solenoid	24 VDC	Internal	HB1WXBG2G9000FA	HB1WXBH2G9000FA
						External	HB1WXLG2G9000FA	HB1WXLH2G9000FA
Isys Micro Series		4-way, 2-position	0.55	Double solenoid	24 VDC	Internal	HB2WXBG2G9000FA	HB2WXBH2G9000FA
						External	HB2WXLG2G9000FA	HB2WXLH2G9000FA
		4-way, 3-position, all ports blocked	0.5	Double solenoid	24 VDC	Internal	HB5WXBG2G9000FA	HB5WXBH2G9000FA
						External	HB5WXLG2G9000FA	HB5WXLH2G9000FA
		4-way, 3-position, center exhaust	0.5	Double solenoid	24 VDC	Internal	HB6WXBG2G9000FA	HB6WXBH2G9000FA
						External	HB6WXLG2G9000FA	HB6WXLH2G9000FA
		4-way, 3-position, pressure center	0.5	Double solenoid	24 VDC	Internal	HB7WXBG2G9000FA	HB7WXBH2G9000FA
						External	HB7WXLG2G9000FA	HB7WXLH2G9000FA
	3-way, 2-position, dual valve, NC/NC	0.45	Double solenoid	24 VDC	Internal	HBNWXBG2G9000FA	HBNWXBH2G9000FA	
					Internal	HBPWXBG2G9000FA	HBPWXBH2G9000FA	
	3-way, 2-position, dual valve, NO/NO	0.45	Double solenoid	24 VDC	Internal	HBNWXBG2G9000FA	HBNWXBH2G9000FA	
					Internal	HBPWXBG2G9000FA	HBPWXBH2G9000FA	

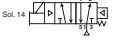
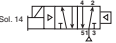

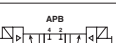
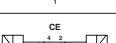
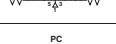
15407-1, Non Plug-in, Size 18mm (HB)

	Description	1/8" NPT	1/8" BSPP
Single subbase	Side ported base	PL02-01-80	PL02-01-70
			
2 Station manifold bases	End ported bases	PS5611510P	PS5611520P
			
End plate kit	Non-collective wiring end plate	PS5631010P	PS5631011P
			




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

	Accessories	Description	Part number	
Valvair II Series		Common pressure	2-60 PSIG w/ gauge PS5637155P	
		Common pressure	5-125 PSIG w/ gauge PS5637166P	
		Independent pressure	2-60 PSIG w/ gauge PS5637255P	
		Independent pressure	5-125 PSIG w/ gauge PS5637266P	
D		Includes 1/8" coupling and long nipple	PS5651160P	
		Blanking plate kit	PS5634P	
Subbase & Manifold Valve Products		1/8" NPT	PS562600P	
		1/8" BSPP	PS562601P	
		1/8" NPT	PS562700P	
		1/8" BSPP	PS562701P	
		Intermediate air supply module	1/8" NPT	D02P-01-80
		Sandwich flow control		PS5642P
		Manifold to manifold gasket kits	Standard	PS561AP
Blocked #1 port			PS561BP	
Blocked #1, 3, 5, ports			PS561CP	
Blocked #3, 5 ports			PS561DP	








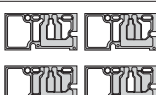
15407-1, Non Plug-in, Size 26mm (HA)

Symbol	Type	Cv	Operator	Voltage	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	1.1	Single solenoid	24 VDC	Internal	HAEWXBG2G9000FA	HAEWXBH2G9000FA
					External	HAEWXLG2G9000FA	HAEWXLH2G9000FA
	4-way, 2-position, air return	1.1	Single solenoid	24 VDC	Internal	HA1WXBG2G9000FA	HA1WXBH2G9000FA
					External	HA1WXLG2G9000FA	HA1WXLH2G9000FA
	4-way, 2-position	1.1	Double solenoid	24 VDC	Internal	HA2WXBG2G9000FA	HA2WXBH2G9000FA
					External	HA2WXLG2G9000FA	HA2WXLH2G9000FA
	4-way, 3-position, all ports blocked	1.0	Double solenoid	24 VDC	Internal	HA5WXBG2G9000FA	HA5WXBH2G9000FA
					External	HA5WXLG2G9000FA	HA5WXLH2G9000FA
	4-way, 3-position, center exhaust	1.0	Double solenoid	24 VDC	Internal	HA6WXBG2G9000FA	HA6WXBH2G9000FA
					External	HA6WXLG2G9000FA	HA6WXLH2G9000FA
	4-way, 3-position, pressure center	1.0	Double solenoid	24 VDC	Internal	HA7WXBG2G9000FA	HA7WXBH2G9000FA
					External	HA7WXLG2G9000FA	HA7WXLH2G9000FA

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

Single subbase	Description	1/4" NPT	1/4" BSPP
	Side ported base	PL01-02-80	PL01-02-70
2 Station manifold bases	Description	1/4" NPT	1/4" BSPP
	End ported bases	PS5511530P	PS5511540P
End plate kit	Description	NPT port	BSPP port
	Non-collective wiring end plate	PS5631010P	PS5631011P

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

Accessories	Description	Part number
	Common pressure	2-60 PSIG w/ gauge PS5537155P
	Common pressure	5-125 PSIG w/ gauge PS5537166P
	Independent pressure	2-60 PSIG w/ gauge PS5537255P
	Independent pressure	5-125 PSIG w/ gauge PS5537266P
	Gauge adapter kit	Includes 1/8" coupling and long nipple PS5651160P
	Blanking plate kit	PS5634P
	1/8" NPT	PS562600P
	1/8" BSPP	PS562601P
	1/8" NPT	PS562700P
	1/8" BSPP	PS562701P
	Intermediate air supply module	1/8" NPT D01P-02-80
	Sandwich flow control	PS5542P
	Standard	PS561AP
	Blocked #1 port	PS561BP
	Blocked #1, 3, 5, ports	PS561CP
	Blocked #3, 5 ports	PS561DP

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

Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus Series
 DX ISOMAX Series
 Valvair II Series
 D Subbase & Manifold Valve Products

HB E WX B G 2 G9 000F A

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

15407-1 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 Enclosure / Lead length	
2	4-pin, M12 micro, straight connector

15407-1 Overrides / Lights	
G	Non-locking, flush, push - w/ light
H	Locking, flush, push / turn - w/ light

15407-1 Pilot source / Pilot exhaust	
B	Internal pilot, port #1 / vented
L*	External pilot, port #14 / vented

* Must be specified when using Sandwich Regulators.

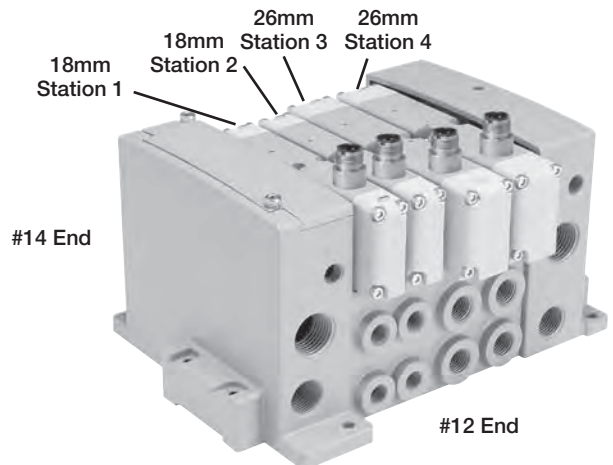
15407-1 Voltage & frequency		
G9	24VDC	LED & suppression

15407-1 Central connector wiring options	
000F	SAE / Ford, ISO 20401

15407-1 Engineering level	
A	Current

How To Order 15407-1 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 Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)



Example:
 4-Station Manifold with (2) 18mm and (2) 26mm Valves on Manifold Bases

Add-A-Fold Assembly Model Number

AA HBS 0 04

Valve series	
Right & left end plate 15407-1 (HB 18mm & HA 26mm)	HBS†

† For use with PS5511 and PS5611 manifolds.

Number of stations*	
02	
04	
•	
24	
•	
32	

* Must be ordered in multiples of (2) unless using the HB/HA to H2 transition plate.

Thread type	
NPT	0
BSPP "G"	1*

* BSPP conforms to ISO 1179-1 w 228-1 threads for end plate Type "S".

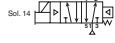
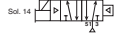
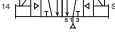
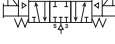
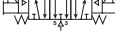

Example

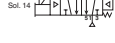
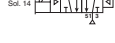
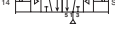
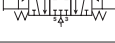
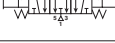

Application requires a 4-Station manifold. (Two 18mm + Two 26mm Stations)

Item	Qty.	Part No.	Location
01	1	AAHBS004	
02	1	1HB1WXBG2G9000FA	Station 1
03	1	1HB2WXBG2G9000FA	Station 2
04	1	1PS5611510P	Station 1 & 2
05	2	2HA1WXBG2G9000FA	Station 3 & 4
06	1	1PS5511510P	Station 3 & 4

NOTE: Construct manifold assemblies from left to right while looking at the ports. Valves must be ordered as External Pilot when using Sandwich Regulator.

5599-1, Non Plug-in, Size 1 (H1) with Central Connectors

Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	1.5	Single solenoid	24 VDC	4-pin, central M12 connector	Internal	H1EWXBG2B9000FD	H1EWXBH2B9000FD
						External	H1EWXXG2B9000FD	H1EWXXH2B9000FD
	4-way, 2-position, air return	1.5	Single solenoid	24 VDC	4-pin, central M12 connector	Internal	H11WXBG2B9000FD	H11WXBH2B9000FD
						External	H11WXXG2B9000FD	H11WXXH2B9000FD
	4-way, 2-position	1.5	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H12WXBG2B9000FD	H12WXBH2B9000FD
						External	H12WXXG2B9000FD	H12WXXH2B9000FD
	4-way, 3-position, all ports blocked	1.2	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H15WXBG2B9000FD	H15WXBH2B9000FD
						External	H15WXXG2B9000FD	H15WXXH2B9000FD
	4-way, 3-position, center exhaust	1.2	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H16WXBG2B9000FD	H16WXBH2B9000FD
						External	H16WXXG2B9000FD	H16WXXH2B9000FD
	4-way, 3-position, pressure center	1.2	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H17WXBG2B9000FD	H17WXBH2B9000FD
						External	H17WXXG2B9000FD	H17WXXH2B9000FD

Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	1.5	Single solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H1EWXBG323000FD	H1EWXBH323000FD
						External	H1EWXXG323000FD	H1EWXXH323000FD
	4-way, 2-position, air return	1.5	Single solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H11WXBG323000FD	H11WXBH323000FD
						External	H11WXXG323000FD	H11WXXH323000FD
	4-way, 2-position	1.5	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H12WXBG323000FD	H12WXBH323000FD
						External	H12WXXG323000FD	H12WXXH323000FD
	4-way, 3-position, all ports blocked	1.2	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H15WXBG323000FD	H15WXBH323000FD
						External	H15WXXG323000FD	H15WXXH323000FD
	4-way, 3-position, center exhaust	1.2	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H16WXBG323000FD	H16WXBH323000FD
						External	H16WXXG323000FD	H16WXXH323000FD
	4-way, 3-position, pressure center	1.2	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H17WXBG323000FD	H17WXBH323000FD
						External	H17WXXG323000FD	H17WXXH323000FD

Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus Series

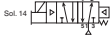
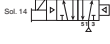
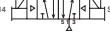


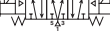
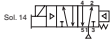
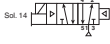
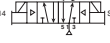



DX ISOMAX Series

Valvair II Series




D

Subbase & Manifold Valve Products





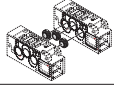

5599-1, Non Plug-in, Size 1 (H1) with 3-Pin DIN Connectors

	Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
Modulflex Series		4-way, 2-position, spring return	1.5	Single solenoid	24 VDC	3-pin DIN connector on coil	Internal	H1EWXBBL49D	H1EWXBDL49D
		4-way, 2-position, air return	1.5	Single solenoid	24 VDC	3-pin DIN connector on coil	External	H1EWXXBL49D	H1EWXXDL49D
		4-way, 2-position, air return	1.5	Single solenoid	24 VDC	3-pin DIN connector on coil	Internal	H11WXBBL49D	H11WXBDL49D
		4-way, 2-position, air return	1.5	Single solenoid	24 VDC	3-pin DIN connector on coil	External	H11WXXBL49D	H11WXXDL49D
		4-way, 2-position	1.5	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H12WXBBL49D	H12WXBDL49D
		4-way, 2-position	1.5	Double solenoid	24 VDC	3-pin DIN connector on coil	External	H12WXXBL49D	H12WXXDL49D
Isys Micro Series		4-way, 3-position, all ports blocked	1.2	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H15WXBBL49D	H15WXBDL49D
		4-way, 3-position, center exhaust	1.2	Double solenoid	24 VDC	3-pin DIN connector on coil	External	H15WXXBL49D	H15WXXDL49D
		4-way, 3-position, center exhaust	1.2	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H16WXBBL49D	H16WXBDL49D
		4-way, 3-position, center exhaust	1.2	Double solenoid	24 VDC	3-pin DIN connector on coil	External	H16WXXBL49D	H16WXXDL49D
Isys ISO Series		4-way, 3-position, pressure center	1.2	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H17WXBBL49D	H17WXBDL49D
		4-way, 3-position, pressure center	1.2	Double solenoid	24 VDC	3-pin DIN connector on coil	External	H17WXXBL49D	H17WXXDL49D
<hr/>									
	Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
Fieldbus Series		4-way, 2-position, spring return	1.5	Single solenoid	120 VAC	3-pin DIN connector on coil	Internal	H1EWXBBL53D	H1EWXBDL53D
		4-way, 2-position, air return	1.5	Single solenoid	120 VAC	3-pin DIN connector on coil	External	H1EWXXBL53D	H1EWXXDL53D
		4-way, 2-position, air return	1.5	Single solenoid	120 VAC	3-pin DIN connector on coil	Internal	H11WXBBL53D	H11WXBDL53D
		4-way, 2-position, air return	1.5	Single solenoid	120 VAC	3-pin DIN connector on coil	External	H11WXXBL53D	H11WXXDL53D
		4-way, 2-position	1.5	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H12WXBBL53D	H12WXBDL53D
		4-way, 2-position	1.5	Double solenoid	120 VAC	3-pin DIN connector on coil	External	H12WXXBL53D	H12WXXDL53D
DX ISOMAX Series		4-way, 3-position, all ports blocked	1.2	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H15WXBBL53D	H15WXBDL53D
		4-way, 3-position, all ports blocked	1.2	Double solenoid	120 VAC	3-pin DIN connector on coil	External	H15WXXBL53D	H15WXXDL53D
		4-way, 3-position, center exhaust	1.2	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H16WXBBL53D	H16WXBDL53D
		4-way, 3-position, center exhaust	1.2	Double solenoid	120 VAC	3-pin DIN connector on coil	External	H16WXXBL53D	H16WXXDL53D
Valvair II Series		4-way, 3-position, pressure center	1.2	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H17WXBBL53D	H17WXBDL53D
		4-way, 3-position, pressure center	1.2	Double solenoid	120 VAC	3-pin DIN connector on coil	External	H17WXXBL53D	H17WXXDL53D

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

	Single subbase	Description	3/8" NPT	3/8" BSPP
		Side ported base	PS4011150CP	PS4011160CP
	Manifold bases	Description	3/8" NPT	3/8" BSPP
		End ported bases	PS4011550CP	PS4011560CP
		Bottom / end ported bases	PS4011650CP	PS4011660CP
	End plate kits	Description	NPT port	BSPP port
		H1 Non-collective wiring end plates	PS4031010CP	PS4031011CP

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

Accessory	Description	Part number
 Sandwich regulator	Common pressure	5-125 PSIG w/ gauge PS4037166CP
	Independent pressure	5-125 PSIG w/ gauge PS4037266CP
 Blanking plate kit		PS4034CP
 Sandwich flow control		PS4042CP
 Manifold to manifold gasket kits		PS4013P
 Manifold port isolation kit	Main galley (1, 3, 5)	PS4032CP
	Pilot galley	PS4033CP
 Auxiliary access plate kit	1/4" & 3/8"	NPT PS403000CP
		BSPP PS403001CP

Modulflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus

DX ISOMAX
Series

Valvair II
Series

D

Subbase & Manifold
Valve Products

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

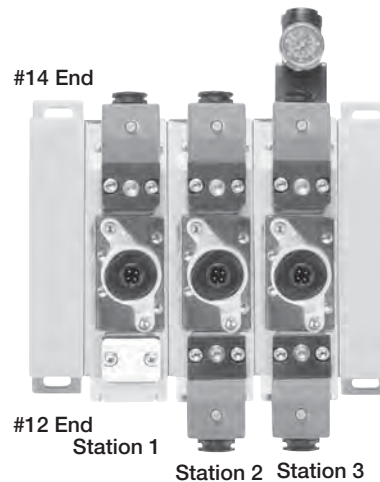
1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete Valve, Regulator, Flow Control and Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)

Example

Application requires a 3-Station manifold with a valve, regulator on Station 3.

Item	Qty.	Part No.	Location
01	1	AAH1S003	
02	1	H11WXBG2B9000FD	Station 1
03	1	PS4011550CP	Station 1
04	1	H12WXBG2B9000FD	Station 2
05	1	PS4011550CP	Station 2
06	1	H12WXXG2B9000FD	Station 3
07	1	PS4037166CP	Station 3
08	1	PS4011550CP	Station 3

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-Station Manifold with (3) H1 Valves on Manifold Bases and Regulator at Station 3

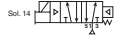
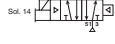

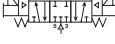
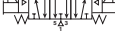

Add-A-Fold Assembly Model Number

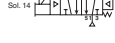

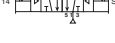
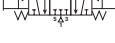
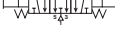

AA	H1	S	0	03	
Valve series		End plate type		Transition plate	
Right & left end plate H1		Standard - non-collective wiring S		Blank No transition plate	
Thread type		Number of stations		C H1 to H2	
NPT 0		01		D H1 to H3	
BSPP "G" 1*		02			
		03			
		04			
		•			
		•			
		24			

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



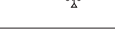
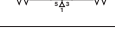
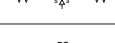
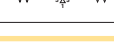
- Modulflex Series
- Isys Micro Series
- Isys ISO Series
- Fieldbus
- DX ISOMAX Series
- Valvair II Series
- D**
- Subbase & Manifold Valve Products

5599-1, Non Plug-in, Size 2 (H2) with Central Connectors

Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	3.0	Single solenoid	24 VDC	4-pin, central M12 connector	Internal	H2EWXBG2B9000FD	H2EWXBH2B9000FD
						External	H2EWXXG2B9000FD	H2EWXXH2B9000FD
	4-way, 2-position, air return	3.0	Single solenoid	24 VDC	4-pin, central M12 connector	Internal	H21WXBG2B9000FD	H21WXBH2B9000FD
						External	H21WXXG2B9000FD	H21WXXH2B9000FD
	4-way, 2-position	3.0	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H22WXBG2B9000FD	H22WXBH2B9000FD
						External	H22WXXG2B9000FD	H22WXXH2B9000FD
	4-way, 3-position, all ports blocked	2.8	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H25WXBG2B9000FD	H25WXBH2B9000FD
						External	H25WXXG2B9000FD	H25WXXH2B9000FD
	4-way, 3-position, center exhaust	2.8	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H26WXBG2B9000FD	H26WXBH2B9000FD
						External	H26WXXG2B9000FD	H26WXXH2B9000FD
	4-way, 3-position, pressure center	2.8	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H27WXBG2B9000FD	H27WXBH2B9000FD
						External	H27WXXG2B9000FD	H27WXXH2B9000FD

Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	3.0	Single solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H2EWXBG323000FD	H2EWXBH323000FD
						External	H2EWXXG323000FD	H2EWXXH323000FD
	4-way, 2-position, air return	3.0	Single solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H21WXBG323000FD	H21WXBH323000FD
						External	H21WXXG323000FD	H21WXXH323000FD
	4-way, 2-position	3.0	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H22WXBG323000FD	H22WXBH323000FD
						External	H22WXXG323000FD	H22WXXH323000FD
	4-way, 3-position, all ports blocked	2.8	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H25WXBG323000FD	H25WXBH323000FD
						External	H25WXXG323000FD	H25WXXH323000FD
	4-way, 3-position, center exhaust	2.8	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H26WXBG323000FD	H26WXBH323000FD
						External	H26WXXG323000FD	H26WXXH323000FD
	4-way, 3-position, pressure center	2.8	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H27WXBG323000FD	H27WXBH323000FD
						External	H27WXXG323000FD	H27WXXH323000FD

5599-1, Non Plug-in, Size 2 (H2) with 3-Pin DIN Connectors

Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
	4-way, 2-position, spring return	3.0	Single solenoid	24 VDC	3-pin DIN connector on coil	Internal	H2EWXBBL49D	H2EWXBCL49D
						External	H2EWXXBL49D	H2EWXXCL49D
	4-way, 2-position, air return	3.0	Single solenoid	24 VDC	3-pin DIN connector on coil	Internal	H21WXBBL49D	H21WXBCL49D
						External	H21WXXBL49D	H21WXXCL49D
	4-way, 2-position	3.0	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H22WXBBL49D	H22WXBCL49D
						External	H22WXXBL49D	H22WXXCL49D
	4-way, 3-position, all ports blocked	2.8	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H25WXBBL49D	H25WXBCL49D
						External	H25WXXBL49D	H25WXXCL49D
	4-way, 3-position, center exhaust	2.8	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H26WXBBL49D	H26WXBCL49D
						External	H26WXXBL49D	H26WXXCL49D
	4-way, 3-position, pressure center	2.8	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H27WXBBL49D	H27WXBCL49D
						External	H27WXXBL49D	H27WXXCL49D

Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

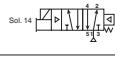
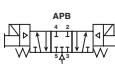
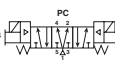
DX ISOMAX Series

Valvair II Series




D
 Subbase & Manifold Valve Products







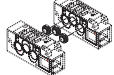
5599-1, Non Plug-in, Size 2 (H2) with 3-Pin DIN Connectors

	Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
Modulflex Series		4-way, 2-position, spring return	3.0	Single solenoid	120 VAC	3-pin DIN connector on coil	Internal	H2EWXBBL53D	H2EWXBCL53D
		4-way, 2-position, air return	3.0	Single solenoid	120 VAC	3-pin DIN connector on coil	External	H2EWXXBBL53D	H2EWXXCL53D
							Internal	H21WXBBL53D	H21WXBCL53D
External	H21WXXBBL53D	H21WXXCL53D							
Isys Micro Series		4-way, 3-position, all ports blocked	2.8	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H25WXBBL53D	H25WXBCL53D
		4-way, 3-position, center exhaust	2.8	Double solenoid	120 VAC	3-pin DIN connector on coil	External	H25WXXBBL53D	H25WXXCL53D
							Internal	H26WXBBL53D	H26WXBCL53D
External	H26WXXBBL53D	H26WXXCL53D							
Isys ISO Series		4-way, 3-position, pressure center	2.8	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H27WXBBL53D	H27WXBCL53D
		External	H27WXXBBL53D	H27WXXCL53D					

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

	Single subbase	Description	1/2" NPT	1/2" BSPP
Fieldbus Series		Side ported base	PS4111170CP	PS4111180CP
		Manifold bases	1/2" NPT	1/2" BSPP
DX ISOMAX Series		End ported bases	PS4111570CP	PS4111580CP
		Bottom / end ported bases	PS4111670CP	PS4111680CP
		Note: Manifolds include 2 pipe plugs		
Valvair II Series		End plate kits	NPT port	BSPP port
		H2 Non-collective wiring end plates	PS4131010CP	PS4131011CP

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

	Accessory	Description	Part number
	Sandwich regulator	Common pressure 5-125 PSIG w/ gauge	PS4137166CP
		Independent pressure 5-125 PSIG w/ gauge	PS4137266CP
	Blanking plate kit		PS4134CP
	Sandwich flow control		PS4142CP
	Manifold to manifold gasket kits		PS4113P
	Manifold port isolation kit	Main galley (1, 3, 5)	PS4132CP
		Pilot galley	PS4033CP

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

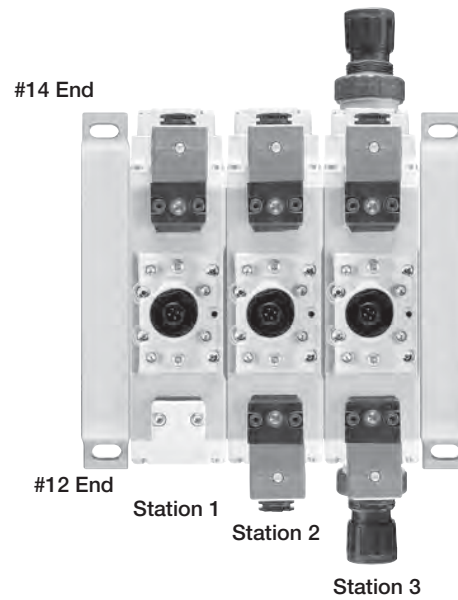
1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete Valve, Regulator, Flow Control and Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blanking plate part number and the individual manifold number in the station specified.)

Example

Application requires a 3-Station manifold with a valve and regulator on Station 3.

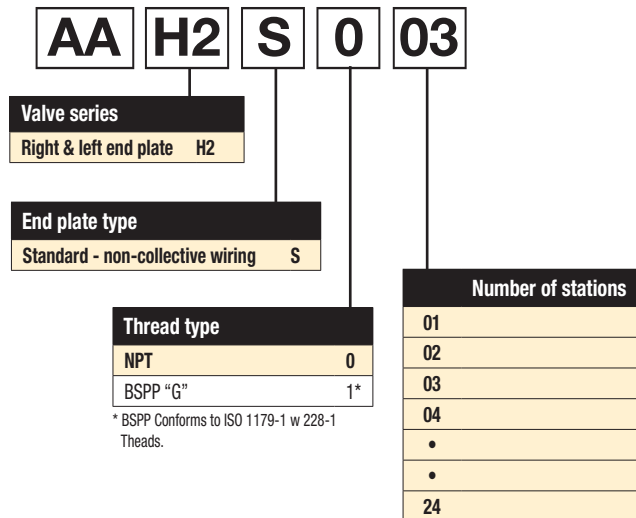
Item	Qty.	Part No.	Location
01	1	AAH2S003	
02	1	H21WXBG2B9000FD	Station 1
03	1	PS4111570CP	Station 1
04	1	H22WXBG2B9000FD	Station 2
05	1	PS4111570CP	Station 2
06	1	H22WXXG2B9000FD	Station 3
07	1	PS4137166CP	Station 3
08	1	PS4111570CP	Station 3

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-Station Manifold with (3) H2 Valves on Manifold Bases and Regulator at Station 3

Add-A-Fold Assembly Model Number



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

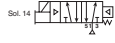
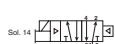
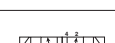

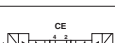

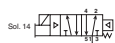
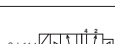

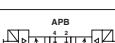
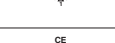

DX ISOMAX Series

Valvair II Series


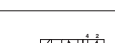

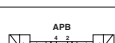
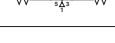

D

Subbase & Manifold Valve Products


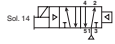
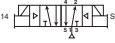
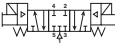

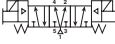
5599-1, Non Plug-in, Size 3 (H3) with Central Connectors

	Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
Modulflex Series		4-way, 2-position, spring return	6.0	Single solenoid	24 VDC	4-pin, central M12 connector	Internal	H3EWXBG2B9000FD	H3EWXBH2B9000FD
		External	H3EWXG2B9000FD	H3EWXH2B9000FD					
		4-way, 2-position, air return	6.0	Single solenoid	24 VDC	4-pin, central M12 connector	Internal	H31WXBG2B9000FD	H31WXBH2B9000FD
		External	H31WXXG2B9000FD	H31WXXH2B9000FD					
		4-way, 2-position	6.0	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H32WXBG2B9000FD	H32WXBH2B9000FD
		External	H32WXXG2B9000FD	H32WXXH2B9000FD					
Isys Micro Series		4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H35WXBG2B9000FD	H35WXBH2B9000FD
		External	H35WXXG2B9000FD	H35WXXH2B9000FD					
		4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H36WXBG2B9000FD	H36WXBH2B9000FD
		External	H36WXXG2B9000FD	H36WXXH2B9000FD					
Isys ISO Series		4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	4-pin, central M12 connector	Internal	H37WXBG2B9000FD	H37WXBH2B9000FD
		External	H37WXXG2B9000FD	H37WXXH2B9000FD					
Fieldbus Series		4-way, 2-position, spring return	6.0	Single solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H3EWXBG323000FD	H3EWXBH323000FD
		External	H3EWXG323000FD	H3EWXH323000FD					
		4-way, 2-position, air return	6.0	Single solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H31WXBG323000FD	H31WXBH323000FD
		External	H31WXXG323000FD	H31WXXH323000FD					
		4-way, 2-position	6.0	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H32WXBG323000FD	H32WXBH323000FD
		External	H32WXXG323000FD	H32WXXH323000FD					
DX ISOMAX Series		4-way, 3-position, all ports blocked	5.0	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H35WXBG323000FD	H35WXBH323000FD
		External	H35WXXG323000FD	H35WXXH323000FD					
		4-way, 3-position, center exhaust	5.0	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H36WXBG323000FD	H36WXBH323000FD
		External	H36WXXG323000FD	H36WXXH323000FD					
Valvair II Series		4-way, 3-position, pressure center	5.0	Double solenoid	120 VAC	5-Pin, central 7/8" mini connector	Internal	H37WXBG323000FD	H37WXBH323000FD
		External	H37WXXG323000FD	H37WXXH323000FD					




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

	Symbol	Type	Cv	Operator	Voltage	Enclosure	Pilot	Non-locking	Locking
Subbase & Manifold		4-way, 2-position, spring return	6.0	Single solenoid	24 VDC	3-pin DIN connector on coil	Internal	H3EWXBBL49D	H3EWXBCL49D
		External	H3EWXBL49D	H3EWXCL49D					
		4-way, 2-position, air return	6.0	Single solenoid	24 VDC	3-pin DIN connector on coil	Internal	H31WXBBL49D	H31WXBCL49D
		External	H31WXXBL49D	H31WXXCL49D					
		4-way, 2-position	6.0	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H32WXBBL49D	H32WXBCL49D
		External	H32WXXBL49D	H32WXXCL49D					
Subbase & Manifold		4-way, 3-position, all ports blocked	5.0	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H35WXBBL49D	H35WXBCL49D
		External	H35WXXBL49D	H35WXXCL49D					
		4-way, 3-position, center exhaust	5.0	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H36WXBBL49D	H36WXBCL49D
		External	H36WXXBL49D	H36WXXCL49D					
Subbase & Manifold		4-way, 3-position, pressure center	5.0	Double solenoid	24 VDC	3-pin DIN connector on coil	Internal	H37WXBBL49D	H37WXBCL49D
		External	H37WXXBL49D	H37WXXCL49D					





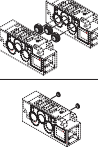
5599-1, Non Plug-in, Size 3 (H3) with 3-Pin DIN Connectors

Symbol	Type	Cv	Operator	Voltage		Pilot	Non-locking	Locking
	4-way, 2-position, spring return	6.0	Single solenoid	120 VAC	3-pin DIN connector on coil	Internal	H3EWXBBL53D	H3EWXBCL53D
						External	H3EWXXBBL53D	H3EWXXCL53D
	4-way, 2-position, air return	6.0	Single solenoid	120 VAC	3-pin DIN connector on coil	Internal	H31WXBBL53D	H31WXBCL53D
						External	H31WXXBBL53D	H31WXXCL53D
	4-way, 2-position	6.0	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H32WXBBL53D	H32WXBCL53D
						External	H32WXXBBL53D	H32WXXCL53D
	4-way, 3-position, all ports blocked	5.0	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H35WXBBL53D	H35WXBCL53D
						External	H35WXXBBL53D	H35WXXCL53D
	4-way, 3-position, center exhaust	5.0	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H36WXBBL53D	H36WXBCL53D
						External	H36WXXBBL53D	H36WXXCL53D
	4-way, 3-position, pressure center	5.0	Double solenoid	120 VAC	3-pin DIN connector on coil	Internal	H37WXBBL53D	H37WXBCL53D
						External	H37WXXBBL53D	H37WXXCL53D

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

Single subbase	Description	3/4" NPT	3/4" BSPP
	Side ported base	PS4211190CP	PS4211180CP
Manifold bases	Description	3/4" NPT	3/4" BSPP
	End ported bases	PS4211590CP	PS4211500CP
	Bottom / end ported bases	PS4211690CP	PS4211600CP
	Note: Manifolds include 2 pipe plugs		
End plate kits	Description	NPT port	BSPP port
	H3 Non-collective wiring end plates	PS4231010CP	PS4231011CP

5599-1, Non Plug-in, Size 3 (H3) Accessories

Accessory	Description	Part number
	Common pressure 5-125 PSIG w/ gauge	PS4237166CP
	Independent pressure 5-125 PSIG w/ gauge	PS4237266CP
	Blanking plate kit	PS4234CP
	Sandwich flow control	PS4242CP
	Manifold to manifold gasket kits	PS4213P
	Main galley (1, 3, 5)	PS4232CP
	Pilot galley	PS4033CP

Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

Valvair II Series

D
 Subbase & Manifold Valve Products

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

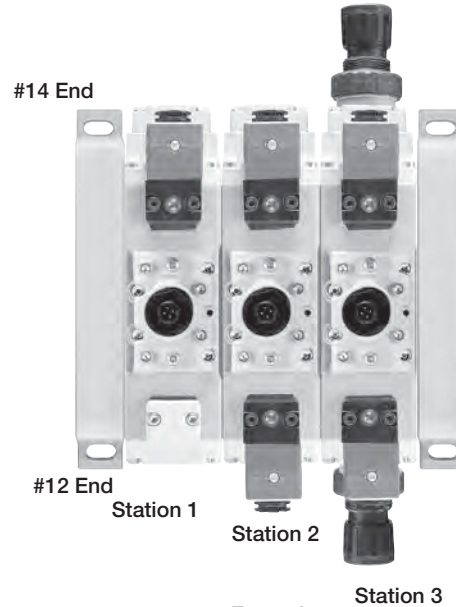
1. List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
2. List complete Valve, Regulator, Flow Control and Base model number. List left to right, LOOKING AT THE CYLINDER PORTS on the #12 end of the manifold. The left most station is station 1. (If a blank station is needed, list the blanking plate part number and the individual manifold number in the station specified.)

Example

Application requires a 3-Station manifold with a valve and regulator on Station 3.

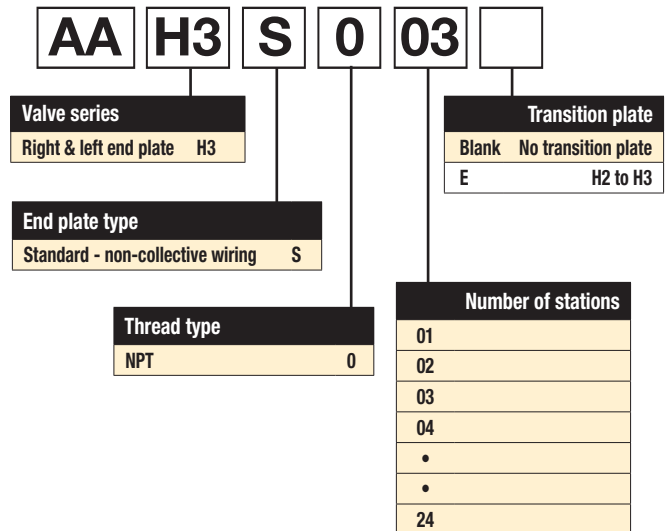
Item	Qty.	Part No.	Location
01	1	AAH3S003	
02	1	H31WXBG2B9000FD	Station 1
03	1	PS4211590CP	Station 1
04	1	H32WXBG2B9000FD	Station 2
05	1	PS4211590CP	Station 2
06	1	H32WXXG2B9000FD	Station 3
07	1	PS4237166CP	Station 3
08	1	PS4211590CP	Station 3

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-Station Manifold with (3) H3 Valves
 on Manifold Bases and Regulator at Station 3

Add-A-Fold Assembly Model Number



5599-1 Non Plug-in Transition Plate Kits

PS402601 0 C P

Transition plate type*	
H1 to H2 to H3	PS402501
H1 to H3	PS402601
H1 to H2	PS402701
H2 to H3	PS402801

Engineering level	
C	Current

Thread type	
0	NPT
1*	BSPP "G"

* Includes left hand and right hand end plates.
 Use with PS4... series manifolds only.

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



Non Plug-in, 5599-1, Central Connector - Size 1, 2, & 3

Basic series 5599-1	
ISO 5599-1 Size 1	H1
ISO 5599-1 Size 2	H2
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*

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
000F*	SAE / Ford, ISO 20401
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
123 [†]	120	115		3-pin, central mini connector
2B9			24	4-pin, central M12 connector
3B9			24	5-pin, central mini connector
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"

Non Plug-in, 5599-1, CNOMO - Size 1, 2, & 3

Basic series 5599-1	
ISO 5599-1 Size 1	H1
ISO 5599-1 Size 2	H2
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*

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
L49			24	3-pin, 30mm DIN 43650A with CNOMO connector
L53	120	115		3-pin, 30mm DIN 43650A with CNOMO connector
L57	240			3-pin, 30mm DIN 43650A with CNOMO connector
NXX				Valve less coil

5599-1 Overrides / Lights	
B	Non-locking, flush, push - no light
C	Locking, flush, push / turn - no light

* Must be specified when using Sandwich Regulators.

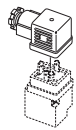
Maximum Number of Solenoids
(Maximum energized simultaneously)

	HA & HB	Voltage code	25-pin D-sub					Turck	
				19-pin Brad Harrison	12-Pin M23	19-pin M23	Moduflex	Isysnet	16 Outputs
Moduflex Series	24VDC	G9	24 (24)	16 (16)	8 (8)	16 (16)	16 (16)	32 (32)	16 (16) 32 (32)
	120VAC*	23	24 (24)	16 (16)	8 (8)	16 (16)	N/A	N/A	N/A N/A
Isys Micro Series	H1, H2 & H3	Voltage code	25-pin D-sub	19-pin Brad Harrison	12-Pin M23	19-pin M23	Moduflex	Isysnet	Turck 16 Outputs 32 Outputs
	12VDC	45	24 (13)	16 (13)	8 (8)	16 (13)	N/A	N/A	N/A N/A
	24VAC*	42	24 (24)	16 (16)	8 (8)	16 (16)	N/A	N/A	N/A N/A
	24VDC	B9	24 (20)	16 (16)	8 (8)	16 (16)	16 (16)	24 (21)	16 (16) 24 (21)
	120VAC*	23	24 (24)	16 (16)	8 (8)	16 (16)	N/A	N/A	N/A N/A

* Not CSA certified for 25-pin, D-sub option.

Female Electrical Connectors (IP65 Rated) 30mm, 3-Pin ISO 4400, (DIN 43650A)

	Description	Connector with 6' (2m) cord	Connector
Fieldbus	Unlighted	PS2028JCP	PS2028BP
	Light – 6-48V, 50/60Hz; 6-48VDC	PS2032J79CP*	PS203279BP
	Light – 120V/60Hz	PS2032J83CP*	PS203283BP
	Light – 240V/60Hz	N/A	PS203283BP



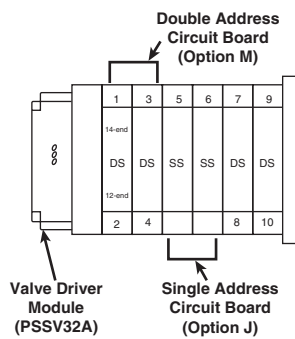
* With surge suppression.

Engineering data:

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

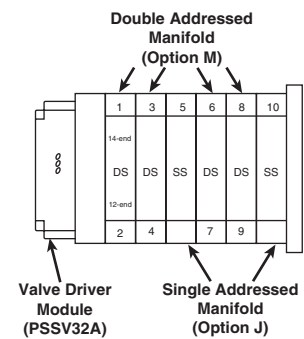
I/O Addressing Examples

HB & HA Example
Two Station Manifold Bases



Notes: SS = Single Solenoid Valve
 DS = Double Solenoid Valve
 First output address the #14 end of the valve closest to the valve driver module.

H1, H2 & H3 Example:
Single Station Manifold Bases



5599-2 & 5599-1 AUTO Solenoid Kits

Valve size	Voltage code	Coil kit number
	42 (24VAC)	PS404142P
	45 (12VDC)	PS404145P
H1, H2 & H3	B9 (24VDC)	PS4041B9P
	23 (120VAC)	PS404123P
	57 (240VAC)	PS404157P

Quantity 1

5599-1 CNOMO Solenoid Kits

Voltage code	3-pin, 30mm 'L' coil kit	2-pin, M12 Euro '6' coil kit
19	—	PS2828619P
42	P2FCA442	—
45	P2FCA445	—
49	P2FCA449	—
53	P2FCA453	—
57	P2FCA457	—

Quantity 1



Pilot Operator - CNOMO

Valve size		Kit number
H1, H2 & H3	Locking	PS4052CP
	Non-locking	PS4053CP

Manifold Hardware Kits – PS Series

Valve size	Kit number
HA & HB	PS5612P
	PS5512P
	PS4012P
H1, H2 & H3	PS4112P
	PS4212P

Quantity 12

Valve Bolt Kits

Valve size	Kit number
HA & HB	PS5687P
	PS5587P
	PS4087DP
H1, H2 & H3	PS4187DP
	PS4287DP

Quantity 12

Valve to Base Gasket Kits

Valve size	Standard	Remote pilot	Dual pressure #3	Dual pressure #5
HA & HB	PS5605P*	—	—	—
	PS5505P*	—	—	—
H1, H2 & H3	PS4005DP	PS4006DP	PS40D3DP	—
	PS4105DP	PS4106DP	PS41D3DP	PS41D5DP
	PS4205DP	PS4206DP	PS42D3DP	PS42D5DP

Quantity 1
 * Quantity 10

Body Service Kits



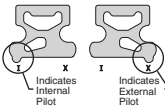
Valve size	2-position	3-position		
		APB	CE	PC
HA & HB	PS5601P	PS5602P	PS5603P	PS5604P
	PS5501P	PS5502P	PS5503P	PS5504P
H1, H2 & H3	PS4001CP	PS4002CP	PS4003CP	PS4004CP
	PS4101CP	PS4102CP	PS4103CP	PS4104CP
	PS4201CP	PS4202CP	PS4203CP	PS4204CP

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	Kit number
 Indicates External Pilot HB shown	PS5605P
 Indicates Internal Pilot HA	PS5505P
 Indicates Internal Pilot x Indicates External Pilot H1, H2 & H3	PS4007P

Quantity 10

Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

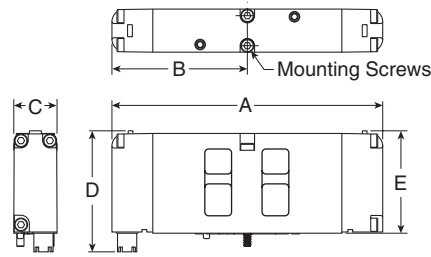
DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

Isys ISO 15407-2, Plug-in, Size 18mm (HB)



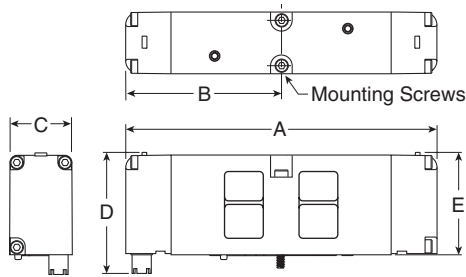
18mm Dimensions

A	B	C	D
4.43	2.22	.72	1.98
(113)	(56)	(18)	(50)

E
 1.68
 (43)

Inches (mm)

Isys ISO 15407-2, Plug-in, Size 26mm (HA)



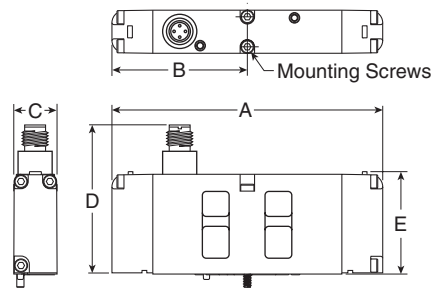
26mm Dimensions

A	B	C	D
5.10	2.55	1.02	1.98
(130)	(65)	(26)	(50)

E
 1.66
 (42)

Inches (mm)

Isys ISO 15407-1, Non Plug-in, Size 18mm (HB)



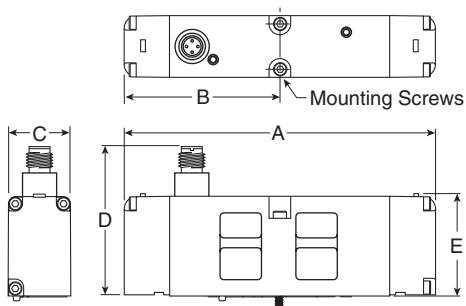
18mm Dimensions

A	B	C	D
4.43	2.22	.72	2.40
(113)	(56)	(18)	(61)

E
 1.68
 (43)

Inches (mm)

Isys ISO 15407-1, Non Plug-in, Size 26mm (HA)



26mm Dimensions

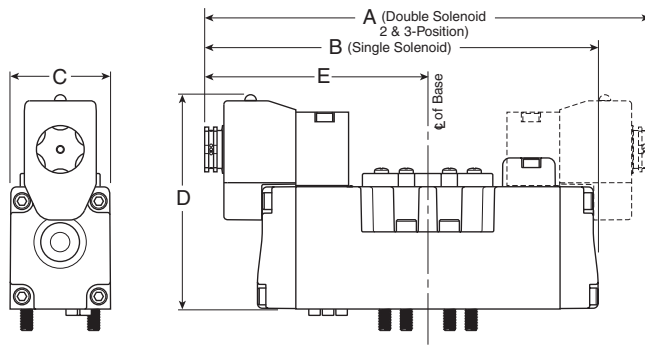
A	B	C	D
5.10	2.55	1.02	2.40
(130)	(65)	(26)	(61)

E
 1.66
 (42)

Inches (mm)

- Modulflex Series
- Isys Micro Series
- Isys ISO Series
- Fieldbus
- DX ISOMAX Series
- Valvair II Series
- D**
- Subbase & Manifold Valve Products

Isys ISO 5599-2



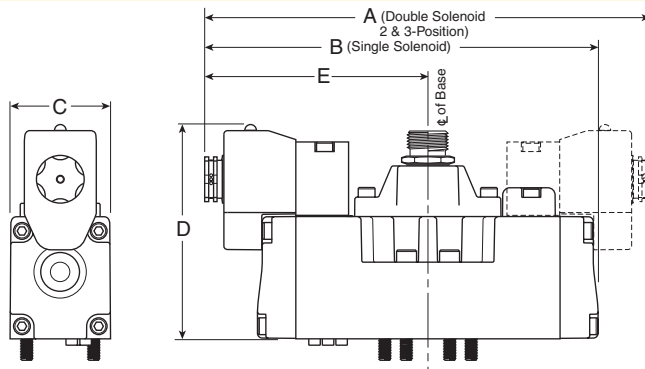
H1 Valves Shown

H1 Dimensions

A	A ₁	B	C
7.32 (186)	5.59 (142)	6.46 (164)	1.65 (42)
D	D ₁	D ₂	D ₃
3.54 (90)	4.29 (109)	4.29 (109)	2.50 (63.5)
D ₄	E	E ₁	
2.48 (63)	3.66 (93)	2.80 (71)	

Inches (mm)

Isys ISO 5599-1 Auto

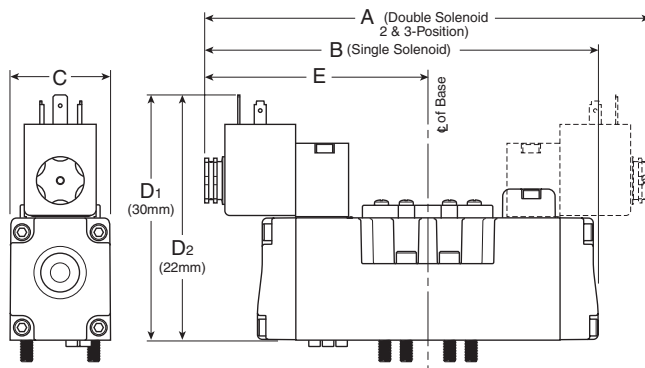


H2 Dimensions

A	A ₁	B	C
8.35 (212)	6.62 (168)	7.48 (190)	2.17 (55)
D	D ₁	D ₂	D ₃
4.05 (103)	4.80 (122)	4.57 (116)	2.99 (76)
E	E ₁		
4.17 (106)	3.31 (84)		

Inches (mm)

Isys ISO 5599-1 CNOMO

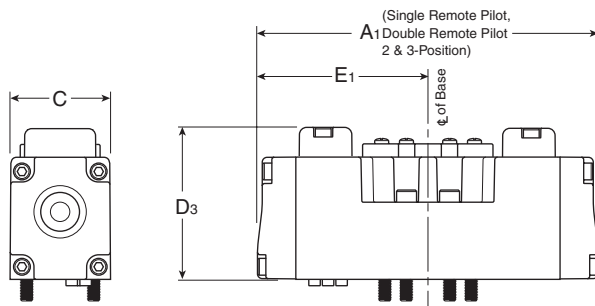


H3 Dimensions

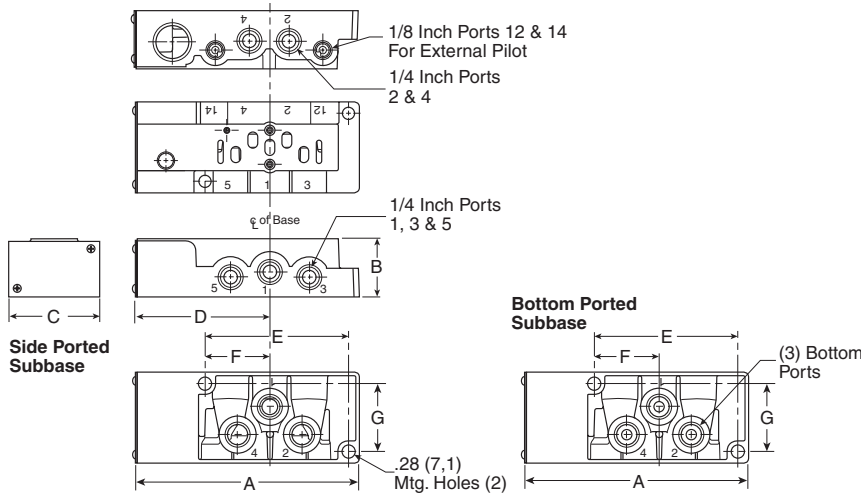
A	A ₁	B	C
9.68 (246)	6.98 (177)	8.68 (220)	2.17 (55)
D	D ₁	D ₂	D ₃
4.05 (103)	4.80 (122)	4.57 (116)	2.99 (76)
E	E ₁		
4.74 (121)	3.49 (89)		

Inches (mm)

Isys ISO 5599-2 / 5599-1 Remote Pilot



Isys ISO 15407-2 & 15407-1 Size 26mm (HA), Plug-in Subbases

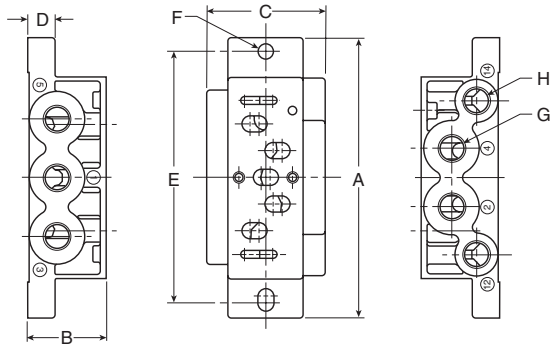


HA Dimensions

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)

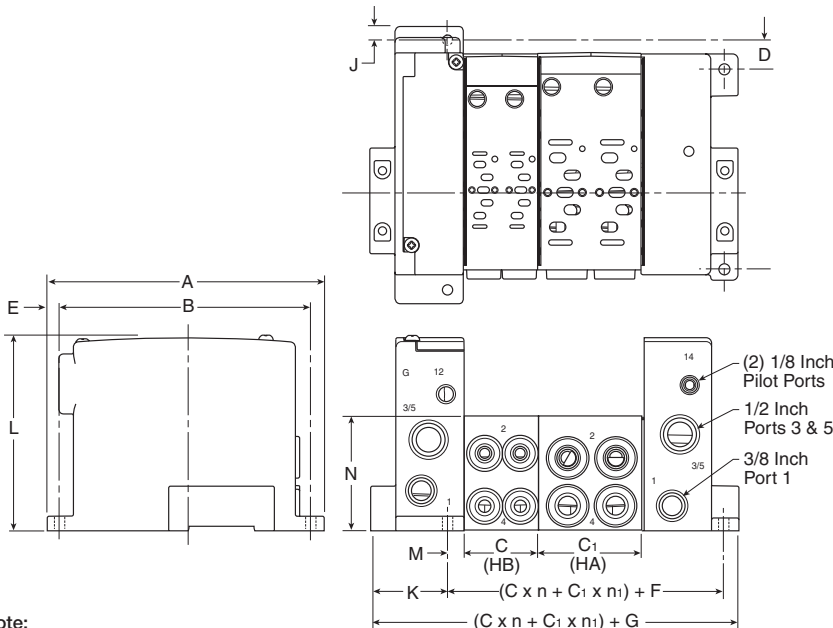
Isys ISO Size 18mm (HB) & 26mm (HA), Non-Plug-in Compact Subbase



Series	Part number	A	B	C	D	E	F	G	H
HB	PL02	3.15 (80)	.87 (22)	1.06 (27)	.31 (8)	2.76 (70)	.216 Dia. (Ø 5.5)	1/8	M5
HA	PL01	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)

Isys ISO 15407-2 & 15407-1 Size 18mm (HB) & 26mm (HA), PS5611 & PS5511 Manifolds



HB & HA Dimensions

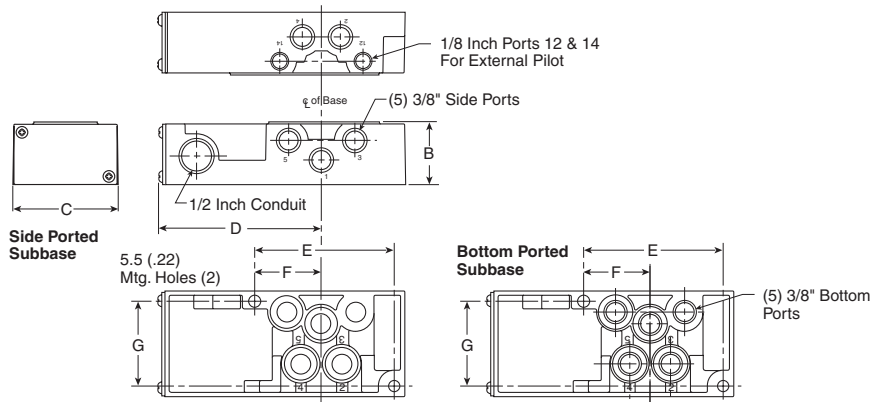
A	B	C	C ₁	D	E
5.98 (152)	5.39 (137)	1.61 (40.8)	2.24 (56.8)	.63 (16)	.30 (7.5)
F	G	H	J	K	L
2.14 (54.4)	4.12 (104.6)	4.32 (109.8)	.15 (4)	1.68 (42.7)	4.17 (106)
M	N				
.33 (8.4)	2.48 (63)				

Inches (mm)

Note:
 See Fieldbus Section for the dimensions of manifolds utilizing the Isysnet, Turck, or Moduflex end plate type.

n = Number of HB Bases C = HB Series
 n₁ = Number of HA Bases C₁ = HA Series

Isys ISO 5599-1 Size H1, PS4011 Subbase

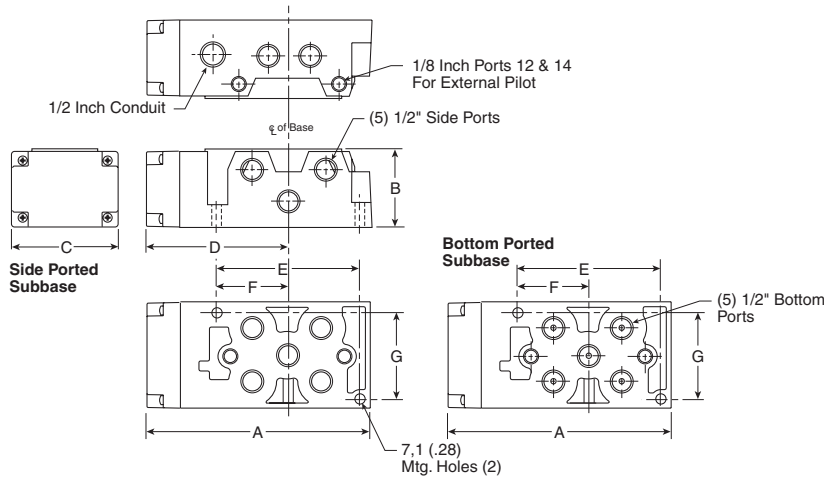


PS4011 Subbase Dimensions

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)

Isys ISO 5599-1 Size H2, PS4111 Subbase

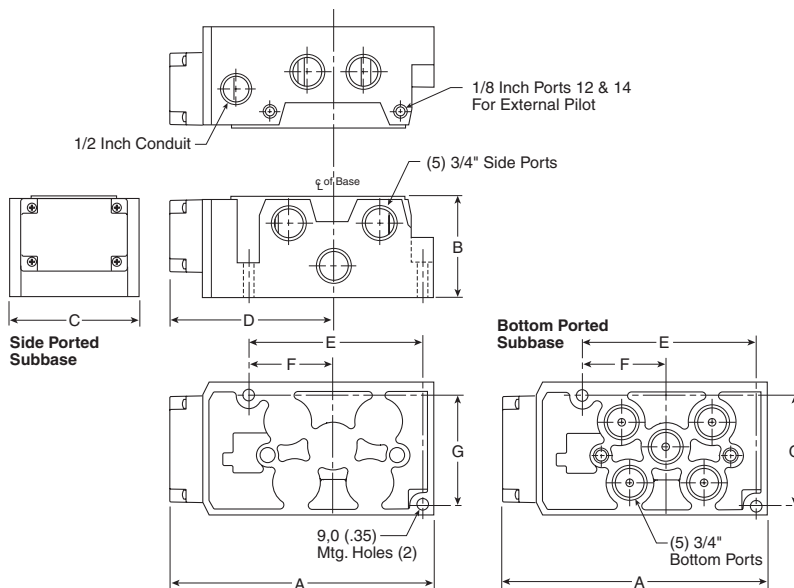


PS4111 Subbase Dimensions

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)

Isys ISO 5599-1 Size H3, PS4211 Subbase

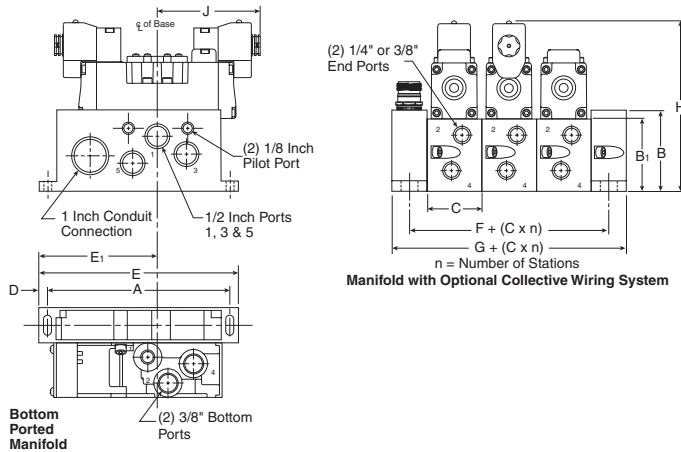


PS4211 Subbase Dimensions

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)

Isys ISO 5599 Size H1, PS4011 Manifold

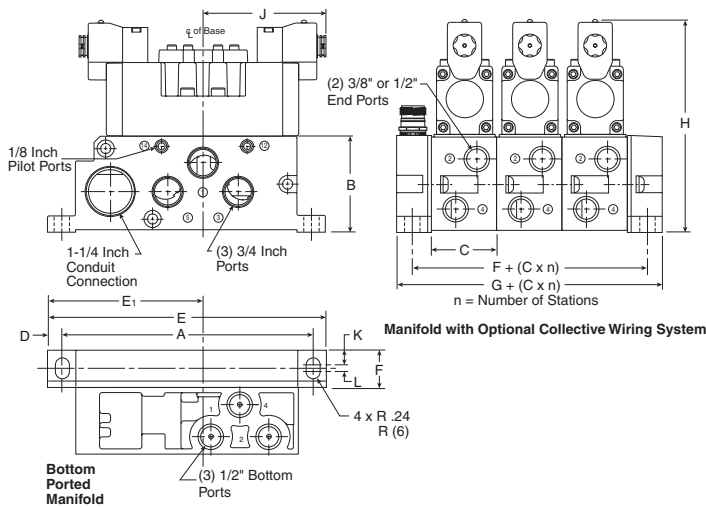


PS4011 Manifold Dimensions

A	B	B ₁	C	D
6.50 (165)	2.87 (73)	2.64 (67)	1.96 (50)	.33 (8)
E	E ₁	F	G	H
7.15 (182)	4.25 (108)	1.25 (32)	2.50 (63.5)	6.18 (157)
J				
3.66 (93)				

Inches (mm)

Isys ISO 5599 Size H2, PS4111 Manifold

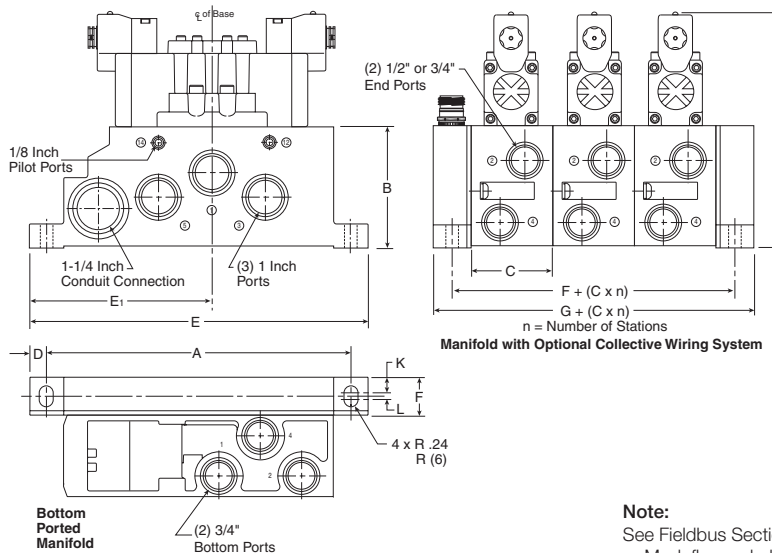


PS4111 Manifold Dimensions

A	B	C	D	E
8.46 (215)	3.35 (85)	2.20 (56)	.47 (12)	9.41 (239)
E ₁	F	G	H	J
5.28 (134)	1.26 (32)	2.60 (63)	7.40 (188)	4.17 (106)
K	L			
.65 (16.5)	.24 (6)			

Inches (mm)

Isys ISO 5599 Size H3, PS4211 Manifold



PS4211 Manifold Dimensions

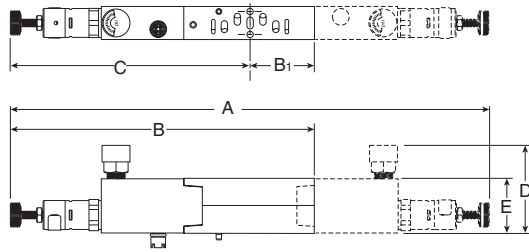
A	B	C	D	E
10.41 (265)	4.13 (105)	2.80 (71)	.59 (15)	11.61 (295)
E ₁	F	G	H	
6.26 (159)	1.30 (33)	2.60 (63)	8.19 (208)	
K	L			
.53 (13.5)	.24 (6)			

Inches (mm)

Note:

See Fieldbus Section for the dimensions of manifolds utilizing the Isysnet, Turck, or Modflex end plate type.

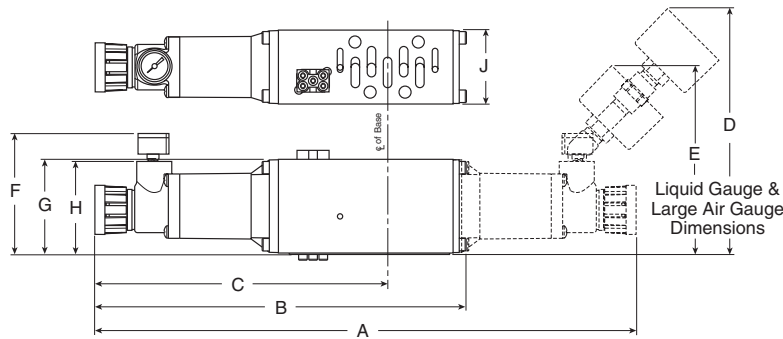
Isys ISO 15407 Sandwich Regulator



Series	Part number	A	B	B ₁	C	D	E
HB	PS5637	10.28 (261)	6.14 (156)	1.02 (26)	5.13 (130)	2.60 (66)	1.18 (30)
HA	PS5537	10.00 (254)	6.42 (163)	1.42 (36)	5.00 (127)	2.72 (69)	1.18 (30)

Inches (mm)

Isys ISO 5599, Size H1 Sandwich Regulator

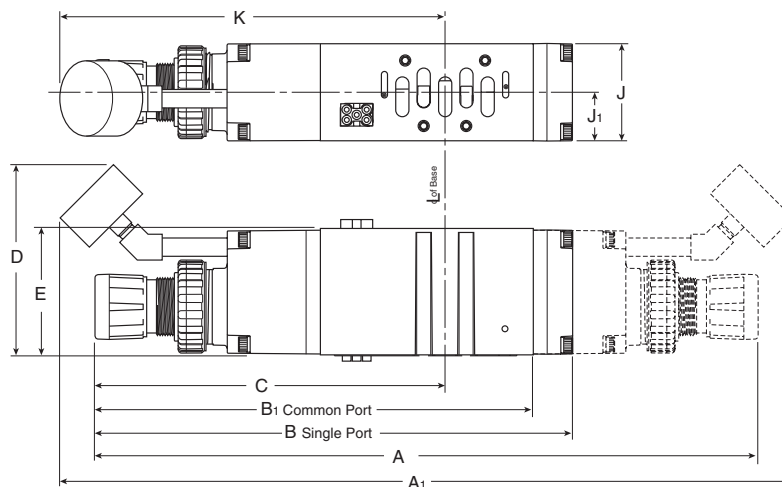


Series	Part number	A	B	C	D	E	F	G	H	J
H1	PS4037	11.84	8.13	6.40	5.45	4.25	2.85	2.09	2.05	1.63
	PS4038	(301)	(207)	(163)	(138)	(108)	(72)	(53)	(52)	(41)

Inches (mm)

Isys ISO 5599, Size H2 & H3 Sandwich Regulator

H2 Sandwich Regulator Shown



Series	Part number	A	A ₁	B	B ₁	C	D	E	J	J ₁	K
H2	PS4137	14.65	16.18	10.56	9.84	7.71	4.20	2.80	2.15	1.07	8.50
	PS4138	(372)	(411)	(268)	(250)	(196)	(107)	(71)	(55)	(27)	(216)
H3	PS4237	15.67	17.15	11.53	10.67	8.37	4.20	2.93	2.50	1.25	9.10
	PS4238	(398)	(436)	(293)	(271)	(213)	(107)	(75)	(64)	(32)	(231)

Inches (mm)

Modulflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus

DX ISOMAX
Series

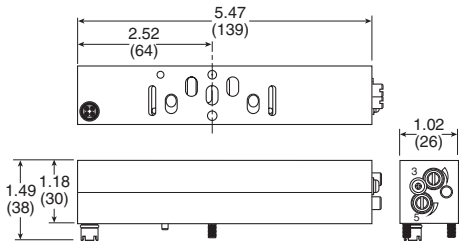
Valvair II
Series

D

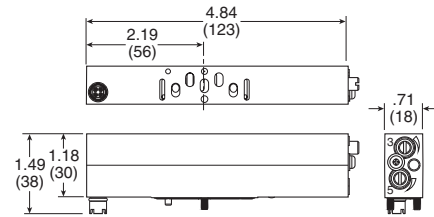
Subbase & Manifold
Valve Products

Isys ISO 15407, Size 18mm (HB) & 26mm (HA), Flow Control

HA Flow Control

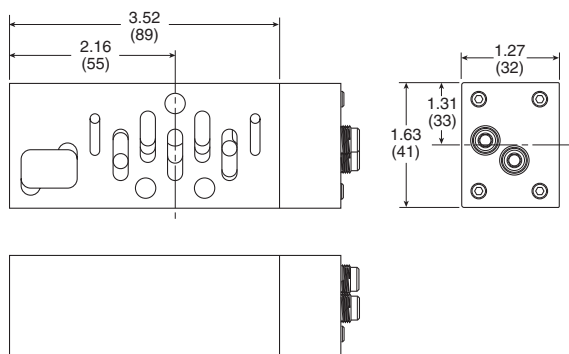


HB Flow Control

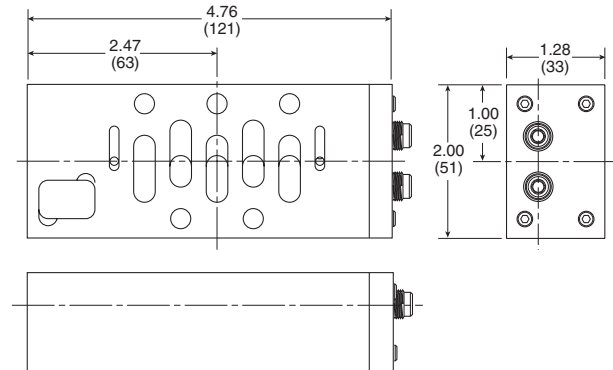


Isys ISO 5599, Size H1, H2 & H3, Flow Control

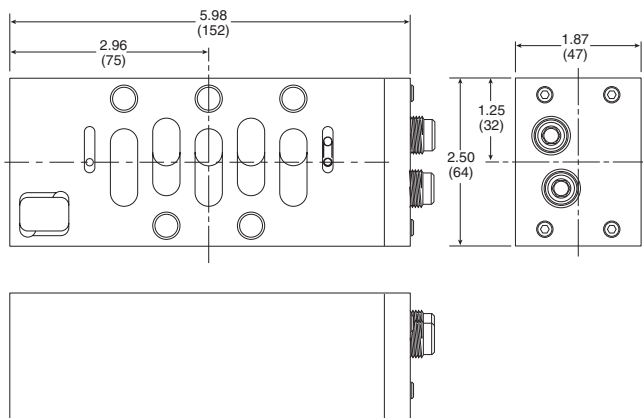
H1 Flow Control



H2 Flow Control



H3 Flow Control



Modulflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

Fieldbus Systems

Fieldbus Offering

Valve series	Moduflex	Isysnet	Turck
Moduflex	X		
Isys Micro	X	X	X
Isys ISO	X	X	X

Protocol	Moduflex	Isysnet	Turck
DeviceNet	X	X	X
Ethernet/IP		X	X
Profibus-DP	X	X	X
Profinet			X
Modbus/TCP			X
AS-i	X		
CANopen	X		X
Interbus-S	X		
ControlNet		X	

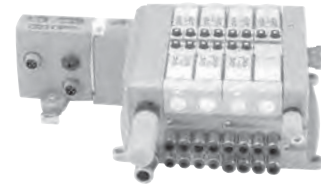
Options	Moduflex	Isysnet	Turck
Digital inputs / outputs*		X	X
Analog inputs / outputs		X	X
16 Solenoid control*	X		X
32 Solenoid control		X	X
Short circuit protection on inputs			X
Current sensing outputs			X
Bus expansion		X	
DeviceNet subnet			X
Programmable comm modules			X
Power over DeviceNet / CANopen			X
Preferred connectivity		X	
CANopen expansion			X

* Moduflex AS-i modules are available with 6 or 8 inputs and 6 or 8 solenoid outputs

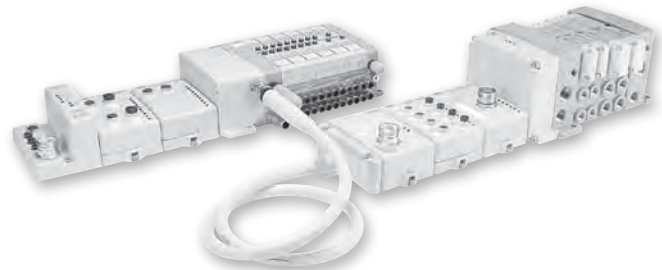
	Turck fieldbus	Isysnet	Moduflex
Solenoid control	Up to 32 solenoids on main valve manifold. DeviceNet Subnet Allows an additional 32 solenoids per node 63 nodes maximum. CANopen expansion Allows an additional 64 solenoids per expansion 5 expansions maximum.	Up to 32 solenoids on main valve manifold Isys Micro Bus Expansion Allows an additional 32 solenoids per expansion 3 expansions maximum 1 meter fixed cable length per expansion	Up to 16 solenoids on main valve manifold
I/O capabilities	256 maximum inputs and outputs directly connected to communication module. DeviceNet Subnet Allows an additional 256 I/O per node 63 nodes maximum Third party DeviceNet modules can be used CANopen expansion Allows an additional 64 I/O per expansion 5 expansions maximum Third party CANopen modules can be used	Maximum of 256 inputs and 256 outputs directly connected to the communication module, including Isys Micro Bus Expansion.	8 Inputs available on AS-i communication only.
Short circuit protection	SXG and diagnostic electronic modules have each point isolated. All other electronic modules are isolated from the backplane.	Devices must be fused between input / output and electronic module.	

 Most popular.

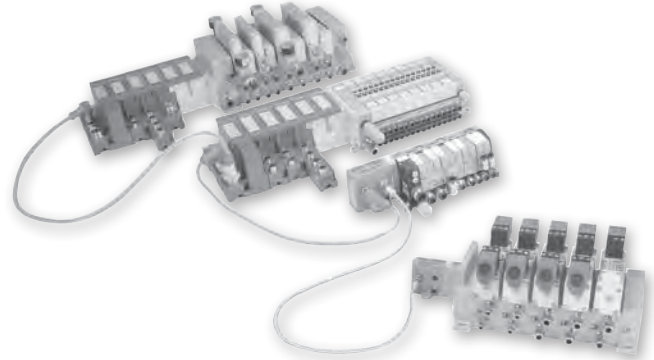
The Moduflex Fieldbus System



The Isysnet Fieldbus System



The Turck Fieldbus System



Moduflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

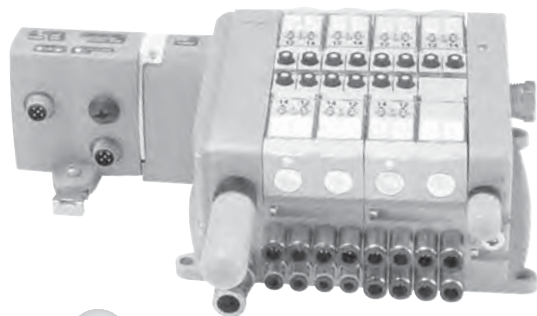
Valvair II Series

D

Subbase & Manifold Valve Products

The Moduflex Fieldbus System

Moduflex communication modules directly attach to the end plate. It offers a compact and low cost fieldbus solution.



CANopen

INTERBUS-S

Moduflex Features

- Small, compact product design
- Broad protocol offering, including DeviceNet, Profibus, AS-i, CANopen, and Interbus
- Channel-level diagnostics (LED and Electronic)
- Inputs available with AS-i modules
- Horizontal and vertical mounting without derating
- 5g vibration
- Quick-disconnects for I/O and network connectivity
- Built-in panel grounding
- CE certification

Protocol	Part number
Profibus DP	P2M2HBVP21600
DeviceNet	P2M2HBVD21600
CANopen	P2M2HBVC21600
InterBus-S	P2M2HBVS11600

Fieldbus Accessories

	Protocol	Connector type	Part number
Power supply Field wireable connector	Profibus DP / InterBus-S / DeviceNet / CANopen	M12 type A female	P8CS1205AA
Line termination resistor	Profibus DP DeviceNet / CANopen	M12 type B M12 type A	P8BPA00MB P8BPA00MA



P2M2HBVA10808A



P2M2HBVA10808B

Standard AS-i Protocol (up to 31 nodes)
Communication module for 8 solenoids max.
(2 nodes per module, 4 inputs, 4 solenoids per node)

Input / Output capability	Weight (oz)	Part number
0 inputs and 8 solenoid outputs	5.29	P2M2HBVA10800
8 (PNP) inputs on eight (M8) connectors and 8 solenoid outputs	7.05	P2M2HBVA10808A
8 (PNP) inputs on four (M12) connectors and 8 solenoid outputs	7.05	P2M2HBVA10808B

AS-i Version 2.1 Protocol (up to 62 nodes)
Communication module for 6 solenoids max.
(2 nodes per module, 4 inputs, 3 solenoids per node)

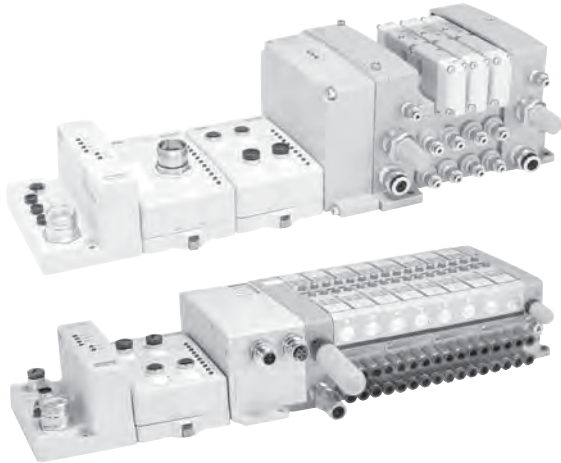
Input / Output capability	Weight (oz)	Part number
0 inputs and 6 solenoid outputs	5.29	P2M2HBVA20600
8 (PNP) inputs on eight (M8) connectors and 6 solenoid outputs	7.05	P2M2HBVA20608A
8 (PNP) inputs on four (M12) connectors and 6 solenoid outputs	7.05	P2M2HBVA20608B

Moduflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products

The Isysnet System

Isysnet has four major components:

- Valve driver module provide control for 32 solenoids on a manifold, with bus extension providing connectivity to 3 more manifolds
- I/O modules provide the field interface, system-interface circuitry, and bases for mounting
- Communication modules provide the network-interface circuitry
- Power distribution module provide 5 additional power inputs to the Isysnet system



Isysnet Features

- Highly modular design (4pt – 16pt modularity)
- Broad application coverage
- Channel-level diagnostics (LED)
- Channel-level alarm and annunciation (electronic)
- Channel-level open-wire detection with electronic feedback
- Parameter-level explicit messaging
- Horizontal and vertical mounting without derating
- 5g vibration
- Electronic and mechanical keying
- Robust backplane design
- Quick-disconnects for I/O and network connectivity
- Built-in panel grounding
- Color-coded module labels
- UL, C-UL, and CE certifications (as marked)
- Highly reliable structural integrity
- Optical isolation between field and system circuits

Communications Module



Protocol	Part number
DeviceNet™	PSSCDM18PA (7/8" Mini) or PSSCDM12A (M12)
ControlNet™	PSSCCNA
EtherNet I/P™	PSSCENA
Profibus-DP®	PSSCPBA

PSSCENA

All Modules IP67 Certified
 EDS and GSD files located at www.parker.com/pneu/Isysnet

Digital Inputs



PSSN16M12A



PSSN8M8A

I/O modules	Voltage	Part number
16 digital inputs M12, 5-pin used with PNP sourcing input device	10 to 28.8VDC	PSSN16M12A
8 digital inputs M12, 5-pin used with PNP sourcing input device	10 to 28.8VDC	PSSN8M12A
8 digital inputs M12, 5-pin used with NPN sinking input device	10 to 28.8VDC	PSSP8M12A
8 digital inputs M8, 3-pin used with PNP sourcing input device	10 to 28.8VDC	PSSN8M8A
8 digital inputs M23, 12-pin used with PNP sourcing input device	10 to 28.8VDC	PSSN8M23A

Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

Digital Outputs

	I/O modules	Voltage	Part number
Modulflex Series	16 digital outputs M23, 19-pin used with PNP sourcing outputs	10 to 28.8VDC	PSST16M23A
	16 digital outputs D-sub, 25-pin used with PNP sourcing outputs	10 to 28.8VDC	PSST16D25A
	16 digital outputs M12, 5-pin used with PNP sourcing outputs	10 to 28.8VDC	PSST16M12A
	8 digital outputs M12, 5-pin used with PNP sourcing outputs	10 to 28.8VDC	PSST8M12A
Isys Micro Series	8 digital outputs M8, 3-pin used with PNP sourcing outputs	10 to 28.8VDC	PSST8M8A
	4 digital output, high watt relay M12, 5-pin used with PNP sourcing outputs (2 Amp)	24VDC	PSSTR4M12A
	8 digital outputs M23, 12-pin used with PNP sourcing outputs	10 to 28.8VDC	PSST8M23A

All modules IP67 certified
 See www.parker.com/pneu/Isysnet

Analog Inputs

	I/O modules	Voltage	Part number
Fieldbus Series	2 Analog inputs voltage M12, 5-pin	-10 to 10VDC or 0 to 10VDC	PSSNAVM12A
	2 Analog inputs current M12, 5-pin	4 to 20mA or 0 to 20mA	PSSNACM12A

All modules IP67 certified
 See www.parker.com/pneu/Isysnet

Analog Outputs

	I/O modules	Voltage	Part number
Valvair II Series	2 Analog outputs voltage M12, 5-pin	0 to 10V ± 10V	PSSTAVM12A
	2 Analog outputs current M12, 5-pin	4 to 20mA or 0 to 20mA	PSSTACM12A

All modules IP67 certified
 See www.parker.com/pneu/Isysnet

Terminating Base Module

	Base module	Part number
	Termination base for stand alone units	PSSTERM


Used as the last terminating module for a stand alone isysnet assembly.

Power Extender Module

	Extender module	Part number
	24VDC field power module	PSSSE24A


A Power Extender Module must be used on every 14th Module in an Isysnet assembly. See www.parker.com/pneu/Isysnet

Bus Extender Cable

	Description	Voltage	Part number
	1 Meter Cable*	24VDC	PSSEXT1
	3 Meter Cable*	24VDC	PSSEXT3

* Requires a PSSSE24 Power Extender Module
 IP67 certified
 See www.parker.com/pneu/Isysnet

Isys Micro Bus Extender Cable

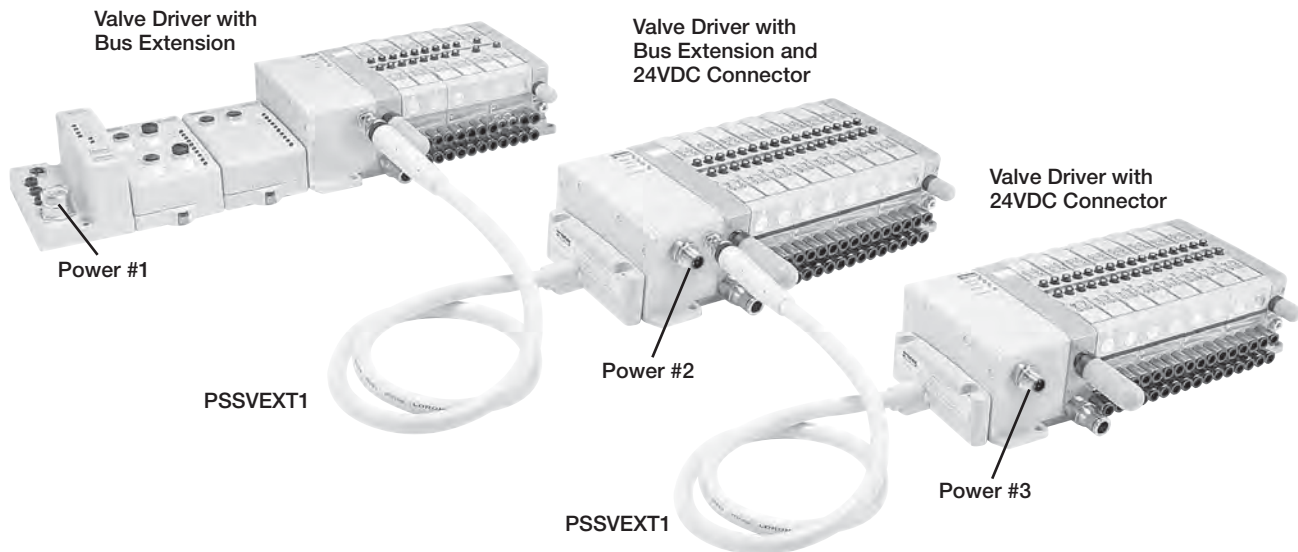
	Description	Voltage	Part number
	1 Meter Cable*	24VDC	PSSVEXT1

* IP67 certified.

Example

Isys Micro with Bus Extension on Valve Driver Module – No additional I/O at the Extension

- Add up to three additional valve manifolds without adding another communication module.
- No PSSSE24A is needed on the Extension when the Valve Driver Module with 24VDC Connector is used.
- Commonly used when many valves are required.
- Bus expansion only available with Isys Micro valves.

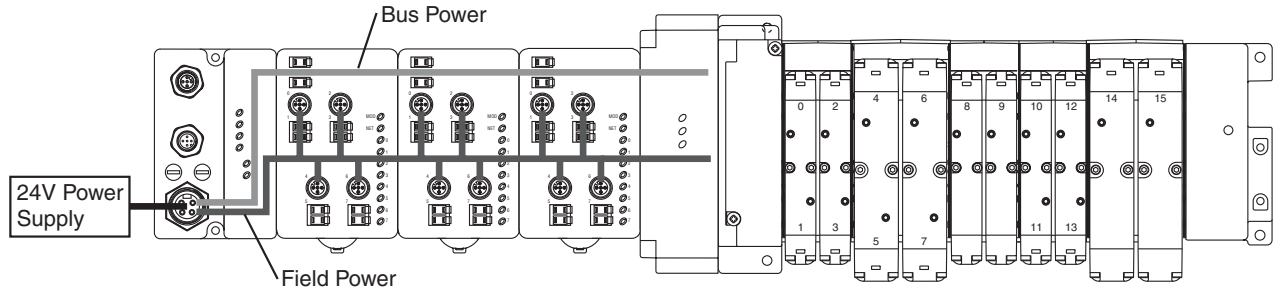


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Power Distribution Options for Isys ISO

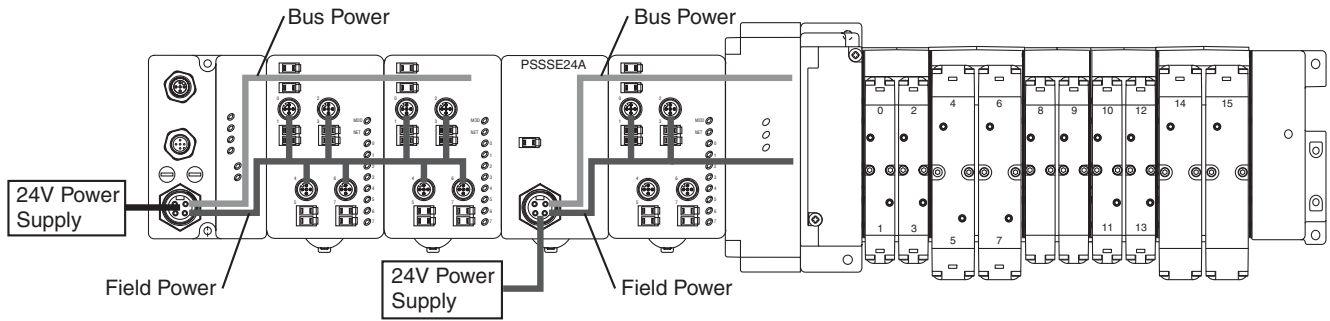
Isysnet Communication and I/O Modules

An auxiliary 24VDC power supply from the communication module provides power to the backplane bus power and I/O module field power. You can connect up to 13 I/O modules with a maximum of 10 A field power, using the auxiliary power.



Isysnet System with 24VDC Expansion Power Unit (PSSSE24A)

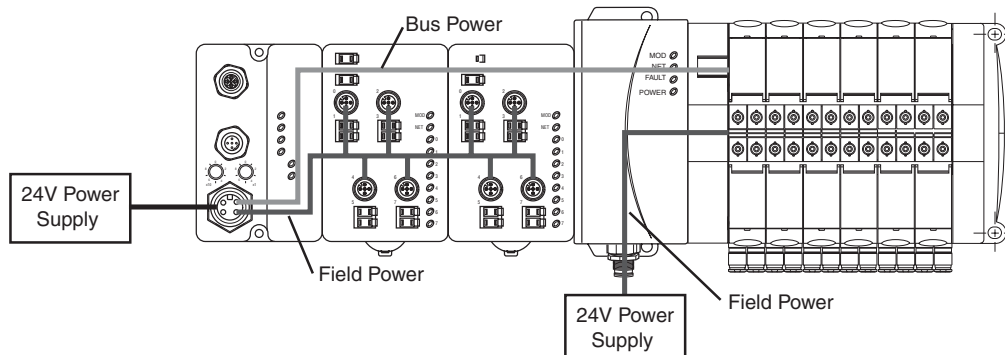
The auxiliary power from the communication module supports up to 13 I/O modules with a maximum of 10 A field power. The 24VDC Power Extender Module (PSSSE24A) extends the backplane bus power and I/O Module field power to support up to 13 more I/O modules. Connect additional Power Extender Modules to expand the I/O assembly up to the maximum of 63 I/O modules. This secondary 24VDC connector on the PSSSE24A can be wired into an Emergency Stop circuit.



Additional Power Distribution Options for Isys Micro

Isysnet Communication Module and Valve Driver Module with 24VDC Connector

The 24VDC power supply from the Communication Adaptor provides power to the backplane bus power and I/O module field power for up to 13 modules and an adapter with a maximum of 10 A Field Power. In this configuration, backplane bus power and I/O module field power are supplied to the input and output modules. The communication module only supplies backplane bus power to the Valve Driver Module, as the Isys Micro with 24VDC Connector separates the field power from the rest of the network. This secondary 24VDC Connector on the Valve Driver Module supplies Field Power to the valves, and can be wired into an Emergency Stop Circuit.

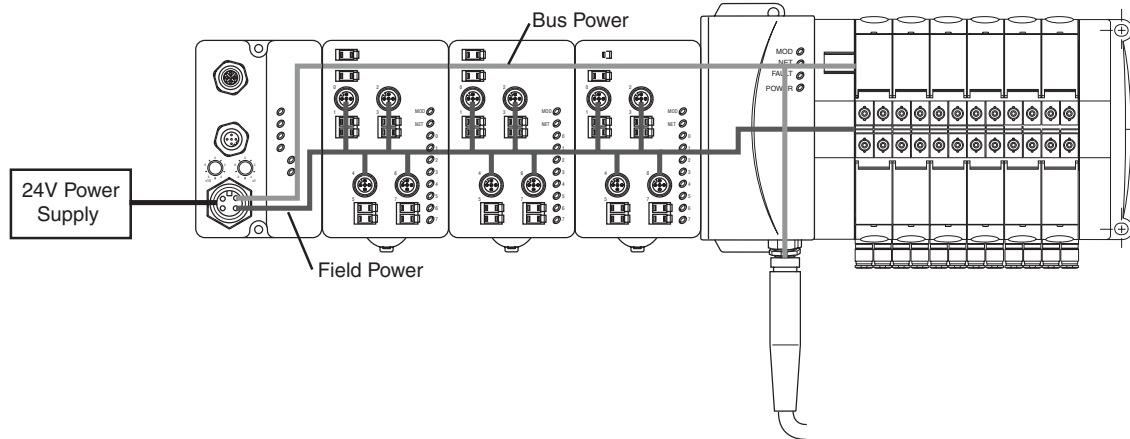


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Power Distribution Options for Isys Micro (Continued)

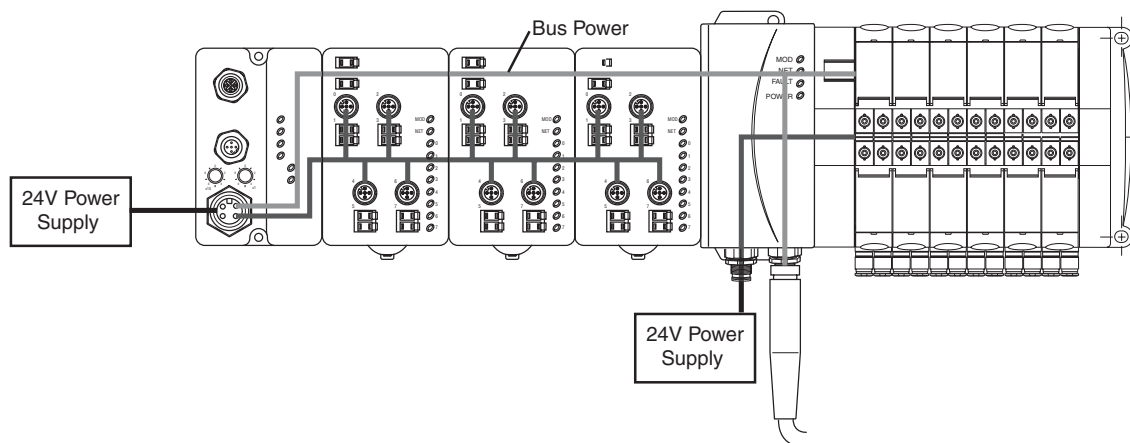
Isysnet Communication Module with Bus Extension Connector and I/O Modules

The 24VDC power supply from the communication module provides power to the backplane bus power and I/O module field power. You can connect up to 13 modules and an adapter with a maximum of 10 A field power, using this power source. The Isys Micro with Bus Extension Connector carries backplane bus power and communication down to another Isysnet Assembly through the PSSVEXT1 cable. If additional Isysnet Input and Output Modules or Isys ISO valve manifold is used on this extension, a PSSSE24A Power Extender Module is required to provide Field Power. If the extension is attached directly to an Isys Micro Manifold, Field Power can be supplied directly by using the 24VDC Connector option.



Isysnet Communication Module with 24VDC and Bus Extension Connectors and I/O Modules

The 24VDC power supply from the communication module provides power to the backplane bus power and I/O module field power. In this configuration, bus power and field power are supplied to the input and output modules. The communication module only supplies bus power to the Valve Driver Module, as the 24VDC Connector separates the Field Power from the rest of the network. This secondary 24VDC connector on the Valve Driver Module supplies field power to the valves, and can be wired into an Emergency Stop Circuit. The Bus Extension Connector carries bus power and communication down to another Isysnet Assembly through the PSSVEXT1 cable. If additional Isysnet input and output modules or Isys ISO valve manifold is used on this extension, a PSSSE24A Power Extender Module is required to provide field power. If the extension is attached directly to an Isys Micro Manifold with 24VDC Connector, field power can be supplied directly by using the 24VDC Connector option.



Modulflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus

DX ISOMAX
Series

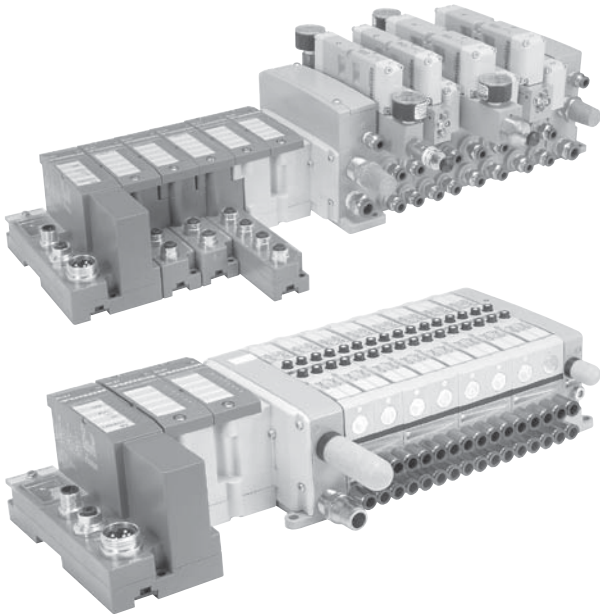
Valvair II
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Valve Products

The Turck Fieldbus System

Isysnet 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
- 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, C-UL, and CE certifications (as marked)
- Highly reliable structural integrity
- Optical isolation between field and system circuits

Communication Modules


CANopen	BL67-GW-CO
DeviceNet with power over network	BL67-GW-DN
Profibus DP	BL67-GW-DPV1
Multiprotocol communication module (Ethernet / IP, Profinet, Modbus / TCP)	BL67-GW-EN
Profinet communication module	BL67-GW-EN-PN
Modbus / TCP communication module with DeviceNet subnet	BL67-GW-EN-DN
Ethernet / IP communication module with DeviceNet subnet	BL67-GW-EN-IP-DN





Programmable Communication Modules

Profibus DP	BL67-PG-DP
Modbus / TCP communication module	BL67-PG-EN
Ethernet / IP communication module	BL67-PG-EN-IP
Modbus / TCP communication module with DeviceNet subnet	BL67-PG-EN-DN
Ethernet / IP communication module with DeviceNet subnet	BL67-PG-EN-IP-DN


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Digital Input Modules

I/O modules	Voltage	Part number
 8 PNP input module	7 to 30 VDC	BL67-8DI-P
8 PNP input module, with diagnostics	7 to 30 VDC	BL67-8DI-PD
8 NPN input module	24 VDC	BL67-8DI-N






Base module	Part number
 8 x M8, 3 pole, female	BL67-B-8M8
 4 x M12, 5 pole, female, A-code	BL67-B-4M12
 4 x M12, 5 pole, female, A-code	BL67-B-4M12-P
 1 x M23, 12 pole, female	BL67-B-1M23

Digital Output Modules






I/O modules	Output current	Part number
 8 PNP output module	0.5 amps per channel	BL67-8DO-0.5A-P
8 NPN output module	0.5 amps per channel	BL67-8DO-0.5A-N

Base module	Part number
 8 x M8, 3 pole, female	BL67-B-8M8
 4 x M12, 5 pole, female, A-code	BL67-B-4M12
 4 x M12, 5 pole, female, A-code	BL67-B-4M12-P
 1 x M23, 12 pole, female	BL67-B-1M23

I/O modules	Voltage	Part number
4 PNP input module	7 to 30 VDC	BL67-4DI-P
4 PNP input module, with diagnostics	7 to 30 VDC	BL67-4DI-PD
4 NPN input module	24 VDC	BL67-4DI-N

Base module	Part number
 4 x M8, 3 pole, female	BL67-B-4M8
 2 x M12, 5 pole, female, A-code	BL67-B-2M12
 2 x M12, 5 pole, female, A-code	BL67-B-2M12-P
 4 x M12, 5 pole, female, A-code	BL67-B-4M12
 1 x M23, 12 pole, female	BL67-B-1M23

I/O modules	Output Current	Part number
4 PNP output module	0.5 amps per channel	BL67-4DO-0.5A-P
4 PNP output module	2 amps per channel	BL67-4DO-2A-P
4 PNP output module	4 amps per channel	BL67-4DO-4A-P
4 NPN output module	2 amps per channel	BL67-4DO-2A-N

Base module	Part number
 4 x M8, 3 pole, female	BL67-B-4M8
 2 x M12, 5 pole, female, A-code	BL67-B-2M12
 2 x M12, 5 pole, female, A-code	BL67-B-2M12-P
 4 x M12, 5 pole, female, A-code	BL67-B-4M12
 1 x M23, 12 pole, female	BL67-B-1M23

Modulflex Series

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Digital Output Modules

I/O modules	Output current	Part number
16 PNP output module	0.14 amps per channel	BL67-16DO-0.1A-P

Base module	Part number
 1 x M23, 19 pole, female	BL67-B-1M23-19


Relay Output Modules

I/O modules	Output current	Part number
8 normally open relays	0.14 amps per channel	BL67-8DO-R-NO


Base module	Part number
 4 x M12, 5 pole, female, A-code	BL67-B-4M12-P

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	BL67-4AI-V/I


Base module	Part number
 4 x M12, 5 pole, female, A-code	BL67-B-4M12


I/O modules	Input type	Part number
2 Current analog input module	4 to 20 mA or 0 to 20 mA	BL67-2AI-I
2 Voltage analog input module	-10 to +10 VDC or 0 to +10 VDC	BL67-2AI-V
2 Temperature analog input module	PT100, PT200, PT500, PT1000, Ni100, Ni1000	BL67-2AI-PT
2 Temperature analog input module	Type B, E, J, K, N, R, S, T	BL67-2AI-TC


Base module	Part number
 2 x M12, 5 pole, female, A-code	BL67-B-2M12

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	BL67-4DI4DO-PD
8 PNP configurable input or output module, with diagnostics	7 to 30 VDC 0.5 Amps	BL67-8XSG-PD


Base module	Part number
 8 x M8, 3 pole, female	BL67-B-8M8

 4 x M12, 5 pole, female, A-code	BL67-B-4M12
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 4 x M12, 5 pole, female, A-code	BL67-B-4M12P
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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	BL67-4AO-V

Base module	Part number
 4 x M12, 5 pole, female, A-code	BL67-B-4M12

I/O modules	Input type	Part number
2 Current analog output module	4 to 20 mA or 0 to 20 mA	BL67-2AO-I
2 Voltage analog output module	-10 to +10 VDC or 0 to +10 VDC	BL67-2AO-V

Base module	Part number
 2 x M12, 5 pole, female, A-code	BL67-B-2M12

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Fieldbus

DX/SOMAX Series



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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	BL67-4AI4AO-V/I

Base module	Part number
 8 x M8, 3 pole, female	BL67-B-8M8
 4 x M12, 5 pole, female, A-code	BL67-B-4M12




CANopen Subnet Module

Extender module	Capacity	Part number
1 CANopen connection	64 bits of inputs or outputs	BL67-1CVI


Base module	Part number
 1 x M12, 5 pole, female, A-code	BL67-B-1M12

Power Extender Module

Extender module	Current capacity	Part number
24 VDC field power module	10 amps input	BL67-PF-24VDC




Base module	Part number
 5 Pole mini connector to supply bus power and field power	BL67-B-1RSM
 5 Pole mini connector to field power only	BL67-B-1RSM-VO
 4 Pole mini connector to supply bus power and field power	BL67-B-1RSM-4

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	BL67-2AI2AO-V/I

Base module	Part number
 8 x M8, 3 pole, female	BL67-B-8M8



Serial Interface Module

Extender module	Capacity	Part number
1 RS232 serial interface	300 to 115200 bps	BL67-1RS232
1 RS485 or 422 serial interface	300 to 115200 bps	BL67-1RS485/422

Base module	Part number
 1 x M12, 5 pole, female, A-code	BL67-B-1M12
 1 x M12, 8 pole, female, A-code	BL67-B-1M12-8
 1 x M23, 12 pole, female	BL67-B-1M23

SSI and Counting Modules

Extender module	Capacity	Part number
1 SSI sensor interface	65 kbps up to 1 Mbps	BL67-1SSI
1 counter interface	Up to 250 kHz	BL67-1CNT/ENC

Base module	Part number
 1 x M12, 8 pole, female, A-code	BL67-B-1M12-8
 1 x M23, 12 pole, female	BL67-B-1M23

Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

Valvair II Series

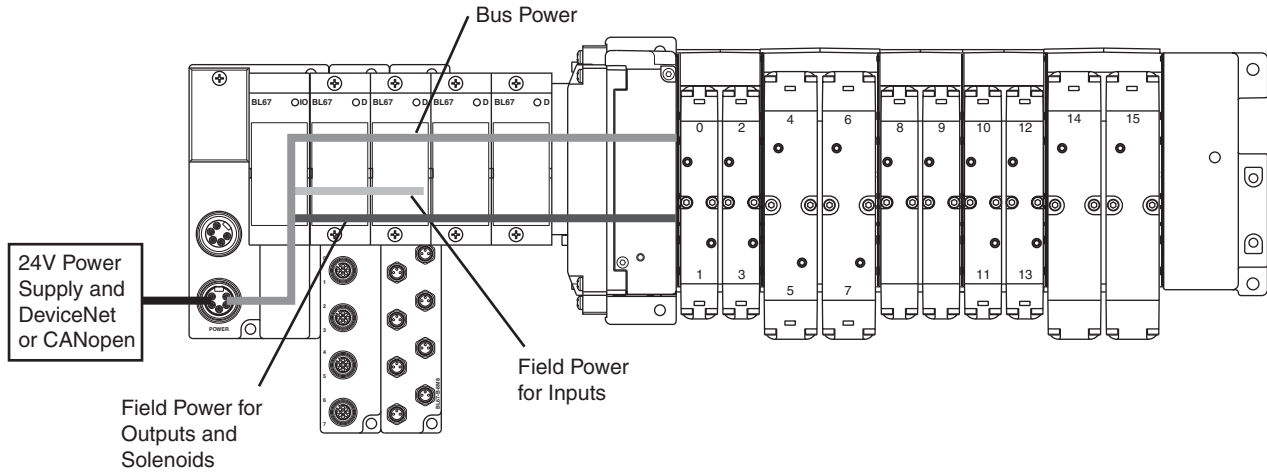
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Power Distribution Options for Turck Fieldbus

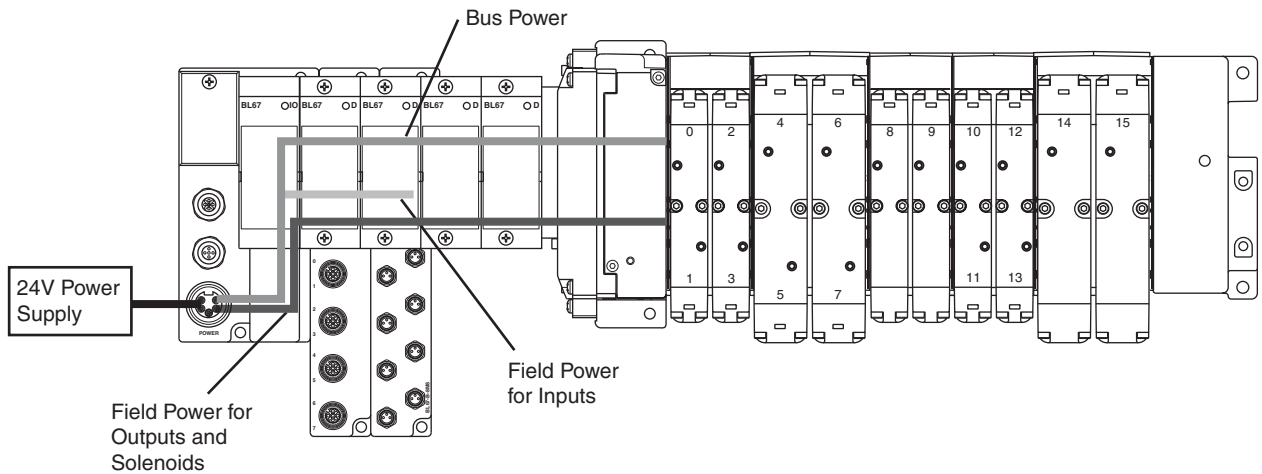
Turck Communication and I/O Modules - DeviceNet and CANopen, Power over Network

The 24VDC power supply pins from the DeviceNet or CANopen network connection on the communication module provides a single power circuit. This circuit provides 1.5 A bus power, 4 A field power for inputs and 8A field power for outputs.



Turck Communication and I/O Modules - Ethernet/IP, Modbus/TCP, Profinet, Profibus, and CANopen

An auxiliary 24VDC power supply from the communication module provides power across two separate circuits. The first circuit provides 1.5 A bus power and 4 A 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.

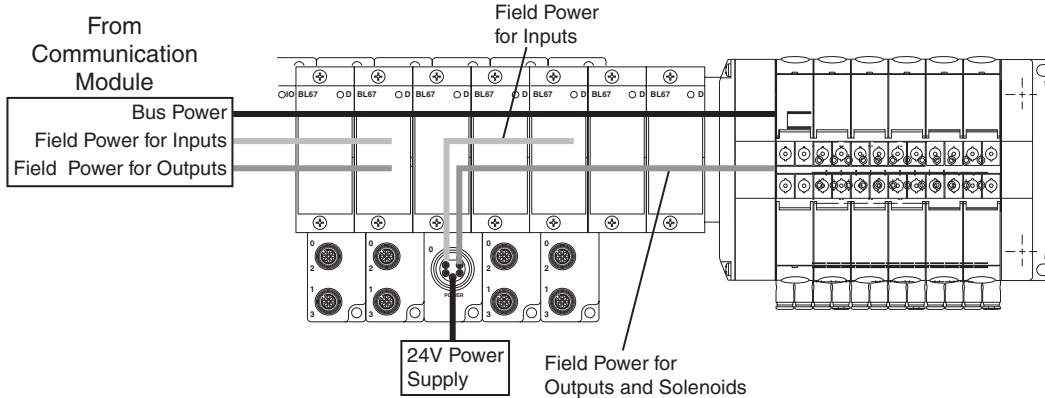


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Fieldbus
DX ISOMAX Series
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Power Distribution Options for Turk Fieldbus

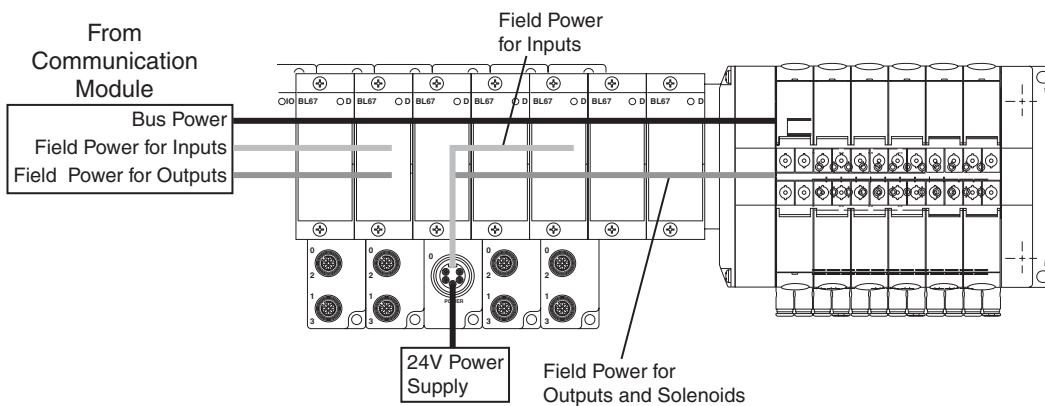
24VDC Power Extender Module (BL67-PF-24VDC) with Base Module BL67-B-1RSM

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 4 A 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 1.5 A bus power is uninterrupted, and is still supplied from the communication module.



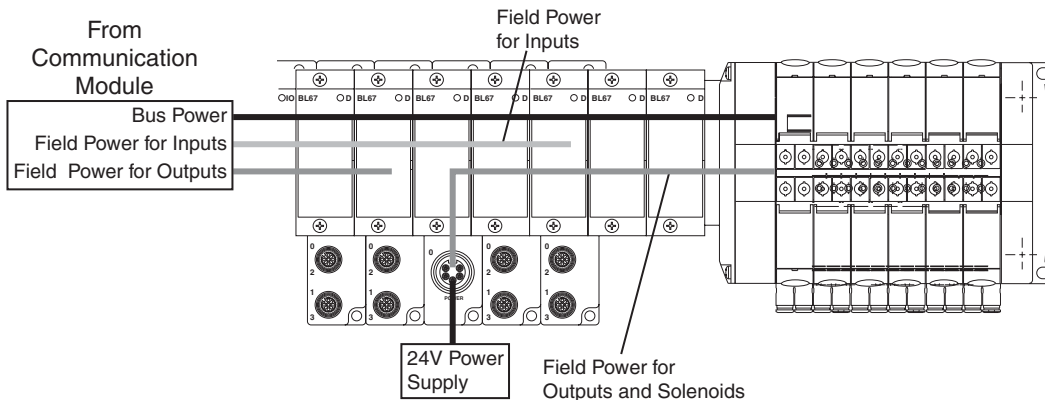
24VDC Power Extender Module (BL67-PF-24VDC) with Base Module BL67-B-1RSM-4

This configuration creates an auxiliary 24VDC power supply and provides power across one circuit, regardless of the communication module used. This circuit provides 4 A field power for inputs and 10A field power for outputs. The 1.5 A 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 1.5 A bus power and 4 A field power for inputs are uninterrupted, and are still supplied from the communication module.



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

Valvair II Series

D

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Part numbers in bold are in stock

7/8" Mini Power Cables

Description	Part number
4-pin female to flying lead cable, 5 meters, TPE	RKM 46-5M/S1587
5-pin female to flying lead cable, 5 meters, TPE	RKM 56-5M/S1587
4-pin male to female cable, TPE	RSM RKM 46-x/S1587
5-pin male to female cable, TPE	RSM RKM 56-x/S1587
4-pin right angle female to flying lead cable, 5 meters, TPE	WKM 46-5M/S1587
5-pin right angle female to flying lead cable, TPE	WKM 56-5M/S1587

Where x = 2, 4, 5, 6, 8, 10 meter standard lengths

Power Tee

Description	Part number
4-pin Male to 2 female sockets	RSM-2RKM 40
5-pin Male to 2 female sockets	RSM-2RKM 50

M12 A-code Cables

Description	Part number
4-pin female to flying lead cable, PVC	RKC 4.4T-1
4-pin male to flying lead cable, PVC	RSC 4.4T-*
4-pin male to female cable, PVC	RKC 4.4T*-RSC 4.4T
5-pin female to flying lead cable, TPE	RKC 4.5T-*/S1587
5-pin male to flying lead cable, TPE	RSC 4.5T-4/S1587
5-pin male to female cable, TPE	RKC 4.5T*-RSC 4.5T/S1587

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

M8 Cables

Description	Part number
3-pin female to flying lead cable, PUR	PKG 3M-4/S90
3-pin male to flying lead cable, PUR	PSG 3M-*/S90
3-pin male to female cable, PUR	PKG 3M*-PSG 3M/S90

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

M23 Cables

Description	Part number
12-pin, double ended female thread with male pins and female socket, PUR. Pinout optimized for isysnet fieldbus.	CSCM CKCM 12-11-x/S90
19-pin, double ended female thread with male pins and female socket, PUR. Pinout optimized for isysnet fieldbus.	CSM CKM 19-19-x/S90
19-pin, 90° double ended female thread with male pins and female socket, PUR. Pinout optimized for turck fieldbus.	CSWM CKWM 19-19-x/CS12852

Where x = 1, 2, 3, 4 meter standard lengths

25-pin, D-Sub Cable (Female)

Description	Length	Part number
25-pin, D-sub cable, IP20	3 meters	P8LMH25M3A
25-pin, D-sub cable, IP20	9 meters	SCD259D
25-pin, D-sub cable, IP65	3 meters	SCD253W
25-pin, D-sub cable, IP65	9 meters	SCD259WE

Profibus Cables

Description	Part number
M12 Male to M12 Female, PUR	RSSW RKSX 455-xM

Where x = 2, 4, 5, 6, 8, 10 meter standard lengths

Profibus Terminating Resistor

Description	Part number
M12 male pin terminating resistor	P8BPA00MB

Ethernet Cables

Description	Part number
M12 female to M12 male, PUR	RSSD RKSD 443-xM
RJ45 to M12 male, PUR	RSSD RJ45S 443-2M

Where x = 2, 5, 10, 15, 20, 30 meter standard lengths

DeviceNet and CANopen Cables

Description	Part number
7/8" mini male to 7/8" mini female, PUR	RSM RKM 5711-xM
7/8" mini male to M12 female, PUR	RSM RKC 5711-xM
M12 male to M12 female, PUR	RSC RKC 5711-xM
M12 male to 7/8" mini female, PUR	RSC RKM 5711-xM

Where x = 2, 4, 5, 6, 8, 10 meter standard lengths

Bus Power Tee

Description	Part number
Bus power tee	RSM RKM 57 WSM 40 PST

For systems not equipped with Power over network, combines separate network and power feeds into the communication module. Includes reverse current protection

DeviceNet and CANopen Terminating Resistor

Description	Part number
7/8" Mini Male Pin Terminating Resistor	RSM 57-TR2
M12 Male Pin Terminating Resistor	P8BPA00MA

Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

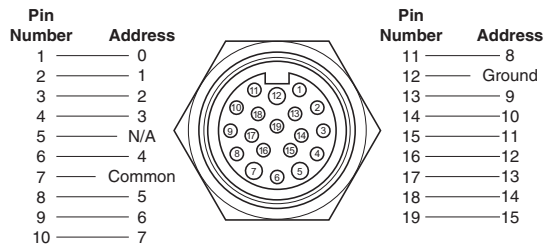
DX ISOMAX Series

Valvair II Series

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19-Pin Round Brad Harrison



Face View - Male 19-Pin Connector

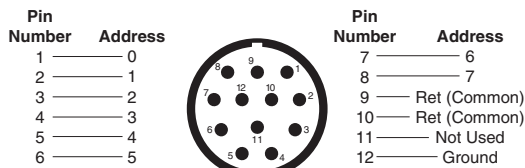
19-Pin Round Cable Specifications

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 station manifold, 16 solenoids, 120VAC - 16 x .039 amps = .63 total amp rating.

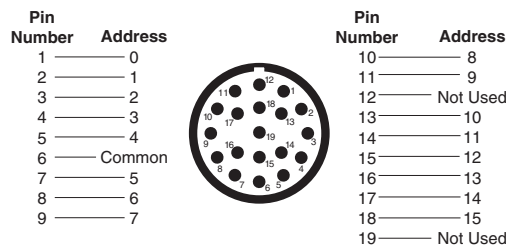
NEMA 4 rated with properly assembled NEMA 4 rated cable.

M23, 12-Pin Round Connector (Male)



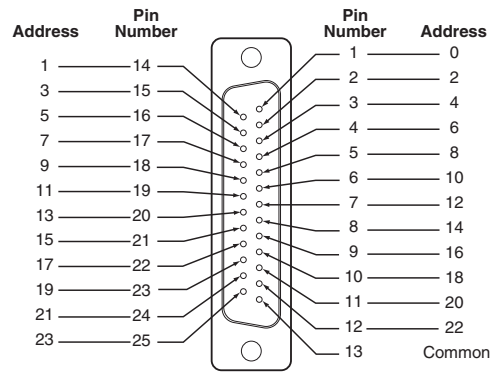
Face View - Male 19-Pin Connector

M23, 19-Pin Round Connector (Male)



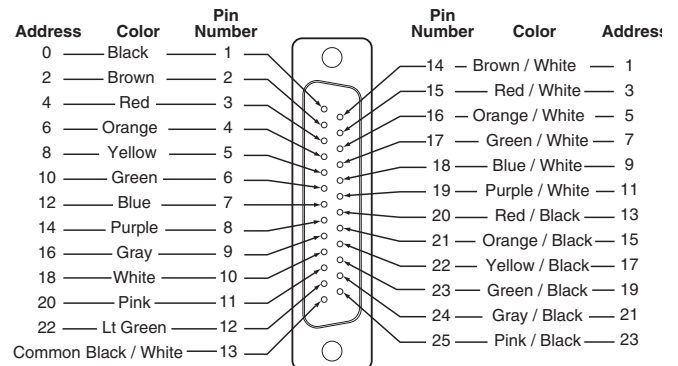
View into End Plate Connector - Male M23, 19-Pin

25-Pin, D-Sub Connector (Male)



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

25-Pin, D-Sub Cable (Female)



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus Series

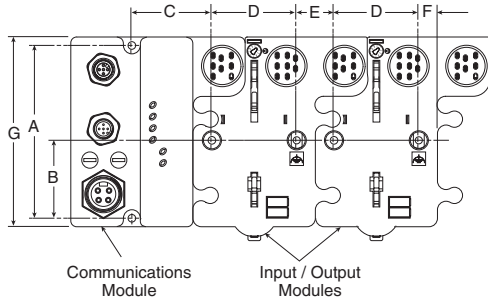
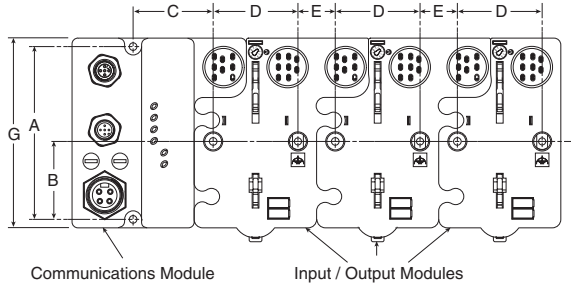
DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

Isysnet with Isys ISO Valves



Dimensions

A	B	C	D
4.00 (102)	1.80 (46)	1.90 (48)	2.00 (50)

E	F	G
.87 (22)	.43 (11)	4.41 (112)

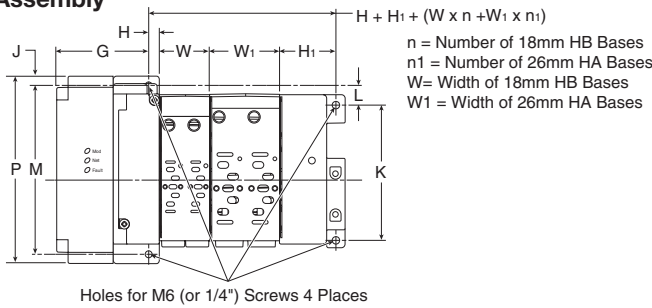
Inches (mm)

Moduflex Series

Isys Micro Series

Isys ISO Series

HB - HA Manifold Assembly



HB - HA Dimensions

G	H	H ₁	J	K
2.68 (68)	.33 (8.4)	1.80 (45.8)	.15 (4)	4.32 (110)

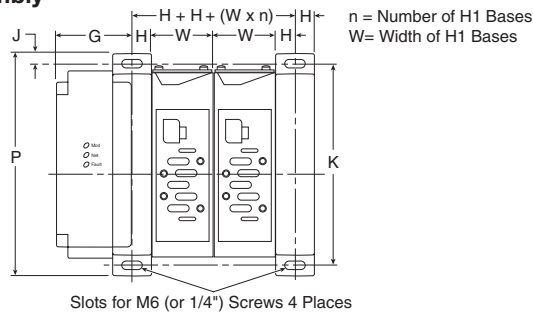
L	M	P	W	W ₁
.63 (16)	5.39 (137)	5.98 (152)	1.61 (40.8)	2.24 (56.8)

Inches (mm)

Fieldbus

DX ISOMAX Series

H1 Manifold Assembly



H1 Dimensions

G	H	J	K	P
2.20 (56)	.63 (15.9)	.33 (8.5)	6.50 (165)	7.17 (182)

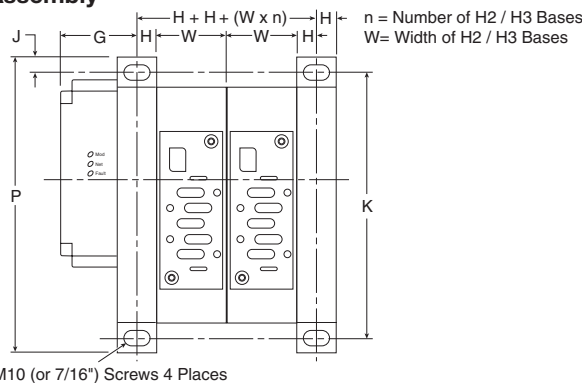
W
 1.93
 (49)

Inches (mm)

Valvair II Series

D

H2 - H3 Manifold Assembly



H2 Dimensions

G	H	J	K	P
2.34 (59.5)	.65 (16.5)	.47 (12)	8.46 (215)	9.41 (239)

W
 2.20
 (56)

Inches (mm)

H3 Dimensions

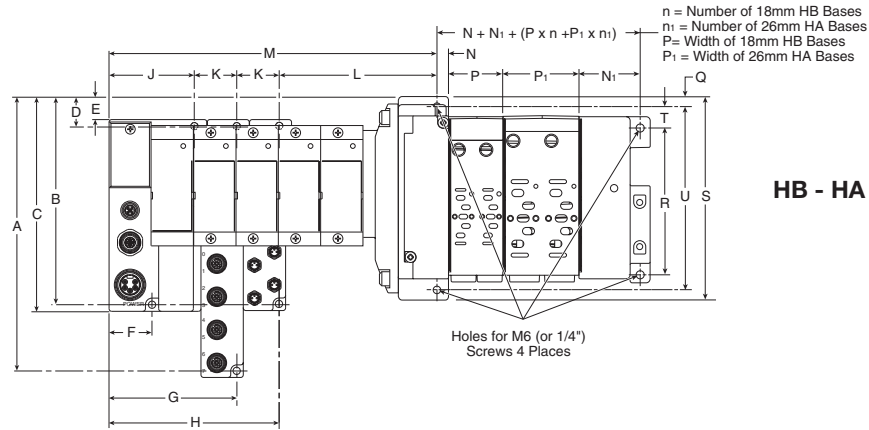
G	H	J	K	P
2.34 (59.5)	.65 (16.5)	.59 (15)	10.43 (265)	11.61 (295)

W
 2.80
 (71)

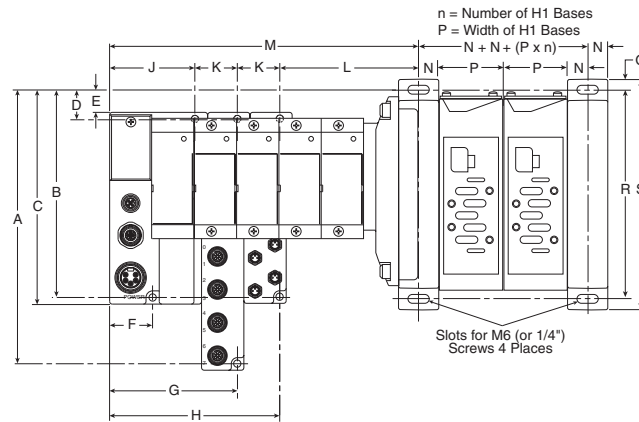
Inches (mm)

Subbase & Manifold Valve Products

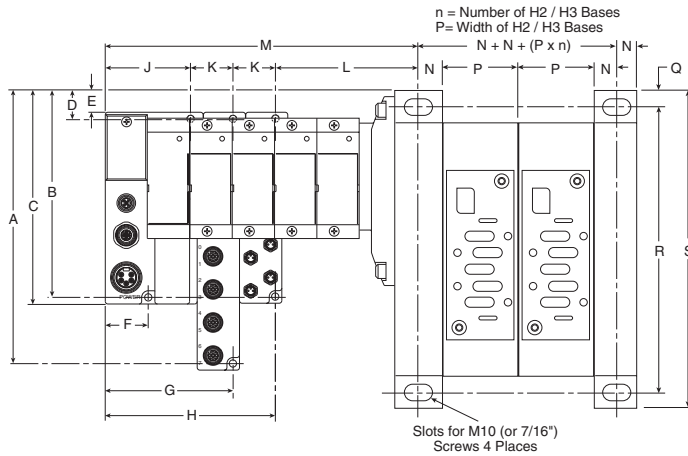
Turck with Isys ISO Valves



HB - HA Manifold Assembly



H1 Manifold Assembly



H2 - H3 Manifold Assembly

Dimensions

	A	B	C	D	E	F	G	H	J	K	L	M	N	N ₁	P	P ₁	Q	R	S	T	U
HA / HB	8.05 (204.5)	6.08 (154.5)	6.28 (159.5)	0.75 (19.5)	0.57 (14.5)	1.28 (32.5)	3.79 (96.5)	5.06 (128.5)	2.53 (64.5)	1.26 (32)	4.75 (120.8)	See note 1	.33 (8.4)	1.80 (45.8)	1.61 (40.8)	2.24 (56.8)	.15 (4)	4.32 (110)	5.98 (152)	.63 (16)	5.39 (137)
H1	8.53 (216.7)	6.56 (166.7)	6.76 (171.7)	1.25 (31.7)	1.05 (26.7)	1.28 (32.5)	3.79 (96.5)	5.06 (128.5)	2.53 (64.5)	1.26 (32)	4.27 (108.5)	See note 1	.63 (15.9)	—	1.93 (49)	—	.33 (8.5)	6.50 (165)	7.17 (182)	—	—
H2	8.38 (212.9)	6.41 (162.9)	6.61 (167.9)	1.10 (27.9)	.90 (22.9)	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)	—	2.20 (56)	—	.47 (12)	8.46 (215)	9.41 (239)	—	—
H3	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)	—	—

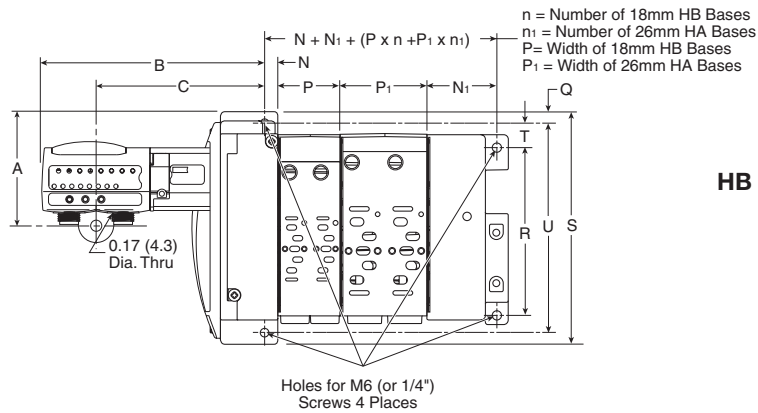
Note 1: $M = J + L + n_2 \times K$, where n_2 = Number of Turck input / output modules
 Inches (mm)

Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus Series
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products

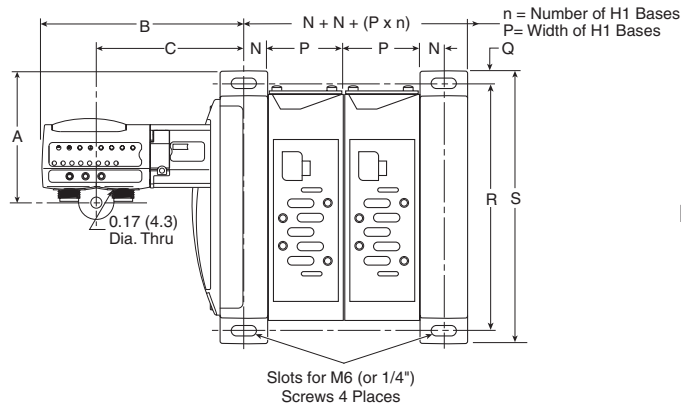


Moduflex with Isys ISO Valves

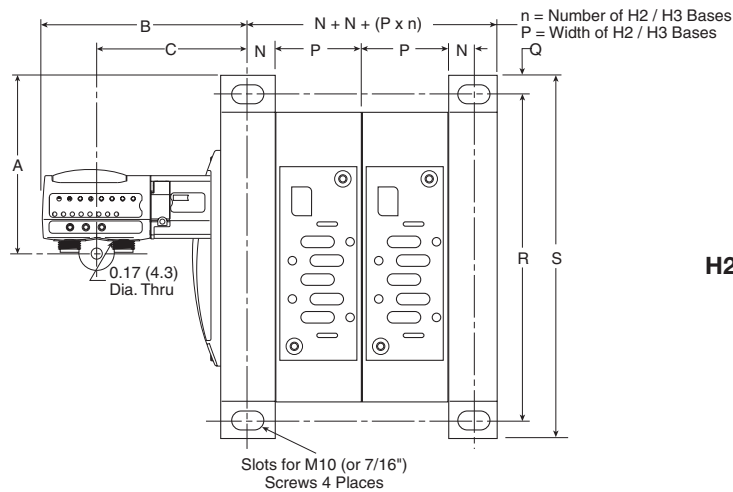
- Moduflex Series
- Isys Micro Series
- Isys ISO Series
- Fieldbus
- DX ISOMAX Series
- Valvair II Series
- D**
- Subbase & Manifold Valve Products



HB - HA Manifold Assembly



H1 Manifold Assembly



H2 - H3 Manifold Assembly

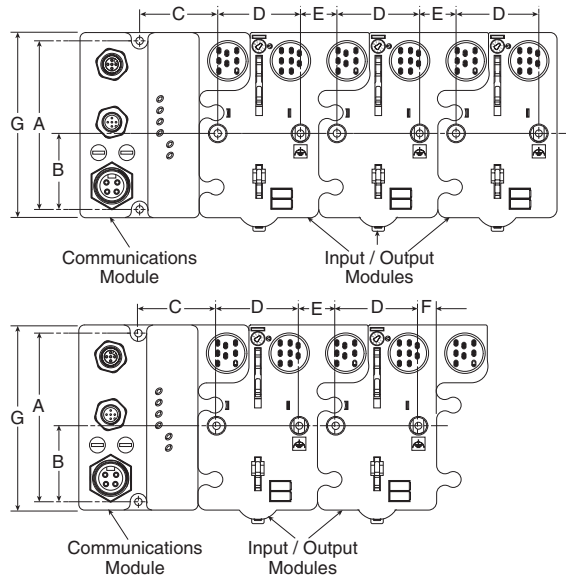
Dimensions

	A	B	C	N	N ₁	P	P ₁	Q	R	S	T	U
HA / HB	2.75 (69.8)	5.61 (142.5)	4.40 (111.8)	.33 (8.4)	1.80 (45.8)	1.61 (40.8)	2.24 (56.8)	.15 (4)	4.32 (110)	5.98 (152)	.63 (16)	5.39 (137)
H1	3.23 (82)	6.33 (160.9)	5.13 (130.2)	.63 (15.9)	—	1.93 (49)	—	.33 (8.5)	6.50 (165)	7.17 (182)	—	—
H2	3.08 (78.2)	6.40 (161.5)	5.19 (131.8)	.65 (16.5)	—	2.20 (56)	—	.47 (12)	8.46 (215)	9.41 (239)	—	—
H3	3.31 (84.2)	6.40 (161.5)	5.19 (131.8)	.65 (16.5)	—	2.80 (71)	—	.59 (15)	10.43 (265)	11.61 (295)	—	—

Inches (mm)



Isysnet with Isys Micro Valves

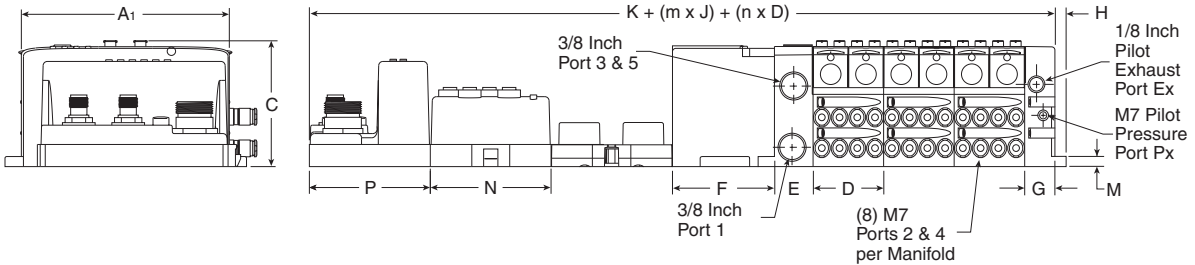
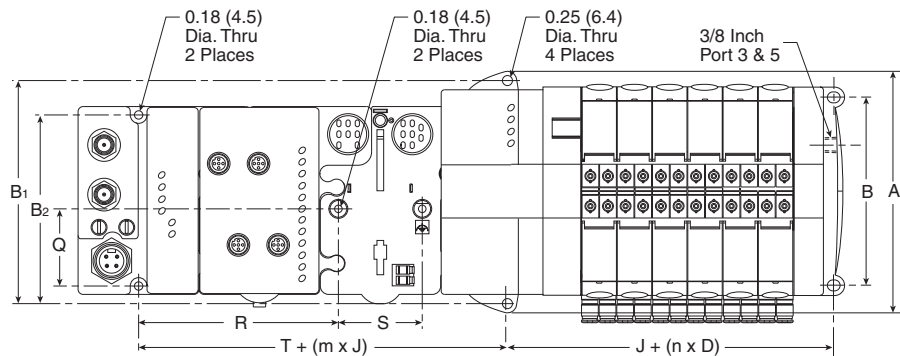


Dimensions

A	B	C	D
4.00 (102)	1.80 (46)	1.90 (48)	2.00 (50)

E	F	G
.87 (22)	.43 (11)	4.41 (112)

Inches (mm)



Dimensions

A	A1	B	B1	B2	C	D	E	F	G
5.67 (144.0)	4.88 (124.0)	4.41 (112.0)	5.24 (133.0)	4.02 (102.0)	2.95 (75.0)	1.65 (42.0)	0.91 (23.0)	2.40 (61.0)	0.71 (18.0)
H	J	K	M	N	P	Q	R	S	T
0.49 (12.5)	2.72 (69.0)	7.32 (186.0)	0.24 (6.1)	2.83 (72.0)	2.83 (72.0)	1.81 (46.0)	4.72 (120.0)	2.01 (51.0)	2.01 (51.0)

Inches (mm)

n = Number of Manifolds
 m = Number of Modules

Modulflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus

DX ISOMAX
Series

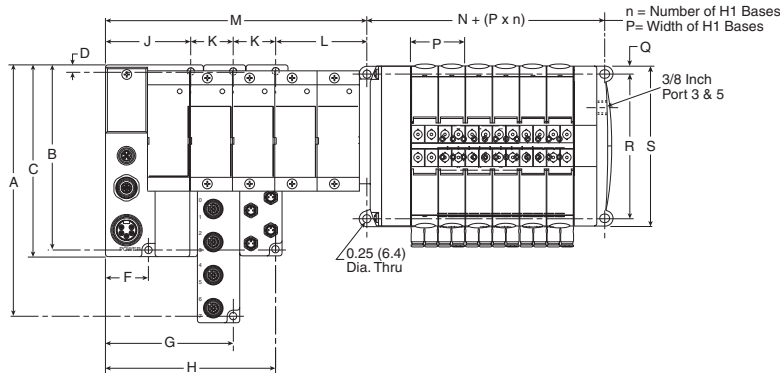
Valvair II
Series

D

Subbase & Manifold
Valve Products



Turck with Isys Micro Valves

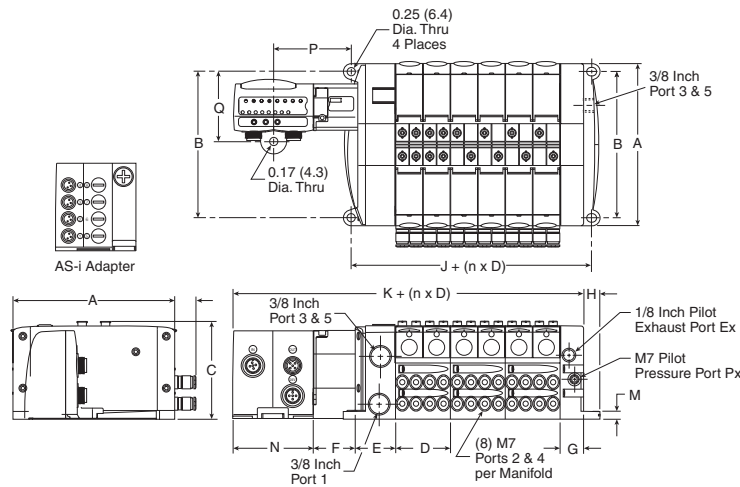


Dimensions

A	B	C	D	F	G	H	J	K	L	M	N	P	Q	R	S
7.48	5.51	5.71	0.20	1.28	3.79	5.06	2.53	1.26	2.54	See note 1	2.28	1.65	.19	4.41	4.88
(190)	(140)	(145)	(5)	(32.5)	(96.5)	(128.5)	(64.5)	(32)	(64)		(58)	(42)	(4.9)	(112)	(124)

Note 1: $M = J + L + n_2 \times K$, where n_2 = Number of Turck input / output modules
 Inches (mm)

Moduflex Adapter, Side Ported



Dimensions

A	B	C	D	E	F	G	H	J	K	M	N	P	Q
4.88	4.41	2.95	1.65	1.22	1.28	0.71	0.49	2.28	6.10	0.24	2.40	2.36	2.07
(124.0)	(112.0)	(75.0)	(42.0)	(31.0)	(32.5)	(18.0)	(12.5)	(58.0)	(155.0)	(6.1)	(61.0)	(60.0)	(52.5)

Inches (mm)

n = Number of Manifolds

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

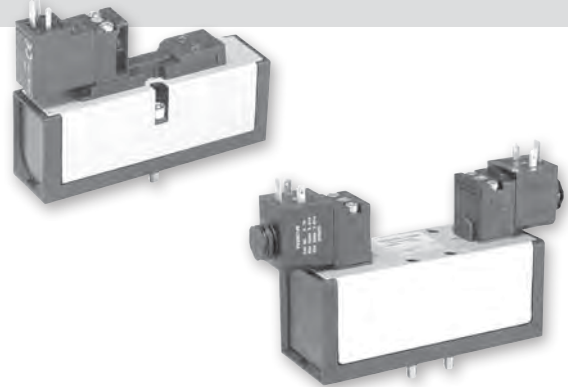
Valves fitted with switchable selector to give internal or external pilot supply

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

 Most popular.

DX02 ISO Valves

Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
	4-way, 2-position, spring return	0.55	Single solenoid	Internal	Non-locking	DX02-621-951M	DX02-621-951J
	4-way, 2-position, air return	0.55	Single solenoid	Internal	Non-locking	DX02-651-951M	DX02-651-951J
	4-way, 2-position	0.55	Double solenoid	Internal	Non-locking	DX02-606-951M	DX02-606-951J
	4-way, 3-position, center exhaust	0.4	Double solenoid	Internal	Non-locking	DX02-611-951M	DX02-611-951J
	4-way, 3-position, all ports blocked	0.4	Double solenoid	Internal	Non-locking	DX02-616-951M	DX02-616-951J

Symbol	Type	Cv	Operator	Pilot	Part number
	4-way, 2-position, spring return	0.55	Single remote pilot	Remote	DX02-421-60
	4-way, 2-position, air return	0.55	Single remote pilot	Remote	DX02-451-60
	4-way, 2-position	0.55	Double remote pilot	Remote	DX02-406-60
	4-way, 3-position, center exhaust	0.4	Double remote pilot	Remote	DX02-411-60
	4-way, 3-position, all ports blocked	0.4	Double remote pilot	Remote	DX02-416-60

DX02 Series Subbase & Manifolds

Single subbase	1/8" NPT	1/8" BSPP
Side ported base	PL02-01-80	PL02-01-70
2 Station manifold bases		
End ported bases	1/8" NPT PJLP02-201-80	1/8" BSPP PJLP02-201-70
End plate kit	1/8" NPT port	1/8" BSPP port
End plate kit	PEJ02-02-80	PEJ02-02-70

Add-A-Fold Assembly Model Number

AA 02U 0 04

Valve series	Number of stations*
Right & left end plate DX02	02
	04
	•
	24
	•
	32

* For use with PJLP02 Manifolds.

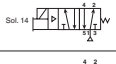

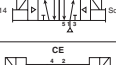
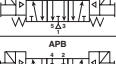

Thread type	
NPT	0
BSPP "G"	1

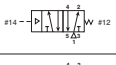
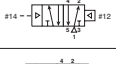
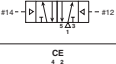


* Must be ordered in multiples of (2)

DX02 Series Accessories




Accessory	Description	Part number
Sandwich regulator	Common pressure	2-60 PSIG w/ gauge PS5637155DXP
	Common pressure	5-125 PSIG w/ gauge PS5637166DXP
	Independent pressure	2-60 PSIG w/ gauge PS5637255DXP
	Independent pressure	5-125 PSIG w/ gauge PS5637266DXP
Gauge adapter kit	Includes 1/8" coupling and long nipple	PS5651160P
Blanking plate kit		PS5634P
Sandwich supply module	1/8" NPT	PS562600P
	1/8" BSPP	PS562601P
Sandwich exhaust module	1/8" NPT	PS562700P
	1/8" BSPP	PS562701P
Intermediate air supply module	1/8" NPT	D02P-01-80
Sandwich flow control		PS5642P
Manifold to manifold gasket kits	Used with manifold PJLP02	DX02M2MGSKT
Manifold port isolation kits (main galley 1, 3, & 5)	For use on PJLP and PJL series manifolds. Kit includes: plugs with o-rings.	D02BD0
Manifold hardware kit	Includes 10 bolts, 10 washers, 10 nuts	DX02M2MB

DX01 ISO Valves

Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
	4-way, 2-position, spring return	0.75	Single solenoid	Internal	Non-locking	DX01-621-951M	DX01-621-951J
	4-way, 2-position, air return	0.75	Single solenoid	Internal	Non-locking	DX01-651-951M	DX01-651-951J
	4-way, 2-position	0.75	Double solenoid	Internal	Non-locking	DX01-606-951M	DX01-606-951J
	4-way, 3-position, center exhaust	0.5	Double solenoid	Internal	Non-locking	DX01-611-951M	DX01-611-951J
	4-way, 3-position, all ports blocked	0.5	Double solenoid	Internal	Non-locking	DX01-616-951M	DX01-616-951J

Symbol	Type	Cv	Operator	Pilot	Part number
	4-way, 2-position, spring return	0.75	Single remote pilot	Remote	DX01-421-60
	4-way, 2-position, air return	0.75	Single remote pilot	Remote	DX01-451-60
	4-way, 2-position	0.75	Double remote pilot	Remote	DX01-406-60
	4-way, 3-position, center exhaust	0.5	Double remote pilot	Remote	DX01-411-60
	4-way, 3-position, all ports blocked	0.5	Double remote pilot	Remote	DX01-416-60

DX01 Series Subbase & Manifolds


Single subbase	1/4" NPT	1/4" BSPP
 Side ported base	PL01-02-80	PL01-02-70
2 Station manifold bases	1/4" NPT	1/4" BSPP
 End ported bases	PJLP01-202-80	PJLP01-202-70
End plate kit	1/4" NPT port	1/4" BSPP port
 End plate kit	PEJ01-03-80	PEJ01-03-70

Add-A-Fold Assembly Model Number

AA	01U	0	04
Valve series	Number of stations*		
Right & left end plate DX01	01U*	02	04
		•	24
		•	32
Thread type			
NPT	0		
BSPP "G"	1		

* For use with PJLP01 or PJL01 Manifolds.
 * Must be ordered in multiples of (2)

DX01 Series Accessories

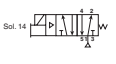
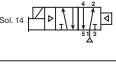
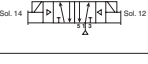

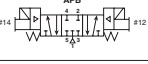

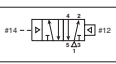

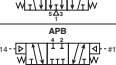
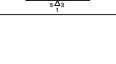
Accessory	Description	Part number
 Sandwich regulator	Common pressure	2-60 PSIG w/ gauge PS5537155DXP
	Common pressure	5-125 PSIG w/ gauge PS5537166DXP
	Independent pressure	2-60 PSIG w/ gauge PS5537255DXP
	Independent pressure	5-125 PSIG w/ gauge PS5537266DXP
	Gauge adapter kit	Includes 1/8" coupling and long nipple PS5651160P
Remote pilot access plate kit	1/4" NPT	PS551500P
	1/4" BSPP	PS551501P
Blanking plate kit		PS5534P
Sandwich supply module	1/4" NPT	PS552600P
	1/4" BSPP	PS552601P
Sandwich exhaust module	1/4" NPT	PS552700P
	1/4" BSPP	PS552701P
Intermediate air supply module	1/4" NPT	D01P-02-80
Sandwich flow control		PS5542P
Manifold to manifold gasket kits	Used with manifold PJLP02	DX01M2MGSKT
Manifold port isolation kits (main galley 1, 3, & 5)	For use on PJLP and PJL series manifolds. Kit includes: plugs with o-rings.	D01BD0
Manifold hardware kit	Includes 10 bolts, 10 washers, 10 nuts	DX02M2MB

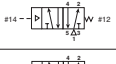
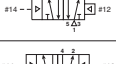

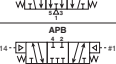
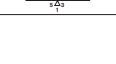


Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus Series
 DX ISOMAX Series
 Valvair II Series
 Subbase & Manifold Valve Products




D

DX1 ISO Valves


	Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
Modulflex Series		4-way, 2-position, spring return	1.15	Single solenoid	Internal	Non-locking	DX1-621-BL49	DX1-621-BL53
		4-way, 2-position, air return	1.15	Single solenoid	Internal	Non-locking	DX1-651-BL49	DX1-651-BL53
Isys Micro Series		4-way, 2-position	1.15	Double solenoid	Internal	Non-locking	DX1-606-BL49	DX1-606-BL53
		4-way, 3-position, center exhaust	0.75	Double solenoid	Internal	Non-locking	DX1-611-BL49	DX1-611-BL53
Isys ISO Series		4-way, 3-position, all ports blocked	0.75	Double solenoid	Internal	Non-locking	DX1-616-BL49	DX1-616-BL53
		4-way, 2-position, spring return	1.15	Single remote pilot	Remote		DX1-421-60	
Fieldbus Series		4-way, 2-position, air return	1.15	Single remote pilot	Remote		DX1-451-60	
		4-way, 2-position	1.15	Double remote pilot	Remote		DX1-406-60	
DX ISOMAX Series		4-way, 3-position, center exhaust	0.75	Double remote pilot	Remote		DX1-411-60	
		4-way, 3-position, all ports blocked	0.75	Double remote pilot	Remote		DX1-416-60	

	Symbol	Type	Cv	Operator	Pilot	Part number
Valvair II Series		4-way, 2-position, spring return	1.15	Single remote pilot	Remote	DX1-421-60
		4-way, 2-position, air return	1.15	Single remote pilot	Remote	DX1-451-60
Subbase & Manifold		4-way, 2-position	1.15	Double remote pilot	Remote	DX1-406-60
		4-way, 3-position, center exhaust	0.75	Double remote pilot	Remote	DX1-411-60
Subbase & Manifold		4-way, 3-position, all ports blocked	0.75	Double remote pilot	Remote	DX1-416-60

DX1 Series Subbase & Manifolds

Single subbase	Description	3/8" NPT	3/8" BSPP
	Side ported base	PS4011150CP	PS4011160CP
Manifold bases	Description	3/8" NPT	3/8" BSPP
	End ported bases	PS4011550CP	PS4011560CP
	Bottom / End ported bases	PS4011650CP	PS4011660CP
End plate kits	Description	NPT port	BSPP port
	DX1 non-collective wiring end plates	PS4031010CP	PS4031011CP

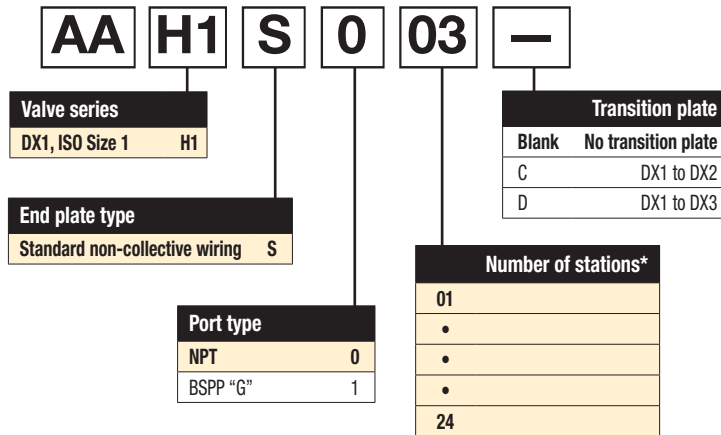
5599-1, DX1 Accessories

Accessories	Description	Part number
	Common pressure	5-125 PSIG w/ gauge PS4037166CP
	Independent pressure	5-125 PSIG w/ gauge PS4037266CP
Remote pilot access plate kit	1/8" NPT 1/8" BSPP	PS401500CP PS401501CP
Blanking plate kit		PS4034CP
Sandwich flow control		PS4042CP
Manifold to manifold gasket kit		PS4013P
Manifold port isolation kits	Main galley (1, 3, 5)	PS4032CP
Manifold port isolation kits	Pilot galley	PS4033CP
Auxiliary access plate kit	1/4" & 3/8"	NPT PS403000CP
		BSPP PS403001CP



How To Order Add-A-Fold Assemblies

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



Example: Application requires a 3-Station manifold.

Qty.	Part No.	
1	AAH1S003	
1	DX1-621-BL49.....	Valve Station 1
1	PS4011550CP.....	Base Station 1
1	DX1-616-BL49.....	Valve Station 2
1	PS4011550CP.....	Base Station 2
1	DX1-611-BL49.....	Valve Station 3
1	PS4011550CP.....	Base Station 3



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	DX2-621-BL49	DX2-621-BL53
	4-way, 2-position, air return	2.5	Single solenoid	Internal	Non-locking	DX2-651-BL49	DX2-651-BL53
	4-way, 2-position	2.5	Double solenoid	Internal	Non-locking	DX2-606-BL49	DX2-606-BL53
	4-way, 2-position	2.5	Double solenoid	Internal	Locking	DX2-606-CL49	DX2-606-CL53
	4-way, 3-position, center exhaust	2.4	Double solenoid	Internal	Non-locking	DX2-611-BL49	DX2-611-BL53
	4-way, 3-position, center exhaust	2.4	Double solenoid	Internal	Locking	DX2-611-CL49	DX2-611-CL53
	4-way, 3-position, all ports blocked	2.4	Double solenoid	Internal	Non-locking	DX2-616-BL49	DX2-616-BL53
	4-way, 3-position, all ports blocked	2.4	Double solenoid	Internal	Locking	DX2-616-CL49	DX2-616-CL53

Symbol	Type	Cv	Operator	Pilot	Part number
	4-way, 2-position, spring return	2.5	Single remote pilot	Remote	DX2-421-60
	4-way, 2-position, air return	2.5	Single remote pilot	Remote	DX2-451-60
	4-way, 2-position	2.5	Double remote pilot	Remote	DX2-406-60
	4-way, 3-position, center exhaust	2.4	Double remote pilot	Remote	DX2-411-60
	4-way, 3-position, all ports blocked	2.4	Double remote pilot	Remote	DX2-416-60



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus


DX ISOMAX Series


Valvair II Series


D

Subbase & Manifold Valve Products


DX2 Series Subbase & Manifolds

Single subbase	Description	1/2" NPT	1/2" BSPP
	Side ported base	PS4111170CP	PS4111180CP

Manifold bases	Description	1/2" NPT	1/2" BSPP
	Bottom / End ported bases Note: Manifolds include 2 pipe plugs	PS4111670CP	PS4111680CP

End plate kits	Description	NPT port	BSPP port
	H2 Non-collective wiring end plates	PS4131010CP	PS4131011CP

5599-1, DX2 Accessories

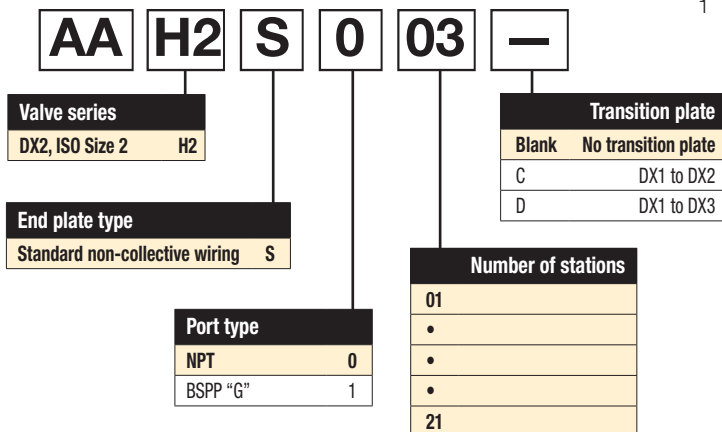
Accessories	Description	Part number
Sandwich regulator 	Common pressure 5-125 PSIG w/ gauge	PS4137166CP
	Independent pressure 5-125 PSIG w/ gauge	PS4137266CP
Remote pilot access plate kit	1/8" NPT	PS411500CP
	1/8" BSPP	PS411501CP
Blanking plate kit		PS4134CP
Sandwich flow control		PS4142CP
Manifold to manifold gasket kit		PS4113P
Manifold port isolation kits	Main galley (1, 3, 5)	PS4132CP
Manifold port isolation kits	Pilot galley	PS4033CP

How To Order Add-A-Fold Assemblies

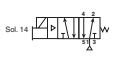
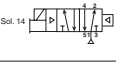
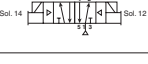

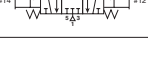
- List Add-A-Fold Assembly call out. This automatically includes the end plate kit assembly.
- List complete valve/base model number. List left to right, looking at the cylinder ports on the #12 end of the manifold. The left most station is station 1.
(If a blank station is needed, list the blanking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

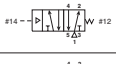
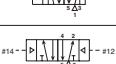
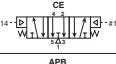
Example: Application requires a 3-station manifold.

Qty.	Part No.
1	AAH2S003
1	DX2-621-BL49..... Valve Station 1
1	PS4111570CP.....Base Station 1
1	DX2-616-BL49 Valve Station 2
1	PS4111570CP.....Base Station 2
1	DX2-611-BL49 Valve Station 3
1	PS4111570CP.....Base Station 3



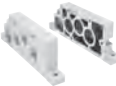


DX3 ISO Valves


Symbol	Type	Cv	Operator	Pilot	Override	24 VDC	120 VAC
	4-way, 2-position, spring return	4.15	Single solenoid	Internal	Non-locking	DX3-621-BL49	DX3-621-BL53
					Locking	DX3-621-CL49	DX3-621-CL53
	4-way, 2-position, air return	4.15	Single solenoid	Internal	Non-locking	DX3-651-BL49	DX3-651-BL53
					Locking	DX3-651-CL49	DX3-651-CL53
	4-way, 2-position	4.15	Double solenoid	Internal	Non-locking	DX3-606-BL49	DX3-606-BL53
					Locking	DX3-606-CL49	DX3-606-CL53
	4-way, 3-position, center exhaust	4.0	Double solenoid	Internal	Non-locking	DX3-611-BL49	DX3-611-BL53
					Locking	DX3-611-CL49	DX3-611-CL53
	4-way, 3-position, all ports blocked	4.0	Double solenoid	Internal	Non-locking	DX3-616-BL49	DX3-616-BL53
					Locking	DX3-616-CL49	DX3-616-CL53

Symbol	Type	Cv	Operator	Pilot	Part number
	4-way, 2-position, spring return	4.15	Single remote pilot	Remote	DX3-421-60
					DX3-451-60
	4-way, 2-position, air return	4.15	Single remote pilot	Remote	DX3-406-60
					DX3-411-60
	4-way, 3-position, center exhaust	4.0	Double remote pilot	Remote	DX3-416-60
					DX3-416-60

DX3 Series Subbase & Manifolds

Single subbase	Description	3/4" NPT	3/4" BSPP
	Side ported base	PS4211170CP	PS4211180CP
Manifold bases	Description	3/4" NPT	3/4" BSPP
	Bottom / End ported bases Note: Manifolds include 2 pipe plugs	PS4211690CP	PS4211600CP
End plate kits	Description	NPT port	BSPP port
	H3 Non-collective wiring end plates	PS4231010CP	PS4231011CP

5599-1, DX3 Accessories

Accessories	Description	Part number
Sandwich regulator 	Common pressure 5-125 PSIG w/ gauge	PS4237166CP
	Independent pressure 5-125 PSIG w/ gauge	PS4237266CP
Remote pilot access plate kit	1/8" NPT	PS421500CP
	1/8" BSPP	PS421501CP
Blanking plate kit		PS4134CP
Sandwich flow control		PS4242CP
Manifold to manifold gasket kit		PS4213P
Manifold port isolation kits	Main galley (1, 3, 5)	PS4232CP
Manifold port isolation kits	Pilot galley	PS4033CP



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

DX ISOMAX Series

Valvair II Series

D

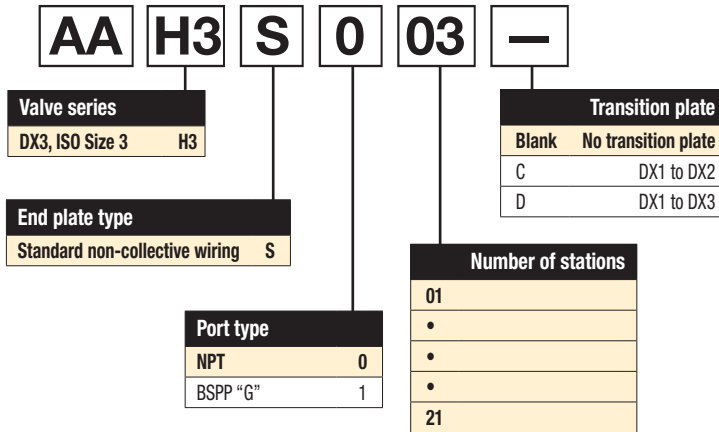
Subbase & Manifold Valve Products

How To Order Add-A-Fold Assemblies

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

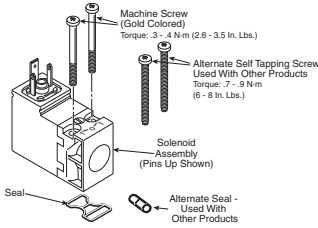
Example: Application requires a 3-station manifold.

Qty.	Part No.
1	AAH3S003
1	DX3-621-BL49..... Valve Station 1
1	PS4111590CPBase Station 1
1	DX3-616-BL49 Valve Station 2
1	PS4111590CPBase Station 2
1	DX3-611-BL49 Valve Station 3
1	PS4111590CPBase Station 3



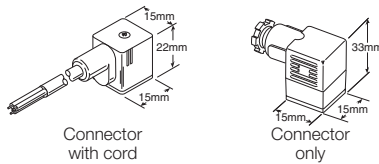
Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products

15mm 3-Pin DIN 43650C Replacement Solenoid Kits



Voltage	Non-locking	Locking
24VDC	PS2982B49P	PS2982C49P
110/50, 120/60	PS2982B53P	PS2982C53P

15mm 3-Pin DIN 43650C Connectors



Description	Connector with 6' (2m) Cord	Connector
No circuit board	PS2932JBP	PS2932BP
Light – 24DC	PS2946J79BP*	PS294679BP
Light – 110/120VAC	PS2946J83BP*	PS294683BP

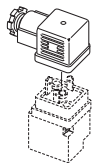
* LED with surge suppression.

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	PS2028JCP	PS2028BP
Light – 6-48V, 50/60Hz; 6-48VDC	PS2032J79CP*	PS203279BP
Light – 120V/60Hz	PS2032J83CP*	PS203283BP
Light – 240V/60Hz	N/A	PS203283BP

* 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	—	PS2828619P
42	P2FCA442	—
45	P2FCA445	—
49	P2FCA449	—
53	P2FCA453	—
57	P2FCA457	—

Quantity 1

CNOMO Operator Adapter

Description	Kit number
Operator adapter	PS2855P

Manifold to Manifold Gasket Kits

Size	Part number
DX02*	DX02M2MGSKT (PJLP02)
DX01*	DX01M2MGSKT (PJLP01)

* Gaskets used with PS5611 & PS5511 manifolds.

Pilot Operator - CNOMO

Valve size	Kit number
DX1, DX2 & DX3	Locking PS4052CP
	Non-locking PS4053CP

Seal Kits

Size	Description	Kit number
1	1 base seal, 2 pilot selector seal	JJDX10
2	1 base seal, 2 pilot selector seal	JJDX20
3	1 base seal, 2 pilot selector seal	JJDX30



Modulflex Series

Isys Micro Series

Isys ISO Series

Fieldbus

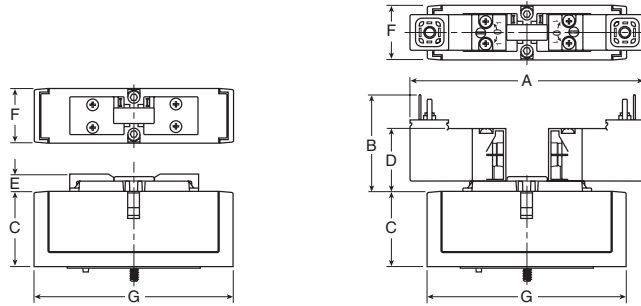
DX ISOMAX Series

Valvair II Series

D

Subbase & Manifold Valve Products

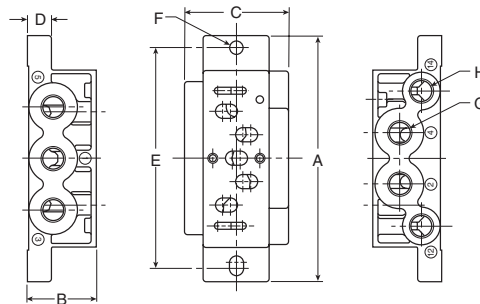
DX01 & DX02 Valve Dimensions



Series	A	B	C	D	E	F	G
DX02	4.06 (103)	1.61 (41)	1.41 (36)	1.06 (27)	.31 (8)	.71 (18)	3.15 (80)
DX01	4.06 (103)	1.61 (41)	1.41 (36)	1.06 (27)	.31 (8)	1.02 (26)	3.94 (100)

Inches (mm)

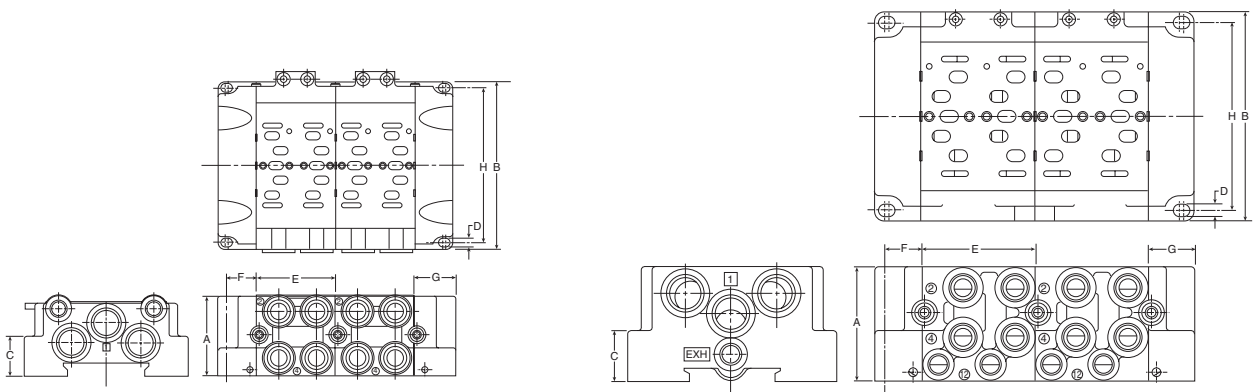
DX01 & DX02 Individual Subbase Dimensions



Series	Part number	A	B	C	D	E	F	G	H
DX02	PL02	3.15 (80)	.87 (22)	1.06 (27)	.31 (8)	2.76 (70)	.216 Dia. (Ø 5.5)	1/8	M5
DX01	PL01	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)

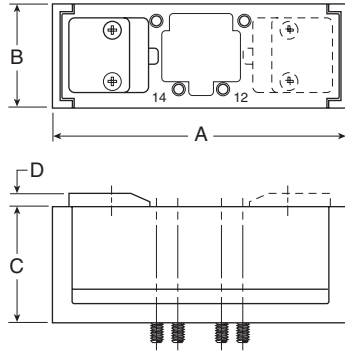
DX01 & DX02 2-Station Manifold Base Dimensions



Series	Part number	A	B	C	D	E	F	G	H
DX02	PJLP02 / PEJ02	1.52 (38.5)	3.15 (80)	.47 (12)	.165 Dia. (Ø 4.2)	1.50 (38)	.55 (14)	.71 (18)	2.83 (72)
DX01	PJL01 / PJLP01 / PEJ01	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)

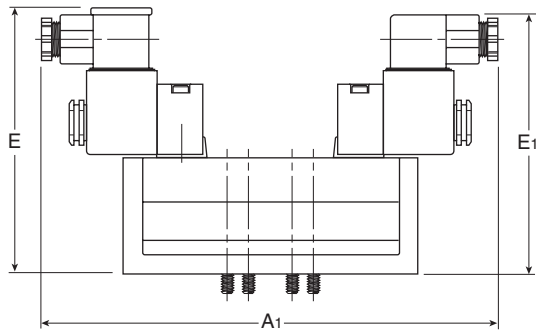
DX1, DX2 & DX3 Air Operated Valve Dimensions



Series	A	B	C	D
DX1	4.72 (120)	1.65 (42)	1.85 (47)	.20 (5)
DX2	5.51 (140)	2.13 (54)	2.30 (58.5)	.20 (5)
DX3	6.69 (170)	2.68 (68)	2.80 (71)	.20 (5)

Inches (mm)

DX1, DX2 & DX3 Solenoid Operated Valve Dimensions



Series	A ₁	E	E ₁	E ₂
DX1	7.97 (202.5)	4.43 (112.5)	4.69 (119)	4.53 (115)
DX2	8.58 (218)	4.86 (123.5)	5.12 (130)	4.98 (126.5)
DX3	9.27 (235.5)	5.35 (136)	5.61 (142.5)	5.47 (139)

Inches (mm)

Modulflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus
Series

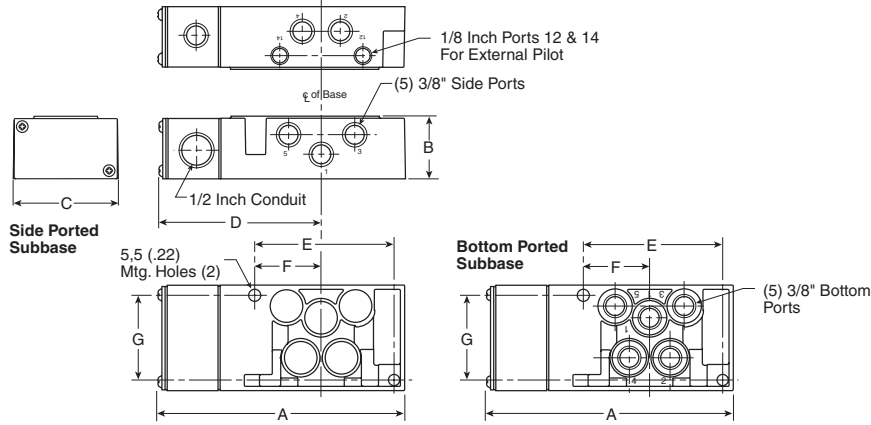
DX ISOMAX
Series

Valvair II
Series

D

Subbase & Manifold
Valve Products

DX1 Subbase Dimensions

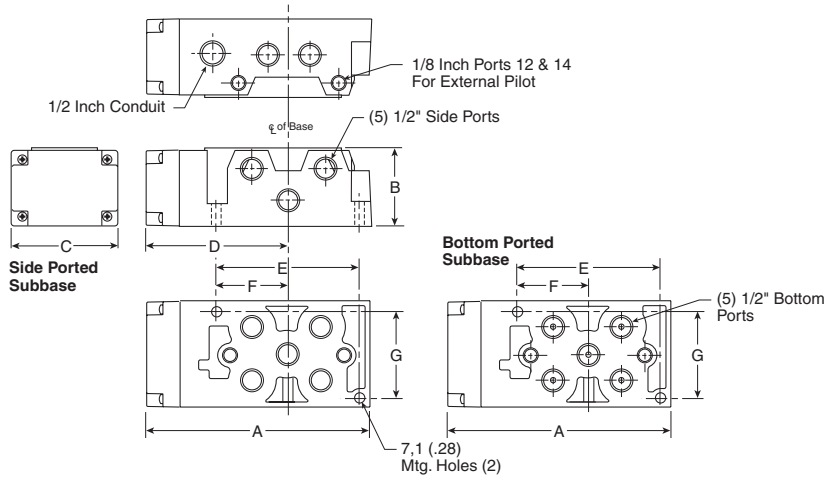


PS4011 Subbase

A	B	C	D
5.83 (148)	1.48 (38)	2.50 (64)	3.86 (98)
E	F	G	
3.29 (84)	1.57 (40)	2.00 (51)	

Inches (mm)

DX2 Subbase Dimensions

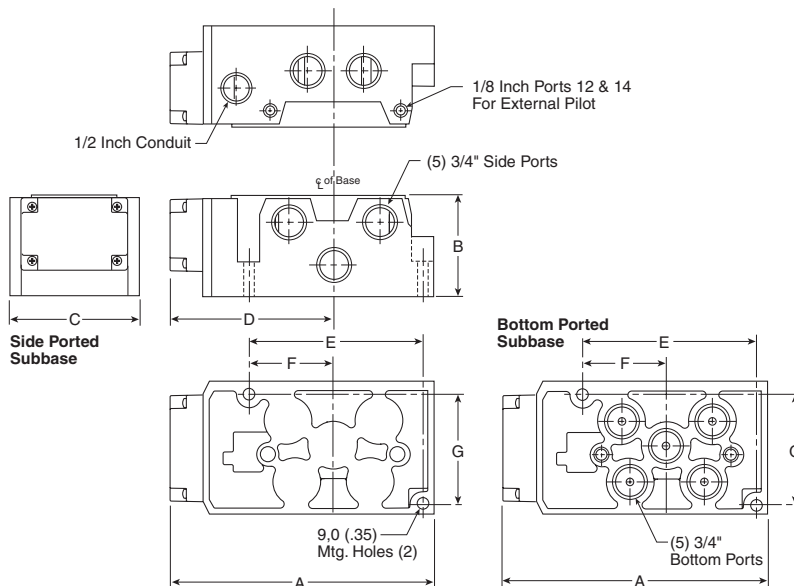


PS4111 Subbase

A	B	C	D
6.69 (170)	2.33 (59)	3.15 (80)	4.25 (108)
E	F	G	
4.21 (107)	2.07 (52)	2.56 (65)	

Inches (mm)

DX3 Subbase Dimensions

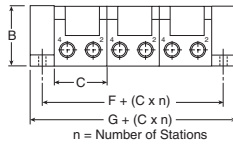
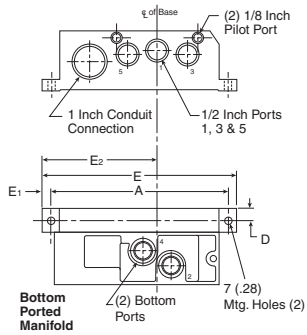


PS4211 Subbase

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)

DX1 Manifold Dimensions



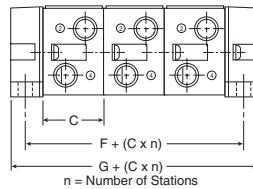
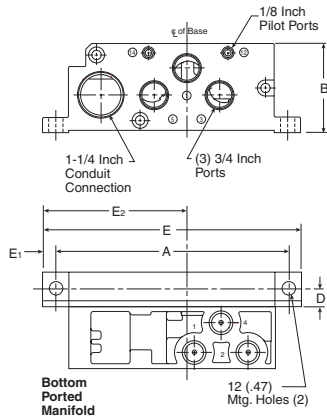
PS4011 Manifold

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 Dimensions



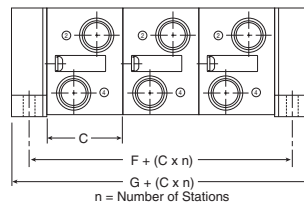
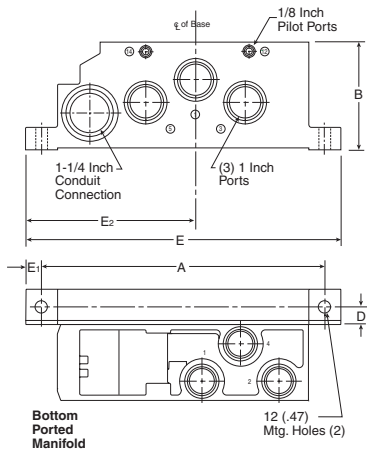
PS4111 Manifold

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 Dimensions



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)

Modulflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus

DX ISOMAX
Series

Valvair II
Series

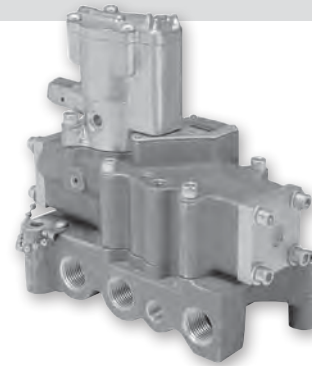
D

Subbase & Manifold
Valve Products

Valvair II Series

Features

- 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



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	35-140* PSIG	
Vacuum	do not use				N.A.	Main	within 1 Hg of perfect	
						Pilot	35-140* PSIG	

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
-----	-------

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

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.





4-way, 5-port, 2-position, Plug-in

L675 (3/8" basic valve) Single solenoid	L655 (3/8" basic valve) Double solenoid	Nominal Cv	Port size (NPT)	Subbase (Side ports)	Manifold† (End & bottom ports)	Voltage	Valve only						
							Single solenoid	Double solenoid					
		4.8	3/8"	K022090	K142230	120V 60Hz	L6753910253	L6553910253					
							4.8	1/2"	K022091	K142231	110V 50Hz	L6753910253	L6553910253
							4.8	3/4"	K022101	K142270	24VDC	L6753310249	L6553310249



L675 (1" basic valve) Single solenoid	L655 (1" basic valve) Double solenoid	Nominal Cv	Port size (NPT)	Subbase (Side ports)	Manifold† (End & bottom ports)	Voltage	Valve only						
							Single solenoid	Double solenoid					
		11.3	1"	K022095	K142230	120V 60Hz	L6758910253	L6558910253					
							11.3	1"	K022095	K142231	110V 50Hz	L6758910253	L6558910253
							11.3	1"	K022095	K142270	24VDC	L6758310249	L6558310249



4-way, 5-port, 3-position, Plug-in

L665 (3/8" basic valve) Double solenoid	Nominal Cv	Port size (NPT)	Subbase (side ports)	Manifold † (end & bottom ports)	Voltage	Valve only						
						Double solenoid	Double solenoid					
	4.8	3/8"	K022090	K142230	120V 60Hz	L6653921153	L6653921153					
						4.8	1/2"	K022091	K142231	110V 50Hz	L6653921153	L6653921153
						4.8	3/4"	K022101	K142270	24VDC	L6653321149	L6653321149



L665 (1" basic valve) Double solenoid	Nominal Cv	Port size (NPT)	Subbase (side ports)	Manifold (end & bottom ports)	Voltage	Valve only						
						Double solenoid	Double solenoid					
	11.3	1"	K022095	K142230	120V 60Hz	L6658921153	L6658921153					
						11.3	1"	K022095	K142231	110V 50Hz	L6658921153	L6658921153
						11.3	1"	K022095	K142270	24VDC	L6658321149	L6658321149

4-way, 5-port, 2-position, Direct Pipe Ported

L705 (3/8" basic valve) single solenoid	L685 (3/8" basic valve) double solenoid	Port size (NPT)		Nominal Cv	Voltage	Operator type	Valve	
		P, A & B	EA & EB				Single solenoid	Double solenoid
		3/8"	1/2"	4.8	120V 60Hz	Junction box	L7053910253	L6853910253
							L7054910253	L6854910253
		3/8"	1/2"	4.8	24VDC	Junction box	L7053610249	L6853610249
							L7054610249	L6854610249
		3/8"	1/2"	4.8	120V 60Hz	Basic	L7053310253	L6853310253
							L7054310253	L6854310253
L7054310253	L6854310253							

L705 (1" basic valve) single solenoid	L685 (1" basic valve) double solenoid	Port size (NPT)		Nominal Cv	Voltage	Operator type	Valve	
		P, A & B	EA & EB				Single solenoid	Double solenoid
		1"	1-1/4"	12.0	120V 60Hz	Junction box	L7058910253	L6858910253
							L7059910253	L6859910253
		1"	1-1/4"	12.0	24VDC	Junction box	L7058610249	L6858610249
							L7059610249	L6859610249

4-way, 5-port, 3-position, Direct Pipe Ported

L695 (3/8" basic valve) double solenoid	L695 (1" basic valve) double solenoid	Port size (NPT)		Nominal Cv	Voltage	Operator type	Valve	
		P, A & B	EA & EB				3/8" basic size	1" basic size
		3/8"	1/2"	4.5	120V 60Hz	Junction box	L6953921153	—
							L6954921153	—
		1"	1-1/4"	12.0	110V 50Hz	Junction box	—	L6958921153
							—	L6959921153

† Manifolds include mounting hardware, except for port adapters.



Modulflex
Series

Isys Micro
Series

Isys ISO
Series

Fieldbus

DX ISOMAX
Series

Valvair II
Series

D

Subbase & Manifold
Valve Products

Lubricated Non-Lubricated Service
2-position, Plug-In, 3/8" & 1" Basic Size

- Modulflex Series
- Isys Micro Series
- Isys ISO Series
- Fieldbus
- DX ISOMAX Series
- Valvair II Series
- D** Subbase & Manifold Valve Products

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	

Duty Cycle	
2	Standard service, solenoid or remote
4	Continuous service solenoid

Enclosure "Class"	
10	Standard (NEMA 1 & 12) or remote

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	

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

Lubricated or Non-Lubricated Service
2-position, Direct Pipe Ported, 3/8" & 1" Basic Size

L	70	5	3	9	10	2	53	—
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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*

* Not available operator option 4 - Remote pilot.

Operator options	
Solenoid (basic) or remote	1
Solenoid with locking override	3
Solenoid w/ junction box & locking override	6
Solenoid w/ junction box & light (120VAC, 24VDC) & non-locking override	8
Solenoid w/ junction box & light (120VAC, 24VDC) & locking override	9

Lead length	
Blank	19" (Standard)

Voltage & frequency			
	60Hz	50Hz	DC
45			12
49			24
53	120	110	
57	240	220	

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, 2 & 3 only, voltage 53 only.

Lubricated or Non-Lubricated Service
3-position, Direct Pipe Ported, 3/8" & 1" Basic Size

L	69	5	3	9	21	1	53	—
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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*

* Not available operator option 4 - Remote pilot.

Operator options	
Solenoid (basic) or remote	1
Solenoid with locking override	3
Solenoid w/ junction box & locking override	6
Solenoid w/ junction box & light (120VAC, 24VDC) & non-locking override	8
Solenoid w/ junction box & light (120VAC, 24VDC) & locking override	9

Lead length	
Blank	19" (Standard)

Voltage & frequency			
	60Hz	50Hz	DC
45			12
49			24
53	120	110	
57	240	220	


Duty cycle	
1	Standard service, solenoid or remote
5	Continuous service solenoid

Enclosure "Class"	
All ports blocked in neutral	
21	Standard (NEMA 1 & 12) or remote
71*†	Hazardous duty (NEMA 7 & 9)
91*†	NEMA 4
Cylinder ports open to exhaust in neutral	
22	Standard (NEMA 1 & 12) or remote
72*†	Hazardous duty (NEMA 7 & 9)
92*†	NEMA 4
Cylinder ports open to inlet in neutral	
23	Standard (NEMA 1 & 12) or remote
73*†	Hazardous duty (NEMA 7 & 9)
93*†	NEMA 4

* Voltage 49 / 53 only.
 † Use with operator options 1, 2 & 3 only, voltage 53 only.


Modulflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

Plug-in Pilot


	Description	Standard service		Special service	
	Override type	Locking	Non-locking	Locking	Non-locking
	With override (120VAC)	K175903553	K175803553	K185902553	K185802553
With override (Other than 120VAC)	K1753035**	—	K1853025**	—	

** Voltage code - (reference model index for availability)

NEMA 1 & 12

	Description	Standard service		Special service	
	Override type	Locking	Non-locking	Locking	Non-locking
	Basic with override	K0653035**	—	K0853025**	—



Basic Pilot

	JIC with junction box & override	K0656035**	K0655035**	K0856025**	K0855025**
	JIC pilot with junction box & override & indicator lights (120VAC Only)	K0659035**	K0658035**	K0859025**	K0858025**

JIC Pilot

** 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 pilot - UL & CSA	K0251035***	—	K0451025***	—
NEMA 4 pilot	K2351035***	—	—	—	
	Hazardous duty with override	K0253035***	K0252035***	K0453025***	K0452025***
	NEMA 4 with override	—	K2353035***	K2352035***	—

Hazardous Duty

NEMA 4 Pilot

† 49 / 53 only ** Voltage code - (reference model index for availability)

Service Kits

Basic valve	Solenoid operated *						Remote pilot operated	
	Size	Series (prefix)	Standard service (intermittent duty)		Special service ** (continuous duty)		Single	Double 2 & 3-position
			Single	Double 2 & 3-position	Single	Double 2 & 3-position		
3/8"	L65	—	K352126	—	K352127	—	K352355	
	L66	—	K352126	—	K352127	—	K352355	
	L67	K352124	—	K352125	—	K352362	—	
	L68	—	K352126	—	K352127	—	K352355	
	L69	—	K352126	—	K352127	—	K352355	
	L70	K352124	—	K352125	—	K352362	—	
	L65	—	K352130	—	K352131	—	K352360	
1"	L66	—	K352130	—	K352131	—	K352360	
	L67	K352128	—	K352129	—	K352359	—	
	L68	—	K352130	—	K352131	—	K352360	
	L69	—	K352130	—	K352131	—	K352360	
	L70	K352128	—	K352129	—	K352359	—	

Notes:

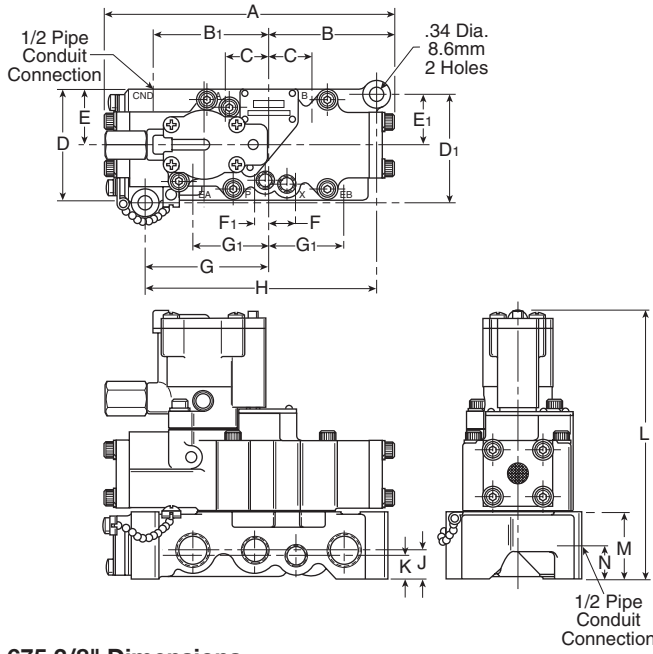
* Kits for solenoid operated valves include solenoid service kits.

** Special service (continuous duty) solenoids may be identified as having gold colored solenoid tops.



Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products

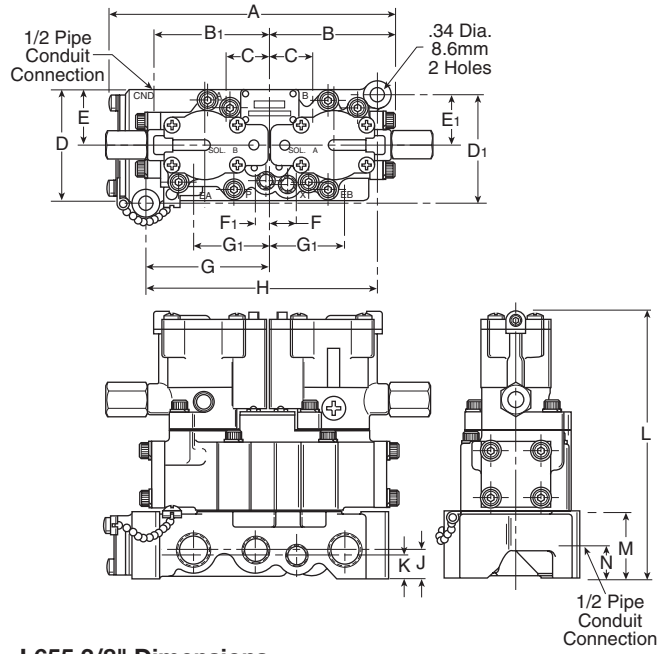
Modulflex Series
 Isys Micro Series
 Isys ISO Series
 Fieldbus
 DX ISOMAX Series
 Valvair II Series
D
 Subbase & Manifold Valve Products



L675 3/8" Dimensions

A	B	B ₁	C	D	D ₁	E	E ₁	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 ₁	G	G ₁	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)

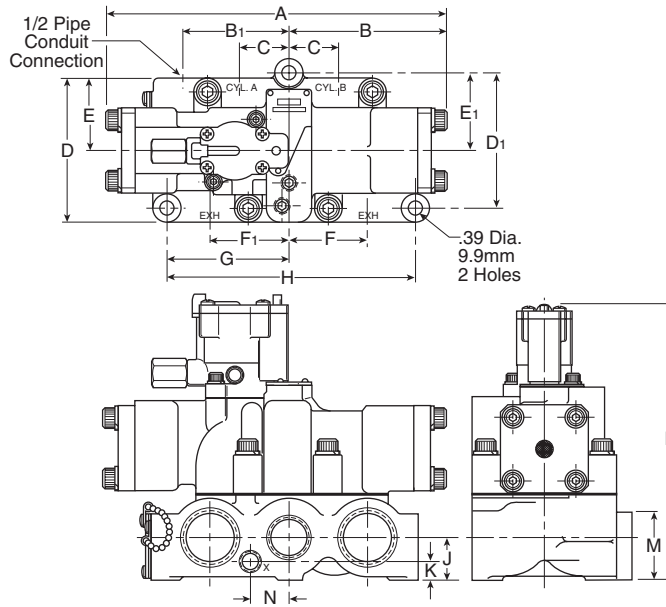
Inches (mm)



L655 3/8" Dimensions

A	B	B ₁	C	D	D ₁	E	E ₁	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 ₁	G	G ₁	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)

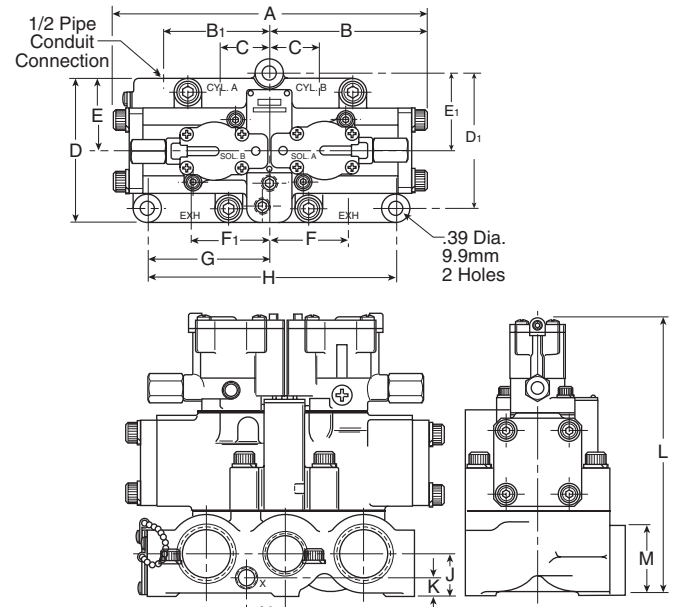
Inches (mm)



L675 1" Dimensions

A	B	B ₁	C	D	D ₁	E	E ₁	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 ₁	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)

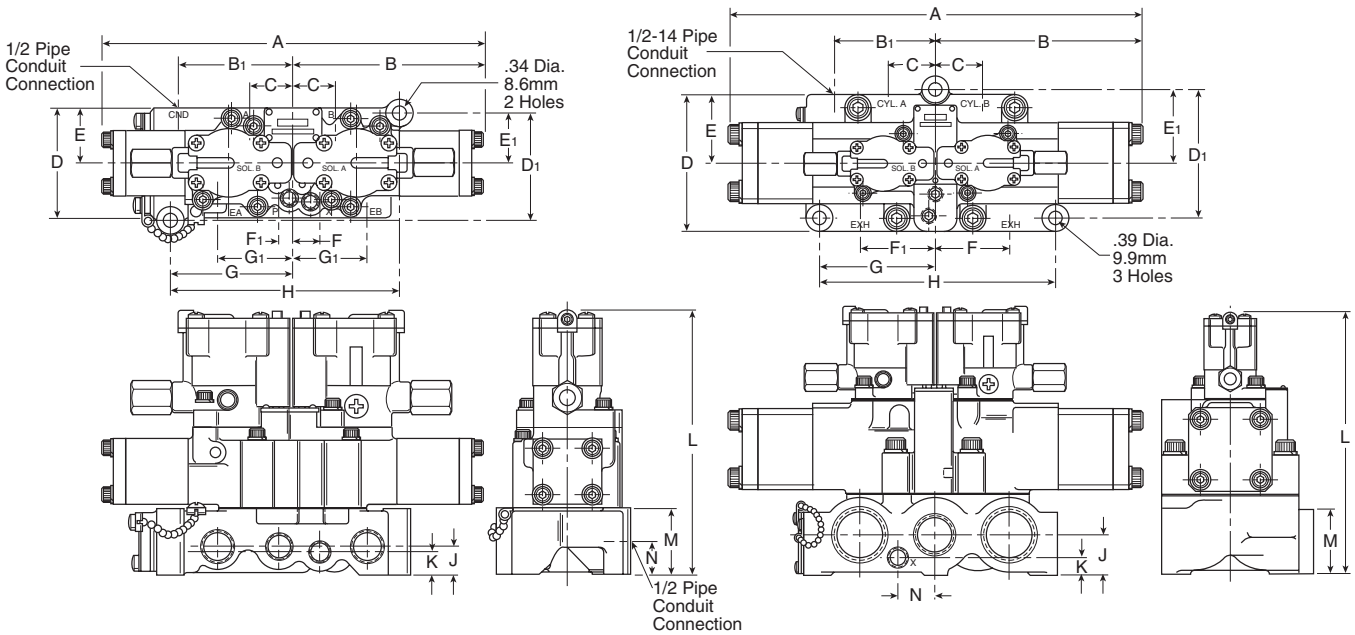


L655 1" Dimensions

A	B	B ₁	C	D	D ₁	E	E ₁	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 ₁	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)





L665 3/8" Dimensions

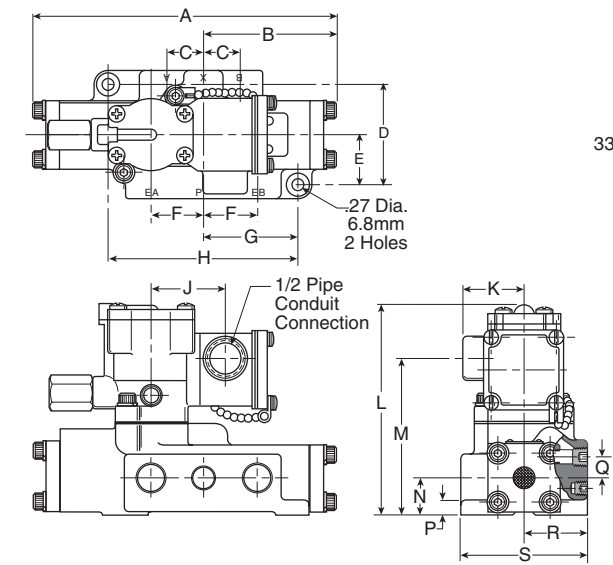
A	B	B ₁	C	D	D ₁	E	E ₁	F
9.64	4.82	2.94	1.12	2.88	2.84	1.44	1.34	.75
(244.8)	(122.4)	(74.7)	(28.4)	(73.2)	(72.1)	(36.6)	(34)	(19.1)
F ₁	G	G ₁	H	J	K	L	M	
.38	3.16	2.00	6.03	.75	.62	6.93	1.00	
(9.7)	(80.3)	(50.8)	(153.2)	(19.1)	(15.7)	(176)	(25.4)	

Inches (mm)

L665 1" Dimensions

A	B	B ₁	C	D	D ₁	E	E ₁	F
13.62	6.81	3.38	1.53	4.56	4.28	2.28	2.44	2.45
(345.9)	(173)	(85.8)	(38.9)	(115.8)	(108.7)	(57.9)	(62)	(62.2)
F ₁	G	H	J	K	L	M	N	
2.46	3.81	7.62	1.31	.59	8.74	2.09	1.22	
(62.5)	(96.8)	(193.5)	(33.3)	(15)	(222)	(53.1)	(31)	

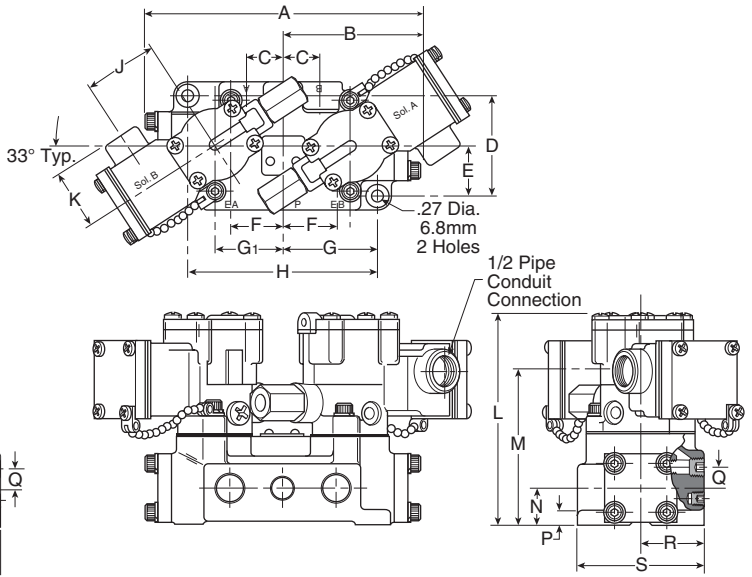
Inches (mm)



L705 3/8" Dimensions

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)



L685 3/8" Dimensions

A	B	C	D	E	F	G	G ₁	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)

Modulflex Series

Isys Micro Series

Isys ISO Series

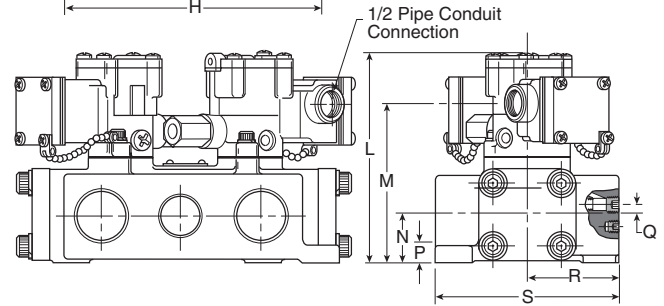
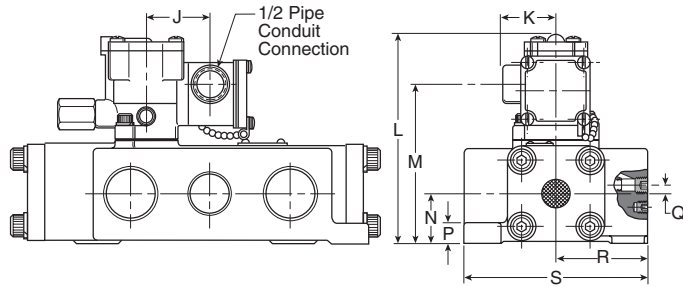
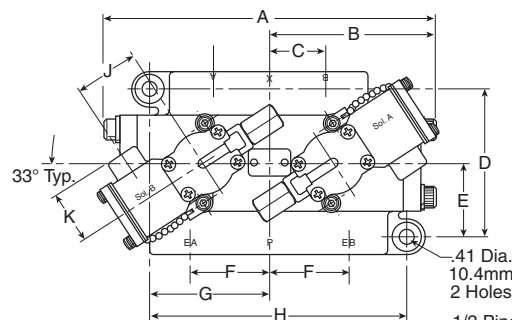
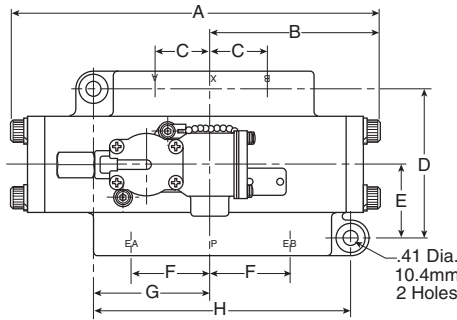
Fieldbus

DX ISOMAX Series

Valvair II Series

D
 Subbase & Manifold Valve Products





L705 1" Dimensions

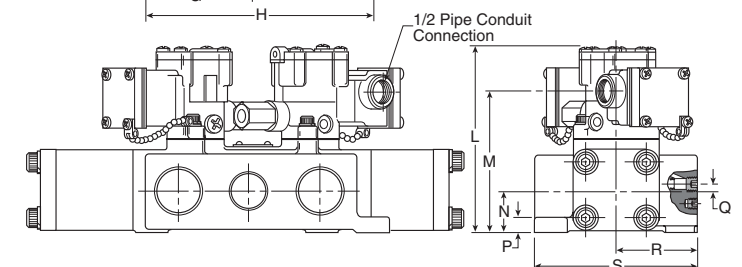
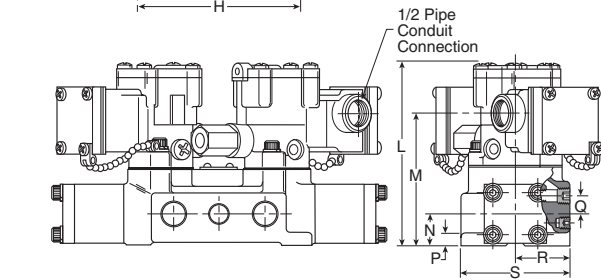
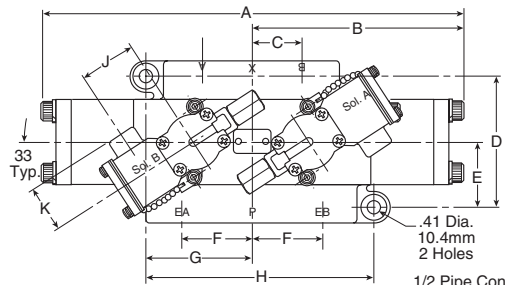
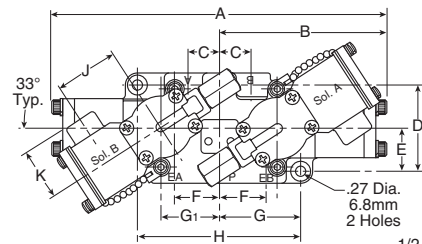
L685 1" Dimensions

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)	

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)

Inches (mm)



L695 3/8" Dimensions

L695 1" Dimensions

A	B	C	D	E	F	G	G1	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)

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)

Inches (mm)



Plug-in Manifold, 3/8" Basic

- K142230Cylinder ports 3/8" NPTF
- K142231Cylinder ports 1/2" NPTF
- K142270Cylinder ports 3/4" NPTF
 - Exhaust port..... 1" NPTF
 - Inlet port..... 1" NPTF
 - Conduit port..... 1-1/4" NPTF

Note: Manifold assemblies include mounting hardware.

Modulflex Series
Isys Micro Series
Isys ISO Series
Fieldbus
DX ISOMAX Series
Valvair II Series
D
Subbase & Manifold Valve Products

Directair 2 & 4 Series

Features

Directair 2, 1/8" valves

Poppet style – .17 Cv

- Economical
- 3-way normally closed function

Directair 2, 1/8" valves

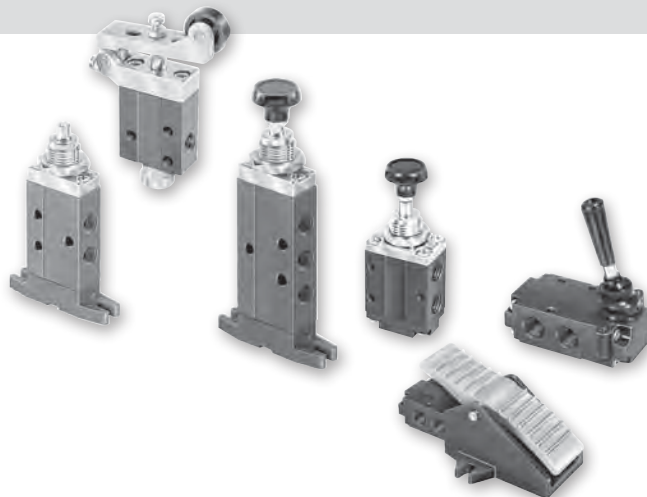
Packed bore style – .20 Cv

- 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
O-rings	Buna (nitrile)
Poppet ball	Nylon
Spacers - Directair 2	Aluminum
Spacers - Directair 4	Zinc die cast
Spool	Stainless steel

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

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.

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

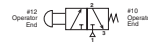
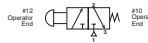


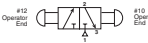
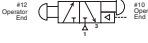
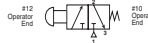
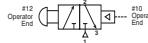

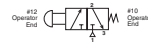
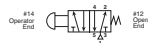
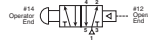


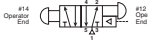

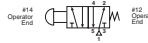


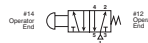






Notes: N/A = Not Applicable

All valves are at 100 PSIG inlet pressure to the valve.

☐ Most popular.

Directair 2, Directair 4
 Viking Xtreme Lever Series
 42 Lever / Pedal Series
 M0 Series
 LV-EZ Series Lockout Valves
 Brass Poppet / Sliding Seal
 D Manual / Mechanical Valve Products

3-way & 4-way Valves

	Symbol	Port size	Cv	Description	Valve type	Part number		
        		1/8"	.17	3-way, spring return	Poppet	404411000		
			1/8"	.20	3-way, spring return	Spool	414411000	
			1/8"	.20	3-way, spring return, foot mounted	Spool	414421000	
			1/8"	.20	3-way, pilot return	Spool	414451000	
			1/8"	.20	3-way, manual return	Spool	414931000	
			1/8"	.20	3-way, manual return, foot mounted	Spool	414941000	
			1/8"	.20	3-way, manual or pilot return	Spool	414951000	
			1/4"	.83	3-way, spring return	Spool	524411000	
			1/4"	.83	3-way, pilot return	Spool	524451000	
			1/4"	.83	3-way, manual return	Spool	524431000	
	        		1/8"	.20	4-way, spring return	Spool	410411000	
				1/8"	.20	4-way, spring return, foot mounted	Spool	410421000
			1/8"	.20	4-way, pilot return	Spool	410451000	
			1/8"	.20	4-way, manual return	Spool	410931000	
			1/8"	.20	4-way, manual return, foot mounted	Spool	410941000	
			1/8"	.20	4-way, manual or pilot return	Spool	410951000	
			1/4"	.83	4-way, spring return	Spool	520411000	
			1/4"	.83	4-way, pilot return	Spool	520451000	
			1/4"	.83	4-way, manual return	Spool	520431000	
    			1/8"	.17	3-way, spring return	Poppet	404811000	
				1/8"	.20	3-way, spring return	Spool	414811000
				1/8"	.20	3-way, spring return, foot mounted	Spool	414821000
			1/8"	.20	4-way, spring return	Spool	410811000	
			1/8"	.20	4-way, spring return, foot mounted	Spool	410821000	

Directair 2,
Directair 4

Viking Xtreme
Lever Series

42 Lever/
Pedal Series

M0
Series

LV-EZ Series
Lockout Valves



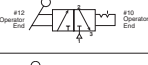
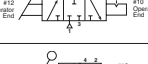

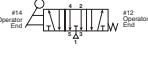
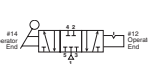

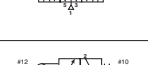
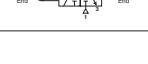

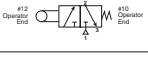

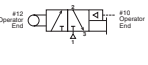
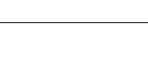


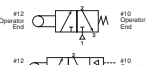
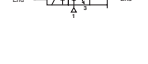




Brass Poppet/
Sliding Seal

D



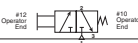
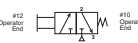
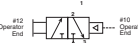
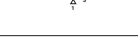





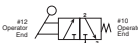
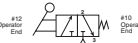
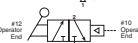
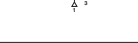


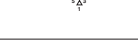


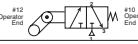
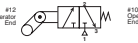
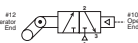

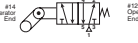
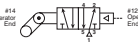







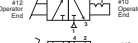
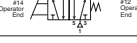
Manual / Mechanical
Valve Products



3-way & 4-way Valves

	Symbol	Port size	Cv	Description	Valve type	Part number
Lever operated 		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
		1/4"	.83	4-way, detented, pressure center	Spool	522831000
		1/4"	.83	4-way, detented, exhaust center	Spool	529831000
	Roller operated 		1/8"	.20	3-way, spring return	Poppet
		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
		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	

3-way & 4-way Valves

	Symbol	Port size	Cv	Description	Valve type	Part number	
Plunger operated  		1/8"	.17	3-way, spring return	Poppet	404111000	
		1/8"	.20	3-way, spring return	Spool	414111000	
		1/8"	.20	3-way, spring return, foot mounted	Spool	414121000	
		1/8"	.20	3-way, pilot return	Spool	414151000	
		1/8"	.17	4-way, spring return	Spool	410111000	
		1/8"	.20	4-way, spring return, foot mounted	Spool	410121000	
		1/8"	.20	4-way, pilot return	Spool	410151000	
	Hand lever operated  		1/8"	.17	3-way, spring return	Poppet	404711000
			1/8"	.20	3-way, spring return	Spool	414711000
			1/8"	.20	3-way, spring return, foot mounted	Spool	414721000
		1/8"	.20	3-way, pilot return	Spool	414751000	
		1/8"	.20	4-way, spring return	Spool	410711000	
		1/8"	.20	4-way, spring return, foot mounted	Spool	410721000	
		1/8"	.20	4-way, pilot return	Spool	410751000	
One way tripper operated  			1/8"	.17	3-way, spring return	Poppet	404311000
			1/8"	.20	3-way, spring return	Spool	414311000
			1/8"	.20	3-way, spring return, foot mounted	Spool	414321000
		1/8"	.20	3-way, pilot return	Spool	414351000	
		1/8"	.20	4-way, spring return	Spool	414311000	
		1/8"	.20	4-way, spring return, foot mounted	Spool	414321000	
		1/8"	.20	4-way, pilot return	Spool	414351000	
	Pedal operated 		1/4"	.83	3-way, spring return	Spool	524711000
			1/4"	.83	3-way, pilot return	Spool	524751000
			1/4"	.83	4-way, spring return	Spool	520711000
		1/4"	.83	4-way, pilot return	Spool	520751000	
Treadle operated 			1/4"	.83	3-way, treadle operated, detented	Spool	524931000
		1/4"	.83	4-way, treadle operated, detented	Spool	520931000	

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,
 Directair 4

Viking Xtreme
 Lever Series

42 Lever/
 Pedal Series

M0
 Series

LV-EZ Series
 Lockout Valves

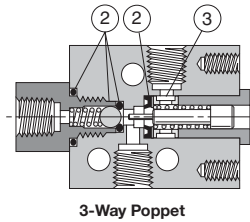
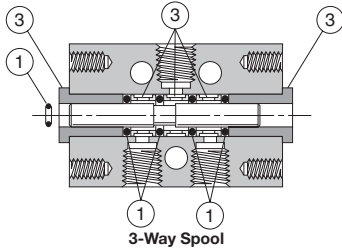
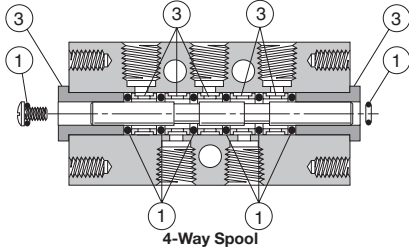
Brass Poppet/
 Sliding Seal

D

Manual / Mechanical
 Valve Products

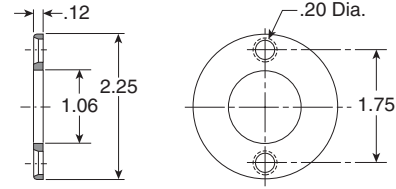
Service kits – 1/8 port size valves (DA2)

①	Spool valve seal kit (3 & 4-way, direct pipe ported)	410008000
②	Poppet valve seal kit	404118000
③	Body service kit	410008005



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.

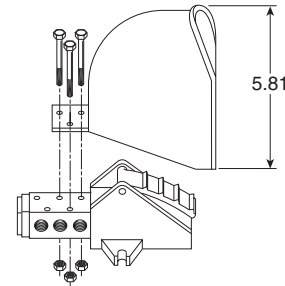


Pedal Guard Kit – No. 520718001

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.

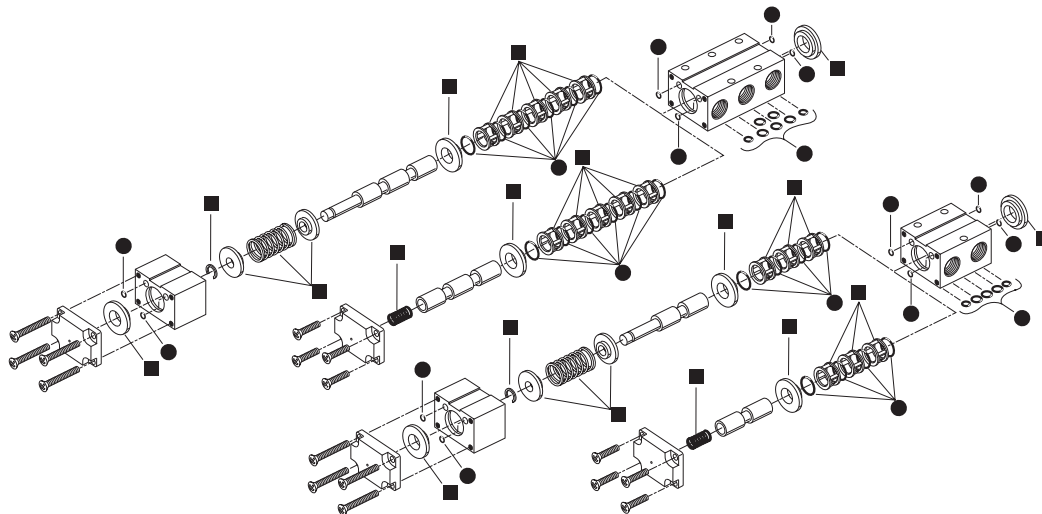
⚠ CAUTION:

*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)

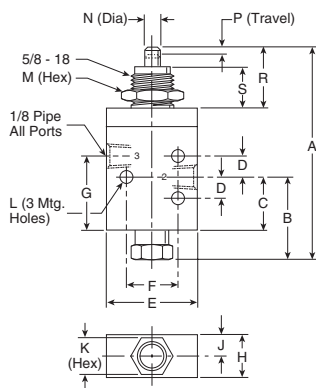
●	Valve seal kit (Contains all soft seals found in 3 & 4-way bodies and all actuator styles.) All fluorocarbon	520008050
■	Body service kit (Contains bushing, springs, retainers and shell from 2 & 3-position, 3 & 4-way bodies.)	520018005



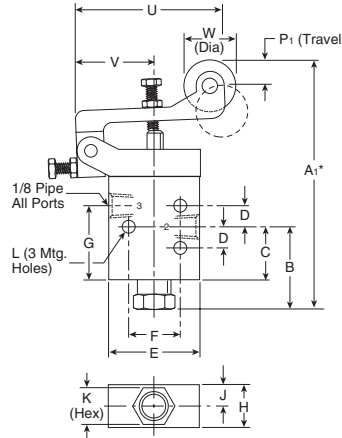
Directair 2, Directair 4
 Viking Xtreme Lever Series
 42 Lever / Pedal Series
 M0 Series
 LV-EZ Series Lockout Valves
 Brass Poppet / Sliding Seal
D
 Manual / Mechanical Valve Products

Plunger, Roller, One-way Tripper & Toggle Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports

Plunger Operated



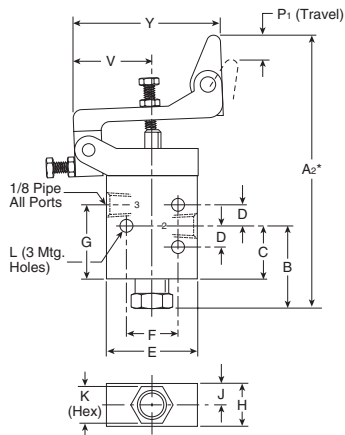
Roller Operated



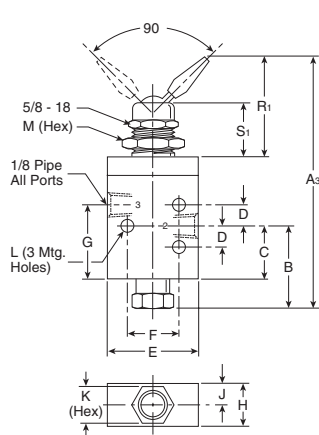
3-Way, 3-Port, 2-Position

A	A1*	A2*	A3	B
3.37 (86)	4.21 (107)	4.46 (113)	3.99 (101)	1.03 (26)
C	D	E	F	G
.55 (14)	.31 (8)	1.31 (33)	.75 (19)	.90 (23)
H	J	K	L	M
.62 (16)	.31 (8)	.56 (14)	.19 (5)	.88 (22)
N	P	P1	R	R1
.25 (6)	.17 (4)	.38 (10)	.91 (23)	1.53 (39)
S	S1	U	V	W
.62 (16)	.78 (20)	2.28 (58)	1.19 (30)	.75 (19)
X	Y			
.19 (5)	2.19 (56)			

One-Way Tripper Operated



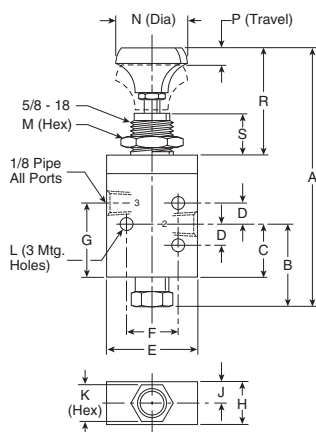
Toggle Operated



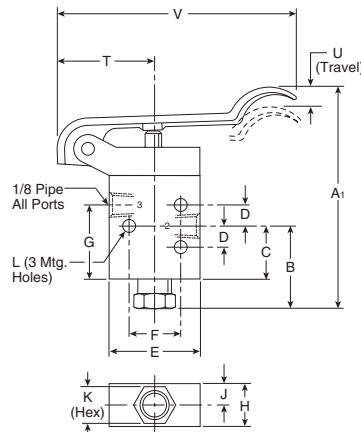
* Dimensions may be reduced .44" using adjusting screw.
 Inches (mm)

Button & Hand Lever Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports

Button Operated



Hand Lever Operated



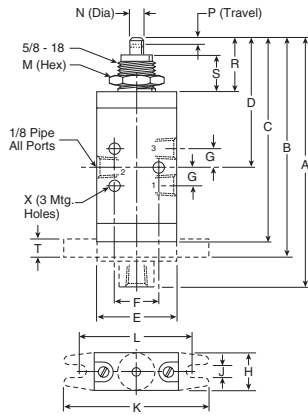
3-Way, 3-Port, 2-Position

A	A1	B	C	D
4.13 (105)	3.34 (85)	1.03 (26)	.55 (14)	.31 (8)
E	F	G	H	J
1.31 (33)	.75 (19)	.90 (23)	.62 (16)	.31 (8)
K	L	M	N	P
.56 (14)	.19 (5)	.88 (22)	1.06 (27)	.17 (4)
R	S	T	U	V
1.67 (42)	.63 (16)	1.19 (30)	.53 (13)	3.38 (86)

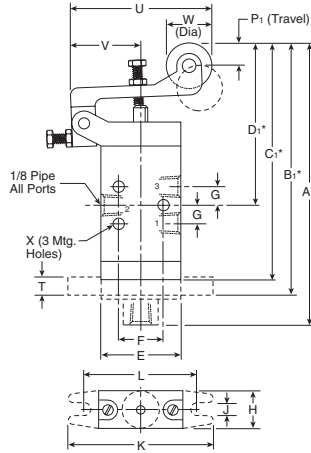
Inches (mm)

Plunger, Roller, One-way Tripper & Toggle Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports

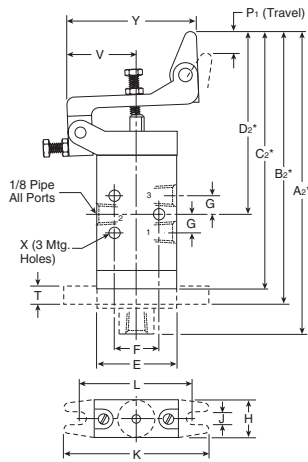
Plunger Operated



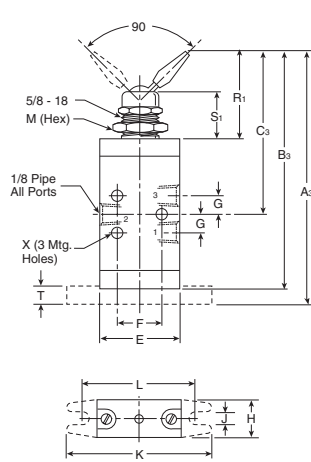
Roller Operated



One-Way Tripper Operated



Toggle Operated



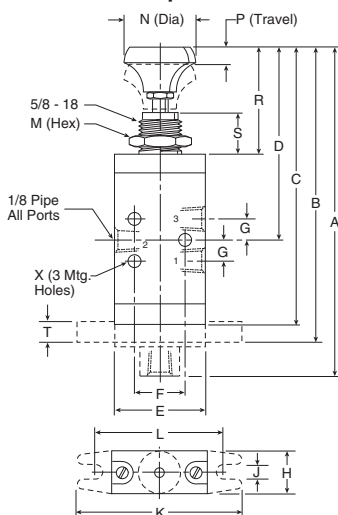
3-Way, 3-Port, 2-Position

A 4.14 (105)	A1* 4.98 (126)	A2* 5.23 (133)	A3 4.23 (107)	B 3.61 (92)
B1 4.45 (113)	B2 4.70 (119)	B3 4.00 (102)	C 3.38 (86)	C1 4.22 (107)
C2 4.47 (113)	C3 2.75 (70)	D 2.05 (52)	D1 2.98 (76)	D2 3.22 (82)
E 1.31 (33)	F .75 (19)	G .31 (8)	H .62 (16)	J .20 (5)
K 2.38 (60)	L 1.88 (48)	M .88 (22)	N .25 (6)	P .17 (4)
P1 .38 (10)	R .91 (23)	R1 1.53 (39)	S .62 (16)	S1 .78 (20)
T .25 (6)	U 2.28 (58)	V 1.19 (30)	W .75 (19)	X .19 (5)
Y 2.19 (56)				

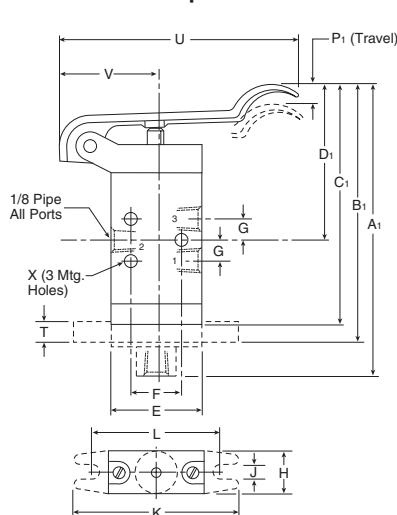
* Dimensions may be reduced .44" using adjusting screw.
 Inches (mm)

Button, Hand Lever Operated — 3-Way, 3-Port, 2-Position – 1/8" Ports

Button Operated



Hand Lever Operated



3-Way, 3-Port, 2-Position

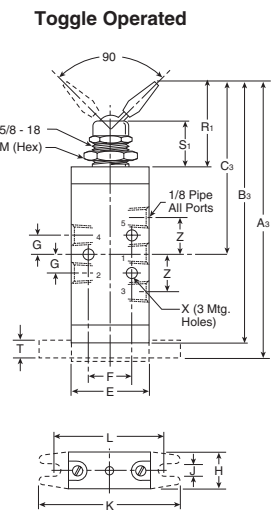
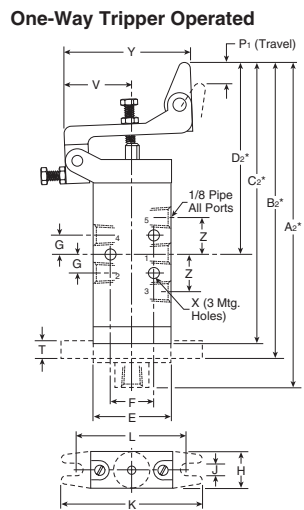
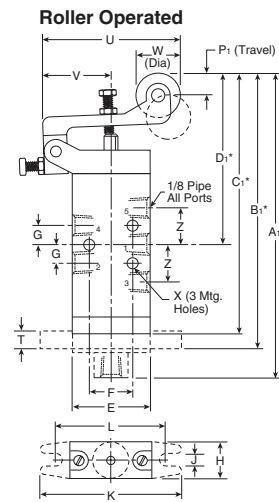
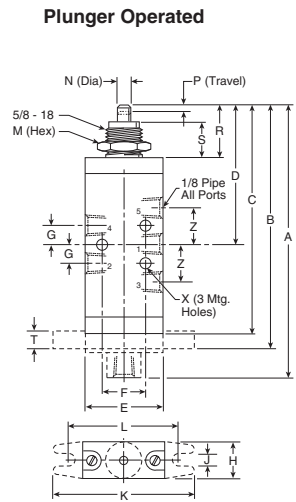
A 5.08 (129)	A1 4.29 (109)	B 4.55 (115)	B1 3.77 (96)	C 4.31 (109)
C1 3.53 (90)	D 3.08 (78)	D1 2.29 (58)	E 1.31 (33)	F .75 (19)
G .31 (8)	H .62 (16)	J .20 (5)	K 2.38 (60)	L 1.88 (48)
M .88 (22)	N 1.06 (27)	P .17 (4)	P1 .53 (13)	R 1.67 (42)
S .63 (16)	T .25 (6)	U 3.38 (86)	V 1.19 (30)	X .19 (5)
Y .59 (15)				

Inches (mm)



Directair 2,
 Directair 4
 Viking Xtreme
 Lever Series
 42 Lever /
 Pedal Series
 M0
 Series
 LV-EZ Series
 Lockout Valves
 Brass Poppet /
 Sliding Seal
D
 Manual / Mechanical
 Valve Products

Plunger, Roller, One-way Tripper & Toggle Operated — 4-Way, 5-Port, 2-Position – 1/8" Ports

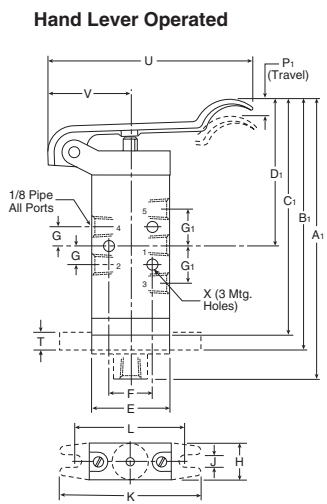
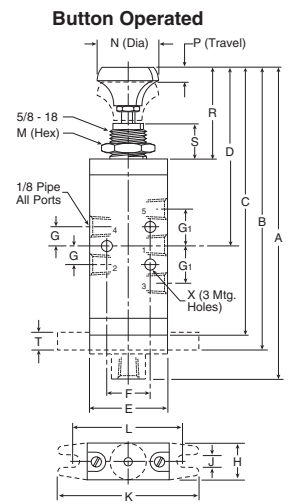


4-Way, 5-Port, 2-Position

A 4.75 (121)	A1* 5.59 (142)	A2* 5.84 (148)	A3 4.84 (123)	B 4.22 (107)
B1* 5.06 (128)	B2* 5.31 (135)	B3 4.61 (117)	C 3.99 (102)	C1* 4.83 (123)
C2* 5.08 (129)	C3 3.06 (78)	D 2.44 (62)	D1* 3.28 (83)	D2* 3.53 (90)
E 1.31 (33)	F .75 (19)	G .31 (8)	H .62 (16)	J .20 (5)
K 2.38 (60)	L 1.88 (48)	M .88 (22)	N .25 (6)	P .17 (4)
P1 .38 (10)	R .91 (23)	R1 1.53 (39)	S .62 (16)	S1 .78 (20)
T .25 (6)	U 2.28 (58)	V 1.19 (30)	W .75 (19)	X .19 (5)
Y 2.19 (56)	Z .62 (16)			

* Dimensions may be reduced .44" using adjusting screw.
 Inches (mm)

Button & Hand Lever Operated — 4-Way, 5-Port, 2-Position – 1/8" Ports



4-Way, 5-Port, 2-Position

A 5.69 (144)	A1 4.90 (124)	B 5.16 (131)	B1 4.38 (111)	C 4.92 (125)
C1 4.14 (105)	D 3.67 (93)	D1 2.90 (74)	E 1.31 (33)	F .75 (19)
G .31 (8)	G1 .63 (16)	H .62 (16)	J .20 (5)	K 2.38 (60)
L 1.88 (48)	M .88 (22)	N 1.06 (27)	P .17 (4)	P1 .53 (13)
R 1.67 (42)	S .63 (16)	T .25 (6)	U 3.38 (86)	V 1.19 (30)
X .19 (5)	Y .59 (15)			

Inches (mm)



Directair 2,
 Directair 4

Viking Xtreme
 Lever Series

42 Lever/
 Pedal Series

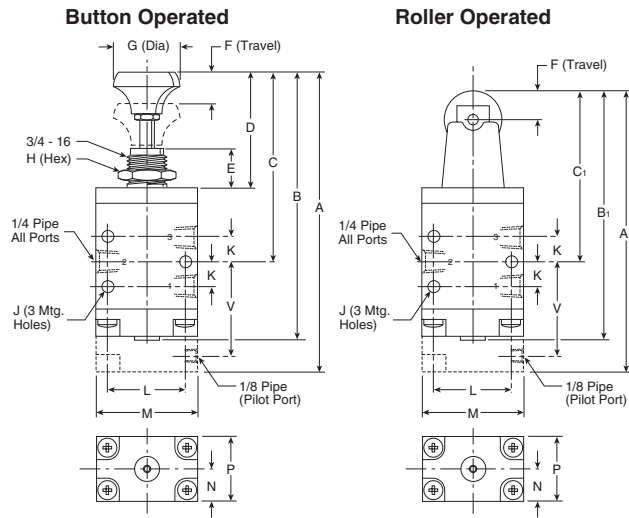
M0
 Series

LV-EZ Series
 Lockout Valves

Brass Poppet/
 Sliding Seal

D
 Manual / Mechanical
 Valve Products

Button & Roller Operated — 3-Way, 3-Port, 2-Position

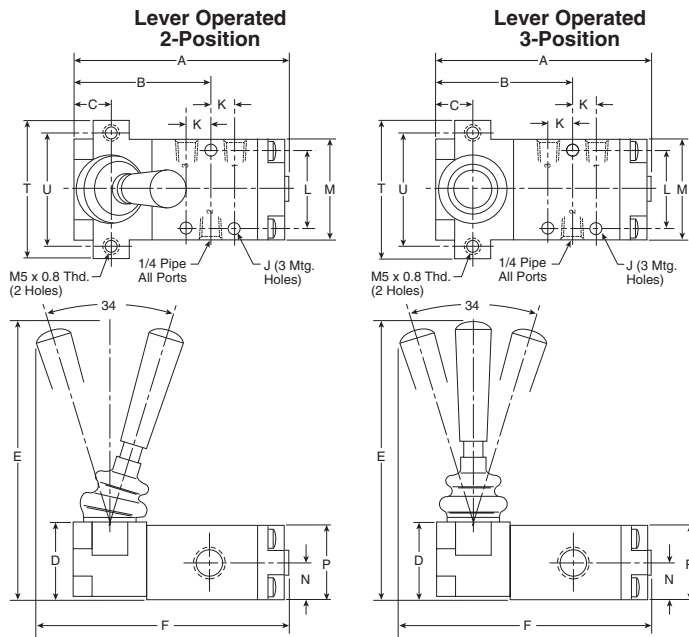


3-Way, 3-Port, 2-Position

A	A ₁	B	B ₁	C
4.91 (125)	4.25 (108)	4.44 (113)	3.78 (96)	3.10 (79)
C ₁	D	E	F	G
2.44 (62)	2.00 (51)	.63 (16)	.32 (8)	1.05 (27)
H	J	K	L	M
1.00 (25)	.19 (5)	.41 (10)	1.25 (32)	1.63 (42)
N	P	V		
.53 (14)	1.06 (27)	1.52 (39)		

Inches (mm)

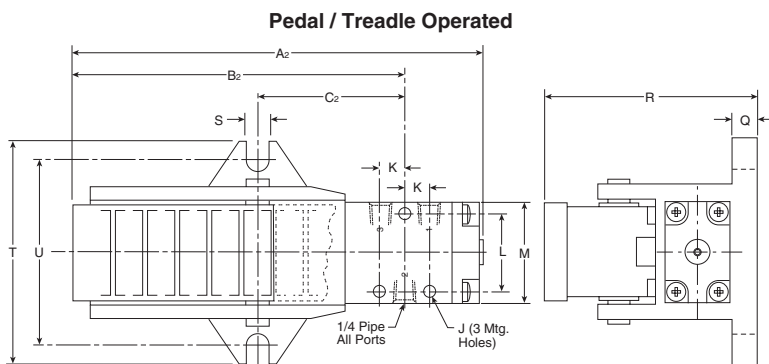
Lever & Pedal Operated — 3-Way, 3-Port, 2 & 3-Position



3-Way, 3-Port, 2 & 3-Position

A	A ₁	B	B ₁	C
3.31 (84)	6.55 (166)	1.97 (50)	5.20 (132)	.53 (14)
C ₁	D	E	F	J
2.19 (56)	1.12 (28)	4.06 (103)	3.90 (99)	.19 (5)
K	L	M	N	P
.41 (10)	1.25 (32)	1.63 (42)	.53 (14)	1.06 (27)
Q	R	S	T	T ₁
.37 (10)	2.40 (61)	.34 (9)	2.13 (54)	3.50 (89)
U	U ₁			
1.75 (44)	3.00 (76)			

Inches (mm)

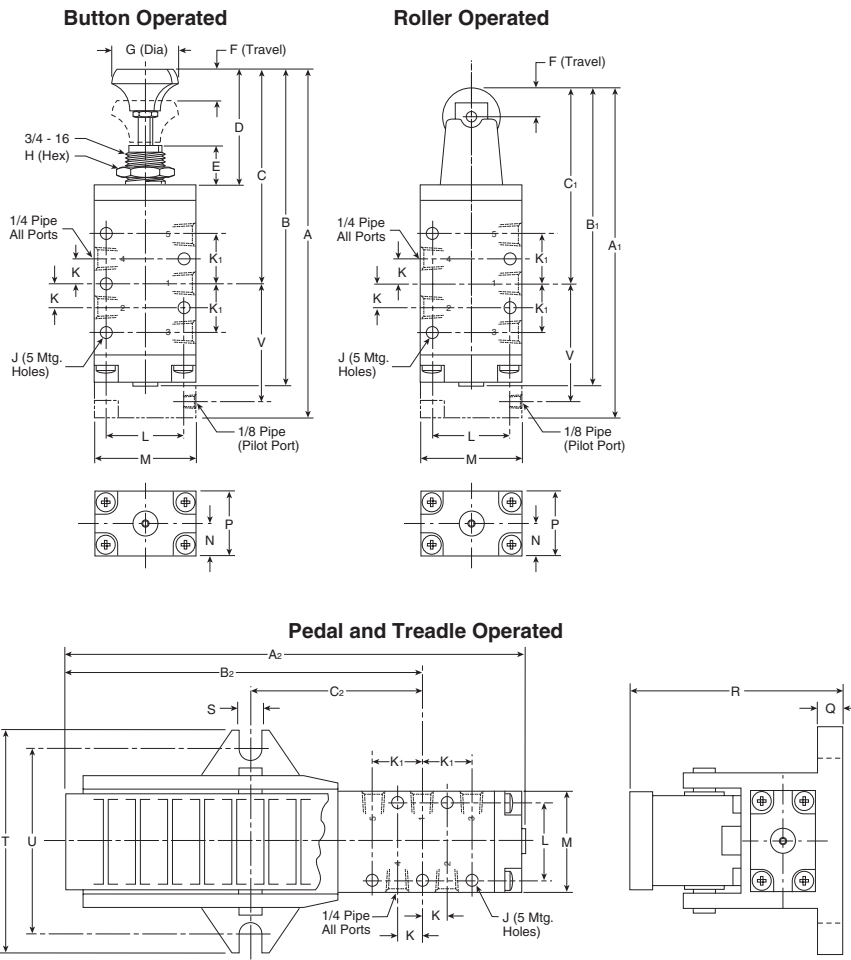


CAUTION:

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.

Directair 2,
 Directair 4
 Viking Xtreme
 Lever Series
 42 Lever /
 Pedal Series
 M0
 Series
 LV-EZ Series
 Lockout Valves
 Brass Poppet /
 Sliding Seal
D
 Manual / Mechanical
 Valve Products

Button, Roller, Pedal & Treadle, Lever Operated — 4-Way, 5-Port, 2-Position



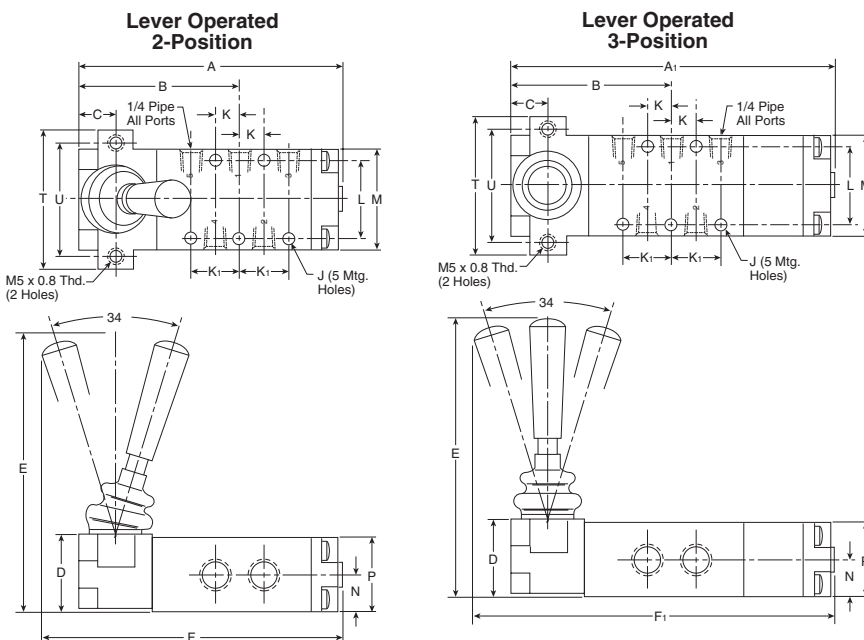
4-Way, 5-Port, 2-Position

A	A₁	A₂	B	B₁
5.75 (146)	5.13 (130)	7.41 (189)	5.28 (134)	4.66 (118)
B₂	C	C₁	C₂	D
5.63 (143)	3.50 (89)	2.88 (73)	2.64 (67)	2.00 (51)
E	F	G	H	J
.63 (16)	.32 (8)	1.05 (27)	1.00 (25)	.19 (5)
K	K₁	L	M	N
.44 (11)	.84 (21)	1.25 (32)	1.63 (41)	.53 (14)
P	Q	R	S	T
1.06 (27)	.37 (10)	2.40 (61)	.34 (9)	3.50 (89)
U	V			
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

A	A₁	B	C	D
4.19 (106)	5.09 (129)	2.41 (61)	.53 (14)	1.12 (28)
E	F	F₁	J	K
4.06 (103)	4.78 (121)	5.78 (147)	.19 (5)	.44 (11)
K₁	L	M	N	P
.84 (21)	1.25 (32)	1.63 (42)	.53 (14)	1.06 (27)
T	U			
2.13 (54)	1.75 (44)			

Inches (mm)



Directair 2,
 Directair 4

Viking Xtreme
 Lever Series

42 Lever/
 Pedal Series

M0
 Series

LV-EZ Series
 Lockout Valves

Brass Poppet/
 Sliding Seal

D
 Manual / Mechanical
 Valve Products

Viking Xtreme Lever Operated Series

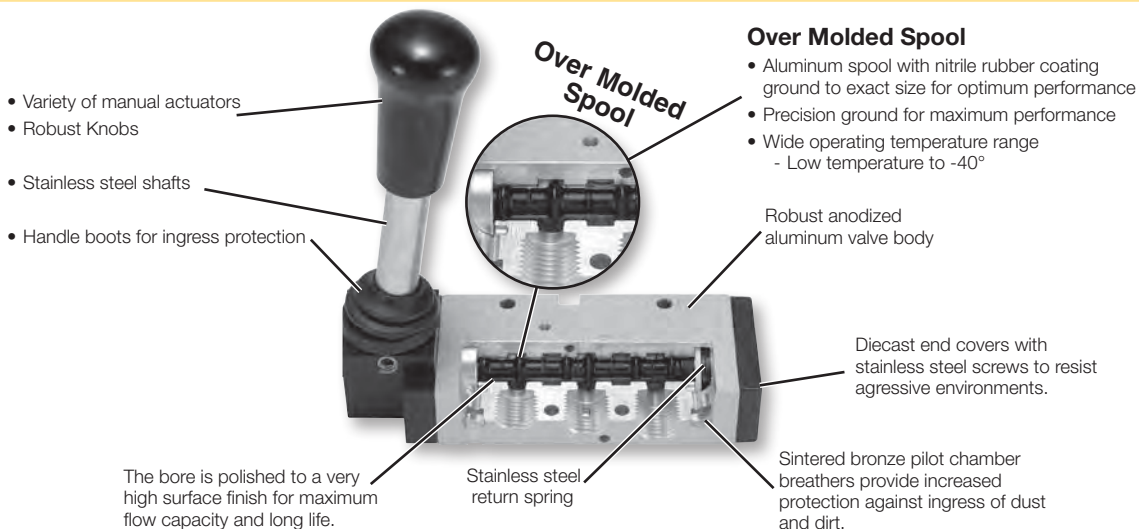
The Viking Xtreme Manual valve range is robust, versatile and combines high performance with compact installation dimensions. The valves rugged lever actuator has been specifically designed for gloved hands to suit mobile applications in the most arduous of environments. Available in 3/2, 5/2 and 5/3 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
- **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.

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

Features



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)

**Lever Handle –
 1/8" valve size,
 5/2 & 5/3 only**


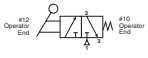

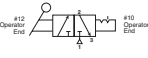

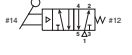

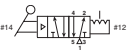

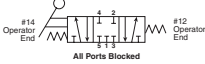

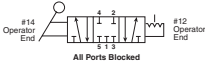






**Twist Handle –
 1/4" valve sizes**



**Lever Handle –
 All other valve
 sizes**



3/2 - 2-position	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
		Lever spring return	1/8	0.6	0.73 (0.33)	P2LAX391VS	P2LAX311VS
			1/4	1.5	0.73 (0.33)	P2LBX392VS	P2LBX312VS
			3/8	2.5	0.88 (0.40)	P2LCX393VS	P2LCX313VS
			1/2	2.7	1.32 (0.60)	P2LDX394VS	P2LDX314VS
		Lever detent	1/8	0.7	0.73 (0.33)	P2LAX391VV	P2LAX311VV
			1/4	1.3	0.73 (0.33)	P2LBX392VV	P2LBX312VV
			3/8	2.5	0.88 (0.40)	P2LCX393VV	P2LCX313VV
			1/2	2.7	1.32 (0.60)	P2LDX394VV	P2LDX314VV
5/2 - 2-position	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
		Lever spring return	1/8	0.6	0.40 (0.18)	P2LAX591VS	P2LAX511VS
			1/4	1.5	0.73 (0.33)	P2LBX592VS	P2LBX512VS
			3/8	2.5	0.88 (0.40)	P2LCX593VS	P2LCX513VS
			1/2	2.7	1.32 (0.60)	P2LDX594VS	P2LDX514VS
		Lever detent	1/8	0.7	0.40 (0.18)	P2LAX591VV	P2LAX511VV
			1/4	1.3	0.73 (0.33)	P2LBX592VV	P2LBX512VV
			3/8	2.5	0.88 (0.40)	P2LCX593VV	P2LCX513VV
			1/2	2.7	1.32 (0.60)	P2LDX594VV	P2LDX514VV
5/3 - 3-position, all ports blocked	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
		Lever spring center	1/8	0.6	0.40 (0.18)	P2LAX69111	P2LAX61111
			1/4	1.5	0.73 (0.33)	P2LBX69211	P2LBX61211
			3/8	2.5	1.56 (0.71)	P2LCX69311	P2LCX61311
			1/2	2.7	1.61 (0.73)	P2LDX69411	P2LDX61411
		Lever detent	1/8	0.7	0.40 (0.18)	P2LAX69122	P2LAX61122
			1/4	1.3	0.73 (0.33)	P2LBX69222	P2LBX61222
			3/8	2.5	1.56 (0.71)	P2LCX69322	P2LCX61322
			1/2	2.7	1.61 (0.73)	P2LDX69422	P2LDX61422
5/3 - 3-position, pressure center	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
		Lever spring center	1/8	0.6	0.40 (0.18)	P2LAX79111	P2LAX71111
			1/4	1.5	0.73 (0.33)	P2LBX79211	P2LBX71211
			3/8	2.5	1.56 (0.71)	P2LCX79311	P2LCX71311
			1/2	2.7	1.61 (0.73)	P2LDX79411	P2LDX71411
		Lever detent	1/8	0.7	0.40 (0.18)	P2LAX79122	P2LAX71122
			1/4	1.3	0.73 (0.33)	P2LBX79222	P2LBX71222
			3/8	2.5	1.56 (0.71)	P2LCX79322	P2LCX71322
			1/2	2.7	1.61 (0.73)	P2LDX79422	P2LDX71422

Directair 2,
Directair 4

Viking Xtreme
Lever Series


42 Lever /
Pedal Series

M0
Series

LV-EZ Series
Lockout Valves

Brass Poppet /
Sliding Seal

D
Manual / Mechanical
Valve Products

 Most popular.



	5/3 - 3-position, center exhaust	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
Directair 2, Directair 4			Lever spring center	1/8	0.6	0.40 (0.18)	P2LAX89111	P2LAX81111
				1/4	1.5	0.73 (0.33)	P2LBX89211	P2LBX81211
				3/8	2.5	1.56 (0.71)	P2LCX89311	P2LCX81311
				1/2	2.7	1.61 (0.73)	P2LDX89411	P2LDX81411
Viking Xtreme Lever Series			Lever detent	1/8	0.7	0.40 (0.18)	P2LAX89122	P2LAX81122
				1/4	1.3	0.73 (0.33)	P2LBX89222	P2LBX81222
				3/8	2.5	1.56 (0.71)	P2LCX89322	P2LCX81322
				1/2	2.7	1.61 (0.73)	P2LDX89422	P2LDX81422
4/2 Lever / Pedal Series	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)	P2LBX392JJ	P2LBX312JJ	
Series M0	5/2 - 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)	P2LBX592JJ	P2LBX512JJ	

Manual Operated Valves

Vacuum to 232 PSIG (Vacuum to 16 bar) -40°F to 158°F (-40°C to 70°C)

P2L A X 5 91 VS

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

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

Actuator / return	
JJ*	Twist handle detent, 2-position
VS	Spring return lever, 2-position, 90° to ports
VV	Lever, detent, 2-position, 90° to ports
11	Spring centered lever, 3-position, 90° to ports
22	Lever, detent, 3-position, 90° to ports

* Not available with 3-position valves. Available Size B only.

Main port thread	
11	G1/8 (P2LA)
12	G1/4 (P2LB)
13	G3/8 (P2LC)
14	G1/2 (P2LD)
91	1/8" NPT (P2LA)
92	1/4" NPT (P2LB)
93	3/8" NPT (P2LC)
94	1/2" NPT (P2LD)

NOTE: For ATEX certified remote air pilot valves, build the valve part number from the model number index for remote pilot and add "-EX" following the number.

Example: P2LAX591VS-EX

Most popular.

Exhaust Mufflers

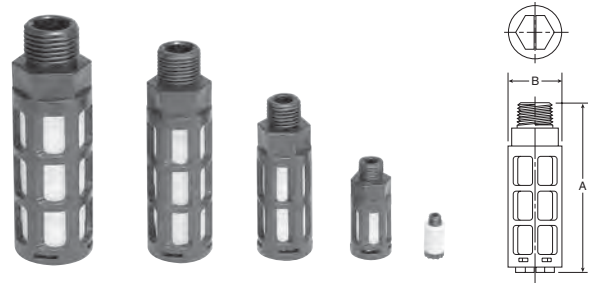
Pipe thread	Part number
M5	P6M-PAC5
1/8" NPT	EM12
1/4" NPT	EM25
3/8" NPT	EM37
1/2" NPT	EM50

P6M - Plastic; EM - Sintered bronze

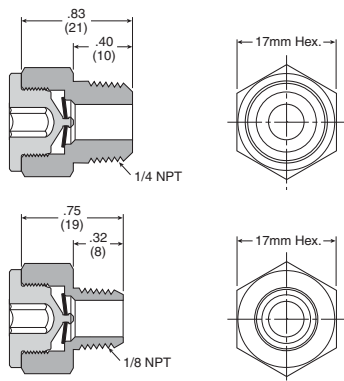


Plastic Silencers

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



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.

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
E90016	1/8"	40.1	56.5	75.5
E90017	1/4"	44.6	62.7	83.5

Directair 2,
Directair 4

Viking Xtreme
Lever Series

42 Lever /
Pedal Series

M0
Series

LV-EZ Series
Lockout Valves

Brass Poppet /
Sliding Seal

D

Manual / Mechanical
Valve Products

P2LAX 3/2 Hand Lever Operated

P2LAX 5/2 & 5/3 Hand Lever Operated

Directair 2,
Directair 4

Viking Xtreme
Lever Series

42 Lever /
Pedal Series

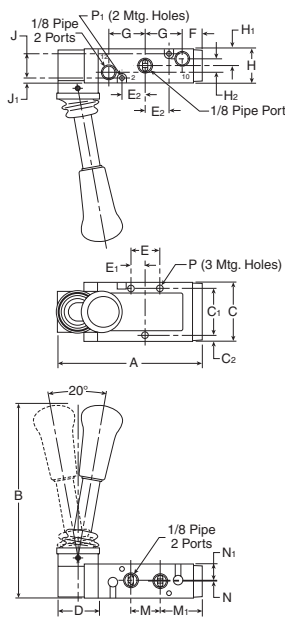
Series M0

LV-EZ Series
Lockout Valves

Brass Poppet /
Sliding Seal

D

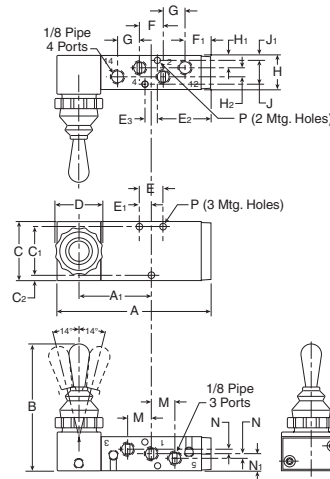
Manual / Mechanical
Valve Products



**P2LAX 3/2
(hand lever)**

A	B	C
3.88 (99)	5.23 (133)	1.57 (40)
C ₁	C ₂	D
1.26 (32)	.16 (4)	1.06 (27)
E	E ₁	E ₂
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22)
H ₁	H ₂	J
.42 (10.6)	.02 (0.5)	.65 (16.5)
J ₁	M	M ₁
.11 (2.9)	.79 (20)	1.14 (29)
N	N ₁	P
.18 (4.5)	.26 (6.6)	∅ .17 (∅ 4.3)
P ₁	∅ .12 (∅ 3.1)	

Inches (mm)



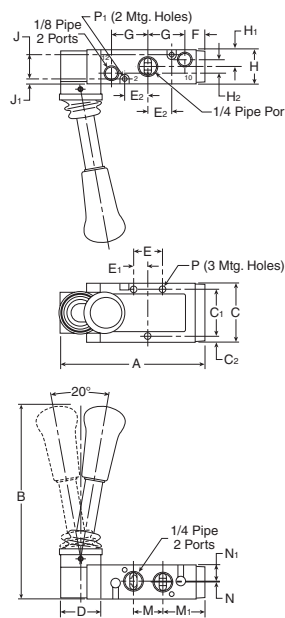
**P2LAX 5/2 & 5/3
(hand lever)**

A	A ₁	B
4.02 (102)	1.89 (48)	3.23 (82)
C	C ₁	C ₂
1.57 (40)	1.30 (33)	.14 (3.5)
D	E ₂	E ₃
1.18 (30)	1.42 (36)	.33 (8.5)
F	F ₁	G
.63 (16)	.67 (17)	.59 (15)
H	H ₁	H ₂
.87 (22)	.31 (8)	.24 (6)
J	J ₁	M
.63 (16)	.12 (3)	.63 (16)
N	N ₁	P
.12 (3)	.43 (11)	∅ .16 (∅ 4.1)

Inches (mm)

P2LBX 3/2 Hand Lever Operated

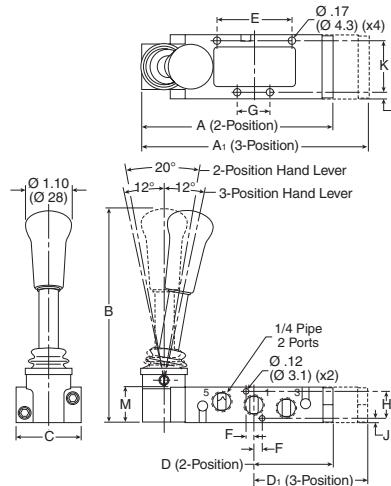
P2LBX 5/2 & 5/3 Hand Lever Operated



**P2LBX 3/2
(hand lever)**

A	B	C
3.88 (99)	5.23 (133)	1.57 (40)
C ₁	C ₂	D
1.26 (32)	.16 (4)	1.06 (27)
E	E ₁	E ₂
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22)
H ₁	H ₂	J
.42 (10.6)	.02 (0.5)	.65 (16.5)
J ₁	M	M ₁
.11 (2.9)	.79 (20)	1.14 (29)
N	N ₁	P
.18 (4.5)	.26 (6.6)	∅ .17 (∅ 4.3)
P ₁	∅ .12 (∅ 3.1)	

Inches (mm)

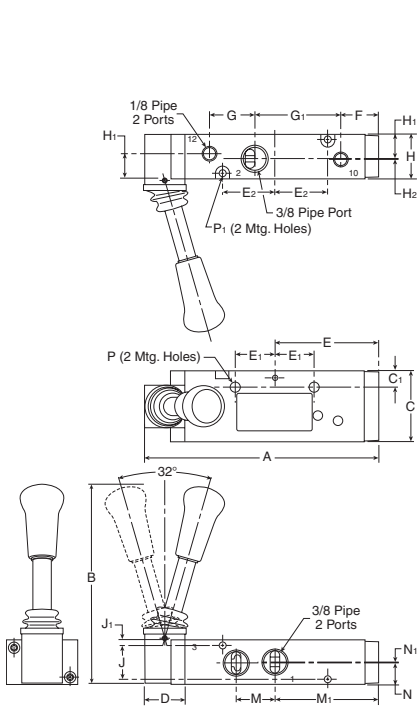


**P2LBX 5/2 & 5/3
(hand lever)**

A	A ₁	B	
4.67 (118.5)	5.51 (140)	5.19 (131.8)	
C	D	D ₁	
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)

P2LCX 3/2 Hand Lever Operated

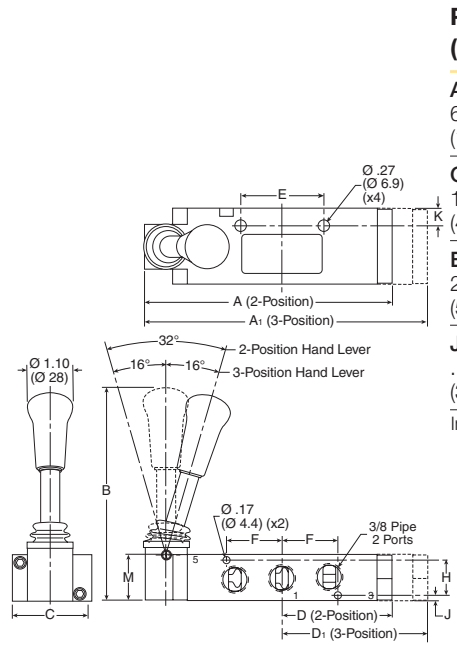


P2LCX 3/2 (hand lever)

A	B	C
6.20 (158)	5.36 (136)	1.89 (48)
C ₁	D	E
.43 (11)	1.06 (27)	2.76 (70)
E ₁	E ₂	F
1.04 (27)	1.40 (36)	1.02 (26)
G	G ₁	H
1.22 (31)	2.24 (57)	1.18 (30)
H ₁	H ₂	J
.67 (17)	.02 (0.5)	.91 (23)
J ₁	M	M ₁
.14 (3.5)	1.18 (30)	2.76 (70)
N	N ₁	P
.59 (15)	.04 (1)	Ø .27 (Ø 6.9)
P ₁	Ø .17 (Ø 4.4)	

Inches (mm)

P2LCX 5/2 & 5/3 Hand Lever Operated

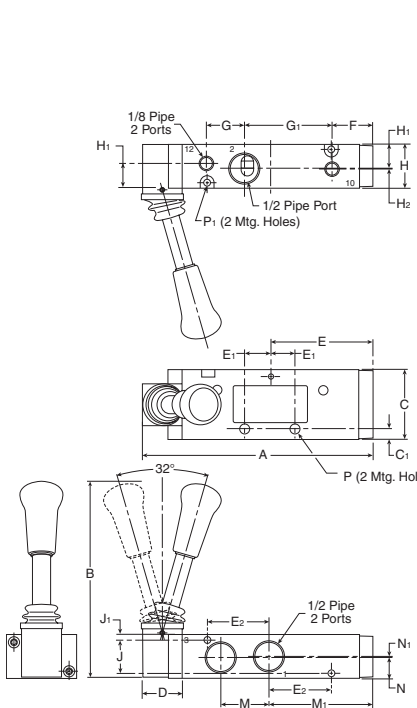


P2LCX 5/2 & 5/3 (hand lever)

A	A ₁	B
6.20 (157.5)	7.07 (179.5)	5.36 (136.3)
C	D	D ₁
1.89 (48)	2.76 (70)	3.19 (81)
E	F	H
2.09 (53)	1.40 (35.5)	.91 (23)
J	K	M
.14 (3.5)	.43 (11)	1.18 (30)

Inches (mm)

P2LDX 3/2 Hand Lever Operated

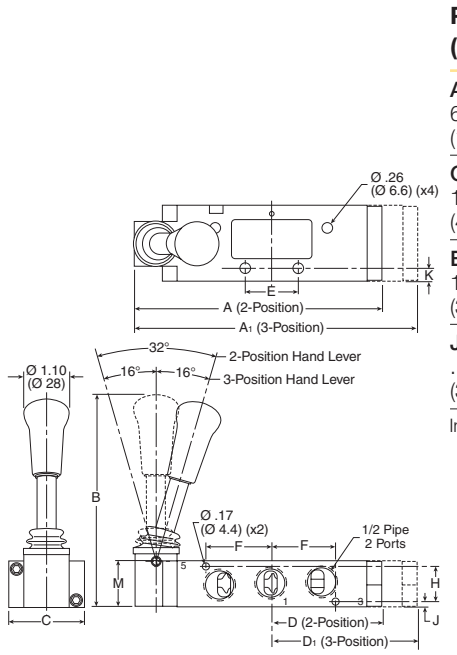


P2LDX 3/2 (hand lever)

A	B	C
6.20 (158)	5.36 (136)	1.89 (48)
C ₁	D	E
.30 (7.5)	1.06 (27)	2.76 (70)
E ₁	E ₂	F
.67 (17)	1.65 (42)	1.08 (28)
G	G ₁	H
.98 (25)	2.36 (60)	1.18 (30)
H ₁	H ₂	J
.67 (17)	.02 (0.5)	.91 (23)
J ₁	M	M ₁
.14 (3.5)	1.30 (33)	2.76 (70)
N	N ₁	P
.59 (15)	.04 (1)	Ø .26 (Ø 6.6)
P ₁	Ø .17 (Ø 4.4)	

Inches (mm)

P2LDX 5/2 & 5/3 Hand Lever Operated



P2LDX 5/2 & 5/3 (hand lever)

A	A ₁	B
6.20 (157.5)	7.07 (179.5)	5.36 (136.3)
C	D	D ₁
1.89 (48)	3.19 (81)	2.76 (70)
E	F	H
1.34 (34)	1.65 (42)	.91 (23)
J	K	M
.14 (3.5)	.30 (7.5)	1.18 (30)

Inches (mm)



Directair 2,
 Directair 4
 Viking Xtreme
 Lever Series
 42 Lever /
 Pedal Series
 M0
 Series
 LV-EZ Series
 Lockout Valves
 Brass Poppet /
 Sliding Seal
D
 Manual / Mechanical
 Valve Products

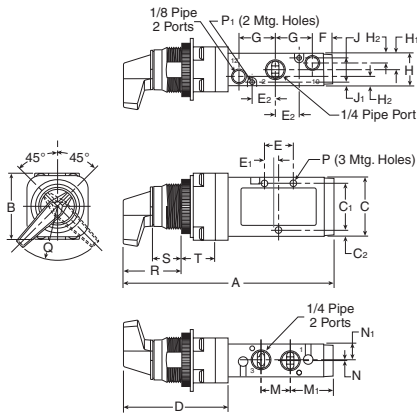
P2LBX 3/2 Twist Lever Operated

P2LBX 5/2 Twist Lever Operated

Directair 2,
 Directair 4
 Viking Xtreme
 Lever Series
 4/2 Lever /
 Pedal Series
 M0
 Series
 LV-EZ Series
 Lockout Valves
 Brass Poppet /
 Sliding Seal
D
 Manual / Mechanical
 Valve Products

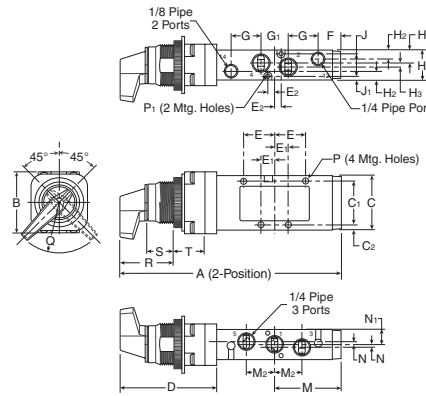
**P2LBX 3/2
 (hand lever)**

**P2LBX 5/2
 (hand lever)**



A	B	C
5.67 (144)	1.79 (45.5)	1.57 (40)
C ₁	C ₂	D
1.26 (32)	.16 (4)	2.87 (73)
E	E ₁	E ₂
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22.2)
H ₁	H ₂	J
.44 (11.1)	.26 (6.6)	.65 (16.5)
J ₁	M	M ₁
.11 (2.9)	.79 (20)	1.14 (29)
N	N ₁	P
.02 (0.5)	.42 (10.6)	∅ .17 ∅ (4.3)
P ₁	Q	R
∅ .12 ∅ (3.1)	1.5R (38.1)R	1.85 (47)
S	T	
1.10 (28)	.67 (17)	

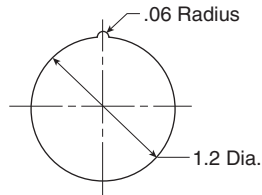
Inches (mm)



A	B	C
6.46 (164)	1.79 (45.5)	1.57 (40)
C ₁	C ₂	D
1.26 (32)	.15 (4)	2.87 (73)
E	E ₁	E ₂
.91 (23)	.39 (10)	.20 (5)
F	G	G ₁
.67 (17)	.87 (22)	.79 (20)
H	H ₁	H ₂
.87 (22.2)	.44 (11.1)	.26 (6.6)
H ₃	J	J ₁
.12 (3)	.65 (16.5)	.11 (2.9)
M	N	N ₁
1.93 (49)	.08 (0.2)	.44 (11.1)
P	P ₁	Q
∅ .17 ∅ (4.3)	∅ .12 ∅ (3.1)	1.5R (38.1)R
R	S	T
1.85 (47)	1.10 (28)	.67 (17)

Inches (mm)

Panel Cutout Detail (All Port Sizes)



42 Lever / Pedal Series

Features

Heavy duty lever

- Parallel mount handle
- Perpendicular mount handle

Heavy duty foot pedal

2 port sizes

- 1/4" port – 1.3 to 2.2 Cv
- 3/8" port – 1.3 to 2.9 Cv

2-position and 3-position valves



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
		1/4"	2.2	Inline, parallel	2-position, spring return	422CS011K
		3/8"	2.9	Inline, parallel	2-position, spring return	422CS021K
		1/4"	2.2	Inline, parallel	2-position, detent	422CS011W
		3/8"	2.9	Inline, parallel	2-position, detent	422CS021W
		1/4"	2.2	Inline, perpendicular	2-position, spring return	422CR011K
		3/8"	2.9	Inline, perpendicular	2-position, spring return	422CR021K
		1/4"	2.2	Inline, perpendicular	2-position, detent	422CR011W
		3/8"	2.9	Inline, perpendicular	2-position, detent	422CR021W

Lever Valve - 3-Position

	Symbol	Port size	Cv	Description	Valve type	Part number
		1/4"	1.3	Inline, parallel	3-position APB	422CS013W
		3/8"	1.3	Inline, parallel	3-position, APB	422CS023W
		1/4"	1.3	Inline, parallel	3-position, CE	422CS014W
		3/8"	1.3	Inline, parallel	3-position, CE	422CS024W
		1/4"	1.3	Inline, perpendicular	3-position, APB	422CR013W
		3/8"	1.3	Inline, perpendicular	3-position, APB	422CR023W
		1/4"	1.3	Inline, perpendicular	3-position, CE	422CR014W
		3/8"	1.3	Inline, perpendicular	3-position, CE	422CR024W

Foot Pedal Valve - 2-Position

	Symbol	Port size	Cv	Description	Valve type	Part number
		1/4"	2.2	Foot pedal	2-position, spring return	422CT011K
		3/8"	2.9	Foot pedal	2-position, spring return	422CT021K
				Foot pedal guard		PS2043P



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.

Valve body service kits, single pressure

2-position valve	PS2038P
3-position valve	PS2041P

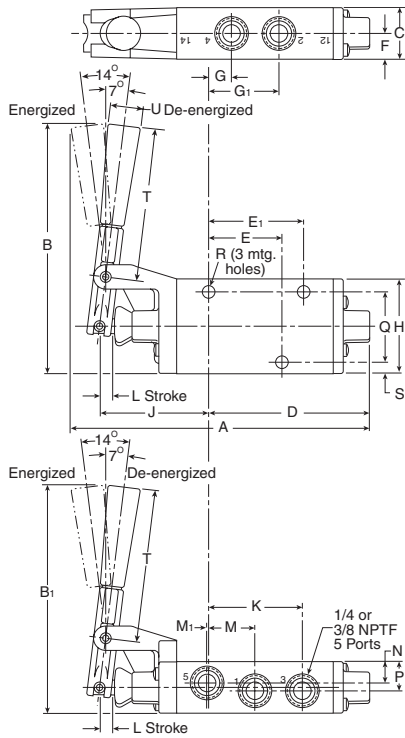
Kit includes: all soft seals and spool.

Most popular.

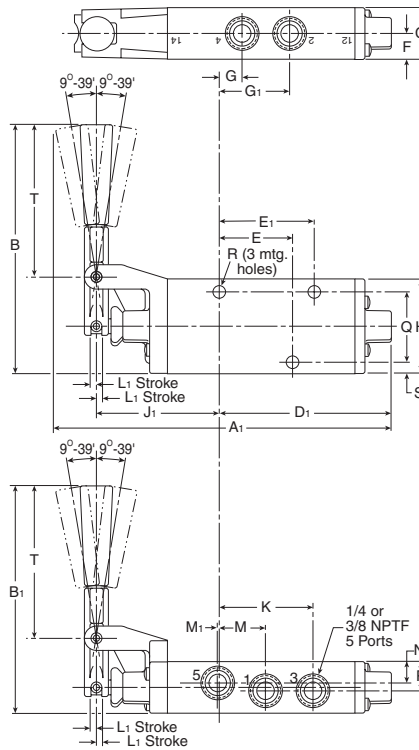


Directair 2,
 Directair 4
 Viking Xtreme
 Lever Series
 42 Lever /
 Pedal Series
 M0
 Series
 LV-EZ Series
 Lockout Valves
 Brass Poppet /
 Sliding Seal
D
 Manual / Mechanical
 Valve Products

2-Position



3-Position



Lever Valve

A	A ₁	B	B ₁	C		
6.70 (170)	7.58 (193)	5.55 (141)	5.05 (128)	1.15 (29)		
D	D ₁	E	E ₁	F		
3.59 (91)	3.83 (97)	1.58 (40)	2.06 (52)	.57 (14)		
G NPT	G ₁ NPT	H				
1/4" .51 (13) 3/8" .55 (14)	1/4" 1.56 (40) 3/8" 1.51 (38)	2.13 (54)				
J	J ₁	K NPT	L			
2.44 (62)	2.80 (71)	1/4" 2.08 (53) 3/8" 2.13 (54)	.25 (6)			
L ₁	M	M ₁ NPT	N			
.18 (5)	1.03 (36)	1/4" .02 (.5) 3/8" .06 (2)	.50 (13)			
P	Q	R	S	T		
.65 (17)	1.58 (40)	.33 (8)	.27 (7)	3.42 (87)		

U Dia

.75
(19)

Inches (mm)

Foot Pedal Valve

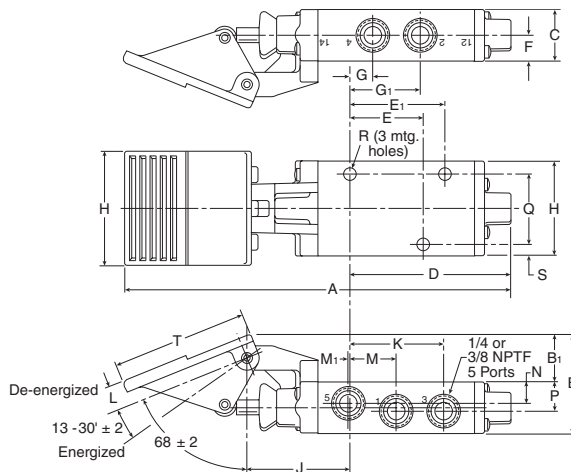
A	B	B ₁	C	D	
8.64 (220)	2.18 (55)	1.03 (26)	1.15 (29)	3.59 (91)	
E	E ₁	F	G NPT		
1.58 (40)	2.06 (52)	.57 (14)	1/4" .51 (13) 3/8" .55 (14)		
G ₁ NPT	H	H ₁	J		
1/4" 1.56 (40) 3/8" 1.51 (38)	2.13 (54)	2.50 (64)	2.32 (59)		
K NPT	L	M			
1/4" 2.08 (53) 3/8" 2.13 (54)	.60 (15)	1.03 (26)			
M ₁ NPT	N	P	Q		
1/4" .02 (.5) 3/8" .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

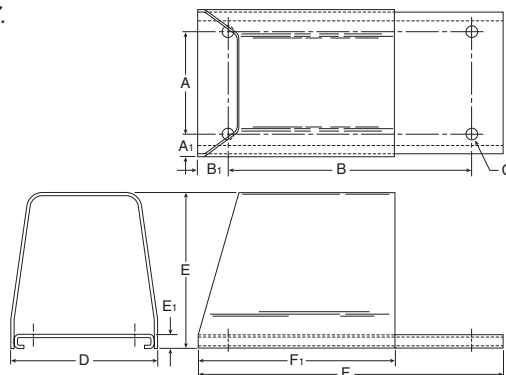
A	A ₁	B	B ₁	C
4.50 (114)	.75 (19)	10.50 (267)	1.25 (32)	.48 (11)
D	E	E ₁	F	F ₁
6.00 (152)	7.13 (181)	.50 (13)	13.00 (330)	8.38 (213)

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.*



M0 Series

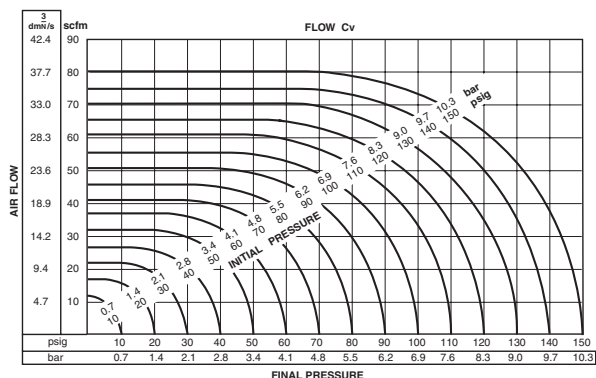
Features

- 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	—	—
	3/4	9.5	—	9.8	—	—
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.









M0 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	
Directair 2, Directair 4		 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	
Viking Xtreme Lever Series		 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	
	4/2 Lever / Pedal Series		 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		
M0 Series		 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		
LV-EZ Series Lockout Valves		 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	
Brass Poppet / Sliding Seal		 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	
		 4-way, manual, foot bracket	M08524643	M08534643	M08544643	M08564643	

 Most popular.















M0 Series Air Pilot, Manual & Mechanically Actuated Valves

3-way and 4-way, foot operated: treadle / pedal type	Description	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, pedel operated, foot bracket	M06221840	M06231840	M06241840	—
	 4-way, treadle operated, denent ball, foot bracket	M05425488	M05435488	M05445488	—
	 4-way, treadle operated, manual return, foot bracket	M08524688	M08534688	M08544688	—
	 4-way, spring return, pedel 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

Directair 2,
Directair 4

Viking Xtreme
Lever Series

42 Lever/
Pedal Series

M0
Series

LV-EZ Series
Lockout Valves

Brass Poppet/
Sliding Seal

D

Manual / Mechanical
Valve Products

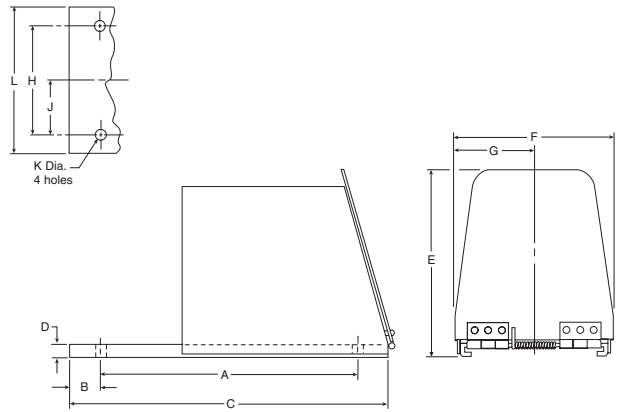
Pedal Guard
(Fits all pedal operated valves)

Description	Model number
Guard with door	M232001
Guard without door	M232002
Guard with door for 1/4 and 3/8 valve	M232003*
Guard without door for 1/4 and 3/8 valve	M232004*
Guard with door for 1/2 and 3/4	M232005*
Guard without door for 1/2 and 3/4	M232006*

* 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			

Service Kits

(Field service instructions)

Description (For all 3 & 4-way valves)	1/4	3/8	1/2	3/4
Manual & mechanical operators	M242001	M242002	M242003	M242004
Cylinder (single, double & double-acting)	M242006	M242007	M242008	M242009
Diaphragm (single & double)	M242011	M242012	M242013	M242014

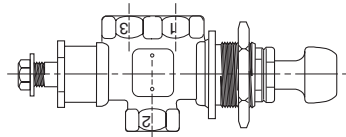
M0 valve 9 digit part number dissection

The M0 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

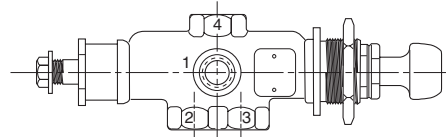
Series name	Left end	Port size	Body function	Right end
M0	XX	X	XX	XX



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
M0	XX	X	XX	XX



Left End Section in relation to port #2 ← → Right End Section in relation to port #3

Directair 2, Directair 4
 Viking Xtreme Lever Series
 42 Lever / Pedal Series
 M0 Series
 LV-EZ Series Lockout Valves
 Brass Poppet / Sliding Seal
 Manual / Mechanical Valve Products

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

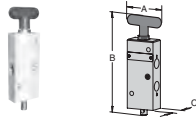


Material specifications

Description	LV / EZ	LVSS
Body:	Cast aluminum alloy	Stainless steel
Handle:	Plastic	Stainless steel
Spool:	Aluminum	Stainless steel
Seals:	Carboxylated nitrile	Carboxylated nitrile
Detent spring:	Stainless steel	Stainless steel
Grease:	Magnalube G [†]	Magnalube G [†]

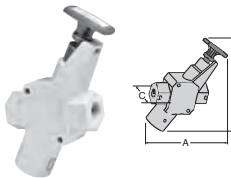
[†] Trademark Magnalube

Compact



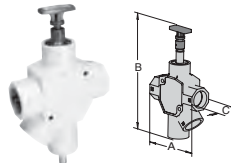
Port in/out	Port exhaust	SCFM in/out	SCFM exhaust	A (in)	B (in)	C (in)	Wt (lb)	Part number *
1/4	3/8	41.8	40.7	2.3	6.5	1.0	0.9	LV2N3B
3/8	3/8	60.7	60.7	2.3	6.5	1.0	0.9	LV3N3B

Standard



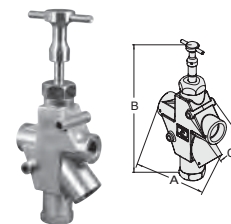
Port in/out	Port exhaust	SCFM in/out	SCFM exhaust	A (in)	B (in)	C (in)	Wt (lb)	Part number *
3/8	3/4	107.7	81.1	6.4	8.8	2.0	2.0	LV3N6B
1/2	3/4	161.4	90.9	6.4	8.8	2.0	2.0	LV4N6B
3/4	3/4	187.7	93.2	6.4	8.8	2.0	2.0	LV6N6B
3/4	1-1/4	297.7	204	7.6	10.6	2.3	3.2	LV6NAB
1	1-1/4	375	216	7.6	10.6	2.3	3.2	LV8NAB
1-1/4	1-1/4	436.4	221	7.6	10.6	2.3	3.2	LVANAB

High Flow



Port in/out	Port exhaust	SCFM in/out	SCFM exhaust	A (in)	B (in)	C (in)	Wt (lb)	Part number *
1-1/2	2	761.4	1156	8.2	14.9	3.0	8.2	LVBNCB
2	2	918.2	1186	8.2	14.9	3.0	8.2	LVCNCB

Stainless Steel



Port in/out	Port exhaust	SCFM in/out	SCFM exhaust	A (in)	B (in)	C (in)	Wt (lb)	Part number *
1/4	1/4	48.6	47.2	3.5	8.6	2.1	3.8	LV2N2BSS
3/8	1/2	131.6	142	4.3	10.5	1.8	6.0	LV3N4BSS
1/2	1/2	124.8	142	4.3	10.5	1.8	6.0	LV4N4BSS
3/4	1	325	386	6.0	14.1	2.5	13	LV6N8BSS
1	1	325	386	6.0	14.1	2.5	13	LV8N8BSS
1-1/2	2	889	1023	8.2	18.5	4.0	35	LVBNCBSS
2	2	889	1023	8.2	18.5	4.0	35	LVCNCBSS

* For BSPP ports, change 4th digit from "N" to "B"

Most popular.

Operating information

Operating pressure:	LV	EZ	LVSS
Compact	15 to 145 PSIG	–	–
Standard	15 to 300 PSIG	15 to 300 PSIG	15 to 300 PSIG
High flow	15 to 300 PSIG	–	–
Operating temperature:	40°F to 175°F	40°F to 175°F	30°F to 175°F
Operating media:	Clean, dry, compressed air (5 micron)		

Directair 2,
Directair 4

Viking Xtreme
Lever Series

42 Lever /
Pedal Series

M0
Series

LV-EZ Series
Lockout Valves

Brass Poppet /
Sliding Seal

D

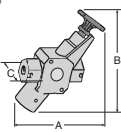
Manual / Mechanical
Valve Products

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.



EZ Series



Port in/out	Port exhaust	SCFM in/out	SCFM exhaust	A (in)	B (in)	C (in)	Wt (lb)	Part Number *
3/8	3/4	136.4	181	6.4	8.8	2.0	2.1	EZ03NB6
1/2	3/4	161.4	189	6.4	8.8	2.0	2.1	EZ04NB6
3/4	3/4	181.9	216	6.4	8.8	2.0	2.1	EZ06NB6
3/4	1-1/4	272.7	248	7.7	10.8	2.3	3.2	EZ06NBA
1	1-1/4	311.4	273	7.7	10.8	2.3	3.2	EZ08NBA
1-1/4	1-1/4	368.2	291	7.7	10.8	2.3	3.2	EZ0ANBA

* For BSPP ports, change 5th digit from "N" to "B"

LV / EZ Accessories

High Flow Silencers

Pipe size	Part number NPT	Part number BSPT
3/8	ES37MC	ESB37MC
3/4	ES75MC	ESB75MC
1-1/4	ES125MC	ESB125MC
2	ES200MC	ESB200MC

Stainless Steel Mufflers

Pipe size	Part number NPT
1/4	5500A2004
1/2	5500A4004
1	5500A6004
2	5500A9004 **

** Nickel Plated

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 pressure point

☐ Most popular.

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)

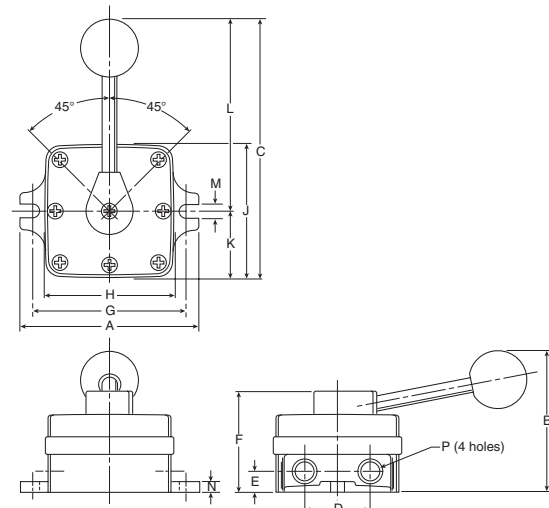
Lubrication: Filtered and lubricated air recommended for maximum valve life and minimum maintenance.

PL-VL Series Valves

Symbol	Port Size	Description	Cv	Part number
	1/4" NPT	4-way, 3-position, detent, closed center	2.5	PL25
	3/8" NPT	4-way, 3-position, detent, closed center	3.0	PL37
	1/2" NPT	4-way, 3-position, detent, closed center	6.2	PL50
	1/4" NPT	4-way, 3-position, detent, exhaust center	2.5	VL25
	3/8" NPT	4-way, 3-position, detent, exhaust center	3.0	VL37
	1/2" NPT	4-way, 3-position, detent, exhaust center	6.2	VL50

Service kits

Description	Valve size	Part number
Lever assembly service kits	PL25, PL25HP, PL37, PL37HP, VL25, & VL37	PL2425BP
	PL50, PL50HP & VL50	PL2424BP
Body gasket	PL25, PL25HP, PL37, PL37HP, VL25, & VL37	P66837
	PL50, PL50HP & VL50	P66829



PL-VL Dimensions

	A	B	C	D	E	F	G	H	J	K	L	M	N	P
PL-25	4.75	3.81	6.81	1.69	.56	2.75	4.12	3.50	3.50	1.69	5.06	.34	.28	1/4
VL-25	(121)	(97)	(173)	(43)	(14)	(70)	(105)	(89)	(89)	(43)	(129)	(9)	(7)	NPT
PL-37	4.75	3.81	6.81	1.69	.56	.56	4.12	3.50	3.50	1.69	5.06	.34	.28	3/8
VL-37	(121)	(97)	(173)	(43)	(14)	(14)	(105)	(89)	(89)	(43)	(129)	(9)	(7)	NPT
PL-50	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
VL-50	(143)	(113)	(227)	(54)	(17)	(83)	(127)	(111)	(111)	(54)	(171)	(9)	(9)	NPT

inches (mm)

Most popular.

Directair 2,
Directair 4

Viking Xtreme
Lever Series

42 Lever/
Pedal Series

M0
Series

LV-EZ Series
Lockout Valves

Brass Poppet/
Sliding Seal

D

Manual / Mechanical
Valve Products

HV Valve Series

Features

- Compact and simple design
- Rotary disc, direct operated valves
- Side porting
- Detent action smooth lever actuation
- General pneumatic applications



Lubrication

Filtered and lubricated air recommended for maximum valve life and minimum maintenance.

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)

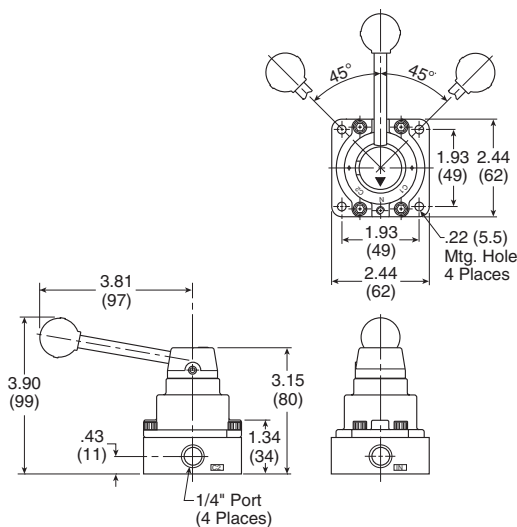
Lubrication: Filtered and lubricated air recommended for maximum valve life and minimum maintenance.

HV Valve Series

Symbol	Port size	Description	Cv (ANSI)	Cv (JIS)	Part number
	1/4" NPT	4-way, 3-position	0.5	0.4	HVN4200-8
	3/8" NPT	4-way, 3-position	1.4	2.72	HVN4400-10
	1/2" NPT	4-way, 3-position	1.5	3.26	HVN4400-15

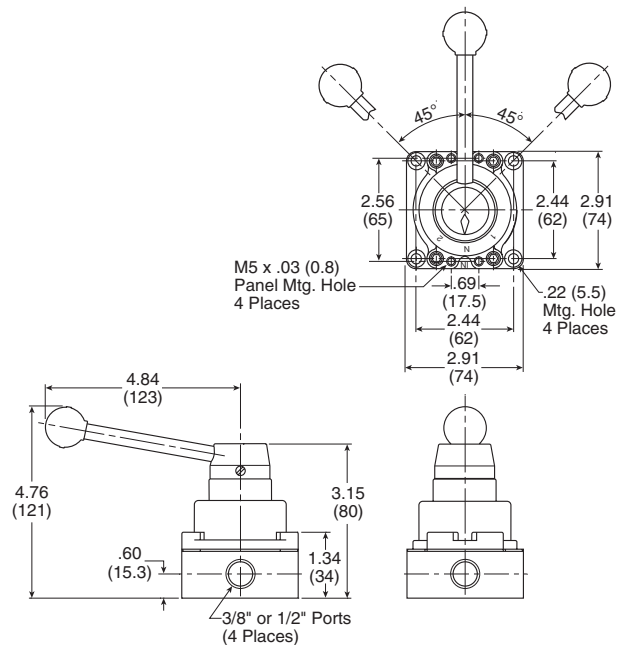
Service kits

Description	Valve size	Part number
Disk & seal service kits	HV4200	HVRK420001
	HV4400	HVRK440001



HVN4200-8

Most popular.



HVN4400-10, 15



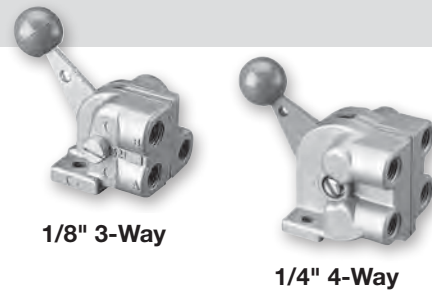
Hand Operated Sliding Seal Valves

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

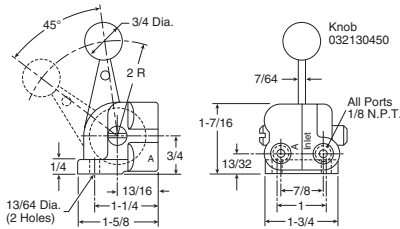
Operating pressure: Max. 200 PSIG air only
 Min. 26" Hg vacuum
 Temperature range: -40°F to 212°F (-40°C to 100°C)
 (If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.)

Hand Operated Sliding Seal Valve

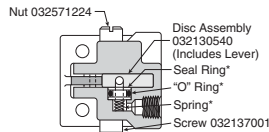
Symbol	Port size	Function	Cv (Avg)	Service kit*	Part number
	1/8"	3-way, 2-position, detented	0.54	032130899	032130599
	1/8"	4-way, 2-position, detented	0.54	032130899	032140299
	1/4"	3-way, 2-position, detented	1.25	008230299	008230109
	1/4"	4-way, 3-position, detented, center blocked	1.25	008230299	008240109

Note: 3-Way exhaust passage is through an untapped hole in bottom side of valve.

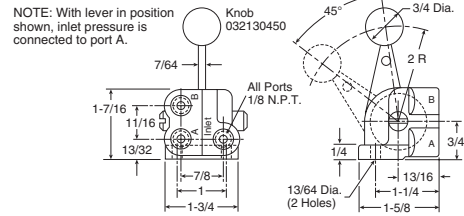
1/8" 3-Way 032130599



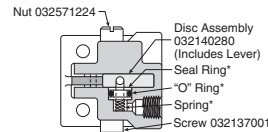
Service Kit 032130899*



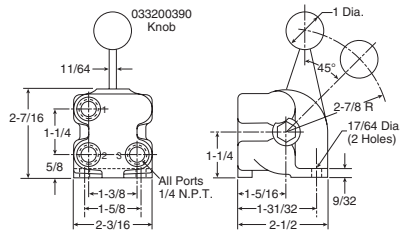
1/8" 4-Way 032140299



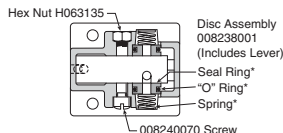
Service Kit 032130899*



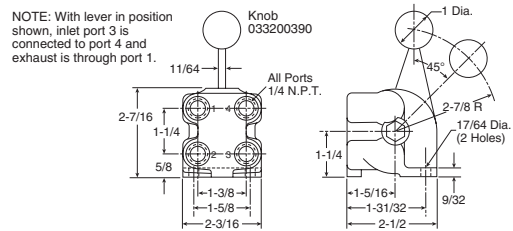
1/4" 3-Way 008230109



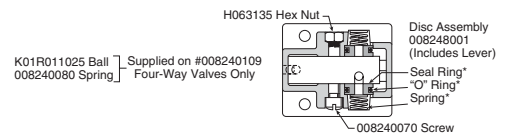
Service Kit 032130899*



1/4" 4-Way 008240109



Service Kit 032130899*



Most popular.

* Service kits contain asterisk items



Directair 2,
Directair 4

Viking Xtreme
Lever Series

42 Lever/
Pedal Series

M0
Series

LV-EZ Series
Lockout Valves

Brass Poppet/
Sliding Seal

D

Manual / Mechanical
Valve Products

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	Spring return	NNP	PXBB3111BA2
	Green			PXBB3111BA3
	Red			PXBB3111BA4
	Black	Spring return	NNP+NP	PXBB3251BA2
	Black	Spring return	Single universal 3-way	PXBB4131BA2
	Green			PXBB4131BA3
	Red			PXBB4131BA4
	Black	Spring return	Dual universal 3-way	PXBB4231BA2

* 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	PXBB3111BC2
	Red	Push-pull		PXBB3111BT4
	Red	Push-pull		NP
	Black	Spring return	Single universal 3-way	PXBB4131BC2
	Red	Push-pull	3-way	PXBB4131BT4

* 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	PXBB3111BD2
	Black		NNP+NP	PXBB3211BD2
	Black		NNP+NP	PXBB3251BD2
	Black	3 maintained positions with std. handle	NNP+NP	PXBB3211BD3
	Black		NNP+NP	PXBB3251BD3
	Black	3 positions, spring return to center with long handle	NNP+NP	PXBB3211BJ5
	Black	2 maintained positions with std. Handle	Single universal 3-way	PXBB4131BD2
	Black	2 maintained positions with std. handle	Dual universal 3-way	PXBB4231BD2
	Black	3 maintained positions with std. handle	Dual universal 3-way	PXBB4231BD3
	Black	3 maintained positions with long handle	Dual universal 3-way	PXBB4231BJ5





* 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.

Control Panel Products
 Sensing / Limit Switches
D
 Accessories Valve Products



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	ZB5AA2	ZB4BA2	
	Green			ZB5AA3	ZB4BA3	
	Red			ZB5AA4	ZB4BA4	
	Yellow			—	ZB4BA5	
	Blue			—	ZB4BA6	
	Black	Spring return	Extended	ZB5AL2	ZB4BL2	
	Green			ZB5AL3	ZB4BL3	
	Red			ZB5AL4	ZB4BL4	
	Yellow			—	ZB4BL5	
	Black	Spring return	Booted	—	ZB4BP2	
	Green			—	ZB4BP3	
	Red			—	ZB4BP4	
	Black	Detent 2 position	Flush	—	ZB4BH02	
	Green			—	ZB4BH03	
	Red			—	ZB4BH04	



* ZB4*** model numbers are metal head operators
 ** ZB5*** model numbers are plastic head operators

Selector Switches

Standard black handle			
Description	Function	Part number*	
Maintained	2 positions	ZB4BD2	
Spring return from right to left		ZB4BD4	
Maintained	3 positions	ZB4BD3	
Spring return to center from left and right		ZB4BD5	
Maintained right spring return from left to center	3 positions	ZB4BD7	
Maintained left spring return from right to center	3 positions	ZB4BD8	
Long Black Handle			
Maintained	2 positions	ZB4BJ2	
Spring return from right to left		ZB4BJ4	
Maintained	3 positions	ZB4BJ3	
Spring return to center from left and right		ZB4BJ5	

* ZB4*** model numbers are metal head operators



Mushroom Head Push Buttons

	Color	Function	Description	Part number*
	Black	Spring return	Ø 40mm head	ZB4BC2
	Green			ZB4BC3
	Red			ZB4BC4
	Black	Latching push-pull	ZB4BT2	
	Black	Spring return	Ø 60mm head	ZB4BR2
	Green			ZB4BR3
	Red			ZB4BR4

* ZB4*** model numbers are metal head operators

For Push Buttons and Visual Indicators

Mounting Ring for Valve Bodies, Switch Bodies and Operating Heads

Description	Part number
 Metal mounting ring	ZB4BZ009
 Plastic mounting ring	ZB5AZ009

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.

Key Operated Selectors

Key withdrawal	Function	Part number*
Left	2 maintained positions	ZB4BG2
Left and right		ZB4BG4
Center	3 maintained positions	ZB4BG3
Left and right		ZB4BG5
Center	3 positions 2 spring return to center	ZB4BG7

* 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	ZB4BS844
Red	Key latching		ZB4BS944

* ZB4**** model numbers are metal head operators

For Use With 2B4* Metal Operating Heads**

3/2 Valve Bodies with Mounting Ring



Connections	Function	Type of switching*	Part number
5/32" Instant	3/2	NNP	PXBB3111B
5/32" Instant	3/2	NP	PXBB3121B
5/32" Instant	3/2	Universal 3-way	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.

Additional Valve Bodies



Connections	Function	Type of switching*	Part number
5/32" instant straight	3/2	NNP	PXBB3911
5/32" instant swivel			PXBB3912
5/32" instant straight	3/2	NP	PXBB3921
5/32" instant swivel			PXBB3922
5/32" instant straight	3/2	Universal	PXBB4931
5/32" instant swivel			3 way

* NNP: Normally non-passing.

For Push Buttons and Visual Indicators

Legend Plates for PXBB Devices (22mm)

Description	Part number		
Without text for customer engraving			
Black / red background (white letters)	ZBY2101		
Yellow / white background (black letters)	ZBY4101		
With text for push buttons			
Start	ZBY2303		
Stop	ZBY2304		
Forward	ZBY2305		
Reverse	ZBY2306		
Up	ZBY2307		
Down	ZBY2308		
Right	ZBY2309		
Left	ZBY2310		
On	ZBY2311		
Off	ZBY2312		
Open	ZBY2313		
Close	ZBY2314		
Inch	ZBY2321		
Reset	ZBY2323		
Power On	ZBY2326		
Slow	ZBY2327		
Fast	ZBY2328		
Emergency stop	ZBY2330		
Run	ZBY2334		
With text for 2-position selectors			
Off	On	ZBY2367	
With text for 3-position selectors			
Hand	Off	Auto	ZBY2387



Blank Legend Plates for Inscription

For PXBB devices (2 lines of 11 characters maximum)

Please indicate the required text when ordering.
 (Allow 3 weeks for delivery)

Description	Part number
Black background / White letters	ZBY2002

For 22mm Visual Indicators Only

2 lines of 11 characters maximum

Please indicate the required text when ordering.
 (Allow 3 weeks for delivery)

Description	Part number
Black background / white letters	ZB2BY2002

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)	ZBE101
Normally closed (NC)	ZBE102


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

Control Panel Products
 Sensing / Limit Switches
D
 Accessories Valve Products


With 5/32" Instant Connections

22mm Visual Indicators


Black Plastic Bezel	Color	Part number "ON" indicator	Part number "OFF" indicator
	Green	PXVF131	PXVF1213
	Red	PXVF141	PXVF1214
	Yellow	PXVF151	PXVF1215
	Blue	PXVF161	PXVF1216
	White	PXVF111	PXVF1211

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).


Two-Hand Controls

	Connections	Part number
	5/32" Instant	PXPC111


Mounting Accessories

	Color	Description	Part number
	—	Plastic head (ZB5) mounting nut tightening tool	ZB5AZ905
	Black plastic	Guard for 40mm	ZBZ1602

Two-Hand Control Module

	Connections	Part number
	5/32" Instant	PXPA11

Two-Hand Control Module Guard

	Base component	Part number
	PXPC111	PPRL15

Sensing

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	PXCM111
					10-32 UNF	PXCM115
	Plastic roller	NNP	3.0 (85)		5/32" instant	PXCM121
					10-32 UNF	PXCM125

7/64" I.D. Internal Orifice




	Plastic roller	NNP			5/32" instant	PXCM521
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Actuators For Steel Plunger (Use with PXCM11*)

	Plastic roller lever					PXCZ11
	Plastic roller lever, one way trip					PXCZ12

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
	Steel plunger operating levers available					PXCM601A110
	Steel roller plunger	NNP	8.8 (250)	7/64" (2.5mm)	5/32" instant	PXCM601A102
	90° Steel roller plunger					PXCM601A103





* NNP: Normally non-passing. 

 Most popular.

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
	Steel plunger	NNP	7.4 (210)	1/8" (3mm)	5/32" instant	PXCK21101
		NP				PXCK22101
	Steel roller plunger	NNP				PXCK21102
		NP				PXCK22102
	Plastic roller plunger	NNP				PXCK21121
		NP				PXCK22121
	Cats whisker	NNP				PXCK21106
		NP				PXCK22106

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	PXCK2110031
		NP				PXCK2210031
	Adjustable delrin roller lever multi-function head actuates: - from right and left - from right - from left	NNP				PXCK2110041
		NP				PXCK2210041

Separate Pneumatic Switch Bodies

	Actuator	Type of switching*	Part number
	For use with ZCK series operating heads	NNP	PXCK211
		NP	PXCK221

Pneumatic Switch Bodies with Rotary Heads


	Actuator	Type of switching*	Part number
	Multi-function head actuates: - from right and left - from right - from left	NNP	PXCK21100
		NP	PXCK22100

* NNP: Normally non-passing. 
 NP: Normally passing. 

Standard Duty Limit Switches – “K” Series









Operating Heads

For Use With PXCK Switch Bodies

Actuator	Description	Part number
Rotary operated		
	Die cast zinc	ZCKG00
Plunger operated		
Roller plunger	Plunger operated	ZCKD02
Whisker		ZCKD06
Rod plunger		ZCKD10
Delrin roller lever on plunger		ZCKD21
Steel roller lever on plunger		ZCKD23


Operating Levers for Rotary Heads

For Use With Rotary Head ZCKG00


Actuator	Description	Part number
	Steel 1/8" square	ZCKY51
	Fiberglass 1/8" dia. round	ZCKY52
	Plastic spring rod lever	ZCKY81
	Metal spring rod lever	ZCKY91
	Delrin roller lever	ZCKY11
	Steel roller lever	ZCKY13
	Adjust. delrin roller lever	ZCKY41
	Adjust. steel roller lever	ZCKY43

Heavy Duty Limit Switches – “J” Series

Switch Bodies Only











	Type of switching*	Part number
	NNP	PXCJ117
	NP	PXCJ127

Separate Pneumatic Switch Bodies

	Direction of actuator	Type of switching*	Part number
	Right & left, spring return	NNP	PXCJ11701
	Right or left, spring return		PXCJ11705
	Right & left, spring return	NP	PXCJ12701
	Right or left, spring return		PXCJ12705



Operating Levers for Rotary Heads



Die Cast Zinc. For Use With PXCJ Switch Bodies

Operator	Description	Part number
	Delrin roller	ZC2JY11
	Steel roller	ZC2JY13
	Offset delrin roller	ZC2JY21
	Plastic spring rod	ZC2JY81
	Metal spring rod	ZC2JY91
	Delrin roller	ZC2JY31
	Offset delrin roller	ZC2JY41
	Rod lever	ZC2JY51
	Single track, delrin roller	ZC2JY71
	Double track, delrin rollers	ZC2JY61

Top Plunger & Rotary Operating Heads

Die Cast Zinc. For Use With PXCJ Switch Bodies

Operation	Description	Part number
Top Plunger Type		
	Top push	ZC2JE61
	Top roller push	ZC2JE62
	Side push	ZC2JE63
	Cat's whisker	ZC2JE70
Rotary Type		
	From left & right	ZC2JE01
	Counterclockwise from right	ZC2JE02
	Clockwise from left	ZC2JE03
	From left or right	ZC2JE05
	Maintained positions	ZC2JE09

* NNP: Normally non-passing. 
 NNP: Normally passing. 

Control Panel Products
 Sensing / Limit Switches
D
 Accessories Valve Products

The blocking valve is a single acting spring return 2/2 valve in a fitting format. The device requires a pneumatic pilot signal to open, which allows free flow of air or neutral gas. As long as a pilot signal is present, the device will remain open. When the pilot signal is removed, the internal spring will close the blocking valve, bubble tight.

These devices have two primary design uses: (1) to prevent unwanted gravity induced motion in cylinders during shut down procedures or during periods of lost supply pressure and (2) freezing the cylinder position by using a blocking valve at each end of the cylinder. Application needs such as tool or work piece protection, horizontal indexing or inspection stops are often satisfied by these devices.





Material specifications

Body	Zinc alloy
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

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)

**For Cylinder Mounting
 (Can also be mounted in Threshold Sensor Banjo)
 With Instant Tube Fittings**

BSPP				NPT				
Symbol	Connection for pilot	Cylinder port thread (male)	Connection for tube	Part number	Connection for pilot	Cylinder port thread (male)	Connection for tube	Part number
  PWBA3469	4mm Tube	1/8"	6mm	PWBA1468	5/32" Tube	1/8"	1/4"	PWBA3468
		1/4"	6mm	PWBA1469		1/4"	1/4"	PWBA3469
		1/4"	8mm	PWBA1489		3/8"	3/8"	PWBA3493
		3/8"	8mm	PWBA1483		1/2"	1/2"	PWBA3412
		3/8"	10mm	PWBA1493				
		1/2"	12mm	PWBA1412				

With Threaded Connections and Tube Pilot Port

BSPP				NPT				
Symbol	Connection for pilot	Cylinder port thread (male)	Connection from valve (female)	Part number	Connection for pilot	Cylinder port thread (male)	Connection from valve (female)	Part number
  PWBA3833	4mm Tube	1/8"	1/4"	PWBA1898	5/32" * Tube	1/8"	1/8"	PWBA3888
		1/4"	1/4"	PWBA1899		1/4"	1/4"	PWBA3899
	M5 Female	3/8"	3/8"	PWBA1833		3/8"	3/8"	PWBA3833
		1/2"	1/2"	PWBA1822		1/2"	1/2"	PWBA3822

* Instant fitting

With Threaded Connections and Threaded Pilot Port

NPT			
Connection for pilot	Cylinder port thread (male)	Connection from valve	Part number
1/8" pipe	1/8"	1/8"	PWBA38887
	1/4"	1/4"	PWBA38997
	3/8"	3/8"	PWBA38337
	1/2"	1/2"	PWBA38227

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



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)

Banjo Sockets (with Sensor Clip)

	Port size	Wrench	Part number
	10-32	5/16" Hex	PWSB1557
	1/8"	3/16" Allen	PWSB1887
	1/4"	5/16" Allen	PWSB1997
	3/8"	3/8" Allen	PWSB1337
	1/2"	1/2" Allen	PWSB1227

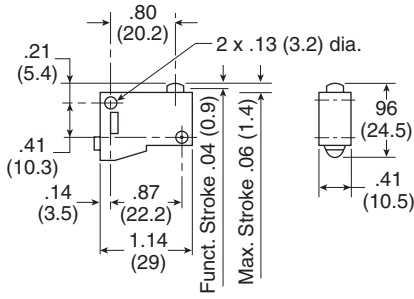
Plug-in Sensors

	Output	Connection	Part number
	Pneumatic	5/32" push-in	PWSP111
	Electrical	3-wire cable (6 ft)	PWSM1012

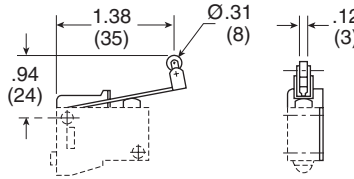
Control Panel Products
 Sensing / Limit Switches
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 Accessories Valve Products

Miniature Limit Switches

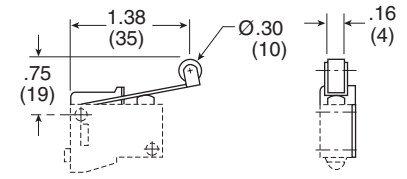
PXCM111



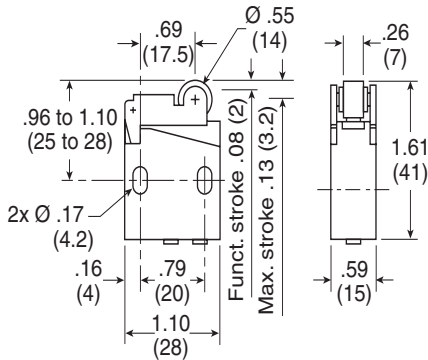
PXCZ12



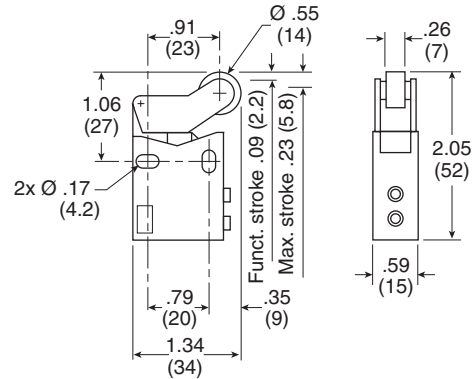
PXCZ11



PXCM121, PXCM131

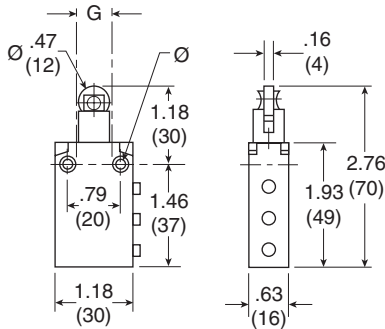


PXCM521

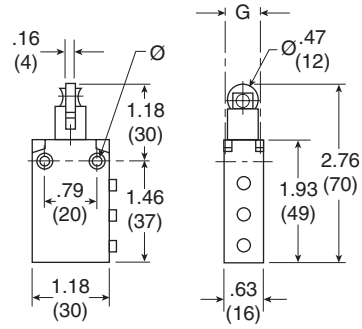


Compact Limit Switches

PXCM601A102

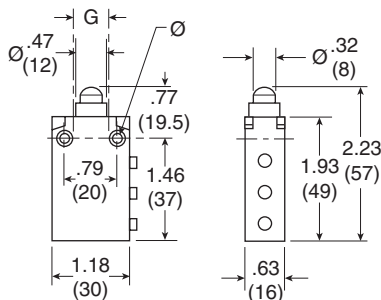


PXCM601A103



\varnothing :
 2 mounting holes $\varnothing .17$ " (4.3)
 2 countersunk $\varnothing .32$ " (8.2)
 depth 4 mm

PXCM601A110



G:
 top mounting holes, 2 x M5
 .71" (18 mm) centers

Control Panel
 Products

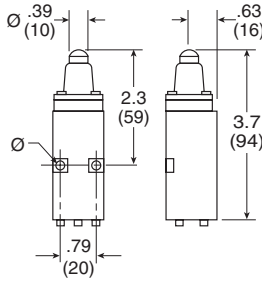
Sensing /
 Limit Switches

D

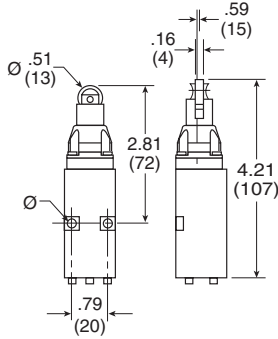
Accessories
 Valve Products

K Series

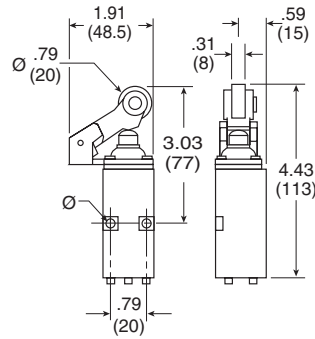
PXCK21101, PXCK22101



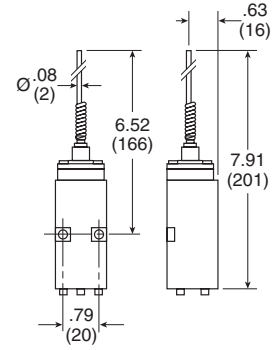
PXCK21102, PXCK22102



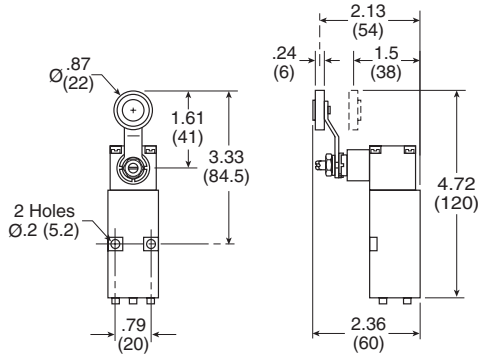
PXCK21121, PXCK22121



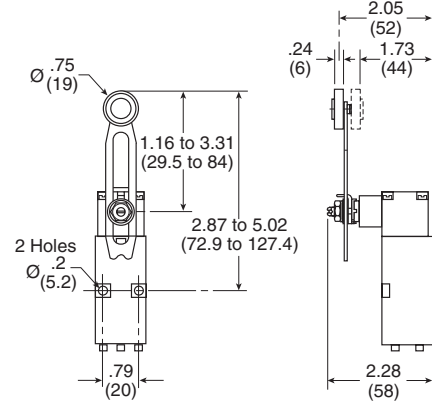
PXCK21106, PXCK22106



PXCK2110031, PXCK2210031

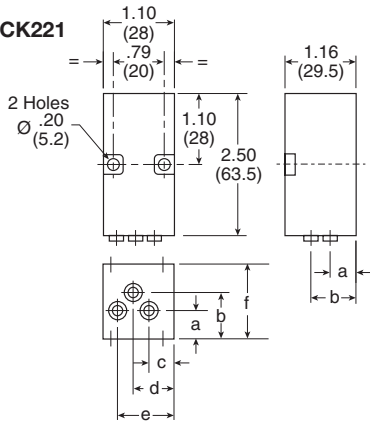


PXCK2110041, PXCK2210041



Pneumatic Switch Bodies

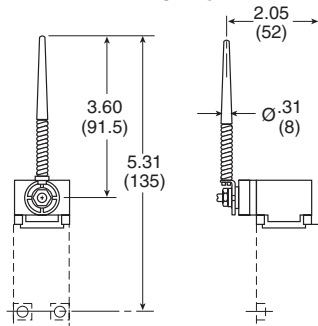
PXCK211, PXCK221



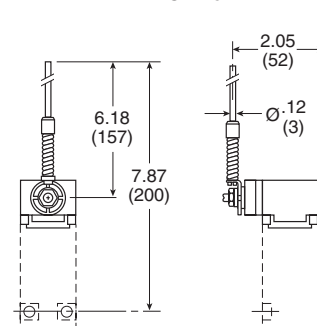
	inch	mm
a	.39	10
b	.77	19.5
c	.35	9
d	.61	15.5
e	.87	22
r	1.66	29.5

Rotary Heads with Operating Levers

ZCKY81



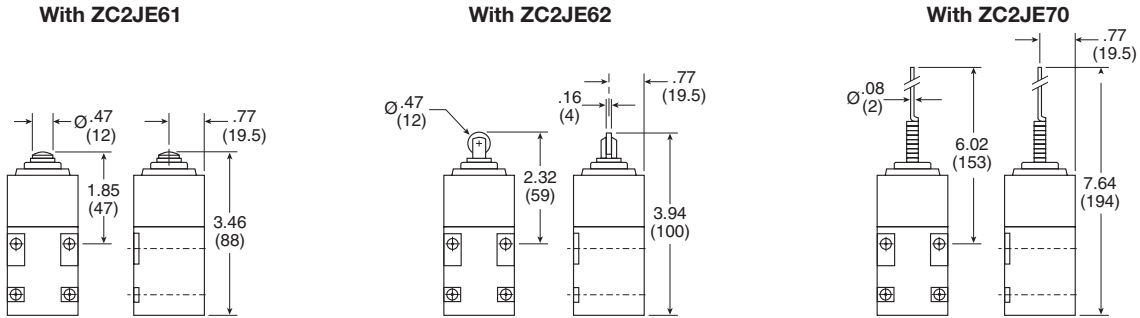
ZCKY91



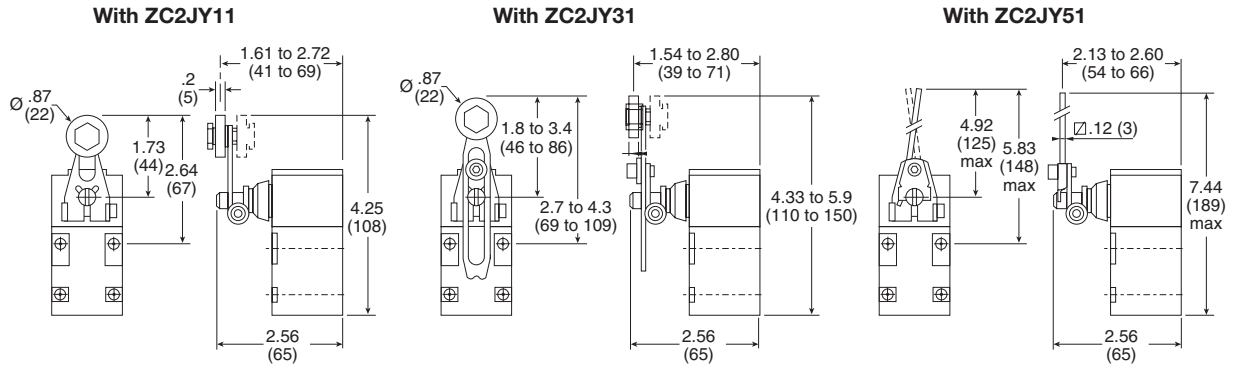
Control Panel Products
 Sensing / Limit Switches
D
 Accessories Valve Products

J Series

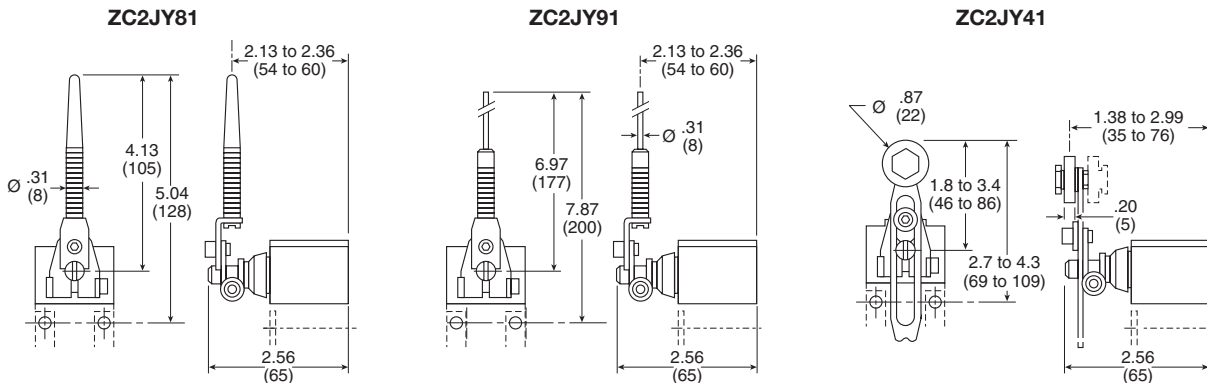
Switch Body With Plunger Heads



Switch Body With Rotary Heads and Operating Levers

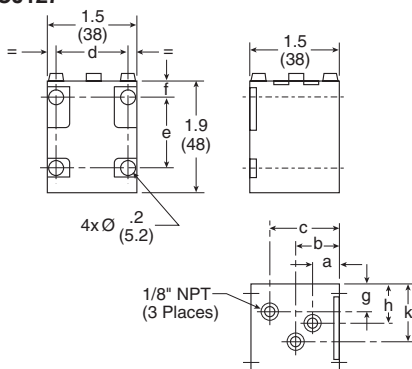


Rotary Heads With Operating Levers



Pneumatic Switch Bodies

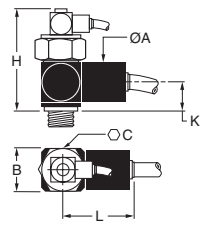
PXCJ117, PXCJ127



	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

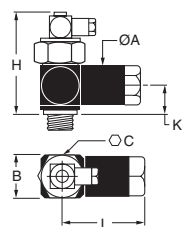
Blocking Valves

PWBA14/34



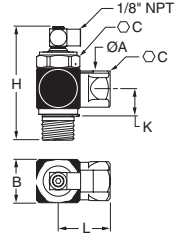
ØA	B	C	K	H	L	Flow*	Part number
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.32" (59)	1.54" (39)	14.8	PWBA1468/3468
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.09" (53)	1.54" (39)	19.4	PWBA1469/3469 PWBA1489
1.06" (27)	1.10" (28)	0.94" (24)	0.55" (14)	2.09" (53)	1.98" (50)	45.9	PWBA1483 PWBA1493/3493
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

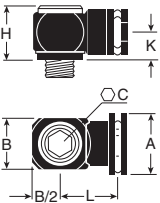
PWBA38



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

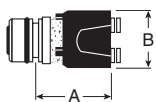
Threshold Sensors

Banjo Socket



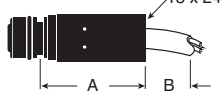
A	B	C	H	K	L	Part number
.98 (25)	.43 (11)	5/16" Hex	.79 (20)	.40 (10)	.67 (17)	PWSB1557
.98 (25)	.63 (16)	3/16" Allen	.71 (18)	.40 (10)	.79 (20)	PWSB1887
.98 (25)	.83 (21)	5/16" Allen	.71 (18)	.40 (10)	.87 (22)	PWSB1997
.98 (25)	1.10 (28)	3/8" Allen	.79 (20)	.47 (12)	.98 (25)	PWSB1337
.98 (25)	1.30 (33)	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



Control Panel
Products

Sensing /
Limit Switches

D

Accessories
Valve Products

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 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, 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
- 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.
- 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 4.10.
- 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 web site at www.parker.com.
- 4.3. Lockout / Tagout Procedures:** Be sure to follow all required lockout and tagout procedures when servicing equipment. For more information see: OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – (Lockout / Tagout)
- 4.4. Visual Inspection:** Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:
- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
 - Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
 - Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted air flow and lead to unpredictable system behavior.
 - Any observed improper system or component function: Immediately shut down the system and correct malfunction.
 - Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

Caution: Leak detection solutions should be rinsed off after use.

4.5. Routine Maintenance Issues:

- Remove excessive dirt, grime and clutter from work areas.
- Make sure all required guards and shields are in place.

4.6. Functional Test:

Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.

4.7. Service or Replacement Intervals:

It is the user's responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components need to be serviced or replaced on routine intervals. Service intervals need to be established based on:

- Previous performance experiences.
- Government and / or industrial standards.
- When failures could result in unacceptable down time, equipment damage or personal injury risk.

4.8. Servicing or Replacing of any Worn or Damaged Parts:

To avoid unpredictable system behavior that can cause death, personal injury and property damage:

- Follow all government, state and local safety and servicing practices prior to service including but not limited to all OSHA Lockout Tagout procedures (OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – Lockout / Tagout).
- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
- Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put product or system into use.
- Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.

4.9. Putting Serviced System Back into Operation:

Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.

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1. Terms and Conditions. Seller's willingness to offer Products for sale or accept an order for Products is subject to the terms and conditions contained in this Offer of Sale or any newer version of the same, published by Seller electronically at www.parker.com/saleterms/. Seller objects to any contrary or additional terms or conditions of Buyer's order or any other document or other communication issued by Buyer.

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3. Shipment; Delivery; Title and Risk of Loss. All delivery dates are approximate. Seller is not responsible for damages resulting from any delay. Regardless of the manner of shipment, delivery occurs and title and risk of loss or damage pass to Buyer, upon placement of the Products with the shipment carrier at Seller's facility. Unless otherwise stated, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferral of shipment at Buyer's request beyond the respective dates indicated will be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions.

4. Warranty. Seller warrants that the Products sold hereunder shall be free from defects in material or workmanship for a period of twelve (12) months from the date of delivery or 2,000 hours of normal use, whichever occurs first. All prices are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **DISCLAIMER OF WARRANTY: THIS WARRANTY IS THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING DESIGN, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

5. Claims; Commencement of Actions. Buyer shall promptly inspect all Products upon receipt. No claims for shortages will be allowed unless reported to the Seller within ten (10) days of delivery. No other claims against Seller will be allowed unless asserted in writing within thirty (30) days after delivery. Buyer shall notify Seller of any alleged breach of warranty within thirty (30) days after the date the defect 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.

6. LIMITATION OF LIABILITY. IN THE EVENT OF A BREACH OF WARRANTY, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE WITHIN A REASONABLE PERIOD OF TIME. **IN NO EVENT IS SELLER LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, 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 OF THE PRODUCTS.**

7. User Responsibility. The user, through its own analysis and testing, is solely responsible for making the final selection of the system and Product and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application and follow applicable industry standards and Product information. If Seller provides Product or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.

8. Loss to Buyer's Property. Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, will be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer ordering the items manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

9. Special Tooling. A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture 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 in its sole discretion at any time.

10. Buyer's Obligation; Rights of Seller. To secure payment of all sums due or otherwise, Seller retains a security interest in all Products delivered to Buyer and this agreement 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 its security interest.

11. Improper Use and Indemnity. 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, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, application, design, specification or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Products; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.

12. Cancellations and Changes. Buyer may not cancel or modify or cancel 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. Seller may change Product features, specifications, designs and availability.

13. Limitation on Assignment. Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

14. Force Majeure. Seller does not assume the risk and is not liable for delay or failure to perform any of Seller's obligations by reason of events or circumstances beyond its reasonable control (hereinafter "Events of Force Majeure"). Events of Force Majeure shall include without limitation: accidents, strikes or labor disputes, acts of any government or government agency, acts of nature, delays or failures in delivery from carriers or suppliers, shortages of materials, or any other cause beyond Seller's reasonable control.

15. Waiver and Severability. Failure to enforce any provision of this agreement will not invalidate that provision; nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.

16. Termination. Seller may terminate this agreement for any reason and at any time by giving Buyer thirty (30) days prior written notice. Seller may immediately terminate this agreement, in writing, if Buyer: (a) breaches any provision of this agreement (b) appoints a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or one if filed by a third party (d) makes an assignment for the benefit of creditors; or (e) dissolves its business or liquidates all or a majority of its assets.

17. Governing Law. This agreement 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 this agreement.

18. Indemnity for Infringement of Intellectual Property Rights. Seller is not liable for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). 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 an allegation that a Product sold pursuant to this agreement infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and refund the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller is not liable for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

19. Entire Agreement. This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged. The terms contained herein may not be modified unless in writing and signed by an authorized representative of Seller.

20. Compliance with Laws. Buyer agrees to comply with all applicable laws, regulations, and industry and professional standards of care, including those of the United Kingdom, the United States of America, and the country or countries in which Buyer may operate, including without limitation the U. K. Bribery Act, the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.S. Anti-Kickback Act ("Anti-Kickback Act") and the U.S. Food Drug and Cosmetic Act ("FDCA"), each as currently amended, and the rules and regulations promulgated by the U.S. Food and Drug Administration ("FDA"), and agrees to indemnify and hold harmless Seller from the consequences of any violation of such provisions by Buyer, its employees or agents. Buyer acknowledges that it is familiar with the provisions of the U. K. Bribery Act, the FCPA, the FDA, and the Anti-Kickback Act, and certifies that Buyer will adhere to the requirements thereof. In particular, Buyer represents and agrees that Buyer will not make any payment or give anything of value, directly or indirectly to any governmental official, any foreign political party or official thereof, any candidate for foreign political office, or any commercial entity or person, for the purpose of influencing such person to purchase Products or otherwise benefit the business of Seller.