

Prospector Series Poppet Valves

1/4" to 2" Air Pilot Actuated

2/2, 3/2, & 4/2 Inline Valves

- > High flow - Cv of 1.2 to 49.5
- > Durable, robust construction
- > Two mounting styles: inline or subbase
- > 1/4" to 2" ports (BSPP or PTF threads)
- > Wide range of Air Pilot Operators available
- > Four functional types: available in 2/2, 3/2, 3/2 multi-directional and 4/2 configurations



Technical data

Medium:

Filtered and lubricated or non-lubricated compressed air or vacuum.

Mounting:

Through-holes in valve body and subbase.

Port Size:

1/4" to 2" PTF, BSPP

Operating Pressure:

300 psig (Maximum 20.7 bar). For details see overleaf.

Flow Characteristics:

Basic size	Function	Cv*
1/4"	3/2 & 4/2	1.2 - 1.8
1/2"	2/2, 3/2 & 4/2	3.2 - 5.8
1"	2/2, 3/2 & 4/2	10.3 - 17.7
2"	2/2 & 3/2	39.6 - 49.5

*See VAL-12-58 for additional flow information.

Materials

Body: Aluminum alloy body, piston, poppets and subbase.
Operators: Zinc or aluminum air pilot operators.
Elastomers: Nitrile rubber seals. (Fluorocarbon seals are optional, contact Technical Services.)

Operating Temperature:

-20°F to 175°F** (-29°C to 79°C)
**Consult Technical Service for use below 35°F (+2°C).

Operation:

Poppet valve air pilot actuated.

Fluids

Filtered and lubricated compressed air or vacuum. Prospector poppet valves with A1, AA, or A4 air operators or with C, D, F, or X series solenoid operators may be used with filtered, non-lubricated compressed air or vacuum, although tests indicate that service life will be reduced. Valves with other operators must not be used in non-lubricated service.

Seal Compatibility

Prospector poppet valve seals are compatible with most good quality O-ring lubricants, including:

- DC BR-2+ grease (Dow Corning)
- DC 44 grease (Dow Corning)
- Magnalube G (Saunders Industries)
- Non-detergent mineral based oil

such as Mobil DTE light oil.

Poppet valve seals are not compatible with WD-40 or commonly used deicer fluids. Consult factory to verify compatibility of lubricants or fluids not listed above.

Valve Exhaust

The valve exhaust port must not be restricted with anything more than a muffler or equal pipe size (most exhaust ports are larger than the inlet port). Back pressure on the exhaust side of the valve poppets can, under some conditions, result in failure to operate. If exhaust is to be piped away, piping should be installed horizontally or out a downward angle from the valve to provide drainage and minimize sludge formation.

Use of Speed Controls

Speed controls may be installed in the exhaust port on Norgren 3-port/2-position multi-direction popped valves. Note: On all other poppet valves, speed controls should only be installed in the air line between the valve and the air-operated device and as close as possible to the device.

Vacuum Service

Valves that can be used in vacuum service are identified by a "J" in the 6th position of the model number. For on-off application of vacuum, use a normally closed 2-port/2-position (2-way) valve. Connect the vacuum to the inlet port. When the valve is actuated, vacuum will be applied to the outlet port. For selecting alternately between

vacuum and pressure, use a normally open 3-port/2-position (3-way) valve. Connect the vacuum to the exhaust port and vent the inlet port. When the valve is actuated, vacuum will be applied to the outlet port.

In addition, 4-port/2-position (4-way) valves can be connected the same way as 3-port/2-position (3-way) valves for selecting alternately between vacuum and pressure or vacuum and vent. That is, connect the vacuum to the exhaust port and pressure or vent to the inlet port. When the valve is actuated, the cylinder ports (outlets) will be alternately switched between vacuum and pressure or vacuum and vent.

Use this chart as a product deconfigurator. It is not designed to "build" model numbers.

Position in Model Number

Valve Body Operator
 1 2 3 4 5 6 - 7 8

1 Valve Type	
A	= 2-Port/2-Position, Normally Closed.
B	= 2-Port/2-Position, Normally Open.
C	= 3-Port/2-Position, Multi-Directional.
D	= 3-Port/2-Position, Normally Closed.
E	= 3-Port/2-Position, Normally Open.
F	= 4-Port/2-Position (4-way).

2 Mounting Style	
1	= Inline, PTF Threads
A	= Inline, BSPP Threads

3 & 4 Basic Size		
01	= 1/4"	Basic, (Valve Types D, E, F)
	1/2"	Basic, (Valve Types A, B, C)
02	= 1/2"	Basic, (Valve Types C, D, E, F, G)
	1"	Basic, (Valve Types A, B)
03	= 1"	Basic, (Valve Types C, D, E, F, G)
	2"	Basic, (Valve Type A)
04	= 1"	Basic, (Valve Types D, E)
	2"	Basic, (Valve Type C)

5 Port Size PTF	
2	= 1/4" Ports
3	= 3/8" Ports
4	= 1/2" Ports
5	= 3/4" Ports
6	= 1" Ports
7	= 1-1/4" Ports
8	= 1-1/2" Ports
9	= 2" Ports

7 & 8 Air Operators	
A1	= Single, PTF Threads
AA	= Single, BSPP Threads

6 Internal Variation	
H	= External Pilot Supply.
J	= Vacuum Service. Has an external pilot supply with heavy spring.

Air Pilot Version

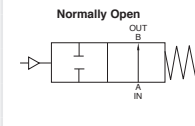
2/2 Normally Closed air to operate/spring return



Model	Port Size	Cv Port A to B	Pilot Port Size	Operating Pressure*	Pilot Pressure*	Repair Kit
A1012H-A1	1/4" PTF	2.1	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
AA012H-AA	1/4" BSPP	2.1	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
A1013H-A1	3/8" PTF	3.4	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
AA013H-AA	3/8" BSPP	3.4	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
A1014H-A1	1/2" PTF	5.3	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
AA014H-AA	1/2" BSPP	5.3	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
A1015H-A1	3/4" PTF	6.5	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
AA015H-AA	3/4" BSPP	6.5	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
A1025H-A1	3/4" PTF	10.7	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
AA025H-AA	3/4" BSPP	10.7	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
A1026H-A1	1" PTF	13.5	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
AA026H-AA	1" BSPP	13.5	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
A1027H-A1	1-1/4" PTF	16.3	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
AA027H-AA	1-1/4" BSPP	16.3	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
A1038H-A1	1-1/2" PTF	34	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53822-01
AA038H-AA	1-1/2" BSPP	34	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53822-01
A1039H-A1	2" PTF	39.6	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53822-01
AA039H-AA	2" BSPP	39.6	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53822-01

* Vacuum service replace the 6 digit "H" with a "J", this will then allow the operating pressure down to 29" Hg, with a pilot pressure of 0-300 psig

2/2 Normally Open air to operate/spring return

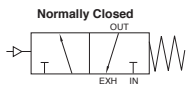


Model	Port Size	Cv Port A to B	Pilot Port Size	Operating Pressure*	Pilot Pressure*	Repair Kit
B1012H-A1	1/4" PTF	2.3	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
BA012H-AA	1/4" BSPP	2.3	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
B1013H-A1	3/8" PTF	3.8	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
BA013H-AA	3/8" BSPP	3.8	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
B1014H-A1	1/2" PTF	5.4	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
BA014H-AA	1/2" BSPP	5.4	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
B1015H-A1	3/4" PTF	6.3	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
BA015H-AA	3/4" BSPP	6.3	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
B1025H-A1	3/4" PTF	12.0	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
BA025H-AA	3/4" BSPP	12.0	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
B1026H-A1	1" PTF	15.4	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
BA026H-AA	1" BSPP	15.4	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
B1027H-A1	1-1/4" PTF	17.9	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
BA027H-AA	1-1/4" BSPP	17.9	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01

* Vacuum service replace the 6 digit "H" with a "J", this will then allow the operating pressure down to 29" Hg, with a pilot pressure of 0-300 psig

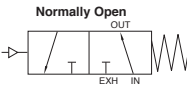
Air Pilot Version

3/2 Normally Closed air pilot to operate/spring return

	Model	Port Size	Cv In to Out port	Cv Out to Exh port	Pilot Port Size	Operating Pressure*	Pilot Pressure*	Repair Kit
	D1012H-A1	1/4" PTF	1.5	1.8	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53473-05
	DA012H-AA	1/4" BSPP	1.5	1.8	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53473-05
	D1013H-A1	3/8" PTF	1.7	1.8	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53473-05
	DA013H-AA	3/8" BSPP	1.7	1.8	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53473-05
	D1022H-A1	1/4" PTF	2.7	3.9	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	DA022H-AA	1/4" BSPP	2.7	3.9	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	D1023H-A1	3/8" PTF	3.6	4.9	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	DA023H-AA	3/8" BSPP	3.6	4.9	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	D1024H-A1	1/2" PTF	4.6	5.8	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	DA024H-AA	1/2" BSPP	4.6	5.8	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	D1025H-A1	3/4" PTF	5.4	6.2	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	DA025H-AA	3/4" BSPP	5.4	6.2	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	D1035H-A1	3/4" PTF	11.2	13.3	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
	DA035H-AA	3/4" BSPP	11.2	13.3	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
	D1036H-A1	1" PTF	13.2	14.6	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
	DA036H-AA	1" BSPP	13.2	14.6	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
D1047H-A1	1-1/4" PTF	16.6	18.4	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01	
DA047H-AA	1-1/4" BSPP	16.6	18.4	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01	

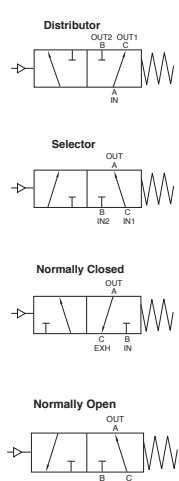
* Vacuum service replace the 6 digit "H" with a "J", this will then allow the operating pressure down to 29" Hg, with a pilot pressure of 0-300 psig

3/2 Normally Open air pilot to operate/spring return

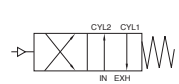
	Model	Port Size	Cv In to Out port	Cv Out to Exh port	Pilot Port Size	Operating Pressure	Pilot Pressure	Repair Kit
	E1012H-A1	1/4" PTF	1.5	1.8	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53473-05
	EA013H-A1	3/8" PTF	1.7	1.8	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53473-05
	E1024H-A1	1/2" PTF	4.6	5.8	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	EA024H-AA	1/2" BSPP	4.6	5.8	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	E1025H-A1	3/4" PTF	5.4	6.2	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	EA025H-AA	3/4" BSPP	5.4	6.2	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	E1036H-A1	1" PTF	13.2	14.6	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
	EA036H-AA	1" BSPP	13.2	14.6	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
	E1047H-A1	1-1/4" PTF	16.6	18.4	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
	EA047H-AA	1-1/4" BSPP	16.6	18.4	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01

Air Pilot Version

3/2 Multi-directional air pilot to operate/spring return

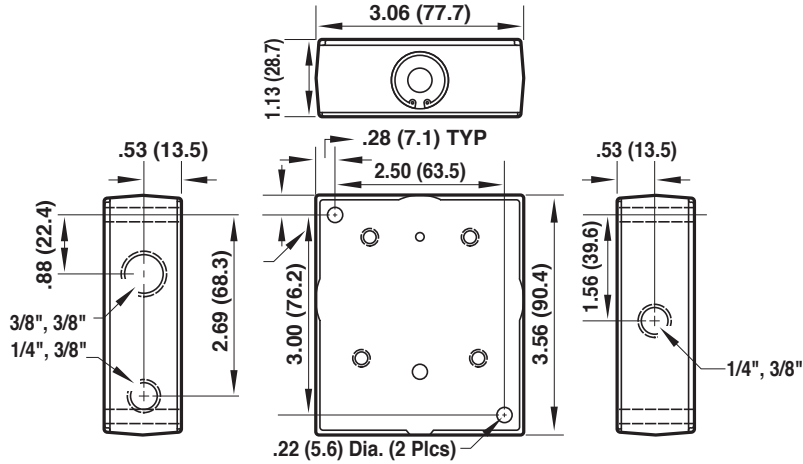
	Model	Port Size	Cv A to C port	Cv A to B port	Pilot Port Size	Operating Pressure*	Pilot Pressure*	Repair Kit
	C1012H-A1	1/4" PTF	2.50	2.00	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	CA012H-AA	1/4" BSPP	2.50	2.00	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	C1013H-A1	3/8" PTF	4.00	2.70	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	CA013H-AA	3/8" BSPP	4.00	2.70	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	C1014H-A1	1/2" PTF	5.70	3.40	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	CA014H-AA	1/2" BSPP	5.70	3.40	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	C1025H-A1	3/4" PTF	6.10	4.00	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-03
	CA025H-AA	3/4" BSPP	6.10	4.00	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-03
	C1035H-A1	3/4" PTF	14.80	10.30	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
	CA035H-AA	3/4" BSPP	14.80	10.30	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
	C1036H-A1	1" PTF	17.70	13.20	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
	CA036H-AA	1" BSPP	17.70	13.20	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
	C1037H-A1	1-1/4" PTF	18.30	14.00	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-01
	CA037H-AA	1-1/4" BSPP	18.30	14.00	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-01
	C1048H-A1	1-1/2" PTF	44.80	33.10	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53822-01
	CA048H-AA	1-1/2" BSPP	44.80	33.10	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53822-01
C1049H-A1	2" PTF	49.50	40.00	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53822-01	
CA049H-AA	2" BSPP	49.50	40.00	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53822-01	

4/2 air pilot to operate/spring return

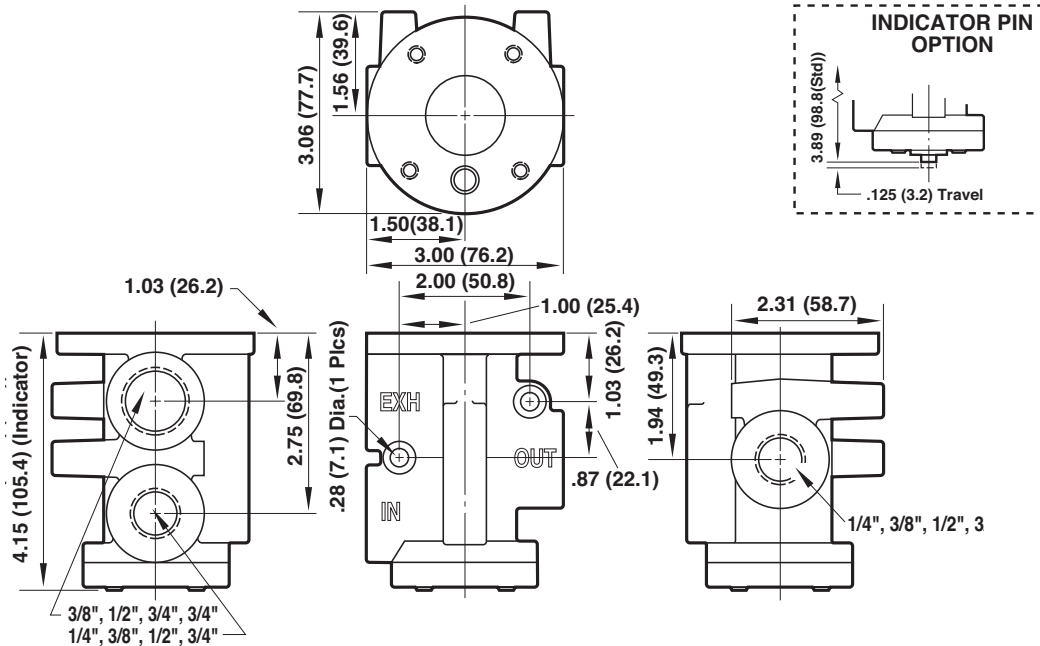
	Model	Port Size	Cv In to CY2	Cv CY1 to Exh	Cv In to CY1	Cv CY2 to Exh	Pilot Port Size	Operating Pressure	Pilot Pressure	Repair Kit
	F1012H-A1	1/4" PTF	1.2	1.6	1.2	1.6	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53473-05
	FA012H-AA	1/4" BSPP	1.2	1.6	1.2	1.6	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53473-05
	F1013H-A1	3/8" PTF	1.4	1.6	1.4	1.6	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53473-05
	FA013H-AA	3/8" BSPP	1.4	1.6	1.4	1.6	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53473-05
	F1023H-A1	3/8" PTF	3	4.5	3.1	4.3	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-06
	FA023H-AA	3/8" BSPP	3	4.5	3.1	4.3	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-06
	F1024H-A1	1/2" PTF	4	5.4	4.1	5.1	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-06
	FA024H-AA	1/2" BSPP	4	5.4	4.1	5.1	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-06
	F1025H-A1	3/4" PTF	4.8	5.8	5	5.4	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53474-06
	FA025H-AA	3/4" BSPP	4.8	5.8	5	5.4	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53474-06
	F1035H-A1	3/4" PTF	10.3	13.1	11	12.5	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-06
	FA035H-AA	3/4" BSPP	10.3	13.1	11	12.5	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-06
	F1036H-A1	1" PTF	11.3	14.3	12.9	13.4	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-06
	FA036H-AA	1" BSPP	11.3	14.3	12.9	13.4	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-06
	F1037H-A1	1-1/4" PTF	11.6	14.5	14.3	13.7	1/8" PTF	0-300 psig	30 psig or greater than supply pressure	53475-06
	FA037H-AA	1-1/4" BSPP	11.6	14.5	14.3	13.7	1/8" BSPP	0-300 psig	30 psig or greater than supply pressure	53475-06

3/2 Inline Bodies

Basic 1/4-Inch Body D101*B & E101*B
(3-Port/2-Position Pilot Operated Valve)

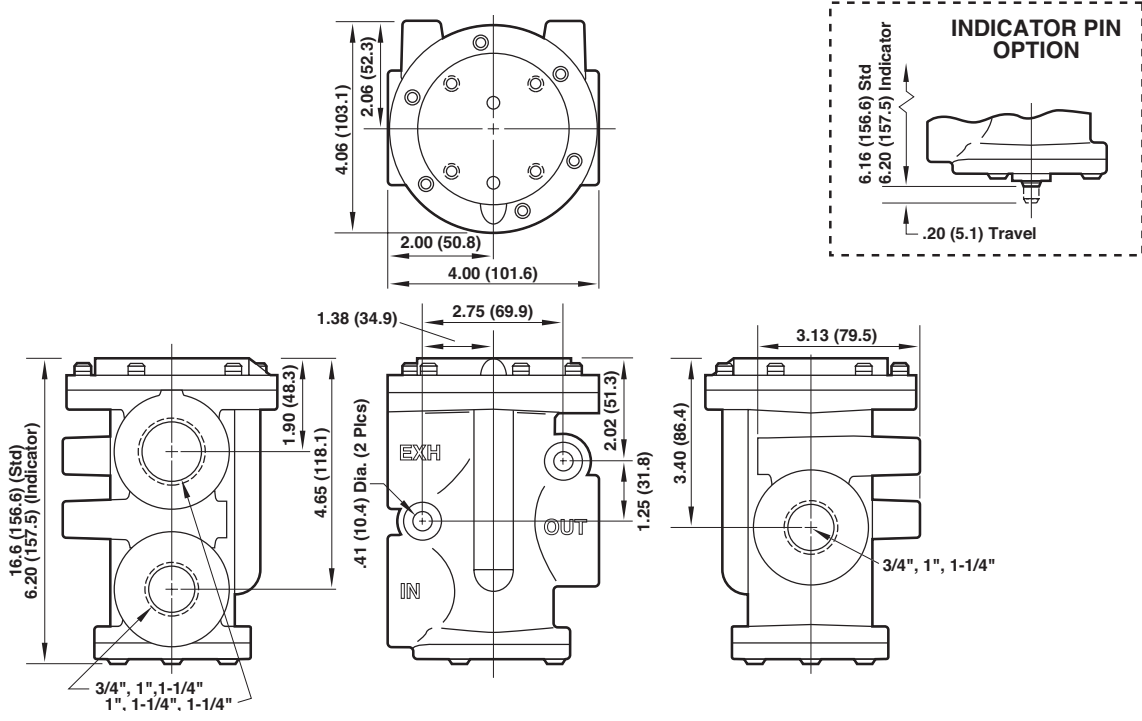


Basic 1/2 - Inch Body D102*C & E102*C
(3/2 Pilot Operated Valve)



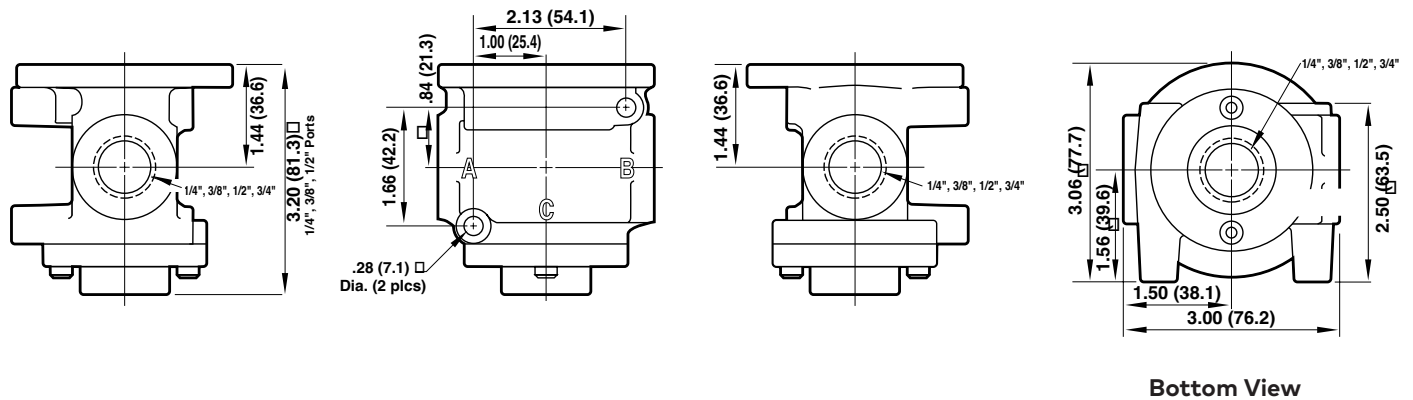
Dimensions in inches (mm)

Basic 1 - Inch Body D103*C, D104*C, E103*C & E104*C
(3/2 Pilot Operated Valve)



3/2 Multi-Directional Inline Bodies

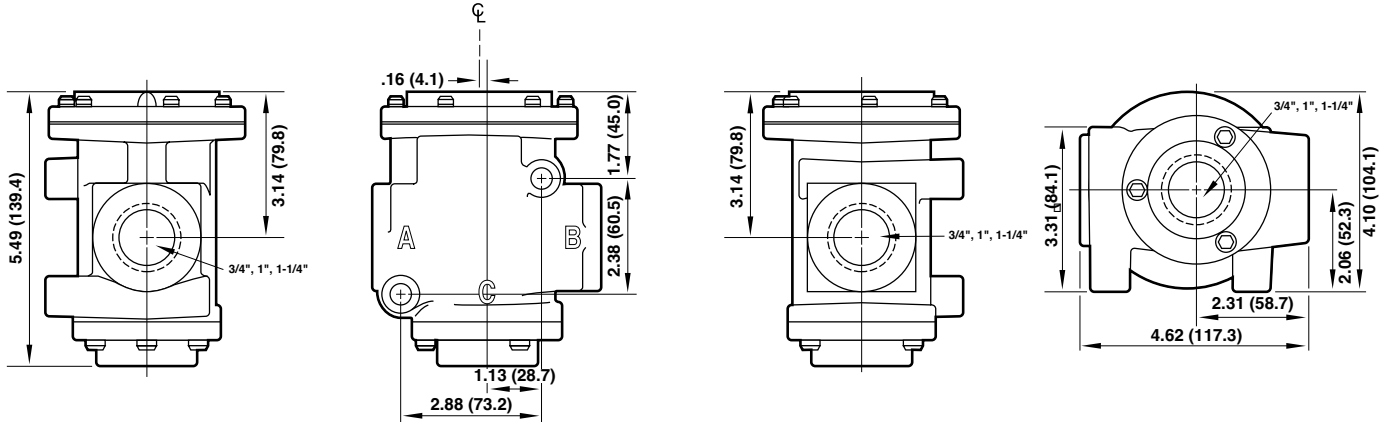
Basic 1/2 - Inch Body C101*C, C102*C, C105*C & C106*C
(3/2 Multi-Directional Pilot Operated Valve)



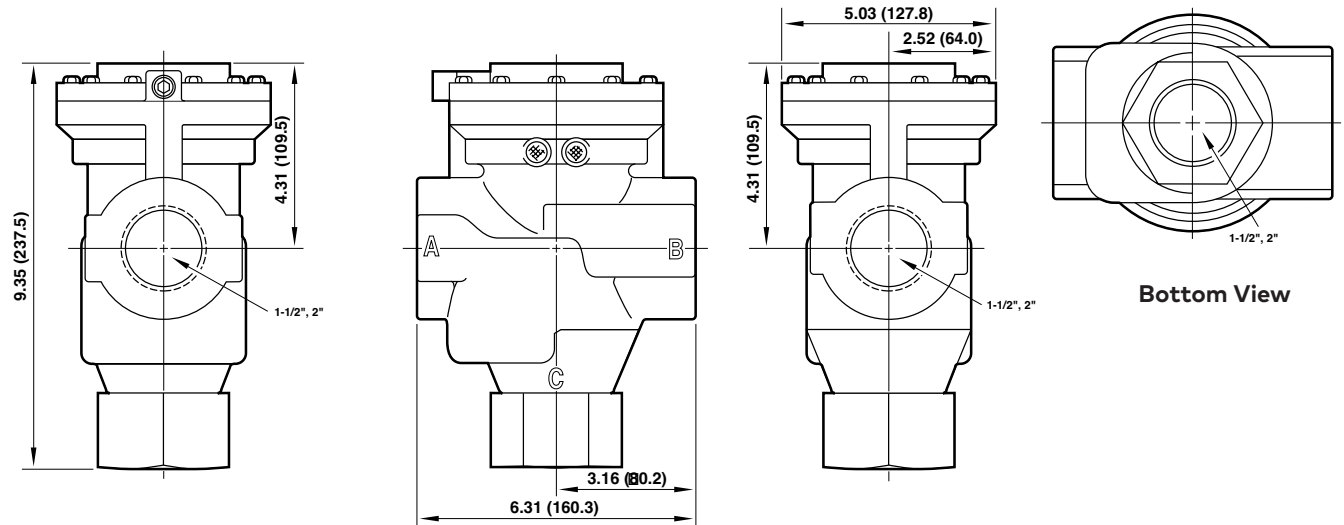
Dimensions in inches (mm)

Basic 1 - Inch Body C103*C
(3/2 Multi-Directional Pilot Operated Valve)

Operator



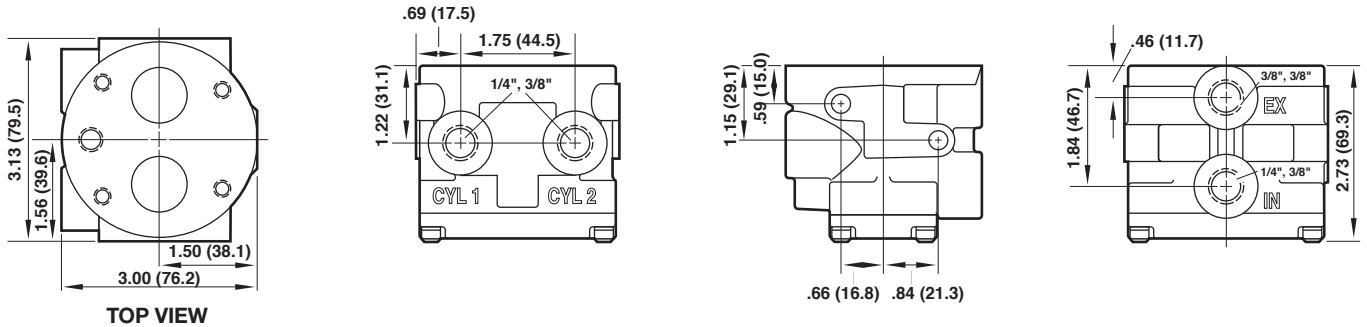
Basic 2 - Inch Body C104*C & C108*C
(3/2 Multi-Directional Pilot Operated Valve)



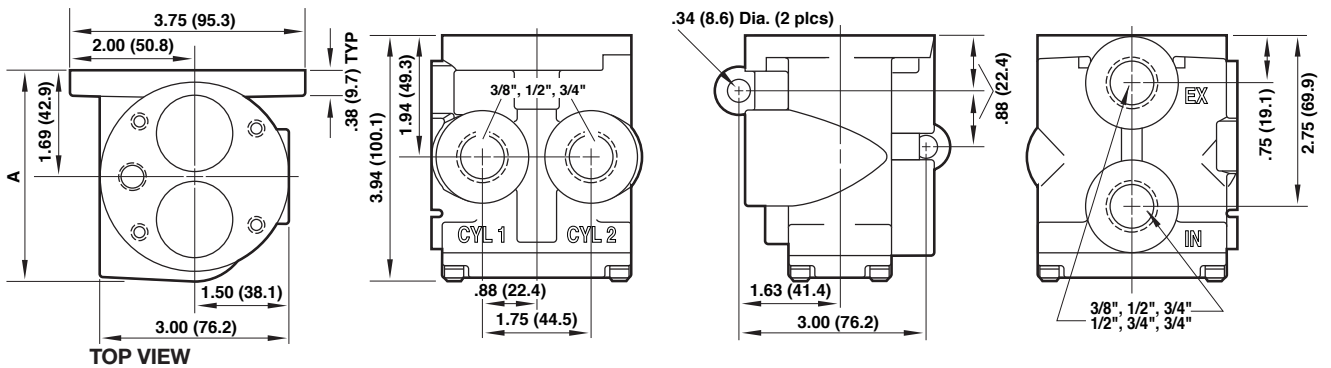
Dimensions in inches (mm)

4/2 Inline Bodies

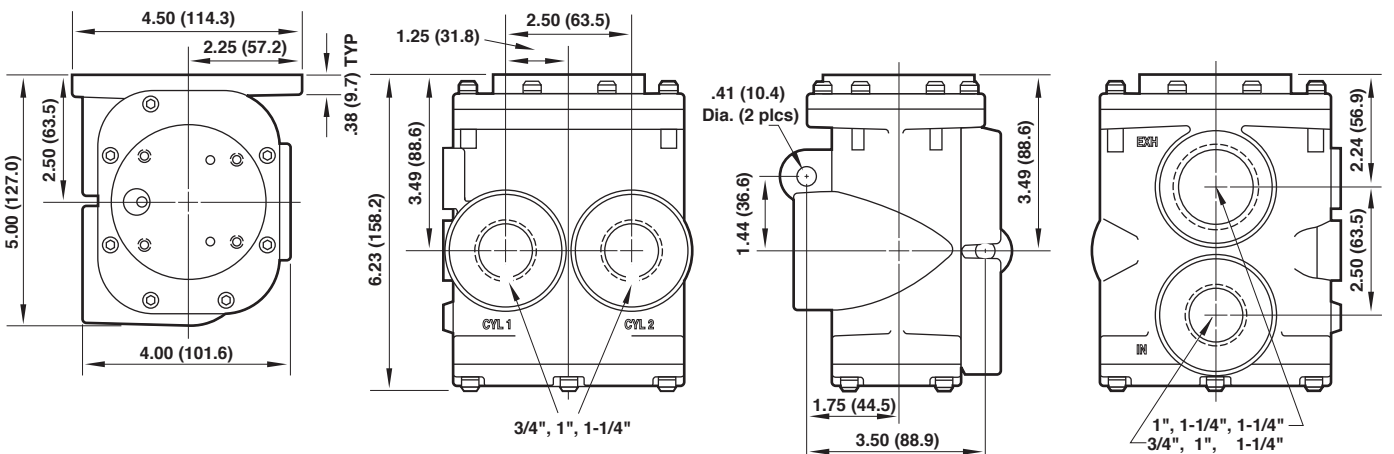
Basic 1/4 - Inch Body F101*C
(4/2 Pilot Operated Valve)



Basic 1/2 - Inch Body F102*C
(4/2 Pilot Operated Valve)



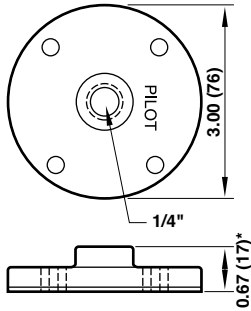
Basic 1 - Inch Body F103*C
(4/2 Pilot Operated Valve)



Dimensions in inches (mm)

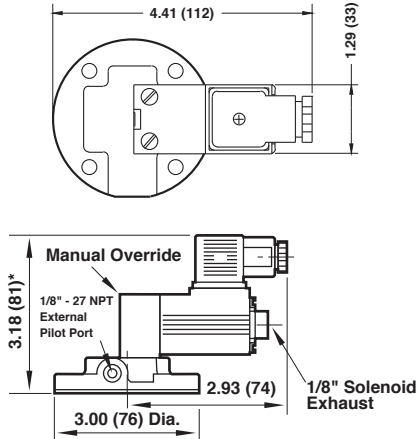
Valve Body Operator with Standard Cable Grip Connector

A1 and AA single

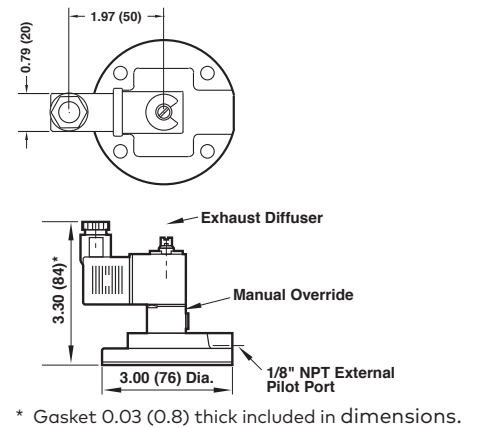


* Gasket 0.03 (0.8) thick included in dimensions.

CC



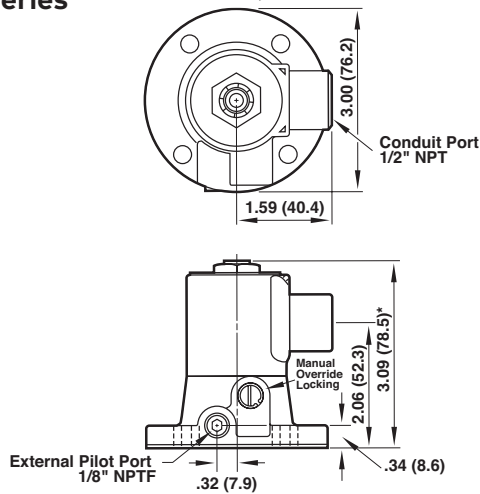
CE, CF, CY



* Gasket 0.03 (0.8) thick included in dimensions.

Optional
C Series

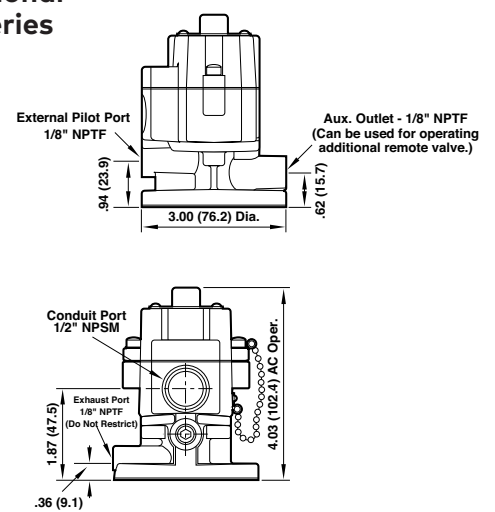
Conduit Housing
C0, C1



* Gasket 0.03 (0.8) thick included in dimensions.

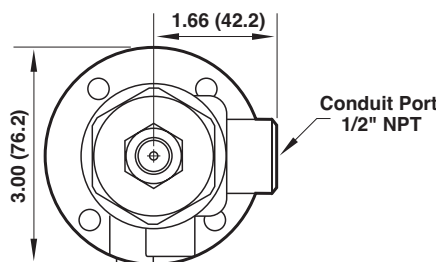
Optional
P Series

P1



Valve body operator with optional X Series - Hazardous Location

X1



* Gasket 0.03 (0.8) thick included in dimensions.

