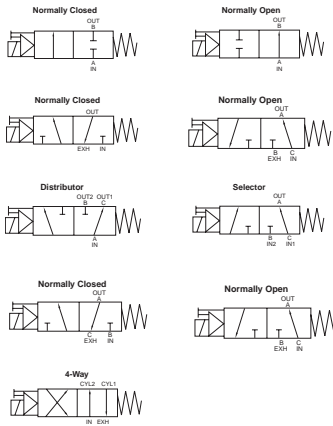


Prospector Series Poppet Valves

1/4" to 2" Solenoid Pilot Actuated

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



Solenoid pilot operated spring return inline valves with non-locking overrides, 120V, 60 Hz, and cablegrip connector

High flow - Cv of 1.2 to 49.5

Durable, robust construction

1/4" to 2" ports (BSPP, PTF, or ISO Rc threads)

Wide range of voltages 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.

Operation:

Poppet valve solenoid pilot actuated.

Mounting:

Through-holes in valve body and subbase.

Port Size:

1/4" to 2" PTF, BSPP, or ISO Rc.

Operating Pressure:

Maximum 150 psig (10.3 bar).

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 web site for additional information.

Operating Temperature:

-20°F to 120°F** (-29°C to 49°C)

**Consult Technical Service for use below 34°F (+2°C).

Model	Solenoid	Basic Size	Port Size	Function	Operating Pressure (psig)	Pilot Pressure† (psig)	Weight lbs.	Repair Kit*
2/2 (2 way)								
A1012C-CY	Internal Pilot	1/2"	1/4"	NC	30 - 150	30 - 150	2.12	53474-03
A1013C-CY	Internal Pilot	1/2"	3/8"	NC	30 - 150	30 - 150	2.22	53474-03
A1014C-CY	Internal Pilot	1/2"	1/2"	NC	30 - 150	30 - 150	2.22	53474-03
A1015C-CY	Internal Pilot	1/2"	3/4"	NC	30 - 150	30 - 150	2.22	53474-03
A1025C-CC	Internal Pilot	1/2"	3/4"	NC	30 - 150	30 - 150	4.4	53475-01
A1026C-CC	Internal Pilot	1"	1"	NC	30 - 150	30 - 150	4.4	53475-01
A1027C-CC	Internal Pilot	2"	1-1/4"	NC	30 - 150	30 - 150	4.4	53475-01
A1038C-CC	Internal Pilot	2"	1-1/2"	NC	30 - 150	30 - 150	4.4	53822-01
A1039C-CC	Internal Pilot	2"	2"	NC	30 - 150	30 - 150	8.76	53822-01
A1012H-CY	External Pilot	1/2"	1/4"	NC	0 - 150	30 - 150	2.12	53474-03
A1013H-CY	External Pilot	1/2"	3/8"	NC	0 - 150	30 - 150	2.22	53474-03
A1014H-CY	External Pilot	1/2"	1/2"	NC	0 - 150	30 - 150	2.22	53474-03
A1015H-CY	External Pilot	1/2"	3/4"	NC	0 - 150	30 - 150	2.22	53474-03
A1025H-CC	External Pilot	1"	3/4"	NC	0 - 150	30 - 150	4.4	53475-01
A1026H-CC	External Pilot	1"	1"	NC	0 - 150	30 - 150	4.4	53475-01
A1027H-CC	External Pilot	1"	1-1/4"	NC	0 - 150	30 - 150	4.4	53475-01
A1038H-CC	External Pilot	2"	1-1/2"	NC	0 - 150	30 - 150	4.4	53822-01
A1039H-CC	External Pilot	2"	2"	NC	0 - 150	30 - 150	8.76	53822-01
B1012C-CY	Internal Pilot	1/2"	1/4"	NO	30 - 150	30 - 150	2.22	53474-03
B1013C-CY	Internal Pilot	1/2"	3/8"	NO	30 - 150	30 - 150	2.22	53474-03
B1014C-CY	Internal Pilot	1/2"	1/2"	NO	30 - 150	30 - 150	2.22	53474-03
B1015C-CY	Internal Pilot	1/2"	3/4"	NO	30 - 150	30 - 150	2.22	53474-03
B1025C-CC	Internal Pilot	1"	3/4"	NO	30 - 150	30 - 150	4.4	53475-01
B1026C-CC	Internal Pilot	1"	1"	NO	30 - 150	30 - 150	4.4	53475-01
B1027C-CC	Internal Pilot	1"	1-1/4"	NO	30 - 150	30 - 150	4.4	53475-01
B1012H-CY	External Pilot	1/2"	1/4"	NO	0 - 150	30 - 150	2.22	53474-03
B1013H-CY	External Pilot	1/2"	3/8"	NO	0 - 150	30 - 150	2.22	53474-03
B1014H-CY	External Pilot	1/2"	1/2"	NO	0 - 150	30 - 150	2.22	53474-03
B1015H-CY	External Pilot	1/2"	3/4"	NO	0 - 150	30 - 150	2.22	53474-03
B1025H-CC	External Pilot	1"	3/4"	NO	0 - 150	30 - 150	4.4	53475-01
B1026H-CC	External Pilot	1"	1"	NO	0 - 150	30 - 150	4.4	53475-01
B1027H-CC	External Pilot	1"	1-1/4"	NO	0 - 150	30 - 150	4.4	53475-01

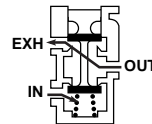
Materials:

Body: Aluminum alloy body, piston, poppets and subbase.

Operators: Zinc or aluminum solenoid pilot operators, stainless steel or steel, reinforced polyester, brass or polyurethane, acetal, copper wire.

Elastomers: Nitrile rubber seals. (Fluorocarbon seals are optional, contact Technical Services.)

This example shows a 3-way normally closed valve.



Prospector Series Poppet Valves

1/4" to 2" Solenoid Pilot Actuated

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

Solenoid pilot operated spring return inline valves with non-locking overrides, 120V, 60 Hz, and cablegrip connector

Model 3/2 (3 way) Inline Valves	Solenoid	Basic Size	Port Size	Function	Operating Pressure (psig)	Pilot Pressure† (psig)	Weight lbs.	Repair Kit*
D1012B-CY	Internal Pilot	1/4"	1/4"	NC	30 - 150	30 - 150	1.91	53473-05
D1013B-CY	Internal Pilot	1/4"	3/8"	NC	30 - 150	30 - 150	1.91	53473-05
D1022C-CY	Internal Pilot	1/2"	1/4"	NC	30 - 150	30 - 150	2.5	53474-03
D1023C-CY	Internal Pilot	1/2"	3/8"	NC	30 - 150	30 - 150	2.5	53474-03
D1024C-CY	Internal Pilot	1/2"	1/2"	NC	30 - 150	30 - 150	2.5	53474-03
D1025C-CY	Internal Pilot	1/2"	3/4"	NC	30 - 150	30 - 150	2.5	53474-03
D1035C-CC	Internal Pilot	1"	3/4"	NC	30 - 150	30 - 150	4.49	53475-01
D1036C-CC	Internal Pilot	1"	1"	NC	30 - 150	30 - 150	4.49	53475-01
D1047C-CC	Internal Pilot	1"	1-1/4"	NC	30 - 150	30 - 150	4.49	53475-01
D1012H-CY	External Pilot	1/4"	1/4"	NC	0 - 150	30 - 150	1.91	53473-05
D1013H-CY	External Pilot	1/4"	3/8"	NC	0 - 150	30 - 150	1.91	53473-05
D1022H-CY	External Pilot	1/2"	1/4"	NC	0 - 150	30 - 150	2.5	53474-03
D1023H-CY	External Pilot	1/2"	3/8"	NC	0 - 150	30 - 150	2.5	53474-03
D1024H-CY	External Pilot	1/2"	1/2"	NC	0 - 150	30 - 150	2.5	53474-03
D1025H-CY	External Pilot	1/2"	3/4"	NC	0 - 150	30 - 150	2.5	53474-03
D1035H-CC	External Pilot	1"	3/4"	NC	0 - 150	30 - 150	4.49	53475-01
D1036H-CC	External Pilot	1"	1"	NC	0 - 150	30 - 150	4.49	53475-01
D1047H-CC	External Pilot	1"	1-1/4"	NC	0 - 150	30 - 150	4.49	53475-01
E1012B-CY	Internal Pilot	1/4"	1/4"	NO	30 - 150	30 - 150	1.91	53473-05
E1013B-CY	Internal Pilot	1/4"	3/8"	NO	30 - 150	30 - 150	1.91	53473-05
E1022C-CY	Internal Pilot	1/2"	1/4"	NO	30 - 150	30 - 150	2.5	53474-03
E1023C-CY	Internal Pilot	1/2"	3/8"	NO	30 - 150	30 - 150	2.5	53474-03
E1024C-CY	Internal Pilot	1/2"	1/2"	NO	30 - 150	30 - 150	2.5	53474-03
E1025C-CY	Internal Pilot	1/2"	3/4"	NO	30 - 150	30 - 150	2.5	53474-03
E1035C-CC	Internal Pilot	1"	3/4"	NO	30 - 150	30 - 150	6.49	53475-01
E1036C-CC	Internal Pilot	1"	1"	NO	30 - 150	30 - 150	4.49	53475-01
E1047C-CC	Internal Pilot	1"	1-1/4"	NO	30 - 150	30 - 150	4.49	53475-01
E1012H-CY	External Pilot	1/4"	1/4"	NO	0 - 150	30 - 150	1.91	53473-05
E1013H-CY	External Pilot	1/4"	3/8"	NO	0 - 150	30 - 150	1.91	53473-05
E1022H-CY	External Pilot	1/2"	1/4"	NO	0 - 150	30 - 150	2.5	53474-03
E1023H-CY	External Pilot	1/2"	3/8"	NO	0 - 150	30 - 150	2.5	53474-03
E1024H-CY	External Pilot	1/2"	1/2"	NO	0 - 150	30 - 150	2.5	53474-03
E1025H-CY	External Pilot	1/2"	3/4"	NO	0 - 150	30 - 150	2.5	53474-03
E1035H-CC	External Pilot	1"	3/4"	NO	0 - 150	30 - 150	6.49	53475-01
E1036H-CC	External Pilot	1"	1"	NO	0 - 150	30 - 150	4.49	53475-01
E1047H-CC	External Pilot	1"	1-1/4"	NO	0 - 150	30 - 150	4.49	53475-01

* Repair Kit: Kits contain all elastomers necessary to service one valve body.

† External Pilot Supply: Pilot supply pressure must be equal to or greater than the operating pressure.

Prospector Series Poppet Valves

1/4" to 2" Solenoid Pilot Actuated

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

Inline valves with non-locking override

Model*	Solenoid	Basic Size	Port Size	Operating Pressure (psig)	Pilot Pressure** (psig)	Weight lbs.	Repair Kit†
3/2 (3-way) multi-directional							
C1012C-CY	Internal Pilot	1/2"	1/4"	30 - 150	30 - 150	2.12	53474-03
C1013C-CY	Internal Pilot	1/2"	3/8"	30 - 150	30 - 150	2.12	53474-03
C1014C-CY	Internal Pilot	1/2"	1/2"	30 - 150	30 - 150	2.12	53474-03
C1025C-CY	Internal Pilot	1/2"	3/4"	30 - 150	30 - 150	2.12	53474-03
C1035C-CC	Internal Pilot	1"	3/4"	30 - 150	30 - 150	2.12	53475-01
C1036C-CC	Internal Pilot	1"	1"	30 - 150	30 - 150	4.64	53475-01
C1037C-CC	Internal Pilot	1"	1-1/4"	30 - 150	30 - 150	4.64	53475-01
C1048C-CC	Internal Pilot	2"	1-1/2"	30 - 150	30 - 150	9.42	53822-01
C1049C-CC	Internal Pilot	2"	2"	30 - 150	30 - 150	9.42	53822-01
C1012H-CY	External Pilot	1/2"	1/4"	0 - 150	30 - 150	2.12	53474-03
C1013H-CY	External Pilot	1/2"	3/8"	0 - 150	30 - 150	2.12	53474-03
C1014H-CY	External Pilot	1/2"	1/2"	0 - 150	30 - 150	2.12	53474-03
C1025H-CY	External Pilot	1/2"	3/4"	0 - 150	30 - 150	2.12	53474-03
C1035H-CC	External Pilot	1"	3/4"	0 - 150	30 - 150	4.64	53475-01
C1036H-CC	External Pilot	1"	1"	0 - 150	30 - 150	4.64	53475-01
C1037H-CC	External Pilot	2"	1-1/4"	0 - 150	30 - 150	4.42	53475-01
C1048H-CC	External Pilot	2"	1-1/2"	0 - 150	30 - 150	9.42	53822-01
C1049H-CC	External Pilot	2"	2"	0 - 150	30 - 150	9.42	53822-01
C1052C-CY	Internal Pilot	1/2"	1/4"	30 - 150	30 - 150	2.12	53474-03
C1053C-CY	Internal Pilot	1/2"	3/8"	30 - 150	30 - 150	2.12	53474-03
C1054C-CY	Internal Pilot	1/2"	1/2"	30 - 150	30 - 150	2.12	53474-03
C1065C-CY	Internal Pilot	1/2"	3/4"	30 - 150	30 - 150	2.12	53474-03
C1088C-CC	Internal Pilot	2"	1-1/2"	30 - 150	30 - 150	9.42	53822-01
C1089C-CC	Internal Pilot	2"	2"	30 - 150	30 - 150	9.42	53822-01
4/2 (4 way)							
F1012C-CY	Internal Pilot	1/4"	1/4"	30 - 150	30 - 150	1.91	53477-06
F1013C-CY	Internal Pilot	1/4"	3/8"	30 - 150	30 - 150	1.91	53473-05
F1023C-CY	Internal Pilot	1/2"	3/8"	30 - 150	30 - 150	2.5	53474-06
F1024C-CY	Internal Pilot	1/2"	1/2"	30 - 150	30 - 150	2.5	53474-06
F1025C-CY	Internal Pilot	1/2"	3/4"	30 - 150	30 - 150	2.5	53474-06
F1035C-CC	Internal Pilot	1"	3/4"	30 - 150	30 - 150	2.5	53475-06
F1036C-CC	Internal Pilot	1"	1"	30 - 150	30 - 150	4.49	53475-06
F1037C-CC	Internal Pilot	1"	1-1/4"	30 - 150	30 - 150	4.49	53475-01
F1012H-CY	External Pilot	1/4"	1/4"	0 - 150	30 - 150	1.91	53477-06
F1013H-CY	External Pilot	1/4"	3/8"	0 - 150	30 - 150	1.91	53473-05
F1023H-CY	External Pilot	1/2"	3/8"	0 - 150	30 - 150	2.5	53474-06
F1024H-CY	External Pilot	1/2"	1/2"	0 - 150	30 - 150	2.5	53474-06
F1025H-CY	External Pilot	1/2"	3/4"	0 - 150	30 - 150	2.5	53474-06
F1035H-CC	External Pilot	1"	3/4"	0 - 150	30 - 150	2.5	53475-06
F1036H-CC	External Pilot	1"	1"	0 - 150	30 - 150	4.49	53475-06
F1037H-CC	External Pilot	1"	1-1/4"	30 - 150	30 - 150	4.49	53475-01

* Operators have non-locking override and 110/120V 50/60 Hz coil

** External Pilot Supply: Pilot supply pressure must be equal to or greater than the operating pressure.

† Repair Kit: Kits contain all elastomers necessary to service one valve body.

Technical Details for Prospector Solenoid Pilot Operated Valves

Rating	90 - 105% Continuous Duty; and 85 - 105% for CC.
Power Requirements	CC: 8 WDC, 8 WAC. CY: 6 WDC, 7 WAC. (See Options on VAL-12-13).
Electrical Connection	CC: Form A per DIN 43650; CE, CF, CY: Industry Standard Form B per DIN 43650.
Manual Override	Non-Locking (See Options on VAL-12-13)
Protection Class	IP65 (NEMA 4) (See Options on VAL-12-13)
Coil Type	Class H. Molded with 3-pin plug in connector. (See Options on VAL-12-13).
Plug	Cable grips for cables 6 to 8 mm (1/4" to 5/16") in diameter.

Prospector Series Poppet Valves

1/4" to 2" Solenoid Pilot Actuated

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

Voltage Options

Specify the desired valve model number (from pages 2, 3 or 5) and note the solenoid operator from the last 2 digits. Use the table below to obtain options and add the desired option part number to the model number.

For example: order AA025C-00-CY1W4 for a 2-port/2-position, normally closed, internal pilot, Solenoid Pilot Operated spring return valve with non-locking override using 24V/60Hz optional voltage.

Standard Solenoid Operators VOLTAGE	Optional Solenoid Operator					
	CC	CE, CY	CF*	C0, C1	X1	P1
12V/60Hz/50Hz	—	1W3	—	—	—	—
24V/50Hz	1WC	1W4	1WJ	—	—	1PG
24V/60Hz	1WC	1W4	1WJ	—	—	1PH
48V/50Hz	—	1W5	—	—	—	—
48V/60Hz	—	1W5	—	—	—	1PF
100V/50Hz	—	—	—	Standard	Standard	—
110V/50Hz	Standard	Standard	1WH	—	—	Standard
120V/50Hz	—	—	—	1RD	1NF	—
120V/60Hz	Standard	Standard	1WH	Standard	Standard	Standard
220V/50Hz	1WB	1W6	—	—	—	1PD
240V/60Hz	1WB	1W6	—	1R5	1NH	1PA
440V/50Hz	—	—	—	—	—	1PE
480V/60Hz	—	—	—	—	—	1PB
6VDC	—	—	1WK	1R1	1N7	—
12VDC	1WD	1W1	1WF	1R2	1NA	—
24VDC	1WA	1W2	Standard	1R3	1ND	—
110VDC	—	—	1WL	—	—	—

* CF operator is equipped with fluorocarbon elastomer as standard.

Replacement Coils

For replacement connectors and bases, please contact Technical Services.

VOLTAGE	Standard Solenoid Operators			Optional Solenoid Operators		
	CC	CE, CY	CF*	C0, C1	X1	P1
12V/60Hz/50Hz	—	54452-04	—	—	—	—
24V/50Hz	40110-K40	54452-05	54469-04	—	—	53761-32
24V/60Hz	40110-K40	—	54469-04	—	—	53761-33
48V/50Hz	—	54452-06	—	—	—	—
48V/60Hz	—	54452-06	—	—	—	53761-31
100V/50Hz	—	—	—	53901-01	53902-01	—
110V/50Hz	40110-K38	54452-01	54469-03	—	—	53761-28
120V/50Hz	—	—	—	53901-07	53902-13	—
120V/60Hz	40110-K38	54452-01	54469-03	53901-01	53902-01	53761-28
220V/50Hz	40110-K39	54452-07	54452-07	—	—	53761-29
240V/60Hz	40110-K39	54452-07	54452-07	53901-05	53902-14	53761-26
440V/50Hz	—	—	—	—	—	53761-30
480V/60Hz	—	—	—	—	—	53761-27
6VDC	—	—	54469-05	53901-02	53902-10	—
12VDC	40110-K41	54452-02	54469-01	53901-03	53902-11	—
24VDC	40110-K37	54452-03	54469-02	53901-04	53902-12	—
110VDC	—	—	54469-06	—	—	—

* CF operator is equipped with fluorocarbon elastomer as standard.

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, PTF, or ISO Rc 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.

Operation:

Poppet valve air pilot actuated.

Mounting:

Through-holes in valve body and subbase.

Port Size:

1/4" to 2" PTF, BSPP, or ISO Rc.

Operating Pressure:

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

Flow Characteristics:

Basicsize	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.

Operating Temperature:

-20°F to 175°F** (-29°C to 79°C)

**Consult Technical Service for use below 35°F (+2°C).

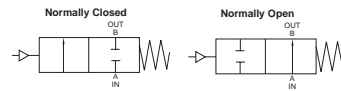
Materials

Body: Aluminum alloy body, piston, poppets and subbase.

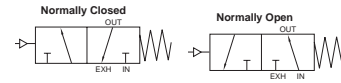
Operators: Zinc or aluminum air pilot operators.

Elastomers: Nitrile rubber seals. (Fluorocarbon seals are optional, contact Technical Services.)

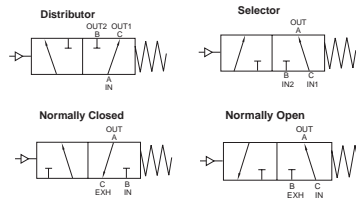
2-Port/2-Position



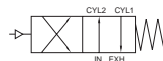
3-Port/2-Position



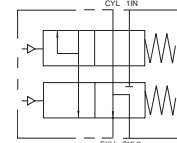
3-Port/2-Position Multi-Directional



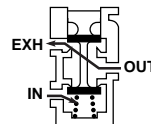
4-Port/2-Position 4-Way



4-Port/2-Position 3-Way Twin Normally Closed



This example shows a 3-way normally closed valve.



Prospector Series Poppet Valves

1/4" to 2" Air Pilot Actuated

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

Single air pilot operated spring return inline valves

Model	Basic Size	Port	Function Size	Operating Pressure (psig)	Pilot Pressure* (psig)	Weight lbs.	Repair Kit†
2/2 (2 way)							
A1012C-A1	1/2"	1/4"	NC	0 - 300	30 - 300	1.51	53474-03
A1013C-A1	1/2"	3/8"	NC	0 - 300	30 - 300	1.51	53474-03
A1014C-A1	1/2"	1/2"	NC	0 - 300	30 - 300	1.51	53474-03
A1015C-A1	1/2"	3/4"	NC	0 - 300	30 - 300	1.51	53474-03
A1025C-A1	1"	3/4"	NC	0 - 300	30 - 300	3.69	53475-01
A1026C-A1	1"	1"	NC	0 - 300	30 - 300	3.69	53475-01
A1027C-A1	1"	1-1/4"	NC	0 - 300	30 - 300	3.69	53475-01
A1038C-A1	2"	1-1/2"	NC	0 - 300	30 - 300	8.05	53822-01
A1039C-A1	2"	2"	NC	0 - 300	30 - 300	8.05	53822-01
B1012C-A1	1/2"	1/4"	NO	0 - 300	30 - 300	1.51	53474-03
B1013C-A1	1/2"	3/8"	NO	0 - 300	30 - 300	1.51	53474-03
B1014C-A1	1/2"	1/2"	NO	0 - 300	30 - 300	1.51	53474-03
B1015C-A1	1/2"	3/4"	NO	0 - 300	30 - 300	1.51	53474-03
B1025C-A1	1"	3/4"	NO	0 - 300	30 - 300	3.69	53475-01
B1026C-A1	1"	1"	NO	0 - 300	30 - 300	3.69	53475-01
B1027C-A1	1"	1-1/4"	NO	0 - 300	30 - 300	3.69	53475-01
3/2 (3 way)							
D1012H-A1	1/4"	1/4"	NC	0 - 300	30 - 300	1.2	53474-05
D1013H-A1	1/4"	3/8"	NC	0 - 300	30 - 300	1.2	53474-05
D1022C-A1	1/2"	1/4"	NC	0 - 300	30 - 300	1.79	53474-03
D1023C-A1	1/2"	3/8"	NC	0 - 300	30 - 300	1.79	53474-03
D1024C-A1	1/2"	1/2"	NC	0 - 300	30 - 300	1.79	53475-03
D1025C-A1	1/2"	3/4"	NC	0 - 300	30 - 300	1.79	53475-03
D1035C-A1	1"	3/4"	NC	0 - 300	30 - 300	3.78	53475-01
D1036C-A1	1"	1"	NC	0 - 300	30 - 300	3.78	53475-01
D1047C-A1	1"	1-1/4"	NC	0 - 300	30 - 300	3.78	53475-01
E1012H-A1	1/4"	1/4"	NO	0 - 300	30 - 300	1.2	53473-05
E1013H-A1	1/4"	3/8"	NO	0 - 300	30 - 300	1.2	53473-05
E1022C-A1	1/2"	1/4"	NO	0 - 300	30 - 300	1.79	53474-03
E1023C-A1	1/2"	3/8"	NO	0 - 300	30 - 300	1.79	53474-03
E1024C-A1	1/2"	1/2"	NO	0 - 300	30 - 300	1.79	53474-03
E1025C-A1	1/2"	3/4"	NO	0 - 300	30 - 300	1.79	53474-03
E1035C-A1	1"	3/4"	NO	0 - 300	30 - 300	3.78	53475-01
E1036C-A1	1"	1"	NO	0 - 300	30 - 300	3.78	53475-01
E1047C-A1	1"	1-1/4"	NO	0 - 300	30 - 300	3.78	53475-01
3/2 (3 way) Multi-directional							
C1012C-A1	1/2"	1/4"	-	0 - 300	30 - 300	1.41	53474-03
C1013C-A1	1/2"	3/8"	-	0 - 300	30 - 300	1.41	53474-03
C1014C-A1	1/2"	1/2"	-	0 - 300	30 - 300	1.41	53474-03
C1025C-A1	1/2"	3/4"	-	0 - 300	30 - 300	1.41	53474-03
C1035C-A1	1"	3/4"	-	0 - 300	30 - 300	3.94	53475-01
C1036C-A1	1"	1"	-	0 - 300	30 - 300	3.94	53475-01
C1037C-A1	1"	1-1/4"	-	0 - 300	30 - 300	3.94	53475-01
C1048C-A1	2"	1-1/2"	-	0 - 300	30 - 300	8.75	53822-01
C1049C-A1	2"	2"	-	0 - 300	30 - 300	8.75	53822-01
4/2 (3 way twin)							
G1023B-A4	1/2"	3/8"	-	0 - 300	30 - 300	2.25	53474-03
G1024B-A4	1/2"	1/2"	-	0 - 300	30 - 300	2.25	53474-03
G1025B-A4	1/2"	3/4"	-	0 - 300	30 - 300	2.25	53474-03
G1035B-A4	1"	3/4"	-	0 - 300	30 - 300	4.96	53474-03
G1036B-A4	1"	1"	-	0 - 300	30 - 300	4.96	53475-01
G1037B-A4	1"	1-1/4"	-	0 - 300	30 - 300	4.96	53475-01
4/2 (4 way)							
F1012C-A1	1/4"	1/4"	-	0 - 300	30 - 300	1.81	53473-05
F1013C-A1	1/4"	3/8"	-	0 - 300	30 - 300	1.81	53473-05
F1023C-A1	1/2"	3/8"	-	0 - 300	30 - 300	2.3	53474-06
F1024C-A1	1/2"	1/2"	-	0 - 300	30 - 300	2.3	53474-06
F1025C-A1	1/2"	3/4"	-	0 - 300	30 - 300	2.3	53474-06
F1035C-A1	1"	3/4"	-	0 - 300	30 - 300	5.42	53475-06
F1036C-A1	1"	1"	-	0 - 300	30 - 300	5.42	53475-06
F1037C-A1	1"	1-1/4"	-	0 - 300	30 - 300	5.42	53475-06

* Pilot supply pressure must be equal to or greater than the operating pressure.

** Repair Kit: Kit contains all elastomers necessary to service one valve body.

Prospector Series Poppet Valves

1/4" to 2" Manual & Mechanical 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 (PTF, BSPP, or ISO Rc threads)

Wide range of Manual and Mechanical 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.

Operation:

Poppet valve manual and mechanical pilot actuated.

Mounting:

Through-holes in valve body and subbase.

Port Size:

1/4" to 2" PTF, BSPP, or ISO Rc.

Operating Pressure:

Maximum 300 psig (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.

Operating Temperature:

-20°F to 175°F** (-29°C to 79°C)

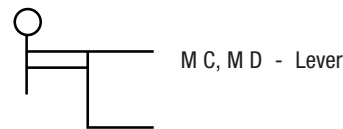
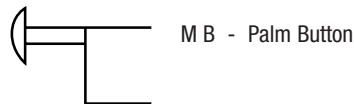
**Consult Technical Service for use below 35°F (+2°C).

Materials

Body: Aluminum alloy body, piston, poppets and subbase.

Operators: Aluminum manual and mechanical operators, stainless steel, acetal, steel.

Elastomers: Nitrile rubber seals. (Fluorocarbon seals are optional, contact Technical Services.)



Prospector Series Poppet Valves

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

Manual and mechanical operated spring return inline valves

Model Type	Pilot	Basic Size	Port Size	Function	Operating Pressure (psig)	Pilot Pressure* (psig)	Weight lbs.	Repair Kit**
2/2 (2 way)								
A1012C-MB	Internal	1/2"	1/4"	NC	30 - 300	30 - 300	2.1	53474-03
A1013C-MB	Internal	1/2"	3/8"	NC	30 - 300	30 - 300	2.1	53474-03
A1014C-MB	Internal	1/2"	1/2"	NC	30 - 300	30 - 300	2.1	53474-03
A1015C-MB	Internal	1/2"	3/4"	NC	30 - 300	30 - 300	2.1	53474-03
A1025C-MB	Internal	1"	3/4"	NC	30 - 300	30 - 300	4.27	53475-01
A1026C-MB	Internal	1"	1"	NC	30 - 300	30 - 300	4.27	53475-01
A1027C-MB	Internal	1"	1-1/4"	NC	30 - 300	30 - 300	4.27	53475-01
A1038C-MB	Internal	2"	1-1/2"	NC	30 - 300	30 - 300	8.64	53822-01
A1039C-MB	Internal	2"	2"	NC	30 - 300	30 - 300	8.64	53822-01
A1012H-MB	External	1/2"	1/4"	NC	0 - 300	30 - 300	2.1	53474-03
A1013H-MB	External	1/2"	3/8"	NC	0 - 300	30 - 300	2.1	53474-03
A1014H-MB	External	1/2"	1/2"	NC	0 - 300	30 - 300	2.1	53474-03
A1015H-MB	External	1/2"	3/4"	NC	0 - 300	30 - 300	2.1	53474-03
A1025H-MB	External	1"	3/4"	NC	0 - 300	30 - 300	4.27	53475-01
A1026H-MB	External	1"	1"	NC	0 - 300	30 - 300	4.27	53475-01
A1027H-MB	External	1"	1-1/4"	NC	0 - 300	30 - 300	4.27	53475-01
A1038H-MB	External	2"	1-1/2"	NC	0 - 300	30 - 300	8.64	53822-01
A1039H-MB	External	2"	2"	NC	0 - 300	30 - 300	8.64	53822-01
B1012C-MB	Internal	1/2"	1/4"	NO	30 - 300	30 - 300	2.1	53474-03
B1013C-MB	Internal	1/2"	3/8"	NO	30 - 300	30 - 300	2.1	53474-03
B1014C-MB	Internal	1/2"	1/2"	NO	30 - 300	30 - 300	2.1	53474-03
B1015C-MB	Internal	1/2"	3/4"	NO	30 - 300	30 - 300	2.1	53474-03
B1025C-MB	Internal	1"	3/4"	NO	30 - 300	30 - 300	4.27	53475-01
B1026C-MB	Internal	1"	1"	NO	30 - 300	30 - 300	4.27	53475-01
B1027C-MB	Internal	1"	1-1/4"	NO	30 - 300	30 - 300	4.27	53475-01
B1012H-MB	External	1/2"	1/4"	NO	0 - 300	30 - 300	2.1	53474-03
B1013H-MB	External	1/2"	3/8"	NO	0 - 300	30 - 300	2.1	53474-03
B1014H-MB	External	1/2"	1/2"	NO	0 - 300	30 - 300	2.1	53474-03
B1015H-MB	External	1/2"	3/4"	NO	0 - 300	30 - 300	2.1	53474-03
B1025H-MB	External	1"	3/4"	NO	0 - 300	30 - 300	4.27	53475-01
B1026H-MB	External	1"	1"	NO	0 - 300	30 - 300	4.27	53475-01
B1027H-MB	External	1"	1-1/4"	NO	0 - 300	30 - 300	4.27	53475-01
3/2 (3 way)								
D1012B-MB	Internal	1/4"	1/4"	NC	30 - 300	30 - 300	1.79	53473-05
D1013B-MB	Internal	1/4"	3/8"	NC	30 - 300	30 - 300	1.79	53473-05
D1022C-MB	Internal	1/2"	1/4"	NC	30 - 300	30 - 300	2.38	53474-03
D1023C-MB	Internal	1/2"	3/8"	NC	30 - 300	30 - 300	2.38	53474-03
D1024C-MB	Internal	1/2"	1/2"	NC	30 - 300	30 - 300	2.38	53474-03
D1025C-MB	Internal	1/2"	3/4"	NC	30 - 300	30 - 300	2.38	53474-03
D1035C-MB	Internal	1"	3/4"	NC	30 - 300	30 - 300	4.37	53475-01
D1036C-MB	Internal	1"	1"	NC	30 - 300	30 - 300	4.37	53475-01
D1047C-MB	Internal	1"	1-1/4"	NC	30 - 300	30 - 300	4.37	53475-01
D1012H-MB	External	1/4"	1/4"	NC	0 - 150	30 - 300	1.79	53473-05
D1013H-MB	External	1/4"	3/8"	NC	0 - 300	30 - 300	1.79	53473-05
D1022H-MB	External	1/2"	1/4"	NC	0 - 300	30 - 300	2.38	53474-03
D1023H-MB	External	1/2"	3/8"	NC	0 - 300	30 - 300	2.38	53474-03
D1024H-MB	External	1/2"	1/2"	NC	0 - 300	30 - 300	2.38	53474-03
D1025H-MB	External	1/2"	3/4"	NC	0 - 300	30 - 300	2.38	53474-03
D1035H-MB	External	1"	3/4"	NC	0 - 300	30 - 300	4.37	53475-01
D1036H-MB	External	1"	1"	NC	0 - 300	30 - 300	4.37	53475-01
D1047H-MB	External	1"	1-1/4"	NC	0 - 300	30 - 300	4.37	53475-01
E1012B-MB	Internal	1/4"	1/4"	NO	30 - 300	30 - 300	1.79	53473-05
E1013B-MB	Internal	1/4"	3/8"	NO	30 - 300	30 - 300	1.79	53473-05
E1022C-MB	Internal	1/2"	1/4"	NO	30 - 300	30 - 300	2.38	53474-03
E1023C-MB	Internal	1/2"	3/8"	NO	30 - 300	30 - 300	2.38	53474-03
E1024C-MB	Internal	1/2"	1/2"	NO	30 - 300	30 - 300	2.38	53474-03
E1025C-MB	Internal	1/2"	3/4"	NO	30 - 300	30 - 300	2.38	53474-03
E1035C-MB	Internal	1"	3/4"	NO	30 - 300	30 - 300	4.37	53475-01
E1036C-MB	Internal	1"	1"	NO	30 - 300	30 - 300	4.37	53475-01
E1047C-MB	Internal	1"	1-1/4"	NO	30 - 300	30 - 300	4.37	53475-01
E1012H-MB	External	1/4"	1/4"	NO	0 - 150	30 - 300	1.79	53473-05
E1013H-MB	External	1/4"	3/8"	NO	0 - 300	30 - 300	1.79	53473-05
E1022H-MB	External	1/2"	1/4"	NO	0 - 300	30 - 300	2.38	53474-03
E1023H-MB	External	1/2"	3/8"	NO	0 - 300	30 - 300	2.38	53474-03
E1024H-MB	External	1/2"	1/2"	NO	0 - 300	30 - 300	2.38	53474-03
E1025H-MB	External	1/2"	3/4"	NO	0 - 300	30 - 300	2.38	53474-03
E1035H-MB	External	1"	3/4"	NO	0 - 300	30 - 300	4.37	53475-01
E1036H-MB	External	1"	1"	NO	0 - 300	30 - 300	4.37	53475-01
E1047H-MB	External	1"	1-1/4"	NO	0 - 300	30 - 300	4.37	53475-01
E1047H-MB	External	1"	1-1/4"	NO	0 - 300	30 - 300	4.37	53475-01

* External Pilot Supply: Pilot supply pressure must be equal to or greater than the operating pressure.

** Spares Kit: Kits contain all elastomers necessary to service one valve body.

Prospector Series Poppet Valves

1/4" to 2" Manual & Mechanical Actuated

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

Inline valves with palm button, and spring return mechanical operators

Model	Pilot type	Basic Size	Port Size	Operating Pressure (psig)	Pilot Pressure* (psig)	Weight lbs.	Repair Kit**
3/2 (3-Way) multi-directional							
C1012C-MB	Internal	1/2"	1/4"	30 - 300	30 - 300	1.99	53474-03
C1013C-MB	Internal	1/2"	3/8"	30 - 300	30 - 300	1.99	53474-03
C1014C-MB	Internal	1/2"	1/2"	30 - 300	30 - 300	1.99	53474-03
C1025C-MB	Internal	1/2"	3/4"	30 - 300	30 - 300	1.99	53474-03
C1035C-MB	Internal	1"	3/4"	30 - 300	30 - 300	4.52	53475-01
C1036C-MB	Internal	1"	1"	30 - 300	30 - 300	4.52	53475-01
C1037C-MB	Internal	1"	1-1/4"	30 - 300	30 - 300	4.52	53475-01
C1048C-MB	Internal	2"	1-1/2"	30 - 300	30 - 300	9.3	53822-01
C1049C-MB	Internal	2"	2"	30 - 300	30 - 300	9.3	53822-01
C1012H-MB*	External	1/2"	1/4"	0 - 300	30 - 300	1.99	53474-03
C1013H-MB*	External	1/2"	3/8"	0 - 300	30 - 300	1.99	53474-03
C1014H-MB*	External	1/2"	1/2"	0 - 300	30 - 300	1.99	53474-03
C1025H-MB*	External	1/2"	3/4"	0 - 300	30 - 300	1.99	53474-03
C1035H-MB*	External	1"	3/4"	0 - 300	30 - 300	4.52	53475-01
C1036H-MB*	External	1"	1"	0 - 300	30 - 300	4.52	53475-01
C1037H-MB*	External	2"	1-1/4"	0 - 300	30 - 300	4.52	53475-01
C1048H-MB*	External	2"	1-1/2"	0 - 300	30 - 300	9.3	53822-01
C1049H-MB*	External	2"	2"	0 - 300	30 - 300	9.3	53822-01
C1052C-MB	Internal	1/2"	1/4"	30 - 300	30 - 300	1.99	53474-03
C1053C-MB	Internal	1/2"	3/8"	30 - 300	30 - 300	1.99	53474-03
C1054C-MB	Internal	1/2"	1/2"	30 - 300	30 - 300	1.99	53474-03
C1065C-MB	Internal	1/2"	3/4"	30 - 300	30 - 300	1.99	53474-03
C1088C-MB	Internal	2"	1-1/2"	30 - 300	30 - 300	9.3	53822-01
C1089C-MB	Internal	2"	2"	30 - 300	30 - 300	9.3	53822-01
4/2 (4 way) Inline Valves							
F1012C-MB	Internal	1/4"	1/4"	30 - 300	30 - 300	2.37	53473-05
F1013C-MB	Internal	1/4"	3/8"	30 - 300	30 - 300	2.37	53473-05
F1023C-MB	Internal	1/2"	3/8"	30 - 300	30 - 300	2.89	53474-06
F1024C-MB	Internal	1/2"	1/2"	30 - 300	30 - 300	2.89	53474-06
F1025C-MB	Internal	1/2"	3/4"	30 - 300	30 - 300	2.89	53474-06
F1035C-MB	Internal	1"	3/4"	30 - 300	30 - 300	6	53475-06
F1036C-MB	Internal	1"	1"	30 - 300	30 - 300	6	53475-06
F1037C-MB	Internal	1"	1-1/4"	30 - 300	30 - 300	6	53475-06
F1012H-MB	External	1/4"	1/4"	0 - 300	30 - 300	2.37	53473-05
F1013H-MB	External	1/4"	3/8"	0 - 300	30 - 300	2.37	53473-05
F1023H-MB	External	1/2"	3/8"	0 - 300	30 - 300	2.89	53474-06
F1024H-MB	External	1/2"	1/2"	0 - 300	30 - 300	2.89	53474-06
F1025H-MB	External	1/2"	3/4"	0 - 300	30 - 300	2.89	53474-06
F1035H-MB	External	1"	3/4"	0 - 300	30 - 300	6	53475-06
F1036H-MB	External	1"	1"	0 - 300	30 - 300	6	53475-06
F1037H-MB	External	1"	1-1/4"	0 - 300	30 - 300	6	53475-06

* External Pilot Supply: Pilot supply pressure must be equal to or greater than the operating pressure.

** Spares Kit: Kits contain all elastomers necessary to service one valve body.

Prospector Series Poppet Valves

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

Port sizes (PTF standard: BSPP optional on most sizes)

Basic Size	Inlet and Cylinder Ports	Exhaust on 3/2	Exhaust on all other Models
		Multi-directional Models	
1/4"	1/4"	–	3/8"
	3/8"	–	3/8"
1/2"	1/4"	1/4"	3/8"
	3/8"	3/8"	1/2"
	1/2"	1/2"	3/4"
	3/4"	3/4"	3/4"
1"	3/4"	3/4"	1"
	1"	1"	1-1/4"
	1-1/4"	1-1/4"	1-1/4"
2"	1-1/2"	1-1/2"	2"
	2"	2"	2"

Port Identification

Each of the valve ports is identified with a cast or stamped marking adjacent to the port.

Valve Materials

Main valve body, pistons, poppets, subbase: Aluminum (treated to resist corrosion).

Standard solenoid operators: Zinc (treated to resist corrosion), stainless steel, reinforced polyester, acetal, copper wire.

Optional solenoid operators: Aluminum (treated to resist corrosion), stainless steel, brass, acetal, copper wire.

Manual & mechanical operators: Aluminum (treated to resist corrosion) stainless steel, acetal, steel (treated to resist corrosion).

Elastomers: Nitrile. Fluorocarbon is optional when lubricants or impurities in the air system are incompatible with Nitrile.

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 at 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 additopm. 4-port/2-position (4-way) valves can be connected the same way as 3-port/2-position (3-way) valves for selectin 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.

Representative response times @ 90 psig (6.2 bar) inlet pressure

Time lapse between solenoid energized and initial rise of outlet pressure

Operator	Valve body		
	Basic 1/4"	Basic 1/2"	Basic 1"
	4-way	3-way	3-way
C1	3.1 ms	34.9 ms	68.9 ms
CC	3.4 ms	15.2 ms	32.2 ms
CE	4.0 ms	21.0 ms	42.0 ms
CF	3.9 ms	38.3 ms	82.3 ms

Time lapsed between solenoid energized and outlet pressure rise to 90% of inlet pressure

Operator	Valve body		
	Basic 1/4"	Basic 1/2"	Basic 1"
	4-way	3-way	3-way
C1	63.7 ms	40.8 ms	83.0 ms
CC	28.9 ms	19.0 ms	40.3 ms
CE	37.8 ms	25.1 ms	52.4 ms
CF	80.7 ms	45.8 ms	102.8 ms

Prospector Series Poppet Valves

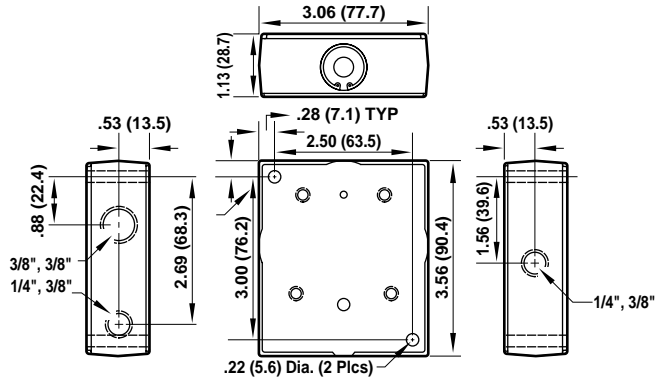
1/4" to 2" Manual & Mechanical Actuated

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

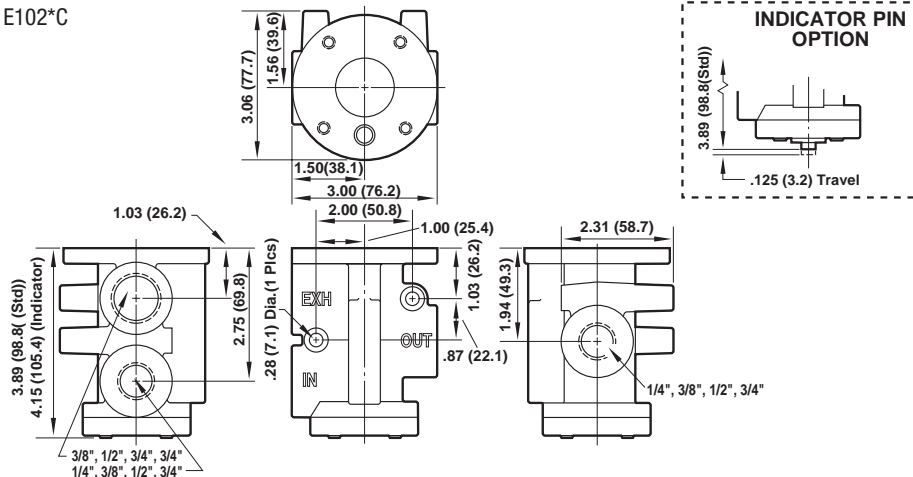
3/2 Inline Bodies

Dimensions in inches (mm)

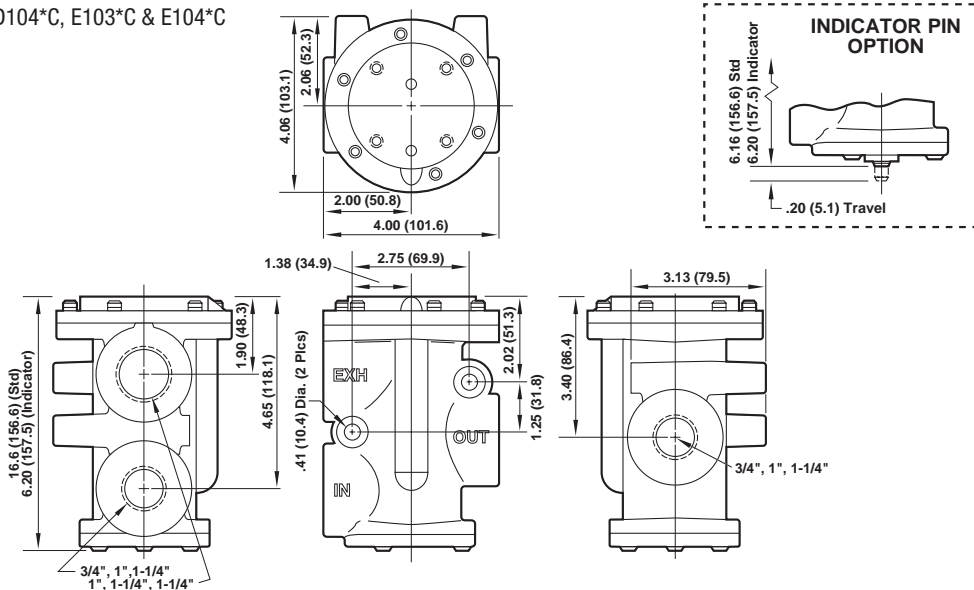
Basic 1/4-Inch Body D101*B & E101*B
(3-Port/2-Position Pilot Operated Valve)



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



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



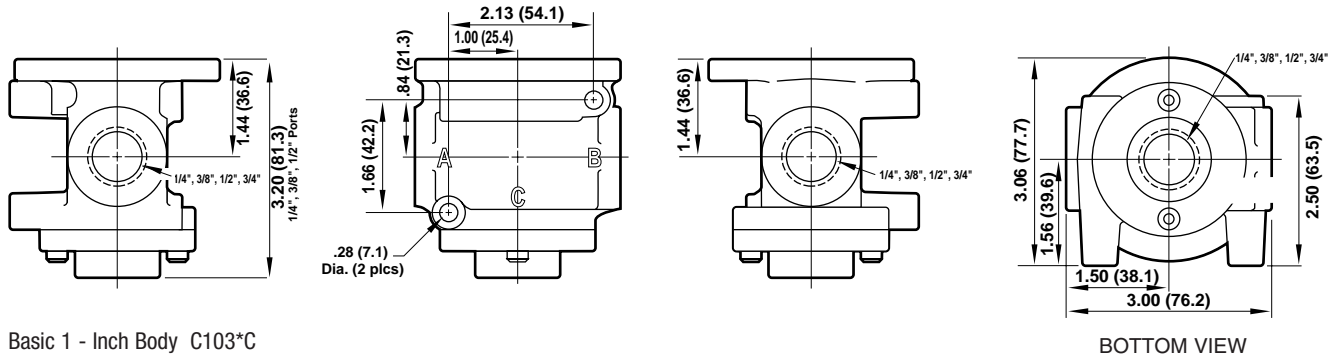
Prospector Series Poppet Valves

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

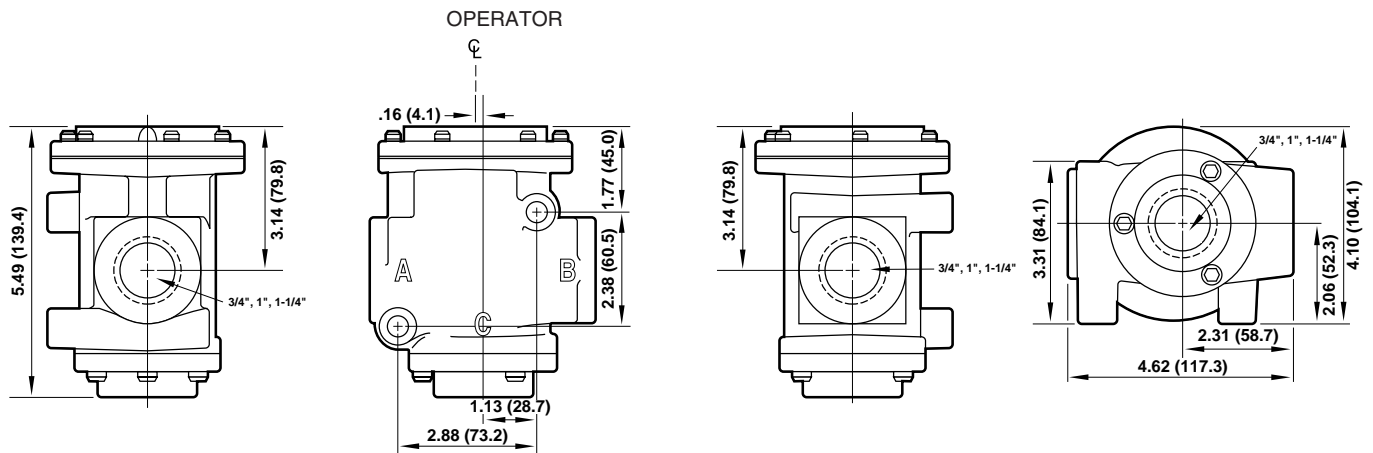
Dimensions in inches (mm)

3/2 Multi-Directional Inline Bodies

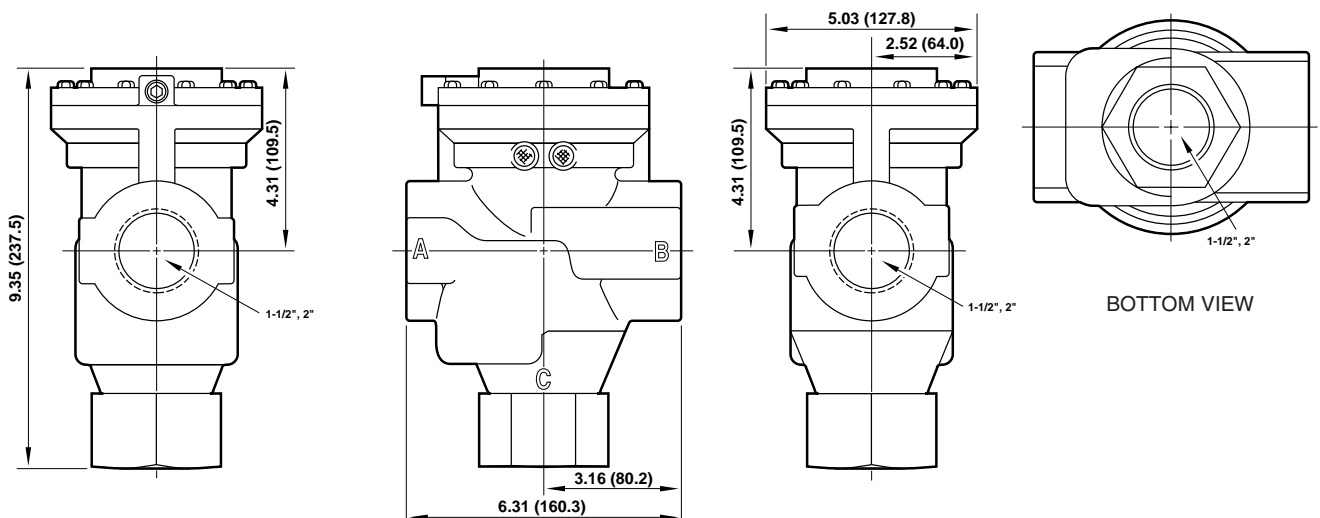
Basic 1/2 - Inch Body C101*C, C102*C, C105*C & C106*C
(3/2 Multi-Directional Pilot Operated Valve)



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



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



Prospector Series Poppet Valves

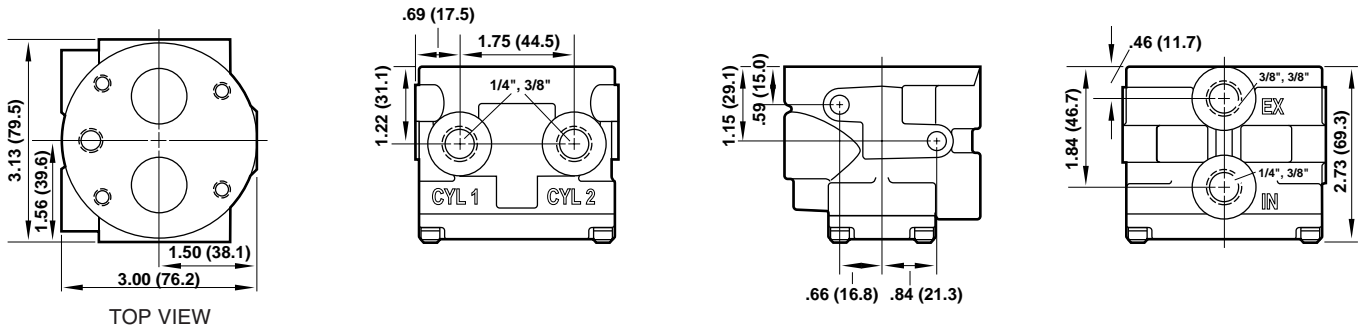
1/4" to 2" Manual & Mechanical Actuated

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

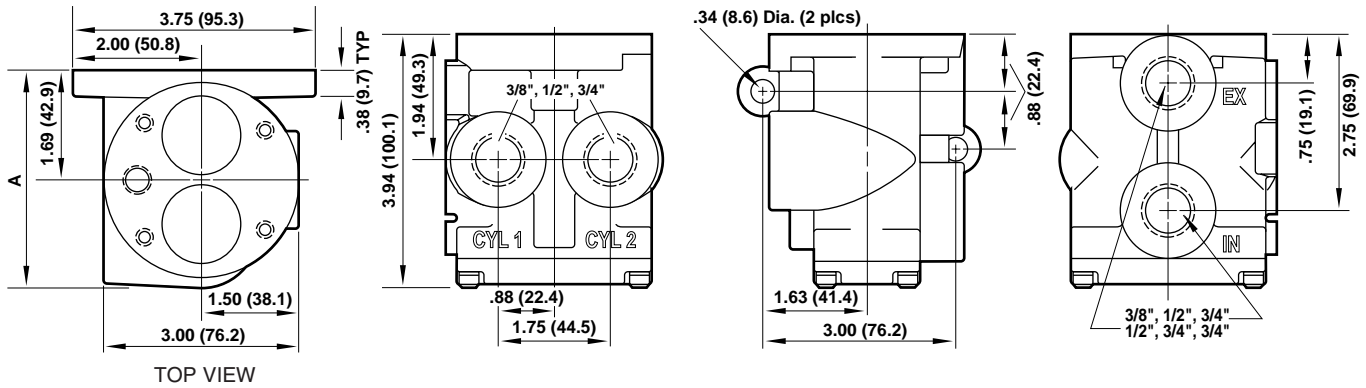
Dimensions in inches (mm)

4/2 Inline Bodies

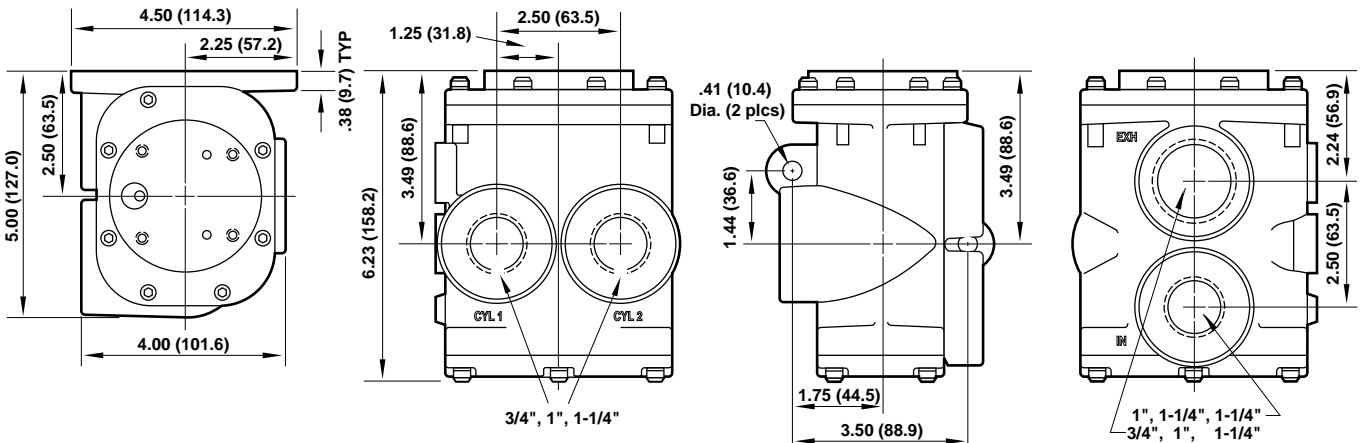
Basic 1/4 - Inch Body F101*C
(4/2 Pilot Operated Valve)



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



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

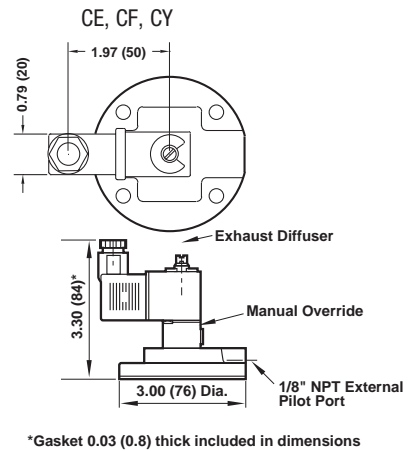
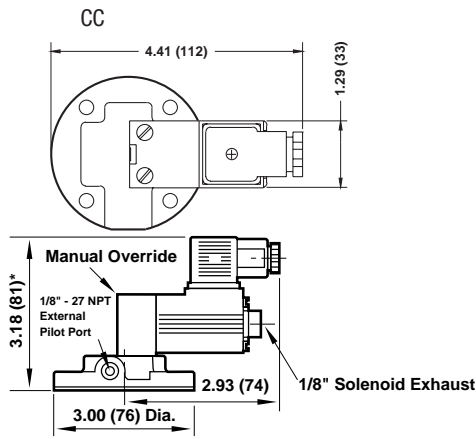


Prospector Series Poppet Valves

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

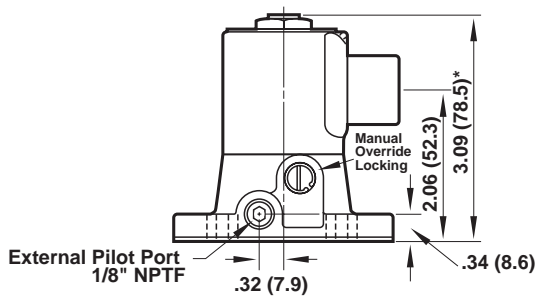
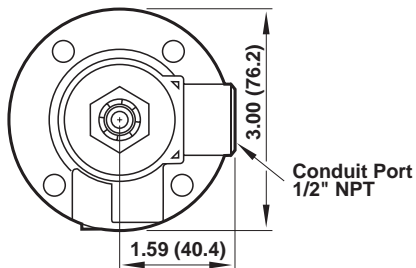
Dimensions in inches (mm)

Valve Body Operator with Standard Cable Grip Connector



Optional C Series

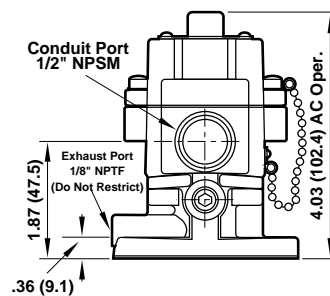
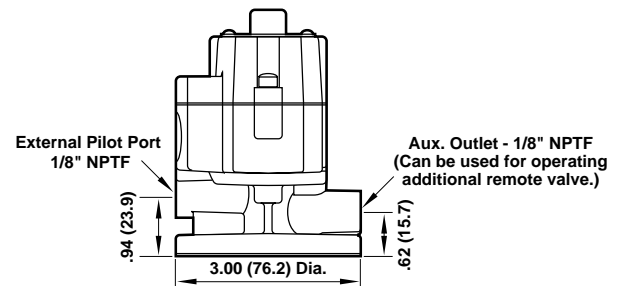
Conduit Housing
C0, C1



* Gasket 0.03 (0.8) thick included in dimensions.

Optional P Series

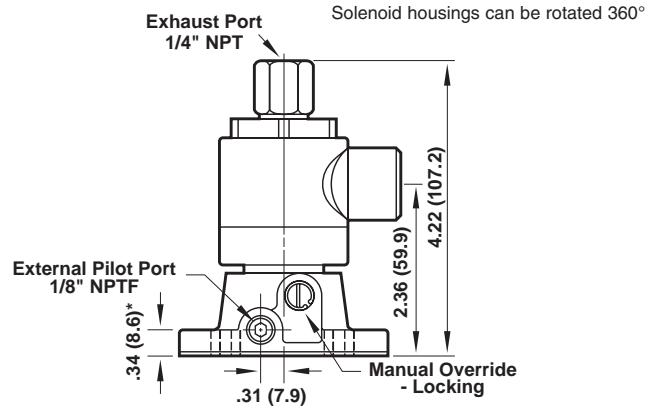
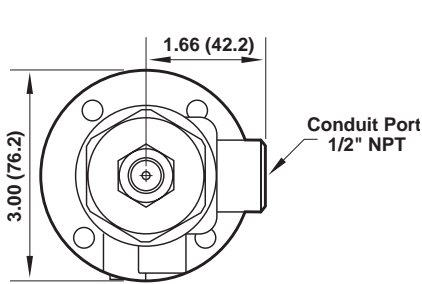
P1



Prospector Series Poppet Valves

Valve Body Operator Dimensions with Optional X Series - Hazardous Location

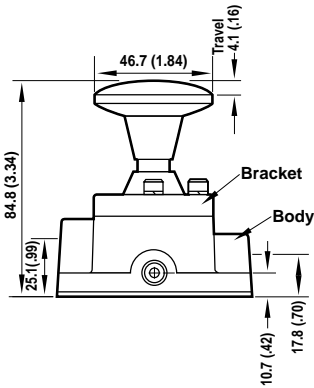
X1



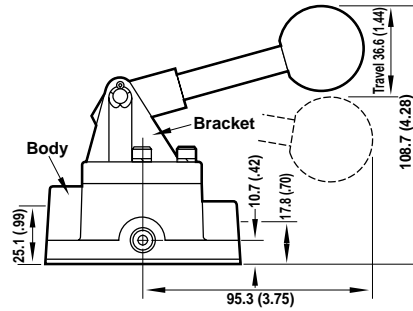
* Gasket 0.03 (0.8) thick included in dimensions.

Manual & Mechanical Operators Dimensions
Bracket can be rotated in 90° increments on operator body.

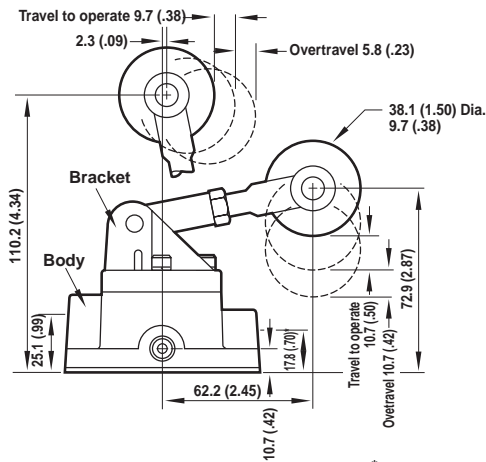
MB – Palm Button



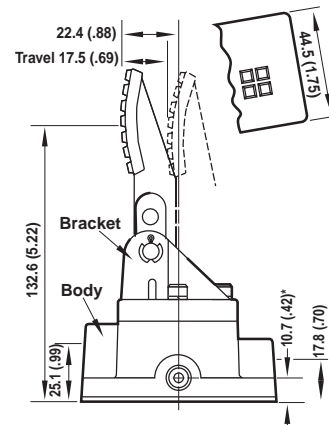
MC, MD Lever, Horizontal



MJ, MK - Roller, Horizontal or Vertical



MM - Foot Pedal, Vertical



* Gasket, .03 (.8) thick, included in dimensions.

Prospector Series Poppet Valves

Smooth Start Valves and Time Delay Options

Adjustable delay, up to 50 seconds

Time delays available in two functional models for 0 to 5 and 0 to 60 second delays

Time Delay on Operate and Time Delay on Release, normally open and normally closed available

Can be used in conjunction with most Norgren Poppet valves

Technical Data

Medium

3-Port/2-Position Time Delays: Filtered, nonlubricated dry compressed air.
Other Time Delays: Filtered (5-micron), nonlubricated, dry compressed air at a constant pressure and temperature. The finer the filtration and the closer the regulation, the better the accuracy and repeatability of the time delay.

Mounting

Through-holes in valve body, inline, or on valve.

Port Size

3-Port/2-Position Time Delays: 1/4" PTF, BSPP, or ISO Rc.

Operating Pressure Range

3-Port/2-Position Time Delays: 30 to 150 psig (2.1 to 10.3 bar).

Other Time Delays: Equal to or greater than main valve inlet pressure but not less than 30 psig (2.1 bar) and not greater than 150 psig (10.3 bar).

Operating Temperature

All Time Delays: 35°F to 130°F (2°C to 54°C).

Consult Technical Service for use below 35°F (+2°C).

Materials

Body: Aluminum alloy body, acetal, or aluminum check valve, stainless steel adjusting screw.

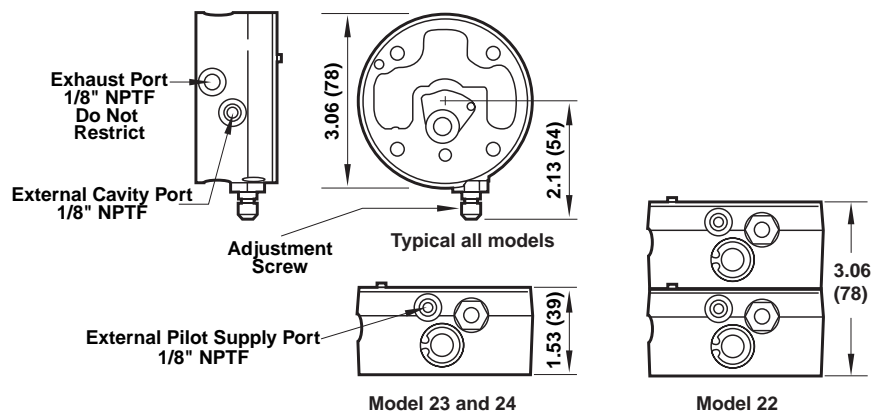
Elastomers: Nitrile rubber seals.

3-Port/2-Position Time Delay Valves

Norgren Time Delay Valves consist of a 0 to 60 second time delay fitted with an A1 air operator and a special bottom cap with IN and OUT ports. They are used to provide delayed actuation or release of valves or other pneumatic devices that do not require large air flows.

Symbol	Type	Port Size	Cv Factor In to Out Ports	Cv Factor Out to Exhaust Ports	Model	Weight lbs (kg)
	Normally Closed, Time Delay on Operate (TDO)	1/4"	0.15	0.16	Z0002A	2.06 (0.94)
	Normally Open, Time Delay on Operate (TDO)	1/4"	0.16	0.09	Z0003A	2.06 (0.94)

* Thread: Insert 4 for BSPP; 1 for PTF; or 6 for ISO Rc.



Prospector Series Poppet Valves

Smooth Start Valves and Time Delay Options

0 to 5 Second Time Delays, & 0 to 60 Second Time Delays - Standard Applications and Special Applications For Use With Air and Solenoid Operated Poppet Valves

Most Norgren solenoid and air operated poppet valves can be equipped with an adjustable 0 to 5 or 0 to 60 second time delay. Both available in two functional models.

- (1) Time Delay on Operation (TDO), which delays shifting of the main valve poppet on application of the pilot signal, and releases the poppet immediately upon removal of the signal, and
- (2) Time Delay on Release (TDR), which shifts the main valve poppet immediately upon the application of the pilot signal, and delays release of the poppet on removal of the signal.

Norgren Air Pilot Operated Poppet Valves can be equipped with a Special Application 0 to 60 second One Shot Model, which shifts the main poppet respectively upon application of the pilot signal and releases the poppet after the time delay period is completed.

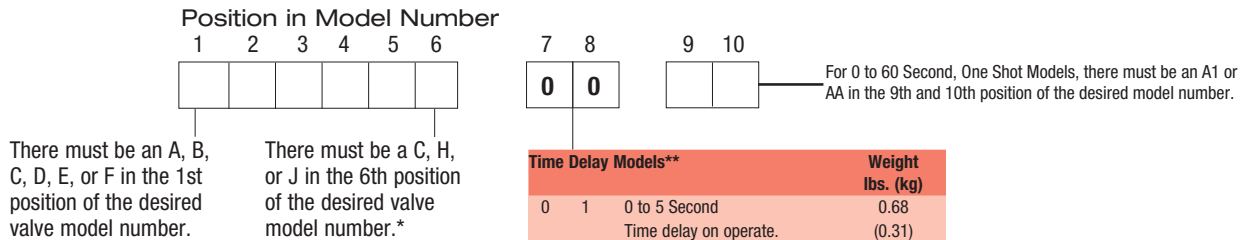
Ordering Information

Use only with valves as defined in the following diagram.

To order valves with a time delay, note the desired valve model number from previous pages in Section 10. Insert the desired time delay model number in the 7th and 8th positions of the valve model number as shown in the following diagram. For example: for a 4-Port/2-Position Air Pilot Operated Inline valve, F1024C-00-A1, with a 0 to 5 Second Time Delay on release order: F1024C-02-A1.

For 0 to 5 second time delay - DO NOT USE WITH 2" basic valves.

For 0 to 60 second ONE SHOT SPECIAL APPLICATION - DO NOT USE WITH 3-way twin valves.



NOTES:

* Valves with an internal pilot supply are identified by a C in the 6th position of the model number. See Figure 1 (on following page) for installation. ALTERNATE CONFIGURATION - MODE - 23 ONE SHOT TIME DELAY: The Alternate Configuration of Model 23 Time Delay (see next page for description) requires an unrestricted internal pilot supply passage. Select the desired valve model number as described above, then change the 6th position of the model number to B, i.e. D1022B-23-A1, when ordering Model 23 Alternate Configuration. See figure 1 for installation. When used with valves that have an external pilot supply (designated by an H or J in the 6th position of the valve model number), the pilot supply must be connected to the operator (Figure 2). Zero to five second time delays do not have an external pilot supply port.

** An adjustment screw provides an adjustment range of 0 to 5 or 0 to 60 seconds. For 0 to 60 second only this range can be extended by increasing the volume of the time delay cavity in the timer body. A port is provided in the body for connecting an additional external cavity which can consist of a short length of pipe (capped at one end) or other similar air receiver. Increasing the cavity an additional 29.5 cubic cm., (1.8 cubic inches) will roughly double the delay time for the same adjustment screw setting. There must be an A, B, C, D, E, or F in the 1st position of the desired valve model number.

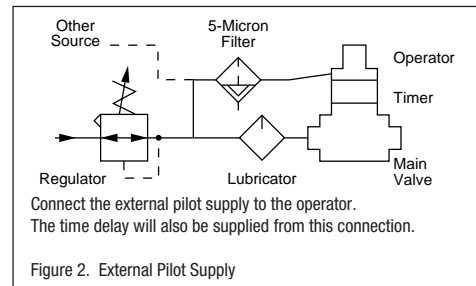
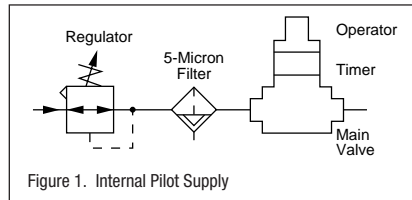
Prospector Series Poppet Valves

Smooth Start Valves and Time Delay Options

0 to 5 Second Time Delays, & 0 to 60 Second Time Delays - Standard Applications Cont.

Pilot Air Supply

The pilot air supply to the time delay must be filtered and regulated as described under Medium. For best timer performance, the installation shown in Figure 2 is recommended.



Graphic Symbols and Timing Sequences

SIG — Pilot Signal

IPS — Internal Pilot Supply

EPS — External Pilot Supply (Shown Plugged)

EXH — Exhaust

MV — Main Valve (Piston)

ACT — Actuated

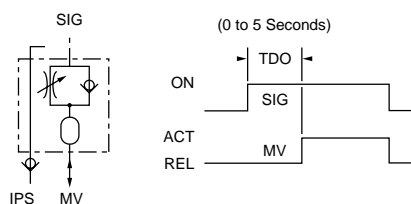
REL — Released (Deactuated)

IN PR — Inlet Pressure (Main Valve)

—X— Port/Passage Plugged

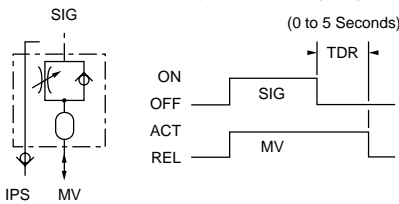
—|— Passage Blocked

Model 01 - Time Delay on Operate (TDO)



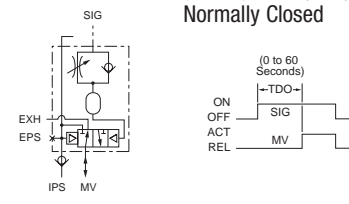
1. No pilot signal - main valve released.
2. Pilot signal applied - main valve actuates after the time delay period (TDO) is completed and remains actuated so long as the pilot signal is sustained.
3. Pilot signal removed - main valve released immediately.

Model 02 - Time Delay on Release (TDR)



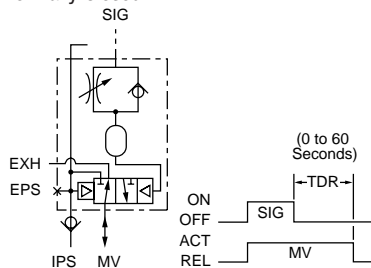
1. No pilot signal - main valve released.
2. Pilot signal applied - main valve actuates immediately and remains actuated so long as the pilot signal is sustained.
3. Pilot signal removed - main valve releases after the time delay period (TDR) is completed.

Model 03 - Time Delay on Operate (TDO) Normally Closed



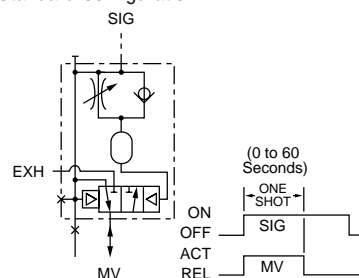
1. No pilot signal - main valve released.
2. Pilot signal applied - main valve actuates after the time delay period (TDO) is completed and remains actuated so long as the pilot signal is sustained.
3. Pilot signal removed - main valve released immediately.

Model 04 - Time Delay on Release (TDR) Normally Closed



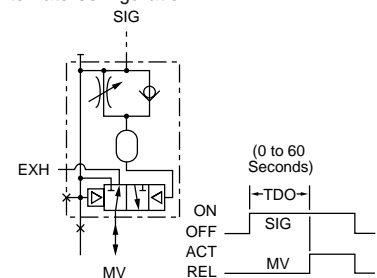
1. No pilot signal - main valve released.
2. Pilot signal applied - main valve actuates immediately and remains actuated so long as the pilot signal is sustained.
3. Pilot signal removed - main valve releases after the time delay period (TDR) is completed.

Model 23 One Shot, Normally Open Standard Configuration



1. No pilot signal - main valve released.
2. Pilot signal applied - main valve actuates immediately, then releases after the time delay period (one shot) is completed and remains released.
3. Pilot signal removed - main valve remains released.

Model 23 One Shot, Normally Open Alternate Configuration



1. Main valve inlet pressurized - main valve actuates immediately, then releases after the time delay period (one shot) is completed and remains released.
2. Main valve inlet pressure reduced to zero psig - main valve remains released.

Internal pilot supply Shut off air supply to main valve. Cycle valve operator until trapped air is exhausted from the main valve piston chamber, operator, and time delay. You may also install a 2-way vent valve on the external pilot supply port.

External pilot supply Shut off air supply to main valve and the pilot supply. Cycle the valve operator until the trapped air is exhausted. You may also install a 2-way vent valve on external pilot supply line.

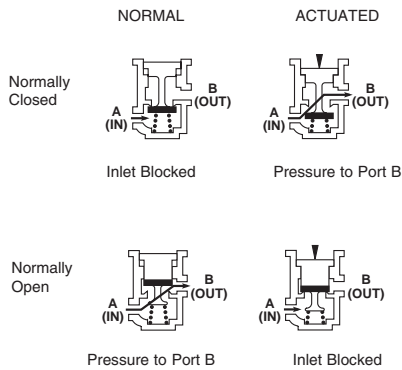
Prospector Series Poppet Valves

Valve types

2-Port/2-Position

These 2-way valves have an inlet and outlet port and are used as shutoff valves that open or close an air line. They are available in normally closed or normally open models. The normally closed model blocks flow when in its normal position, and permits flow when it is actuated. The normally open model permits flow when in its normal position, and blocks flow when actuated. Typical applications include on-off control of main plant air, air to branch lines, systems and air motors.

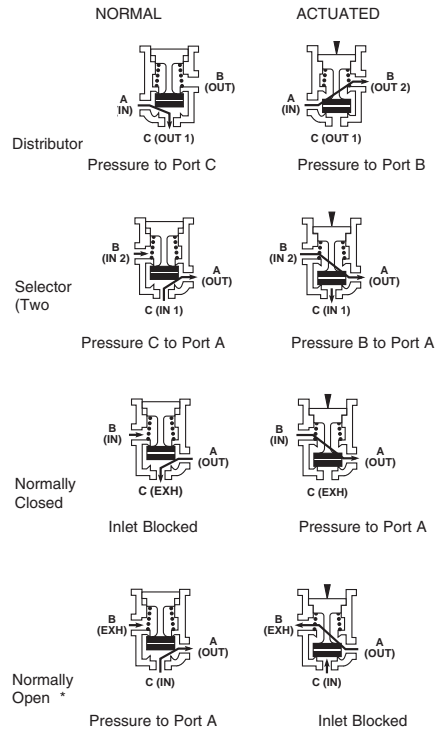
Flow Diagrams



3-Port/2-Position (Multi-Directional)

These 3-way valves can be used in four different ways — as a distributor, directing air first to one port, then to another; as a selector, directing first high, then low pressure air (or vacuum) to the same outlet; as a standard 3-port/2-position normally closed valve; and as a standard 3-port/2-position normally open * valve. Multi-directional valves are the only poppet valves with which speed controls can be installed in the exhaust port.

Flow Diagrams



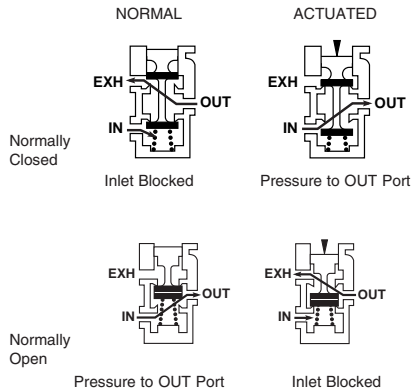
* Normally open valves require an external pilot supply.

3-Port/2-Position

These 3-way valves have an inlet, outlet, and exhaust port and are typically used to pressurize and then exhaust air from such devices as single-acting cylinders. They are available in normally closed or normally open models. The normally closed model exhausts air from the device when in its normal position, and pressurizes the device when actuated. The normally open model pressurizes the device when in its normal position and exhausts air from the device when actuated.

The normally closed valve is available with two options: a position indicator pin and an air or solenoid momentary signal operator. The indicator pin can be used to operate a switch or other device to provide a signal for a control circuit. The momentary signal operator is used when it is desirable to control the valve with two alternately applied momentary signals (first signal shifts and holds the poppet; the second allows the poppet to return to its normal position).

Flow Diagrams



Prospector Series Poppet Valves

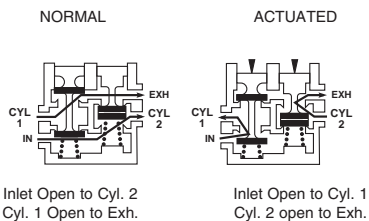
Valve types

4-Port/2-Position (4-Way)

This 4-way valve has a normally closed and a normally open 3-way valve element in a common body. Both elements are actuated simultaneously by a single operator. The valve body has an inlet, exhaust, and two outlet ports. In the normal position, pressurized air is directed to one outlet port and air is exhausted from the second outlet port. In the actuated position, the connections are reversed. Typical applications include control of double acting cylinders and reversible air motors.

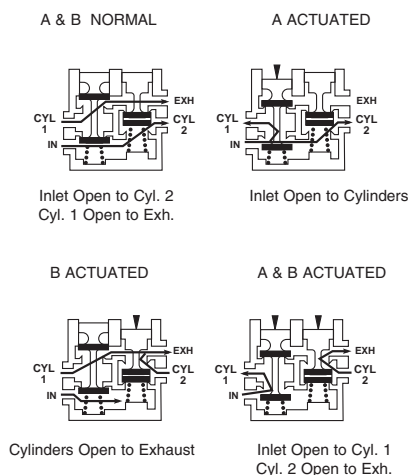
This valve is available with an optional air or solenoid momentary signal operator. Momentary signal operators are used when it is desirable to control the valve with two alternately applied momentary signals. The first signal shifts and holds the valve poppets in the actuated position; the second allows the poppets to return to the normal position.

Flow Diagrams with Single and Momentary Signal Operator



The 4-port/2-position (4-way) valve is also available with an optional air or solenoid twin operator, which allows independent operation of each valve element.

Flow Diagrams with Twin Operator



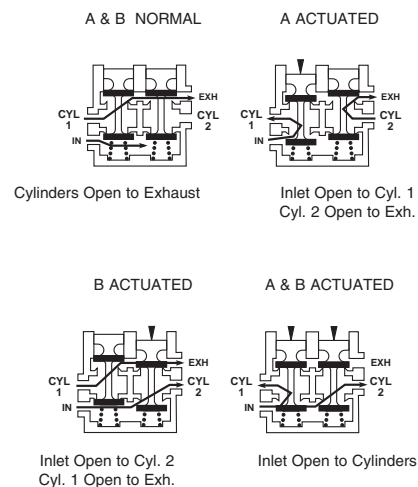
4-Port/2-Position (3-Way Twin, Normally Closed)

This 3-way twin valve has two normally closed 3-way valve elements in a common body. Each element is capable of independent actuation by an air or a solenoid operator. The valve body has an inlet, exhaust, and two outlet ports. In the normal position, pressurized air is blocked at the inlet port and air is exhausted from both outlet ports. It functions the same as two 3-port/2-position valves but provides greatly simplified plumbing and reduced package size.

NOTE

This valve may be used as a 3-position, 4-way, spring centered valve with cylinder ports open to exhaust in centered or normal position.

Flow Diagrams



Prospector Series Poppet Valves

Flow (Cv) Factors. Flow ratings determined in accordance with ANSI (NFPA) T3.21.3, Pneumatic fluid power - Flow test procedure and reporting method - for fixed orifice components.

Valve Type		Basic Size	Port Size	Average Cv Factor			
2-Port/2-Position				Normally Closed Models A to B Ports		Normally Open Models A to B Ports	
		1/2"	1/4"	2.1	2.3		
			3/8"	3.4	3.8		
			1/2"	5.3	5.4		
			3/4"	6.5	6.3		
		1"	3/4"	10.7	12.0		
			1"	13.5	15.4		
			1-1/4"	16.3	17.9		
		2"	1-1/2"	34.0	—		
			2"	39.6	—		
3-Port/2-Position		Basic	Basic	Normally Closed Models		Normally Open Models	
Type	Ports			In to Out Ports	Out to Exh Ports	In to Out Ports	Out to Exh Ports
Distributor	A to C & A to B	1/4"	1/4"	1.5	1.8	1.5	1.8
	C to A & B to A		3/8"	1.7	1.8	1.7	1.8
Selector	A to C & B to A	1/2"	1/4"	2.7	3.9	2.0	3.6
			3/8"	3.6	4.9	3.1	4.6
			1/2"	4.6	5.8	4.1	5.5
N.C.	A to C & B to A	1"	3/4"	5.4	6.2	4.9	5.8
			3/4"	11.2	13.3	10.6	12.8
			1"	13.2	14.6	11.7	13.8
N.O.	C to A & A to B	2"	1-1/4"	16.6	18.4	12.0	15.5
			1-1/4"	18.3	14.0	14.6	16.5
3-Port/2-Position Multi-Directional		1/2"	1/4"	A to C Ports	A to B Ports	C to A Ports	B to A Ports
Type	Ports			In to Cyl 2	Cyl 1 to Exh	In to Cyl 1	Cyl 2 to Exh
Distributor	A to C & A to B	1"	3/4"	2.5	2.0	2.3	2.1
	C to A & B to A		3/8"	4.0	2.7	3.7	2.9
Selector	A to C & B to A	2"	1/2"	5.7	3.4	4.7	4.0
			3/4"	6.1	4.0	5.2	4.4
N.C.	A to C & B to A	1"	3/4"	14.8	10.3	13.4	11.1
			1"	17.7	13.2	14.0	14.1
N.O.	C to A & A to B	2"	1-1/4"	18.3	14.0	14.6	16.5
			1-1/2"	44.8	33.1	41.2	35.6
4-Port/2-Position (Inline Valves)		1/4"	1/4"	4-Way		3-Way Twin, Normally Closed	
				In to Cyl 2	Cyl 1 to Exh	In to Cyl 1	Cyl 2 to Exh
		1/2"	3/8"	1.2	1.6	1.2	1.6
			3/8"	1.4	1.6	1.4	1.6
		1"	3/4"	3.0	4.5	3.1	4.3
			1/2"	4.0	5.4	4.1	5.1
		1"	3/4"	4.8	5.8	5.0	5.4
			1"	10.3	13.1	11.0	12.5
			1-1/4"	11.3	14.3	12.9	13.4
		1"	1-1/4"	11.6	14.5	14.3	13.7
			2"	49.5	40.0	46.1	42.8
All Subbase Valves		Basic	Basic	4-Way		3-Way Twin, Normally Closed	
Type	Ports			In to Cyl 1 Port	In to Cyl 2 Port	Cyl 1 to Exh Port	Cyl 2 to Exh Port
Distributor	A to C & A to B	1/2"	1/4"	1.8	2.0	3.4	3.2
			3/8"	2.7	3.0	3.7	3.7
			1/2"	3.2	3.6	4.7	4.7
			3/4"	3.5	3.9	4.7	4.7
Selector	A to C & B to A	1"	3/4"	10.0	9.0	12.0	10.5
			1"	11.9	10.3	12.7	11.1
			1-1/4"	13.0	11.1	13.0	11.3

Prospector Series Poppet Valves

Repair Kits and Factory Installed Fluorocarbon Elastomers

- When requesting repair kits or information for your valve, give both main valve and operator model numbers exactly as found on their respective nameplates.
- Repair Kits - Repair kits contain all elastomers necessary to service one valve body, operator, or time delay. Order the appropriate valve body, operator, and time delay repair kit as required to service your valve.
- Valve Bodies and Operators with Factory Installed Fluorocarbon Elastomers - Valve bodies and some operators are available with fluorocarbon elastomers for use when contaminants in the air system are incompatible with the standard nitrile elastomers. To order valves with fluorocarbon elastomers, specify the desired valve model number (from the preceding pages plus the Order With numbers given below. Be sure to specify the Order With number for the valve body and the Order With number for the operator. Fluorocarbon elastomers are not available on Time Delays, on the A6 Air Operator, or on the standard C Series Solenoid Operators.

Position in Model Number



Type	Internal Variation	Repair Kit		Order With	Type	Repair Kit (Nitrile Only)	Repair Kit**		Order With
		Nitrile	Fluoro-carbon	Factory Installed Fluorocarbon Elastomer			Nitrile	Fluoro-carbon	Factory Installed Fluorocarbon Elastomer
A101	B, C, E, F, H, J, K	53474-03	53474-14	53474-21 1E	01	53477-01	A1	None Used	None Used
A102	B, C, E, F, H, J, K	53475-01	53475-07	53475-13 1F2	02	53477-01	A4	None Used	None Used
A103	B, C, H, J	53822-01	53909-01	53909-03 1F8	03	53477-03	A6	53476-01	—
B101	B, C, E, F, H, J, K	53474-03	53474-14	53474-21 1E	04	53477-03	CC	—	—
B102	B, C, E, F, H, J, K	53475-01	53475-07	53475-13 1F2	05 Top	53477-01	CE	—	—
C101	B, C, E, F, H, J, K	53474-03	53474-08	53474-15 1E8	05 Bottom	53477-03	CF	—	—
C102	B, C, E, F, H, J, K	53474-03	53474-08	53474-15 1E8	09	53477-03	CN	—	Standard ††
C103	B, C, E, F, H, J, K	53475-01	53475-07	53475-13 1F2	10	53477-03	CP	—	—
C104	B, C, H, J	53822-01	53909-02	53909-04 1F9	22 Top	53477-03	CR	—	—
C105	B, C, E, F, H, J, K	53474-03	53474-08	53474-15 1E8	22 Bottom	53477-03	CS	—	—
C106	B, C, E, F, H, J, K	53474-03	53474-08	53474-15 1E8	23	53477-03	CT	—	53478-13
C108	B, C, H, J	53822-01	53909-02	53909-04 1F9	24	53477-03	CU	—	Standard ††
D101	B, E, F, H, K	53473-05	53473-06	53473-11			CV	—	—
D102	B, C, E, F, H, J, K	53474-03	53474-09	53474-16 1E9			CW	—	—
D103	B, C, E, F, H, J, K	53475-01	53475-08	53475-14 1F2			CY	—	—
D104	B, C, E, F, H, J, K	53475-01	53475-08	53475-14			CZ	—	Standard ††
D107	B, C, F, H, J	53474-03	53474-24	53474-23			C0	53478-01	53478-13
D108	B, C, F, H, J	53475-01	53475-22	53475-21			C1	53478-01	53478-13
E101	B, F, H	53473-05	53473-07	53473-12			C2	53478-04	53478-13
E102	B, C, F, H, J	53474-03	53474-10	53474-17 1EA			C3	53478-04	53478-13
E103	B, C, F, H, J	53475-01	53475-09	53475-15			C4	53478-01	53478-13
E104	B, C, F, H, J	53475-01	53475-09	53475-15			C8	53478-01	53478-13
F101	B, C, E, H, K	53473-05	53473-08	53473-13 1E5			DA	—	—
F101	F	53473-16	53473-08*	53473-13			D0 †	53478-02	53478-14
F102	B, C, E, H, J, K	53474-06	53474-11	53474-18 1EB			D1 †	53478-02	53478-14
F102	F	53474-25	53474-11*	53474-18			D2 †	53478-05	53478-16
F103	B, C, E, H, J, K	53475-06	53475-10	53475-16			D3 †	53478-05	53478-16
F103	F	53475-25	53475-10*	53475-16			D4 †	53478-01	53478-13
F221	B, C, E, H, J, K	53474-06	53474-11	53474-18			D5 †	53478-01	53478-13
F221	F	53474-25	53474-11*	53474-18			D6 †	53478-04	53478-15
F222	B, C, E, H, J, K	53475-06	53475-10	53475-16			D7 †	53478-04	53478-15
F222	F	53475-25	53475-10*	53475-16			D8 †	53478-04	53478-15
F223	B, C, E, H, J, K	53474-06	53474-11	53474-18			E1	53478-01	53478-13
F223	F	53474-25	53474-11*	53474-18			E3	53478-04	53478-15
F224	B, C, E, H, J, K	53475-06	53475-10	53475-16			E8	53478-01	53478-13
F224	F	53475-25	53475-10*	53475-16			F4 †	53478-02	53478-14
F323	B, C, E, H, J, K	53474-06	53474-11	53474-18			F5 †	53478-05	53478-16
F323	F	53474-25	53474-11*	53474-18			F6 †	53478-01	53478-13
F324	B, C, E, H, J, K	53475-06	53475-10*	53475-16			F7 †	53478-04	53478-15
F324	F	53475-25	53475-10*	53475-16			M Series	53769-01	53769-02
G102	B, C, E, H, J, K	53474-06	53474-12	53474-19 1EC			P Series	54853-01	NA
G102	F	53474-25	53474-12*	53474-19 1EC			X0	53478-07	53478-17
G103	B, C, E, H, J, K	53475-06	53475-11	53475-17			X1	53478-07	53478-17
G103	F	53475-25	53475-11*	53475-17			X2 †	53478-08	53478-18
							X3 †	53478-08	53478-18
							X4 †	53478-07	53478-17
							X5 †	53478-07	53478-17

* Order Gasket 53045-02 when ordering fluorocarbon repair kits for valves with internal variation F.

** Solenoid operator repair kits do not include coils.

† Order two kits to service these operators.

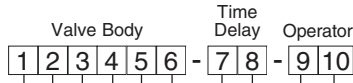
†† The CF, CT, CZ, and DA operators are equipped with fluorocarbon elastomers.

Prospector Series Poppet Valves

Product Number System

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

Position in Model Number



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).
G	=	4-Port/2-Position, (3-way twin, Normally Closed).

2 Mounting Style

1	=	Inline, PTF Threads
A	=	Inline, BSPP Threads
2	=	Subbase valve with subbase, PTF Threads
3	=	Subbase valve without subbase, PTF 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)
05	=	1/2" Basic, (Valve Type C with 1/4", 3/8" & 1/2" ports)
06	=	1/2" Basic, (Valve Type C with 3/4" port)
21	=	1/2" Basic, (Valve Type F, Valve with subbase)
22	=	1" Basic, (Valve Type F, Valve with subbase)
23	=	1/2" Basic, (Valve Type F, Valve without subbase)
24	=	1" Basic, (Valve Type F, Valve without subbase)

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
0	=	Subbase valve without subbase.

6 Internal Variation

B	=	Internal Pilot Supply with unrestricted passage.
C	=	Internal Pilot Supply with check valve.
E	=	Sustaining Bleed Operation. Use only with momentary signal solenoid operator. Has an internal pilot supply.
F	=	Bleed Operation. Has an internal pilot supply with flow restrictor. Use only with A1 and A4 air operators.
H	=	External Pilot Supply.
J	=	Vacuum Service. Has an external pilot supply with heavy spring.
K	=	Sustaining Bleed Operation. Use only with momentary signal air operator.

7 & 8 Time Delay

01	=	0 to 5 seconds.	TDO	Normally closed.
02	=	0 to 5 seconds.	TDR	Normally closed.
03	=	0 to 60 seconds.	TDO	Normally closed.
04	=	0 to 60 seconds.	TDR	Normally closed.
05	=	0 to 60 seconds.	TDOR	Normally closed.
09	=	0 to 60 seconds.	TDO	Normally open.
10	=	0 to 60 seconds.	TDR	Normally open.
22	=	0 to 60 seconds.	Delayed One Shot.	
23	=	0 to 60 seconds.	One Shot	Normally closed.
24	=	0 to 60 seconds.	TDO	Normally closed.

Prospector Series Poppet Valves

Product Number System

9 & 10 Solenoid Operators

Standard Solenoid Operators with Cable Grip Connector for use with Basic 1" & 2" Valves (Optional for use with Basic 1/4" & 1/2" Valves)

CC	=	Single solenoid, nonlocking override, 8 WAC & DC.
CR	=	Twin solenoid, nonlocking override, 8 WAC & DC.
CU	=	Momentary signal solenoid, nonlocking override, 8 WAC & DC
CK	=	CCW/24VDC & surge protector cable grip connector.*

Standard Solenoid Operators with Cable Grip Connector for use with Basic 1/2" & 1/4" Valves

CY	=	Single solenoid, nonlocking override, 7WAC, 6WDC
CE	=	Single solenoid, locking override, 7WAC, 6WDC
CS	=	Single solenoid, no override, 7WAC, 6WDC
CZ	=	Single solenoid, nonlocking override, 3.5WAC, 2WDC
CF	=	Single solenoid, locking override, 3.5WAC, 2WDC
DA	=	Single solenoid, no override, 3.5WAC, 2WDC
CW	=	Twin solenoid, nonlocking override, 7WAC, 6WDC
CN	=	Twin solenoid, locking override, 7WAC, 6WDC
CP	=	Twin solenoid, no override, 7WAC, 6WDC
CV	=	Momentary signal solenoid, nonlocking override, 7WAC, 6WDC.

Optional Solenoid Operators

C0	=	Single, no override, 1/2" conduit.
C1	=	Single, locking override, 1/2" conduit.
C2	=	Single, no override, junction box.
C3	=	Single, locking override, junction box.
C4	=	Single, no override, low pressure, 1/2" conduit.
C8	=	Single, locking override, high pressure, 1/2" conduit.
CT	=	Single, no override, high temperature, 1/2" conduit.
D0	=	Momentary Signal, no override, 1/2" conduit.
D1	=	Momentary Signal, locking override, 1/2" conduit.
D2	=	Momentary Signal, no override, junction box.
D3	=	Momentary Signal, locking override, junction box.
D4	=	Twin, no override, 1/2" conduit.
D5	=	Twin, locking override, 1/2" conduit.
D6	=	Twin, no override, junction box.
D7	=	Twin, locking override, junction box.
D8	=	Twin, locking override, high pressure, junction box.
E1	=	Single, nonlocking override, 1/2" conduit.
E3	=	Single, nonlocking override, junction box.
E8	=	Single, nonlocking override, high pressure, 1/2" conduit.
F4	=	Momentary Signal, nonlocking override, 1/2" conduit.
F5	=	Momentary Signal, nonlocking override, junction box.
F6	=	Twin, nonlocking override, 1/2" conduit.
F7	=	Twin, nonlocking override, junction box.
X0	=	Single, no override, hazardous location.
X1	=	Single, locking override, hazardous location.
X2	=	Momentary Signal, no override, hazardous location.
X3	=	Momentary Signal, locking override, hazardous location.
X4	=	Twin, no override, hazardous location.
X5	=	Twin, locking override, hazardous location.

9 & 10 Air Operators

A1	=	Single, PTF Threads
AA	=	Single, BSPP Threads
A4	=	Twin, PTF Threads
A6	=	Momentary signal, PTF Threads
Af	=	Momentary Signal, BSPP Threads

9 & 10 Manual & Mechanical Operators

MA	=	Plunger, spring return.
MB	=	Palm button, spring return.
MC	=	Hand Lever, horizontal, spring return.
MD	=	Hand Lever, horizontal, detented.
ME	=	Hand Lever, vertical, spring return.
MF	=	Hand Lever, vertical, detented
MG	=	Clevis Lever, horizontal, spring return.
MH	=	Clevis Lever, vertical, spring return.
MJ	=	Roller Lever, horizontal, spring return.
MK	=	Roller Lever, vertical, spring return.
ML	=	Foot Pedal, horizontal, spring return.
MM	=	Foot Pedal, vertical, spring return.

Voltage & Connector Options for Standard Solenoid Operators

Specify the desired valve model number (from pages 8, 10, or 12) plus the desired option part number from the following tables. When ordering options for the CN, CP, CR, CU, CV, and CW operators, specify (Qty 2) after the option part number.

Optional Voltages	Operator		
	CD, CE, CN, CP, CS, CV, CW, CY	DA, CF, CZ	CC, CR, CU
12V/60Hz/50Hz	54452-34	—	—
24V/60Hz/50Hz	54452-35	54469-24	54458-63
48V/60Hz/50Hz	54452-36	—	—
120V/60Hz, 110V/50Hz	Standard	54469-23	Standard
240V/60Hz, 220V/50Hz	54452-37	—	54458-62
6VDC	—	54469-25	—
12VDC	54452-32	54469-21	54458-64
24VDC	54452-33	Standard	54458-60
110VDC	—	54469-26	—
Optional Connectors	Operator		
Cable Grip with Indicator Light			
12VDC or AC	—	—	54257-54
24VDC or AC	—	54934-09	54257-55
120VDC or AC	—	54934-03	54257-56
220VDC or AC	—	—	54257-57
1/2" NPT Conduit	—	54934-04	54933-18
5-ft. Molded Cord	—	54934-06	54933-17
5-ft. Molded Cord, Indicator Light, Surge Protection, Polarity Independent			
24VAC or DC	—	54934-11	54933-08
48VAC or DC	—	54934-12	54933-10
120VAC or DC	—	54934-14	54933-12
240VAC or DC	—	54934-16	54933-14