

Cyclone Direct Acting Solenoid Valves

2 & 3-Way Directional Control

Catalog VAL-CYC-3/USA



**Schrader
Bellows®**

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Table of Contents

Basic Valve Features 2

Model Number Index 3

Direct Acting Solenoid Valves

- 2-Way Normally Open General & Hazardous Duty 4
- 2-Way Normally Closed General & Hazardous Duty 5
- 3-Way Normally Open General & Hazardous Duty 6
- 3-Way Normally Closed Free Venting & Pipe Exhaust 7
- 3-Way Normally Closed Hazardous Duty & Directional Control 8
- 3-Way Directional Control Hazardous Duty & Multi-Purpose 9
- 3-Way Multi-Purpose Hazardous Duty 10

Dimensions 11

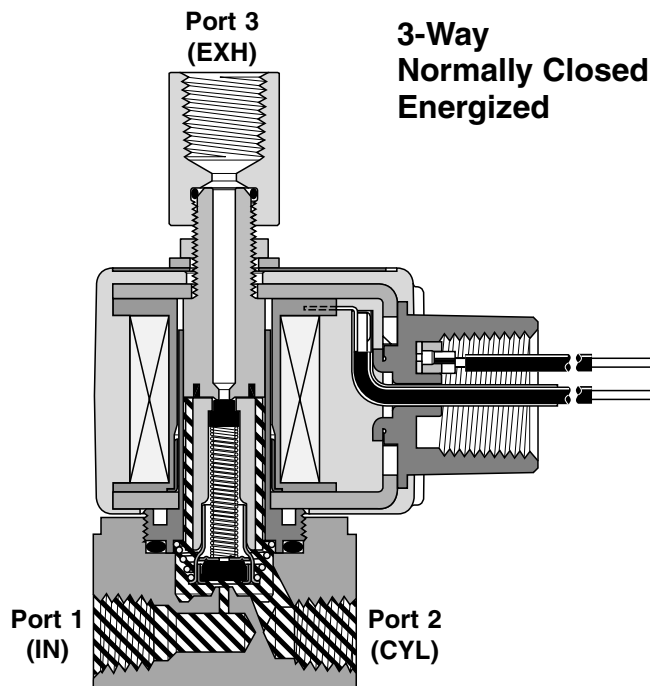
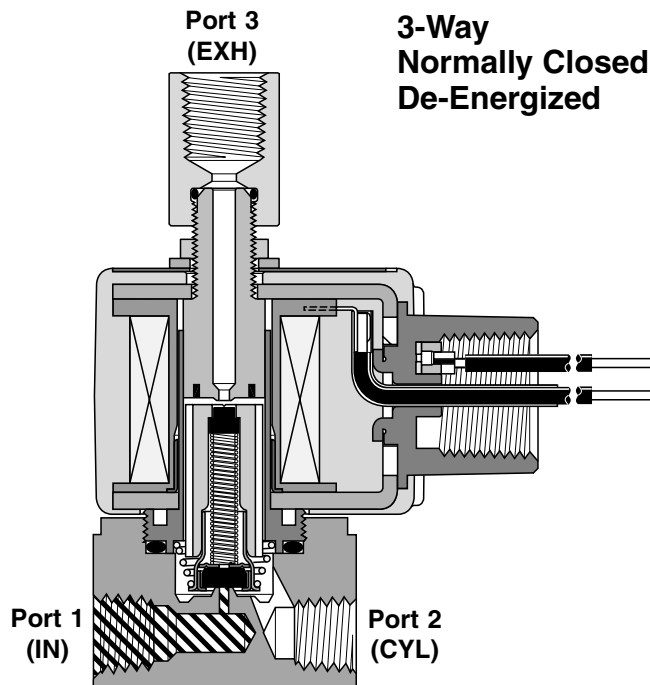
Technical Information 12

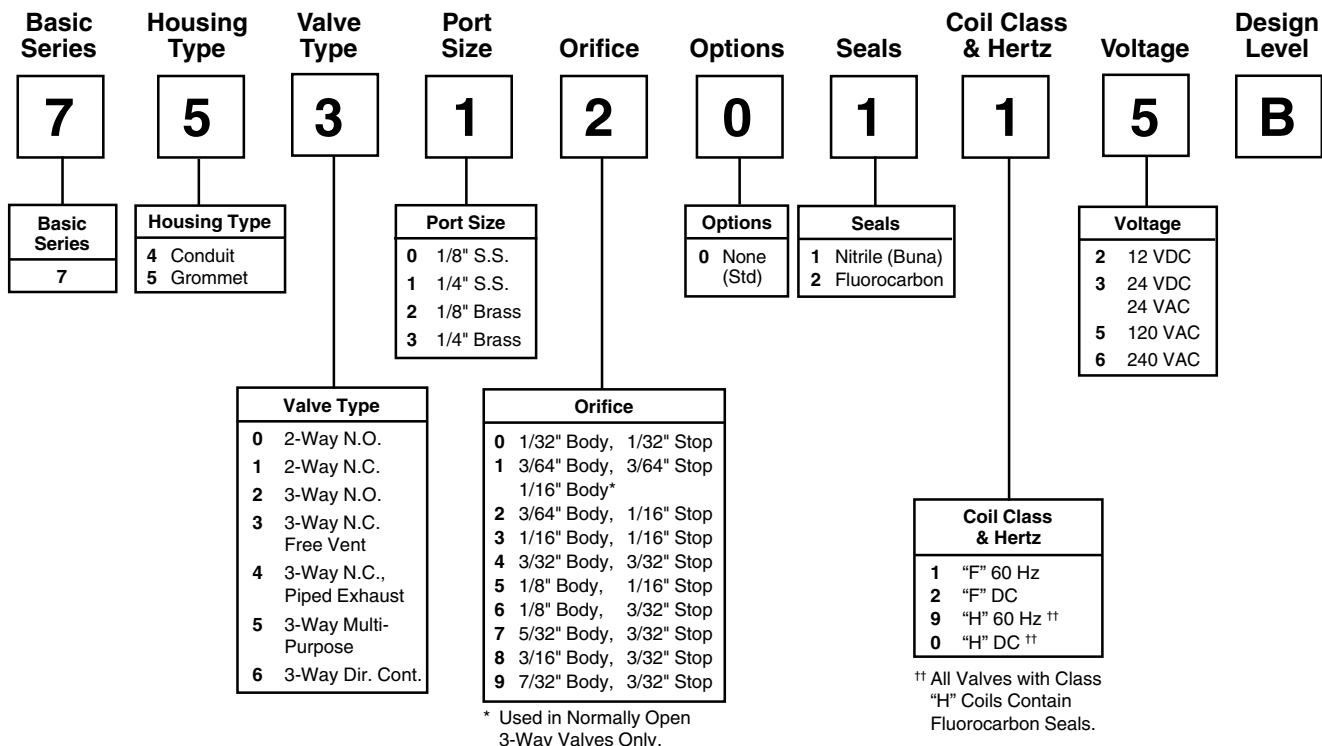
Offer of Sale 13

Basic Valve Features

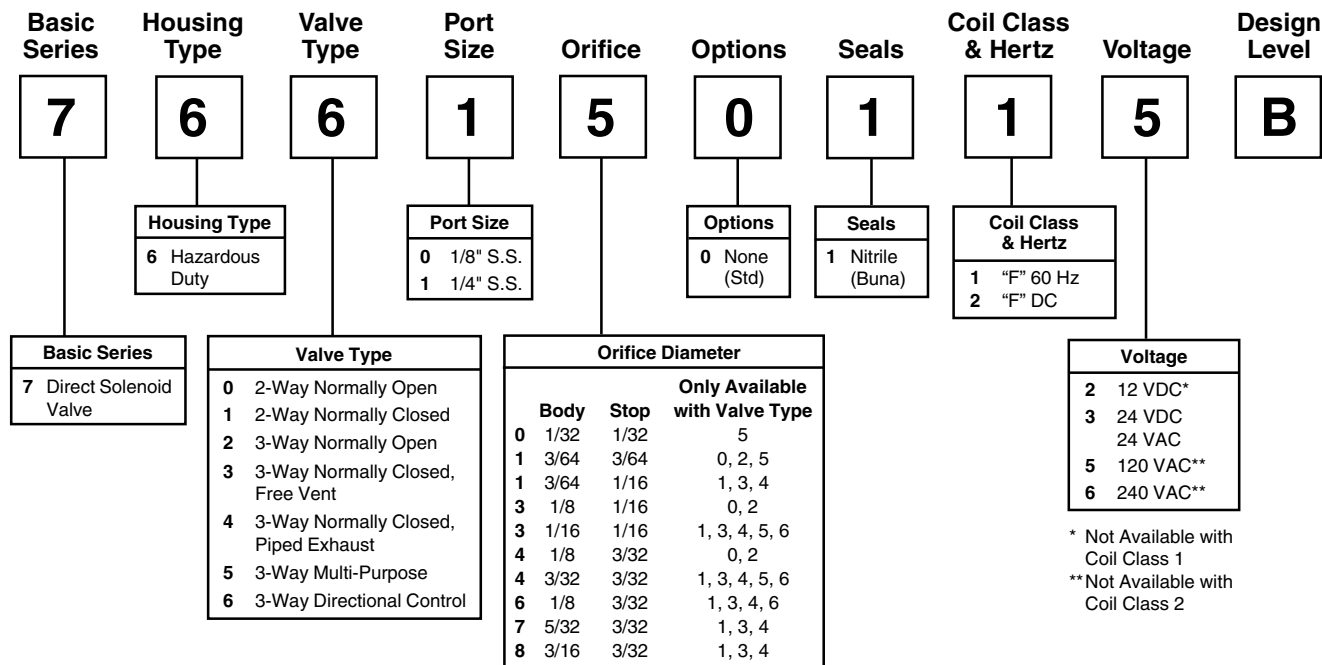
**Cyclone Series
Direct Acting Solenoid Valves**

- 2 & 3-Way, 2-Position.
- $C_v = .02$ to $.73$ depending on orifice structure and flow path.
- Inline or surface mounted.
- Used with inert liquids and gases. (Consult factory for compatibility.)
- 1/8 and 1/4 inch Ports.
- Standard class "F" coil (Class "H" optional) rated for continuous duty in a variety of voltages.
- Grommet or Conduit housings with 18 inch leads.
- Rotatable housings for ease of installation.
- Hazardous Duty & NEMA 4 enclosures available.
- Copper shading ring standard.
- Self compensating seals increase valve life.
- Approved to be CE marked.
- CSA Standard.
- UL for Hazardous Duty.
- Stainless steel body (standard) Brass (optional).
- Proven extended life reliability.

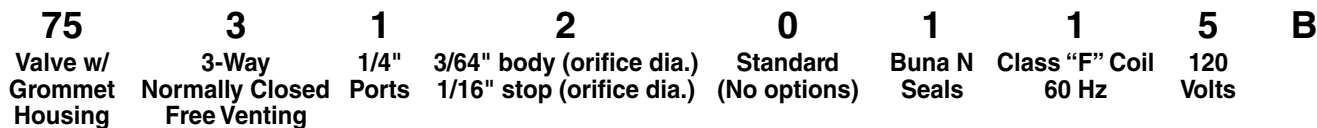


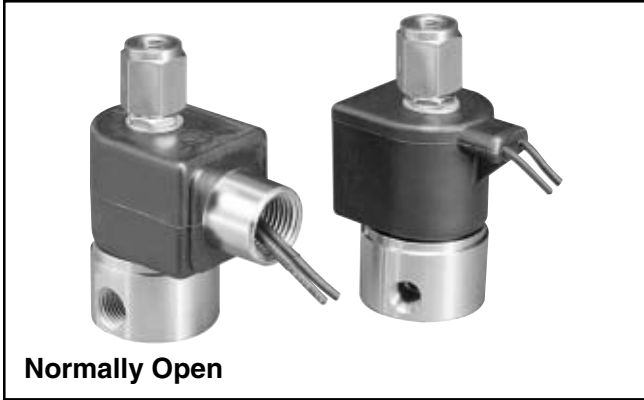


Hazardous Duty Valves (UL Authorized)



EXAMPLE: Solenoid Valve #75312 0115





Normally Open

Application

These valves provide on-off control of inert liquids and gases.

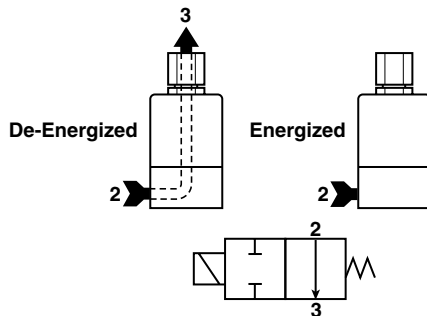
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Flow is permitted from inlet Port 2 out Port 3 at the top of the valve.

Energized position – Pressure at inlet Port 2 is blocked, shutting off flow to Port 3.



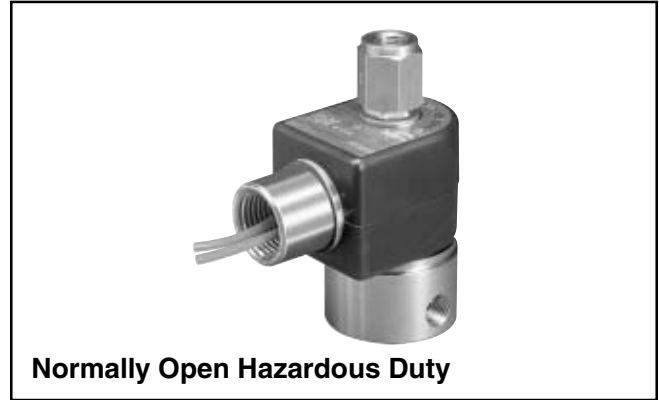
Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv		Conduit Housing		
	AC & DC	Stop	Cv	1/8" Ports	1/4" Ports
300		1/32"	.02	74000 0115 B	74010 0115 B
200		3/64"	.06	74001 0115 B	74011 0115 B
150		1/16"	.12	74002 0115 B	74012 0115 B
125		3/32"	.21	74004 0115 B	74014 0115 B

Note: For GROMMET HOUSING change the second digit in the model number from 4 to 5.

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Normally Open Hazardous Duty

Application

These valves normally operate in hazardous environments and provide on-off control of inert liquids and gases. (See Technical & Service Data for U.L. Approvals).

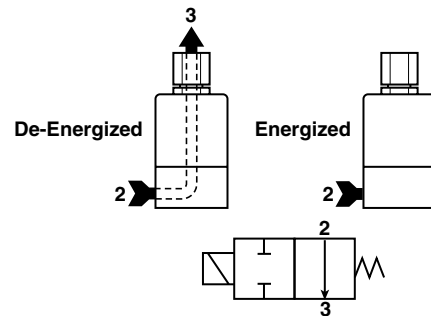
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Flow is permitted from inlet Port 2 out Port 3 at the top of the valve.

Energized position – Pressure at inlet Port 2 is blocked, shutting off flow to Port 3.

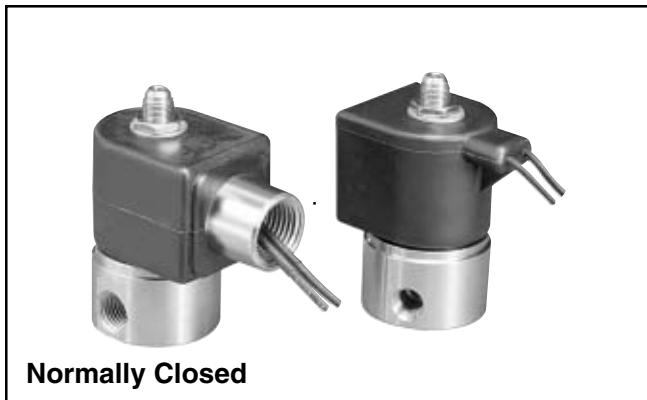


Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv		Conduit Housing		
	AC & DC	Stop	Cv	1/8" Ports	1/4" Ports
200		3/64"	.06	76001 0115 B	76011 0115 B
150		1/16"	.12	76003 0115 B	76013 0115 B
125		3/32"	.21	76004 0115 B	76014 0115 B

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Normally Closed

Application

These valves provide on-off control of inert liquids and gases.

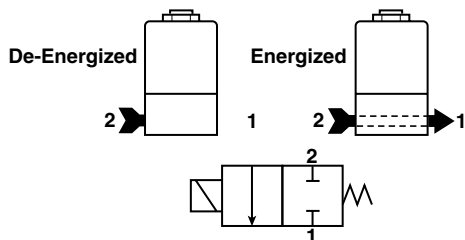
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Pressure at inlet Port 2 is blocked, preventing flow to Port 1.

Energized position – Flow is permitted from inlet Port 2 through the valve body to Port 1.



Normally Closed Hazardous Duty

Application

These valves normally operate in hazardous environments and provide on-off control of inert liquids and gases. (See Technical & Service Data for **U.L.** Approvals).

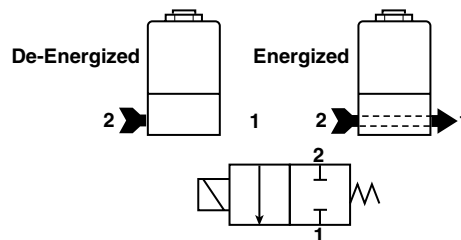
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Pressure at inlet Port 2 is blocked, preventing flow to Port 1.

Energized position – Flow is permitted from inlet Port 2 through the valve body to Port 1.



Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)		Orifice / Cv		Conduit Housing	
AC	DC	Body	Cv	1/8" Ports	1/4" Ports
500	500	1/32"	.02	74100 0115 B	74110 0115 B
250	250	3/64"	.06	74101 0115 B	74111 0115 B
200	200	1/16"	.11	74103 0115 B	74113 0115 B
125	125	3/32"	.21	74104 0115 B	74114 0115 B
100	100	1/8"	.34	74105 0115 B	74115 0115 B
75	50	5/32"	.37	74107 0115 B	74117 0115 B
50	25	3/16"	.52	74108 0115 B	74118 0115 B
25	10	7/32"	.62	74109 0115 B	74119 0115 B

Note: For GROMMET HOUSING change the second digit in the model number from 4 to 5.

* See Valve Model Number System for other voltages.

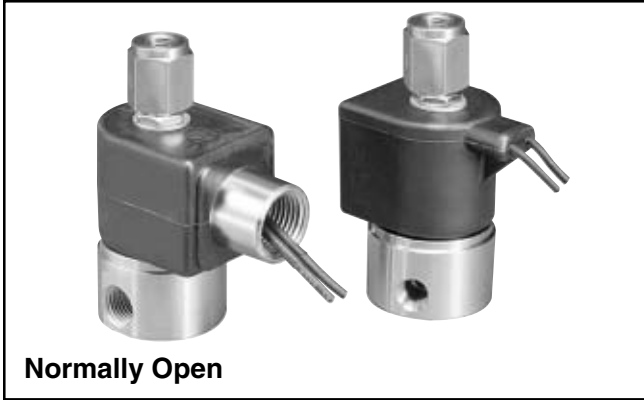
† (Maximum Operating Pressure Differential)

Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)		Orifice / Cv		Conduit Housing	
AC	DC	Body	Cv	1/8" Ports	1/4" Ports
250	250	3/64"	.06	76101 0115 B	76111 0115 B
200	200	1/16"	.11	76103 0115 B	76113 0115 B
125	125	3/32"	.21	76104 0115 B	76114 0115 B
100	100	1/8"	.34	76106 0115 B	76116 0115 B
75	50	5/32"	.37	76107 0115 B	76117 0115 B
50	25	3/16"	.52	76108 0115 B	76118 0115 B

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Normally Open

Application

These valves are used to provide pilot signals for larger valves, operate single acting cylinders, or are used in pairs to operate double acting cylinders.

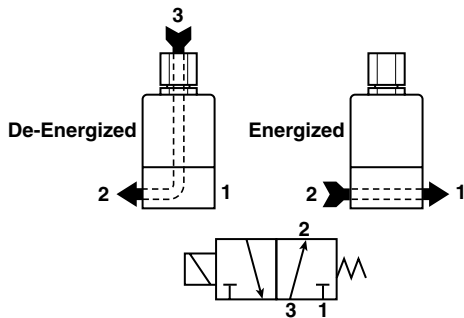
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Flow is permitted from inlet Port 3 at the top of the valve out Port 2 in the valve body. Exhaust Port 1 is blocked.

Energized position – Inlet Port 3 at the top of the valve is blocked. Port 2 is exhausted through the valve body to Port 1.



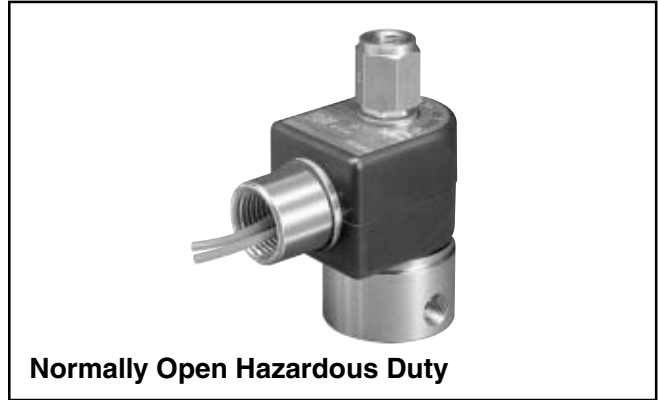
Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing	
	AC & DC	Body	Cv	Stop	Cv	1/8" Ports
200	1/32"	.02	1/32"	.02	74200 0115 B	74210 0115 B
150	1/16"	.11	3/64"	.06	74201 0115 B	74211 0115 B
100	1/8"	.34	1/16"	.10	74205 0115 B	74215 0115 B
75	1/8"	.34	3/32"	.18	74206 0115 B	74216 0115 B
50	5/32"	.37	3/32"	.18	74207 0115 B	74217 0115 B
25	3/16"	.52	3/32"	.18	74208 0115 B	74218 0115 B
10	7/32"	.62	3/32"	.18	74209 0115 B	74219 0115 B

Note: For GROMMET HOUSING change the second digit in the model number from 4 to 5.

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Normally Open Hazardous Duty

Application

These valves normally operate in hazardous environments and are used to provide pilot signals for larger valves, operate single acting cylinders, or are used in pairs to operate double acting cylinders (See Technical & Service Data for U.L. Approvals).

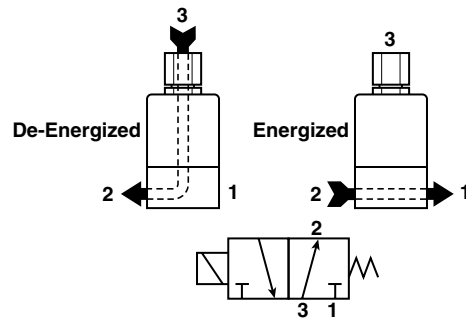
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Flow is permitted from inlet Port 3 at the top of the valve out Port 2 in the valve body. Exhaust Port 1 is blocked.

Energized position – Inlet Port 3 at the top of the valve is blocked. Port 2 is exhausted through the valve body to Port 1.

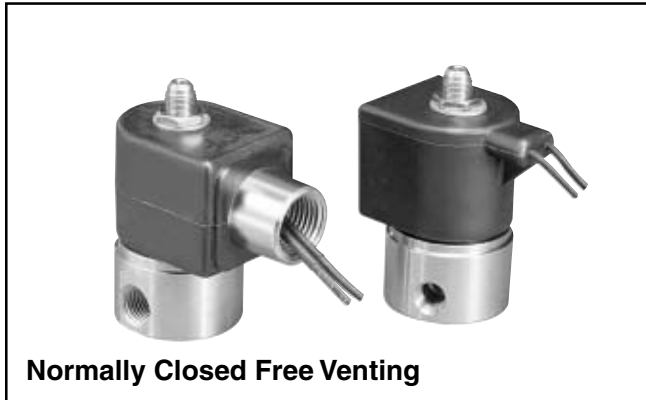


Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing	
	AC & DC	Body	Cv	Stop	Cv	1/8" Ports
150	3/64"	.11	3/64"	.06	76201 0115 B	76211 0115B
100	1/8"	.34	1/16"	.10	76203 0115 B	76213 0115 B
75	1/8"	.34	3/32"	.18	76204 0115 B	76214 0115 B

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Normally Closed Free Venting

Application

These valves are used to provide pilot signals for larger valves, operate single acting cylinders, or are used in pairs to operate double acting cylinders.

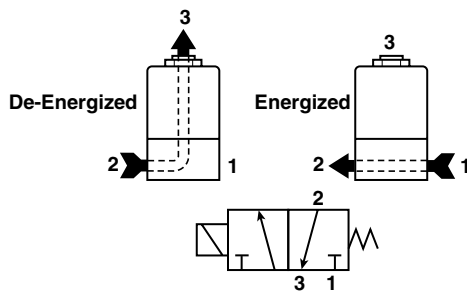
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Inlet Port 1 is blocked. Port 2 is exhausted out the top of the valve to Port 3.

Energized position – Flow is permitted from inlet Port 1 through the valve body to Port 2. Exhaust Port 3 at the top of the valve is blocked.



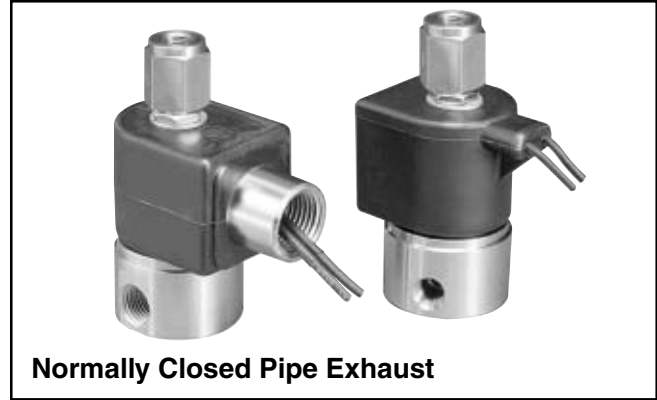
Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing	
	AC & DC	Body	Cv	Stop	Cv	1/8" Ports
250	1/32"	.02	1/32"	.02	74300 0115 B	74310 0115 B
175	3/64"	.06	1/16"	.12	74302 0115 B	74312 0115 B
125	1/16"	.10	1/16"	.12	74303 0115 B	74313 0115 B
90	3/32"	.20	3/32"	.21	74304 0115 B	74314 0115 B
65	1/8"	.32	3/32"	.21	74306 0115 B	74316 0115 B
40	5/32"	.42	3/32"	.21	74307 0115 B	74317 0115 B
20	3/16"	.52	3/32"	.21	74308 0115 B	74318 0115 B
10	7/32"	.73	3/32"	.21	74309 0115 B	74319 0115 B

Note: For GROMMET HOUSING change the second digit in the model number from 4 to 5.

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Normally Closed Pipe Exhaust

Application

These valves operate similar to 3-Way normally closed, free venting, but are used where the exhaust needs to be piped away from the valve.

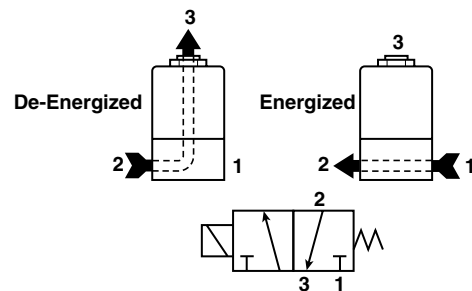
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Inlet Port 1 is blocked. Port 2 is exhausted out the top of the valve to Port 3.

Energized position – Flow is permitted from inlet Port 1 through the valve body to Port 2. Exhaust Port 3 at the top of the valve is blocked.



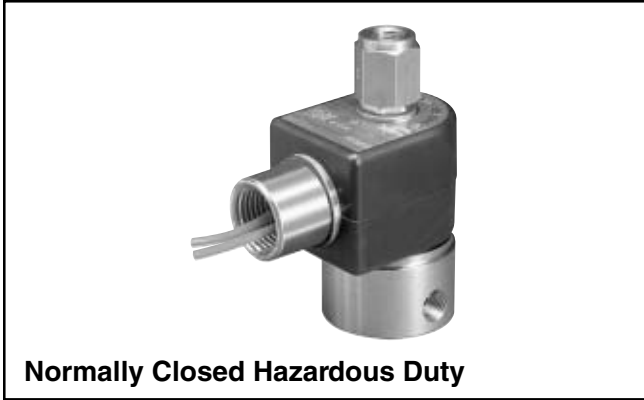
Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing	
	AC & DC	Body	Cv	Stop	Cv	1/8" Ports
250	1/32"	.02	1/32"	.02	74400 0115 B	74410 0115 B
175	3/64"	.06	1/16"	.12	74402 0115 B	74412 0115 B
125	1/16"	.10	1/16"	.12	74403 0115 B	74413 0115 B
90	3/32"	.20	3/32"	.21	74404 0115 B	74414 0115 B
65	1/8"	.32	3/32"	.21	74406 0115 B	74416 0115 B
40	5/32"	.42	3/32"	.21	74407 0115 B	74417 0115 B
20	3/16"	.52	3/32"	.21	74408 0115 B	74418 0115 B
10	7/32"	.73	3/32"	.21	74409 0115 B	74419 0115 B

Note: For GROMMET HOUSING change the second digit in the model number from 4 to 5.

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Application

These valves normally operate in hazardous environments and are used to provide pilot signals for larger valves, operate single acting cylinders, or are used in pairs to operate double acting cylinders (See Technical & Service Data for U.L. Approvals).

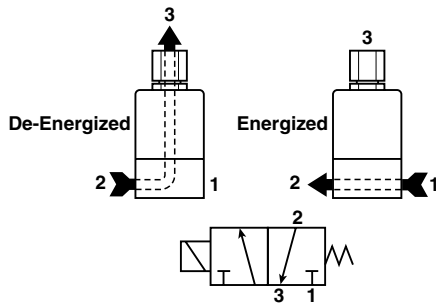
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Inlet Port 1 is blocked. Port 2 is exhausted out the top of the valve to Port 3.

Energized position – Flow is permitted from inlet Port 1 through the valve body to Port 2. Exhaust Port 3 at the top of the valve is blocked.

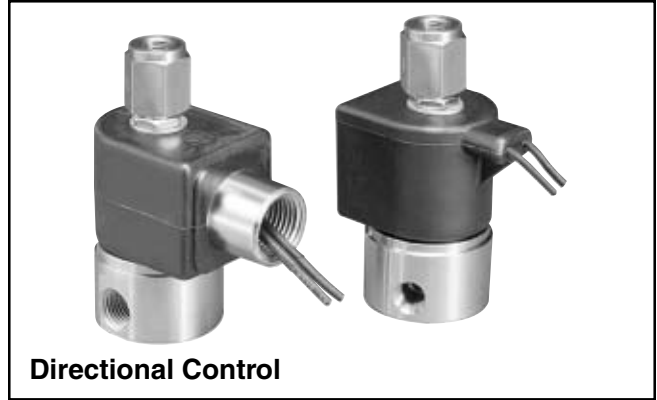


Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing	
	AC & DC	Body	Cv	Stop	Cv	1/8" Ports
175	3/64"	.06	1/16"	.12	76401 0115 B	76411 0115 B
125	1/16"	.10	1/16"	.12	76403 0115 B	76413 0115 B
90	3/32"	.20	3/32"	.21	76404 0115 B	76414 0115 B
65	1/8"	.32	3/32"	.21	76406 0115 B	76416 0115 B
40	5/32"	.42	3/32"	.21	76407 0115 B	76417 0115 B
20	3/16"	.52	3/32"	.21	76408 0115 B	76418 0115 B

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Application

These valves are used to select the directional flow of inert liquids and gases out either of two working ports.

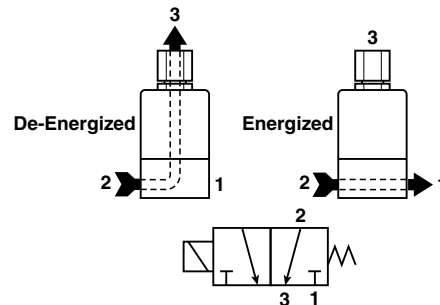
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Flow is permitted from inlet Port 2 in the valve body out Port 3 at the top of the valve. Port 1 in the valve body is blocked.

Energized position - Flow is permitted from inlet Port 2 through the valve body to Port 1. Port 3 at the top of the valve is blocked.



Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing	
	AC & DC	Body	Cv	Stop	Cv	1/8" Ports
300	1/32"	.02	1/32"	.02	74600 0115 B	74610 0115 B
200	3/64"	.06	3/64"	.06	74601 0115 B	74611 0115 B
150	1/16"	.11	1/16"	.12	74603 0115 B	74613 0115 B
125	3/32"	.21	3/32"	.21	74604 0115 B	74614 0115 B
100	1/8"	.34	3/32"	.21	74606 0115 B	74616 0115 B
75	5/32"	.37	3/32"	.21	74607 0115 B	74617 0115 B
50	3/16"	.52	3/32"	.21	74608 0115 B	74618 0115 B

Note: For GROMMET HOUSING change the second digit in the model number from 4 to 5.

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Application

These valves normally operate in hazardous environments and are used to select the directional flow of inert liquids and gases out either of two working ports. (See Technical & Service Data for U.L. Approvals).

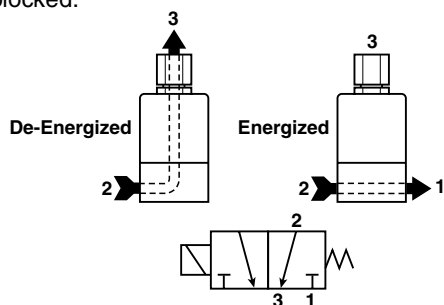
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Flow is permitted from inlet Port 2 in the valve body out Port 3 at the top of the valve. Port 1 in the valve body is blocked.

Energized position – Flow is permitted from inlet Port 2 through the valve body to Port 1. Port 3 at the top of the valve is blocked.

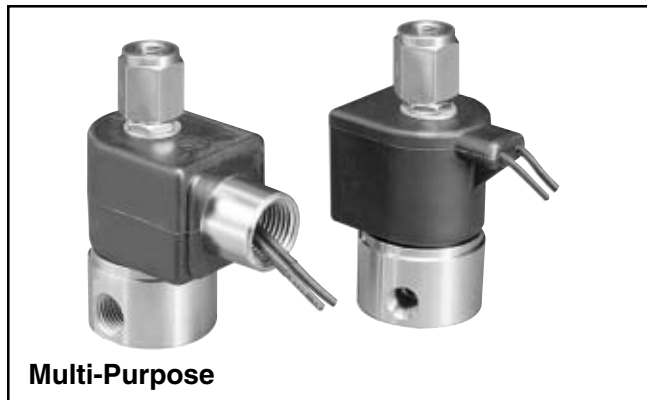


Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing	
	Body	Cv	Stop	Cv	1/8" Ports	1/4" Ports
150	1/16"	.11	1/16"	.12	76603 0115 B	76613 0115 B
125	3/32"	.21	3/32"	.21	76604 0115 B	76614 0115 B
100	1/8"	.34	3/32"	.21	76606 0115 B	76616 0115 B

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Application

These valves may be used in six different ways (see description on next page). In the 2-Way configuration, valves provide on-off control of inert liquids and gases. In the 3-Way configuration, valves provide pilot signals to larger valves, operate single acting cylinders, or are used in pairs to operate double acting cylinders.

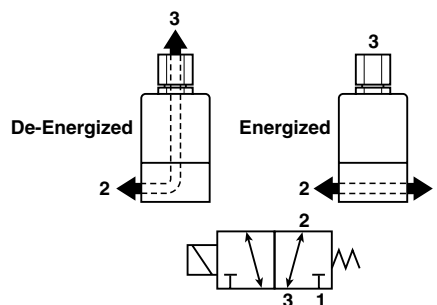
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Port 2 in the valve body is connected to Port 3 at the top of the valve. Port 1 is blocked.

Energized position – Port 2 is connected through the valve body to Port 1. Port 3 at the top of the valve is blocked.



Model Selection (Listed for 120V/60Hz.)*

†M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing	
	Body	Cv	Stop	Cv	1/8" Ports	1/4" Ports
250	1/32"	.02	1/32"	.02	74500 0115 B	74510 0115 B
150	3/64"	.06	3/64"	.06	74501 0115 B	74511 0115 B
100	1/16"	.10	1/16"	.10	74503 0115 B	74513 0115 B
75	3/32"	.20	3/32"	.18	74504 0115 B	74514 0115 B
50	1/8"	.32	3/32"	.18	74506 0115 B	74516 0115 B
30	5/32"	.42	3/32"	.18	74507 0115 B	74517 0115 B
10	3/16"	.52	3/32"	.18	74508 0115 B	74518 0115 B
10	7/32"	.73	3/32"	.18	74509 0115 B	74519 0115 B

Note: For GROMMET HOUSING change the second digit in the model number from 4 to 5.

* See Valve Model Number System for other voltages.

† (Maximum Operating Pressure Differential)



Multi-Purpose Hazardous Duty

Application

These valves normally operate in hazardous environments and may be used in six different ways (see description on this page). In the 2-Way configuration, valves provide on-off control, of inert liquids and gases. In the 3-Way configuration, valves provide pilot signals for larger valves, operate single acting cylinders, or are used in pairs to operate double-acting cylinders (See Technical & Service Data for U.L. Approvals).

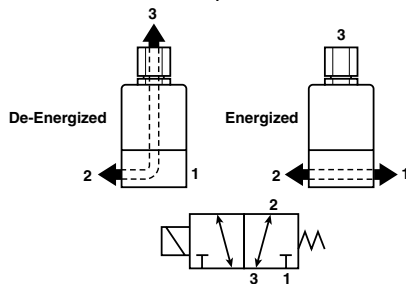
Mounting

These valves may be oriented in any position and can be mounted inline or surface mounted using the two #10-32 x 3/8" holes provided in the bottom of the valve body. The solenoid housing rotates for ease of electrical connections.

Operation

De-energized position – Port 2 in the valve body is connected to Port 3 at the top of the valve. Port 1 is blocked.

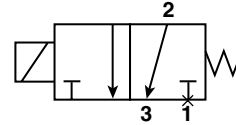
Energized position – Port 2 is connected through the valve body to Port 1. Port 3 at the top of the valve is blocked.



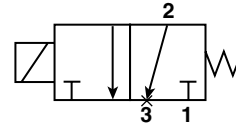
Multi-Purpose Valve Functions

The basic 3-Way multi-purpose valve can be field converted to perform as any one of the following:

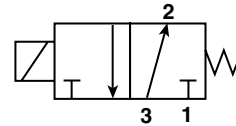
1. *2-Way Normally Open* – Plug Port 1 / use Port 2 as the inlet.



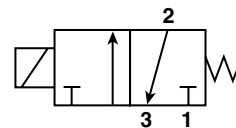
2. *2-Way Normally Closed* – Plug Port 3 / use Port 2 as the inlet.



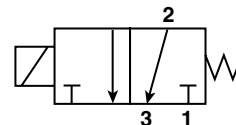
3. *3-Way Normally Open* – Use Port 3 as the inlet / use Port 1 as the exhaust / use Port 2 as the working line.



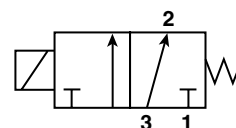
4. *3-Way Normally Closed* – Use Port 1 as the inlet / use Port 3 as the exhaust / use Port 2 as the working line.



5. *Directional Control Valve* – Use Port 2 as inlet / use Port 3 as the normally open working line / use Port 1 as the normally closed working line.



6. *Selector Valve* – Use Ports 1 and 3 as the inlets / use Port 2 as the working line.



Model Selection (Listed for 120V/60Hz.)*

**M.O.P.D. (PSIG)	Orifice / Cv				Conduit Housing		
	AC & DC	Body	Cv	Stop	Cv	1/8" Ports	1/4" Ports
250		1/32"	.02	1/32"	.02	76500 0115 B	76510 0115 B
150		3/64"	.06	3/64"	.06	76501 0115 B	76511 0115 B
100		1/16"	.10	1/16"	.10	76503 0115 B	76513 0115 B
75		3/32"	.20	3/32"	.18	76504 0115 B	76514 0115 B

* See Valve Model Number System for other voltages.

** (Maximum Operating Pressure Differential)

Operating Pressure

Vacuum to the Maximum Operating Pressure Differential (M.O.P.D.) assigned to the orifice structure chosen from valve selection chart. M.O.P.D. is the maximum allowable difference between pressures recorded at any two working ports of the valve. If the M.O.P.D. is not known, regard the M.O.P.D. as the supply pressure.

Maximum Pressure: up to 500 PSIG

Temperature Range (Ambient)

Continuous Duty

Class "F" Coils -7°C to 52°C (20°F to 125°F)
 Class "H" Coils, Fluorocarbon Seals -7°C to 82°C (20°F to 180°F)

Intermittent Duty

Class "F" Coils -7°C to 82°C (20°F to 180°F)
 Class "H" Coils, Fluorocarbon Seals -7°C to 132°C (20°F to 270°F)

Materials

Body: Stainless Steel Type 416F, Brass (optional)

Internal Components: Stainless Steel Type 302, 304 & 430F

Shading Ring: Copper

Seals: Buna N (standard); Fluorocarbon (optional)

Coil: Class "F" (standard), Class "H" (optional)
 Epoxy Encapsulated

Service Kits

In addition to the kits configurable from the matrix below, the following kits are also provided.

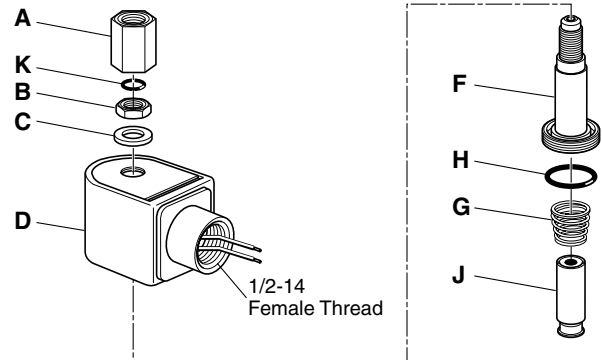
Kit Number	Description	Included Items
PS3901P	1/8" Connector Kit	A & K
PS3902P	1/4" Connector Kit	A & K
740007100B	Assembly Wrench	Not Shown

Hazardous Duty Solenoid Listing

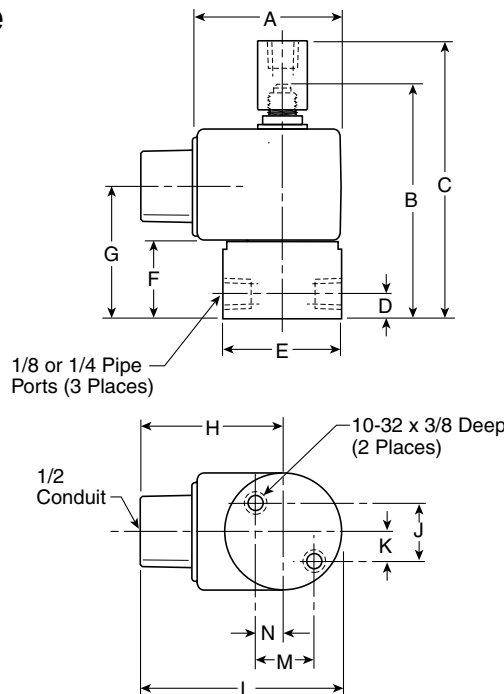
Valves designated for hazardous locations are U.L. Approved as follows:

National Electric Code*	Ambient Conditions
Class I Div. 1 Group A	Atmospheres Containing Acetylene
Class I Div. 1 Group B	Hydrogen, Fuel & Combustible Process Gases
Class I Div. 1 Group C	Ethyl Ether, Ethylene
Class I Div. 1 Group D	Acetone, Ammonia, Gasoline, & Propane
Class II Div. 1 Group E	Metal Dust, Including Aluminum, Magnesium & Alloys
Class II Div. 1 Group F	Combustible Carbonaceous Dust
Class II Div. 1 Group G	Combustible Dust Example: Wood, Plastic, Chemical
Temperature Rating T3A (180°C or 356°F)	

* See Article 500 - Hazardous (Classified) Locations, National Electric Code. Not available with class "H" coil.



General Purpose or Hazardous Duty Valve



Dimensions:

	inches	mm
A	1.55	39
B	3.12	79
C	3.67	93
D	.34	9
E	1.63	41
F	1.06	27
G	1.83	46
H	1.95	50
J	.88	22
K	.44	11
L	2.76	70
M	.88	22
N	.44	11

Service Index Kit (Standard)

Basic Series PS39	Kit Type 1	Solenoid Type 4	Valve Type X	Orifice Diameter X	Seals X	Coil Class 1	Voltage 5	Parker P
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Basic Series

PS39 Direct Solenoid Valve

Kit Type (See Below)

1 Solenoid Only*
 2 Plunger / Stop Assy Only**
 3 1 + 2 (Solenoid with Plunger & Stop Assy)

* Includes Items B, C, D & K.
 ** Includes Items F, G, H, J & K.

Solenoid Type

4 Conduit
 5 Grommet
 X Plunger & Stop Assy Only

Select only 4 or 5 when Kit Type is 1 or 3.
 Select X for Kit Type 2.

Valve Type

0 2-Way Normally Open
 1 2-Way Normally Closed
 2 3-Way Normally Open
 3 3-Way Normally Closed, Free Vent
 4 3-Way Normally Closed, Piped Exhaust
 5 3-Way Multi-Purpose
 6 3-Way Directional Control
 X Solenoid Only

Select only 0 thru 6 when Kit Type is 2 or 3.
 Select X for Kit Type 1.

Orifice Diameter

Body	Stop
0	1/32 1/32
1	3/64 3/64
1*	1/16 3/64
2	3/64 1/16
3	1/16 1/16
4	3/32 3/32
5	1/8 1/16
6	1/8 3/32
7	5/32 3/32
8	3/16 3/32
9	7/32 3/32
X	Solenoid Only

* Used on Valve Type 2, Normally Open, 3-Way valves only.
 Select X when Kit Type is 1.
 Select 0 thru 9 when Kit Type is 2 or 3.

Seals

1 Buna N
 2 Viton
 X Solenoid Only

Select X when Kit Type is 1.
 Select 1 or 2 when Kit Type is 2 or 3.

Coil Class

Class	Hertz
1	F 60
2	F DC
9	H 60
0	H DC
X	Plunger & Stop Assy Only

Select X when Kit Type is 2.
 Select the other Options when Kit Type is 1 or 3.

Voltage

2* 12
 3 24
 5** 120 (110)
 6** 240 (220)
 X Plunger & Stop Assy Only

* Not available with Coil Class 1 or 9.
 ** Not available with Coil Class 2 or 0.
 Select X when Kit Type is 2.
 Select the other Options when Kit Type is 1 or 3.

Engineering Level "B" valves can use Kit Types: 1, 2, or 3.
All other valves ONLY use Kit Type 3.

Example:
 For Valve Model Number **745030115**:
The Only Kit Is PS393453115P

Example:
 For Valve Model Number **745030115B**:
 The Solenoid Assy. No. Is **PS3914XXX15P**
 The Plunger Stop Assy. No. Is **PS392X531XXP**

Service Index Kit (Hazardous Duty)

Basic Series PS19	Kit Type 1	Solenoid Type 6	Valve Type X	Orifice Diameter X	Seals X	Coil Class 1	Voltage 5	Parker P
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Basic Series

PS19 Direct Solenoid Valve

Kit Type (See Below)

1 Solenoid Only*
 2 Plunger / Stop Assy Only**
 3 1 + 2 (Solenoid with Plunger & Stop Assy)

* Includes Items B, C, D & K.
 ** Includes Items F, G, H, J & K.

Solenoid Type

6 Hazardous Duty
 X Plunger & Stop Assy Only

Select only 6 when Kit Type is 1 or 3.
 Select X for Kit Type 2.

Valve Type

0 2-Way Normally Open
 1 2-Way Normally Closed
 2 3-Way Normally Open
 3 3-Way Normally Closed, Free Vent
 4 3-Way Normally Closed, Piped Exhaust
 5 3-Way Multi-Purpose
 6 3-Way Directional Control
 X Solenoid Only

Select only 0 thru 6 when Kit Type is 2 or 3.
 Select X for Kit Type 1.

Orifice Diameter

Body	Stop	Only Available with Valve Type
0	1/32 1/32	5
1	3/64 3/64	0, 2, 5
1	3/64 1/16	1, 3, 4
3	1/8 1/16	0, 2
3	1/16 1/16	1, 3, 4, 5, 6
4	1/8 3/32	0, 2
4	3/32 3/32	1, 3, 4, 5, 6
6	1/8 3/32	1, 3, 4, 6
7	5/32 3/32	1, 3, 4
8	3/16 3/32	1, 3, 4
X	Solenoid Only	

Select X when Kit Type is 1.
 Select 0, 1, 3, 4, 6, 7, 8 when Kit Type is 2 or 3.

Seals

1 Buna N
 X Solenoid Only

Select X when Kit Type is 1.
 Select 1 when Kit Type is 2 or 3.

Coil Class

Class	Hertz
1	F 60
2	F DC
X	Plunger & Stop Assy Only

Select X when Kit Type is 2.
 Select the other Options when Kit Type is 1 or 3.

Voltage

2* 12
 3 24
 5** 120 (110)
 6** 240 (220)
 X Plunger & Stop Assy Only

* Not available with Coil Class 1.
 ** Not available with Coil Class 2.
 Select X when Kit Type is 2.
 Select the other Options when Kit Type is 1 or 3.

Engineering Level "B" valves can use Kit Types: 1, 2, or 3.
All other valves ONLY use Kit Type 3.

Example:
 For Valve Model Number **765030115**:
The Only Kit Is PS193653115P

Example:
 For Valve Model Number **765030115B**:
 The Solenoid Assy. No. Is **PS1916XXX15P**
 The Plunger Stop Assy. No. Is **PS192X531XXP**

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6. Changes, Reschedules and Cancellations: Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitations, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. 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 items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any

charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

8. 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, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are 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. Taxes: Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter "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 an item sold pursuant to this contract 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 an item sold hereunder 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 said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items 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 item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter "Events of Force Majeure"). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.

12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.



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