

MINIATURE SIZE 3 Way Solenoid Valves

Brass or Stainless Steel Body • 1/8" and 1/4" N.P.T.

ASCO® Red-Hat®
BULLETIN
8320

General Description

This compact design eliminates the orifice connection in the solenoid — all connections are in the valve body providing in-line piping.

This modern design concept with orifice and pipe connections in the body also permits coil replacement without opening pipe connections — now necessary on other 3 way valves.

Applications

For automatic control of air, inert gas, water, light oil, freon and all other gases and liquids...non-corrosive to brass and stainless steel. Valves are commonly used to apply pressure to and vent pressure from cylinders and diaphragms or for selection and diversion of pressure.

Special valves available for: • dry air-gas • continuous cycling • exceptionally long life • heavy duty operation • click-less and quiet (no AC hum) operation. Refer to Long Life Construction.

Some typical applications are:

- automation
- vending
- air and hydraulic cylinders
- pilot operators
- gas sampling
- copying and reproduction equipment
- lubricating devices
- air conditioning
- instrumentation
- air dryers
- laundry equipment
- compressors
- robots

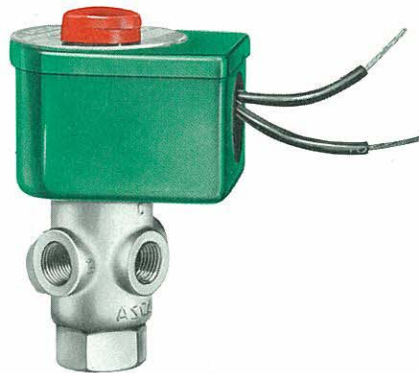
Specifications

Operation: Three types available:

(a) Normally Closed — applies pressure when solenoid is energized; exhausts pressure when solenoid is de-energized.

(b) Normally Open — applies pressure when solenoid is de-energized; exhausts pressure when solenoid is energized.

(c) Universal — for normally closed or normally open operation. Also suitable for selection of two pressures (pressure applied at 2 and 3) and diversion flow (pressure applied at 1).



1/4" Brass



1/8" and 1/4"
Stainless Steel
1/8" Brass

Valve Parts in Contact with Fluid:

Body — Brass or 303 s.s., as listed.
Seals and Discs — Buna "N" or Urethane, as listed.
Core Tube — 305 s.s.
Core and Plugnut — 430F s.s.
Core Spring — 302 s.s.
Shading Coil — Copper (brass body); Silver (stainless steel body).
Disc Holder — Acetal.
Core Guide (10.5 and 16.7 watt only) — Acetal.

Solenoid Enclosures: Two types available:

(a) **Type 1** — General Purpose.

(b) **Types 4 and 7 (C and D)** — Combination Watertight and Explosion-Proof. Also meets Types 3 and 9 (E, F and G). Refer to Engineering Section for definitions and details. Consult your local ASCO office for Types 3S and 4X.

Electrical: Standard Voltages:

24, 120, 240, 480 volts, AC, 60 Hz (or 110, 220 volts, AC, 50 Hz).

6, 12, 24, 120, 240 volts, DC.

Other voltages available when required.

Coil: Continuous Duty Molded Class A or F Coils, as listed.

Temperature:

Fluid: 32°F. to 200°F., as listed.

Ambient: Nominal Range, 32°F. to 77°F. (104°F. occasionally — refer to Engineering Section.)

Installation:

Dimensions: Refer to Dimensions Table for envelope size and mounting.

Attitude: Valves may be mounted in any position except as noted in Dimensions Table.

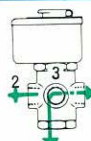
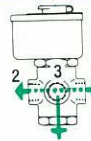
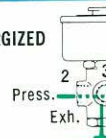
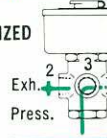
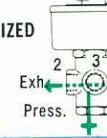
Approvals: UL listed and CSA certified. Refer to Engineering Section for details.

OPTIONAL FEATURES

Many optional electrical and construction features are available, refer to Optional Feature Section. Some typical options are listed below:

- Junction Box Solenoid Enclosure
- Strain-Relief Connector
- Manual Operator
- 1/2" Threaded Conduit Hub or Adapter
- Class A or F Molded Coils with Spade Terminals or Leads
- Class A or F Dual Voltage Molded Coils
- Class H High-Temperature Molded Coils
- Open Frame Solenoid for Cabinet Installation

SPECIFICATIONS • Brass Body

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Maximum Operating Pressure Differential (psi)						Maximum Fluid Temp. °F.		Type 1 General Purpose Solenoid Enclosure		Types 4 and 7 (C and D) Watertight and Explosion-Proof Solenoid Enclosure	Watt Rating/ Class of Coil Insulation			
			Air-Inert Gas		Water		Light Oil @ 300 SSU				Catalog Number	Constr. Ref. No.		Catalog Number	AC	DC	
			AC	DC	AC	DC	AC	DC	AC	DC							
UNIVERSAL OPERATION (Pressure at any orifice)																	
DE-ENERGIZED ENERGIZED																	
1/8	3/64	.06	175	125	175	125	175	125	140	120	8320B130①	1	8320B131①	9/F	9.7/A		
	1/16	.09	100	65	100	65	100	65	180	120	8320B1	1	8320B2	9/F	9.7/A		
	3/32	.12	50	50	50	50	50	50	180	120	8320B83	1	8320B84	6/A	9.7/A		
	1/8	.21	30	20	30	20	30	20	180	120	8320B3	1	8320B4	9/F	9.7/A		
1/4	1/16	.09	100	65	100	65	100	65	180	120	8320A5	3	8320A6	9/F	9.7/A		
	3/32	.12	40	40	40	40	40	40	180	120	8320A85	3	8320A86	6/A	9.7/A		
	1/8	.25	30	20	30	20	30	20	180	120	8320A9	3	8320A10	9/F	9.7/A		
1/4	1/32	.02	395	280	410	305	410	305	140	140	8320A170①	4	8320A171①	16.7/F	11.2/A		
	1/16	.09	125	75	130	75	130	75	200	150	8320A172	4	8320A173	10.5/A	11.2/A		
	3/32	.12	100	60	100	60	100	60	200	150	8320B174	4	8320B175	16.7/F	11.2/A		
	1/8	.25	50	25	50	25	50	25	200	150	8320B176	4	8320B177	16.7/F	11.2/A		
	11/64	.35	20	12	20	12	20	12	200	150	8320A178	4	8320A179	10.5/A	11.2/A		
NORMALLY CLOSED OPERATION (Pressure at 2)																	
DE-ENERGIZED ENERGIZED																	
1/8	3/64	.06	200	200	200	200	200	200	180	120	8320B132	1	8320B133	6/A	9.7/A		
	3/64	.06	300	250	300	250	300	250	140	120	8320B134①	1	8320B135①	9/F	9.7/A		
	1/16	.09	125	125	125	125	125	125	180	120	8320B13	1	8320B14	6/A	9.7/A		
	3/32	.12	100	100	100	100	100	100	180	120	8320B15	1	8320B16	6/A	9.7/A		
1/4	1/8	.21	40	40	40	40	40	40	180	120	8320B17	1	8320B18	6/A	9.7/A		
	1/16	.09	125	125	125	125	125	125	180	120	8320A19	3	8320A20	6/A	9.7/A		
	3/32	.12	110	65	110	65	110	65	180	120	8320A89	3	8320A90	9/F	9.7/A		
	1/8	.25	40	40	40	40	40	40	180	120	8320A23	3	8320A24	6/A	9.7/A		
1/4	11/64	.35	30	20	30	20	30	20	180	120	8320A97	3	8320A98	9/F	9.7/A		
	1/32	.02	750	520	750	550	750	570	140	140	8320A180①	4	8320A181①	16.7/F	11.2/A		
	1/16	.09	210	160	225	160	225	160	200	150	8320A182	4	8320A183	16.7/F	11.2/A		
	3/32	.12	150	115	150	115	150	115	200	150	8320A184	4	8320A185	10.5/A	11.2/A		
1/4	1/8	.25	85	60	85	60	85	60	200	150	8320A186	4	8320A187	10.5/A	11.2/A		
	11/64	.35	45	25	45	25	45	25	200	150	8320A188	4	8320A189	10.5/A	11.2/A		
	NORMALLY OPEN OPERATION (Pressure at 3)																
	DE-ENERGIZED ENERGIZED																
1/8	3/64	.06	200	200	200	200	200	200	180	120	8320B136	1	8320B137	6/A	9.7/A		
	3/64	.06	300	250	300	250	300	250	140	120	8320B138①	1	8320B139①	9/F	9.7/A		
	1/16	.09	125	125	125	125	125	125	180	120	8320B27	1	8320B28	6/A	9.7/A		
	3/32	.12	100	100	100	100	100	100	180	120	8320B29	1	8320B30	6/A	9.7/A		
1/4	1/8	.21	40	40	40	40	40	40	180	120	8320B31	1	8320B32	6/A	9.7/A		
	1/16	.09	125	125	125	125	125	125	180	120	8320A33	3	8320A34	6/A	9.7/A		
	3/32	.12	110	65	110	65	110	65	180	120	8320A91	3	8320A92	9/F	9.7/A		
	1/8	.25	40	40	40	40	40	40	180	120	8320A37	3	8320A38	6/A	9.7/A		
1/4	11/64	.35	30	20	30	20	30	20	180	120	8320A99	3	8320A100	9/F	9.7/A		
	1/32	.02	790	550	825	600	825	600	140	140	8320A190①	4	8320A191①	16.7/F	11.2/A		
	1/16	.09	235	160	250	160	250	160	200	150	8320A192	4	8320A193	16.7/F	11.2/A		
	3/32	.12	140	100	140	100	140	100	200	150	8320A194	4	8320A195	10.5/A	11.2/A		
1/4	1/8	.25	70	55	70	55	70	55	200	150	8320A196	4	8320A197	10.5/A	11.2/A		
	11/64	.35	40	30	40	30	40	30	200	150	8320A198	4	8320A199	10.5/A	11.2/A		

Note: ① Supplied with cast urethane discs.

ORDERING INFORMATION

IMPORTANT: We must have PIPE SIZE, CATALOG NUMBER, VOLTAGE and HERTZ, operating pressure and fluid handled. Use strainers with solenoid valves.

ELECTRICAL INFORMATION

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part No.	
	DC Watts	AC				
		Watts	VA Holding	VA Inrush	AC	DC
A	9.7	6	15.6	25.5	96-619	103-832
F	—	9	22.5	36.5	99-216	—
A	11.2	10.5	23	45	27-462	27-463
F	—	16.7	35	56	64-982	—

UNIVERSAL OPERATION
(Pressure at any orifice)

NORMALLY CLOSED OPERATION (Pressure at 2)

NORMALLY OPEN OPERATION (Pressure at 3)

Note: ① Supplied with cast urethane discs.

DIMENSIONS (in inches)

(Watertight and Explosion-Proof Solenoid Enclosure shown dotted-in. Details available on request.)

