

The 8290 Series is a 2-Way Direct Acting valve available in a Normally Closed or Normally Open construction. They are air-operated with a straight-through design available with bronze or stainless steel bodies built for serious applications. There are many optional features including visual position indicator and electrical connections. The 8290 Series is suitable for the following applications:

- General Service (air, inert gas, water, oil, light slurries)
- Steam and Hot Water

Construction

Part	Valve Parts in Contact with Fluids		
	32mm	50mm - 125mm	50mm - 125mm ①
Body	316L Stainless Steel	Bronze	316L Stainless Steel
Stem	316L Stainless Steel	431 Stainless Steel	431 Stainless Steel
Stuffing Box	316L Stainless Steel	Brass	303 Stainless Steel
Stuffing Box Seal	PTFE	PTFE Chevron	PTFE Chevron
Wiper Seal	FKM	FKM	FKM
Disc	316L Stainless Steel	Brass	304L Stainless Steel
Disc Seal	PTFE	PTFE	PTFE
Screw	316L Stainless Steel	-	-

① For all optional AISI 316L Stainless Steel constructions, contact ASCO.

Specifications

Ambient Temperature Range: 15°F to 150°F

Maximum Viscosity: 2,700 SSU

Alternate Valve Constructions:

- Oxygen service, add suffix "N".
- Medium vacuum service up to 7×10^{-3} Torrs, add suffix "VM".
- Visual Position Indicator for Normally Closed valve with 32mm or 50mm operator, add suffix "VI" (note: position indicator standard on 63mm through 125mm operators).
- NET-INOX treatment (stainless steel valve body pickled in nitric/hydrofluoric acid bath), add suffix "NI".
- All 316L stainless steel versions (available on request).

See inside back cover for the following constructions:

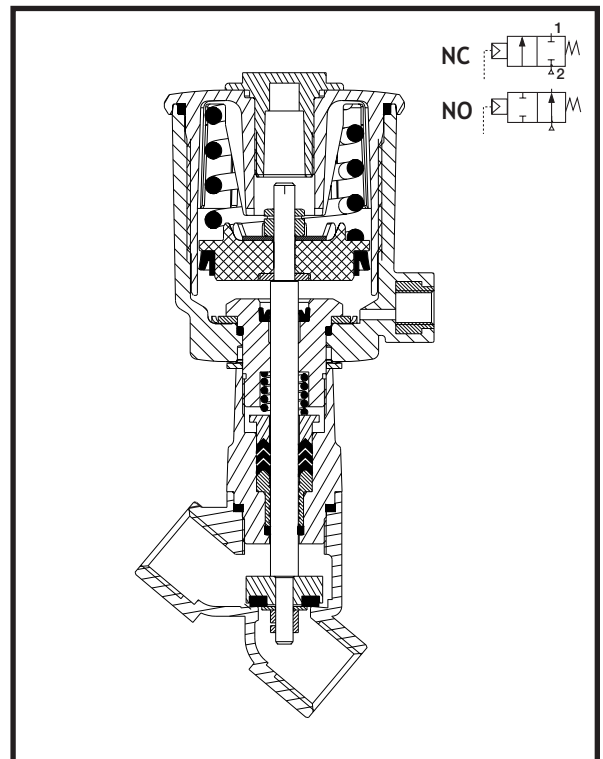
Compact Positioner for proportional control

Compact Signaling Unit

Signaling Box

Linear Position Indicator

Stroke Limiter



Specifications

Pipe Size (ins.)	Orifice Dia. (ins.)	Cv Flow		Operating Pressure Differential (psi)			Max. Fluid Temp. °F	Bronze	Stainless Steel ①	Pilot Pressure (psi)		Approx. Shipping Weight (lbs.)
				Min.	Max. Fluids	Max. Steam				Min.	Max.	
32 mm Operator												
Normally Closed - Entry Under the Disc ③												
3/8	3/8	2.3	-	0	240	150	366	-	8290A791	60	150	1.3
1/2	1/2	4.1	-	0	180	150	366	-	8290A792	60	150	1.4
3/4	3/4	7.6	-	0	90	90	366	-	8290A793	60	150	1.6
Normally Open - Entry Under the Disc												
3/8	3/8	2.3	-	0	240	150	366	-	8290A794	I ②	150	1.3
1/2	1/2	4.1	-	0	240	150	366	-	8290A795	I ②	150	1.4
3/4	3/4	7.6	-	0	240	150	366	-	8290A796	I ②	150	1.6
Normally Closed - Entry Above the Disc for Rapid Cycling Steam Applications												
3/8	3/8	2.3	-	0	-	150	366	-	8290A797	II ②	150	1.3
1/2	1/2	4.1	-	0	-	150	366	-	8290A798	II ②	150	1.4
3/4	3/4	7.6	-	0	-	150	366	-	8290A799	II ②	150	1.6
50 mm Operator												
Normally Closed - Entry Under the Disc ③												
1/2	1/2	5.7	5.3	0	240	150	366	8290A384	8290A393	60	150	2.7
3/4	3/4	11	8.3	0	150	150	366	8290A385	8290A394	60	150	2.9
1	1	15	-	0	90	90	366	8290A386	8290A395	60	150	3.7
Normally Open - Entry Under the Disc												
1/2	1/2	5.7	-	0	240	150	366	8290A387	8290A396	III ②	150	2.7
3/4	3/4	11	-	0	240	150	366	8290A388	8290A397	III ②	150	2.9
1	1	15	-	0	240	150	366	8290A389	8290A398	III ②	150	3.7
Normally Closed - Entry Above the Disc for Rapid Cycling Steam Applications ③												
1/2	1/2	5.7	-	0	-	150	366	8290A390	8290A399	IV ②	150	2.7
3/4	3/4	11	-	0	-	150	366	8290A391	8290A400	IV ②	150	2.9
1	1	15	-	0	-	150	366	8290A392	8290A401	IV ②	150	3.7
63 mm Operator												
Normally Closed - Entry Under the Disc												
1/2	1/2	5.7	-	0	240	150	366	8290B002	8290B045	60	150	3.6
3/4	3/4	11	8.3	0	240	150	366	8290B005	8290B048	60	150	3.9
1	1	19	17	0	150	150	366	8290B010	8290B053	60	150	4.7
1 1/4	1 1/4	32	24	0	90	90	366	8290A016	8290A059	60	150	6.0
1 1/2	1 1/2	52	33	0	60	60	366	8290A020	8290A063	60	150	8.0
2	2	68	46	0	40	40	366	8290A024	8290A067	60	150	10.0
Normally Open - Entry Under the Disc												
1/2	1/2	5.7	-	0	240	150	366	8290B026	8290B069	V ②	150	3.6
3/4	3/4	11	-	0	240	150	366	8290B027	8290B070	V ②	150	3.9
1	1	19	-	0	240	150	366	8290B028	8290B071	V ②	150	4.7
1 1/4	1 1/4	32	-	0	240	150	366	8290A030	8290A073	V ②	150	6.0
1 1/2	1 1/2	52	-	0	160	150	366	8290A032	8290A075	V ②	150	8.0
2	2	68	-	0	105	105	366	8290A034	8290A077	V ②	150	10.0
Normally Closed - Entry Above the Disc for Rapid Cycling Steam Applications												
1/2	1/2	5.7	-	0	-	150	366	8290B036	8290B079	VI ②	150	3.6
3/4	3/4	11	-	0	-	150	366	8290B037	8290B080	VI ②	150	3.9
1	1	19	-	0	-	150	366	8290B038	8290B081	VI ②	150	4.7
1 1/4	1 1/4	32	-	0	-	150	366	8290A039	8290A082	VI ②	150	6.0
1 1/2	1 1/2	52	-	0	-	150	366	8290A040	8290A083	VI ②	150	8.0
2	2	68	-	0	-	135	366	8290A042	8290A085	VI ②	150	10.0

① Available with NET-INOX treatment, add suffix "NI"; ② Minimum pilot pressure varies, see identified graph for appropriate values;
③ For Visual Position Indicator add suffix "VI".



Specifications

Pipe Size (ins.)	Orifice Dia. (ins.)	Cv Flow		Operating Pressure Differential (psi)			Max. Fluid Temp. °F	Bronze	Stainless Steel ①	Pilot Pressure (psi) ②		Approx. Shipping Weight (lbs.)
		On-Off	Prop.	Min.	Max. Fluids	Max. Steam				Min.	Max.	
90 mm Operator												
Normally Closed - Entry Under the Disc												
1	1	19	17	0	240	150	366	8290B011	8290B054	60	150	6.5
1 1/4	1 1/4	32	24	0	180	150	366	8290A017	8290A060	60	150	7.7
1 1/2	1 1/2	52	33	0	120	120	366	8290A021	8290A064	60	150	9.5
2	2	68	46	0	90	90	366	8290A025	8290A068	60	150	16.0
Normally Open - Entry Under the Disc												
1	1	19	-	0	240	150	366	8290B029	8290B072	VII ②	150	6.5
1 1/4	1 1/4	32	-	0	240	150	366	8290A031	8290A074	VII ②	150	7.7
1 1/2	1 1/2	52	-	0	240	150	366	8290A033	8290A076	VII ②	150	9.5
2	2	68	-	0	240	150	366	8290A035	8290A078	VII ②	150	16.0
Normally Closed - Entry Above the Disc for Rapid Cycling Steam Applications												
1 1/4	1 1/4	32	-	0	-	150	366	8290A136	8290A137	VIII ②	150	7.7
1 1/2	1 1/2	52	-	0	-	150	366	8290A041	8290A084	VIII ②	150	9.5
2	2	68	-	0	-	150	366	8290A043	8290A086	VIII ②	150	16.0
125 mm Operator												
Normally Closed - Entry Under the Disc												
1 1/4	1 1/4	34	34	0	240	150	366	8290A642	8290A646	60	150	13.5
1 1/2	1 1/2	56	56	0	240	150	366	8290A482	8290A495	60	150	15.0
2	2	77	77	0	150	150	366	8290A485	8290A498	60	150	17.0
2 1/2	2 1/2	130	86	0	90	90	366	8290A488	8290A501	60	150	21.5
Normally Open - Entry Under the Disc												
1 1/4	1 1/4	34	-	0	240	150	366	8290A643	8290A647	IX ②	150	13.5
1 1/2	1 1/2	56	-	0	240	150	366	8290A489	8290A502	IX ②	150	15.0
2	2	77	-	0	240	150	366	8290A490	8290A503	IX ②	150	17.0
2 1/2	2 1/2	130	-	0	240	150	366	8290A492	8290A505	IX ②	150	21.5

① Available with NET-INOX treatment, add suffix "NI"; ② Minimum pilot pressure varies, see identified graph for appropriate values.

Dimensions: inches

32 mm Operator						
	ØA	B	C	D	E	ØF
ins.	3/8	3.62	3.66	3.21	2.17	0.93
ins.	1/2	3.90	3.82	3.29	2.56	1.10
ins.	3/4	4.21	4.11	3.46	2.95	1.26

32 mm Operator Graphs for Steam and Fluids

Normally Open Valve - Entry under Disc

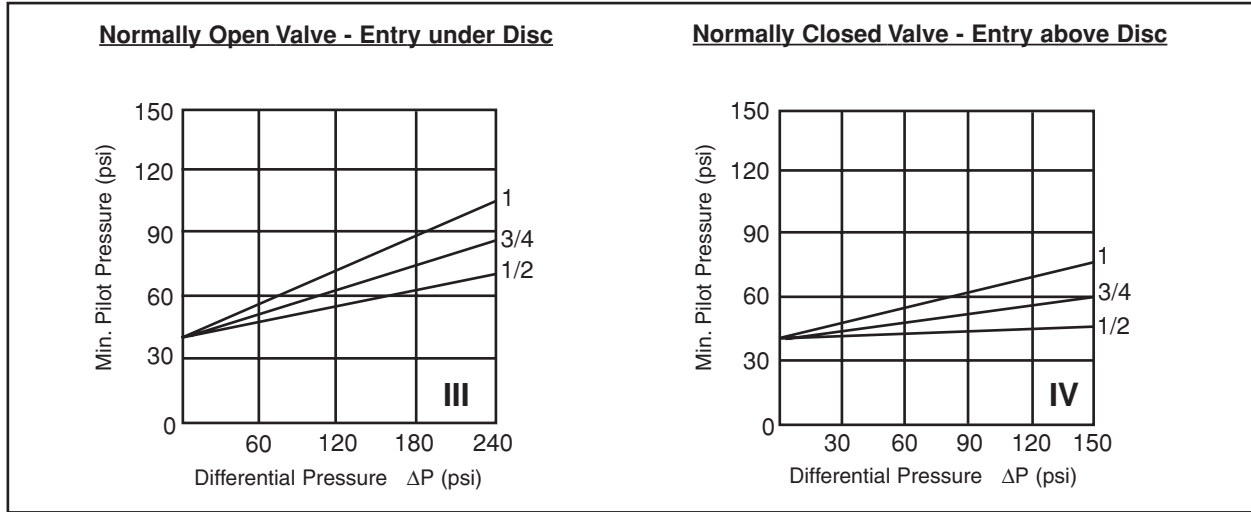
Normally Closed Valve - Entry above Disc

Normally Open

Normally Closed

Dimensions: inches

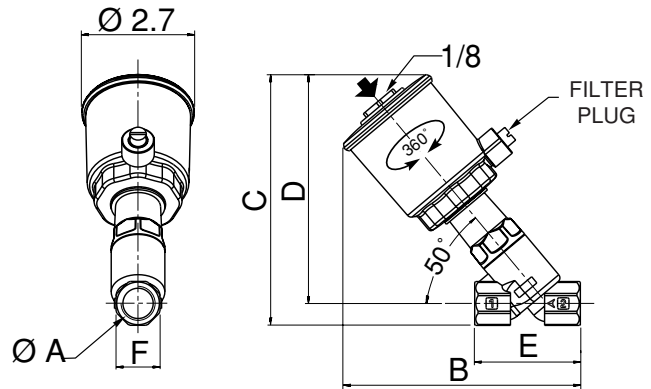
50 mm Operator Graphs for Steam and Fluids



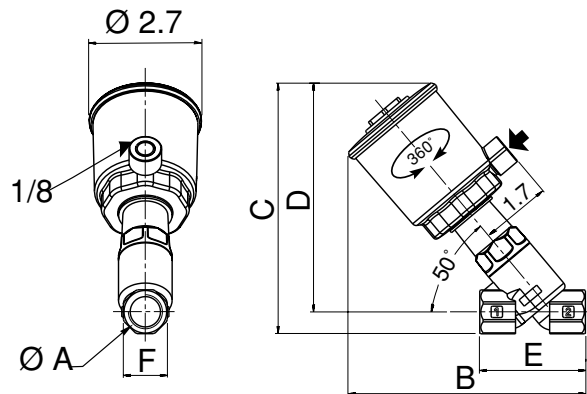
50 mm Operator						
	ØA	B	C	D	E	F
ins.	1/2	5.59	6.08	5.55	2.56	1.06
ins.	3/4	5.92	6.26	5.63	2.95	1.26
ins.	1	6.10	6.50	5.71	3.54	1.61



Normally Open

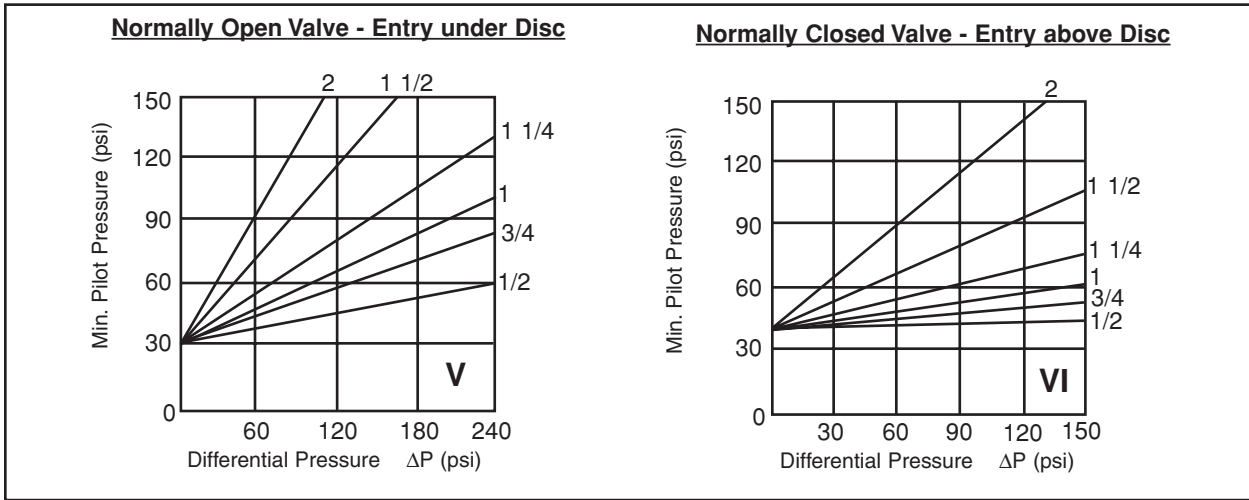


Normally Closed



Dimensions: inches

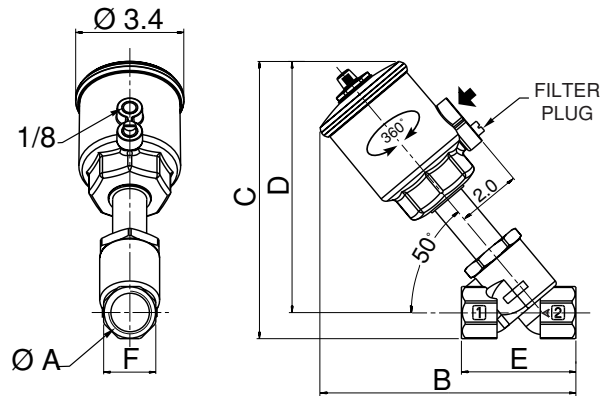
63 mm Operator Graphs for Steam and Fluids



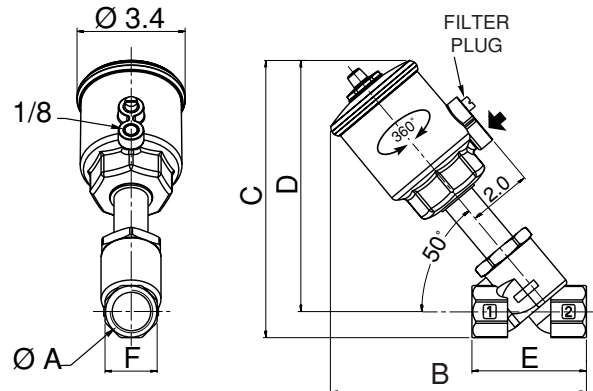
63 mm Operator						
	$\varnothing A$	B	C	D	E	F
ins.	1/2	6.7	7.2	6.6	2.56	1.06
ins.	3/4	6.8	7.3	6.7	2.95	1.26
ins.	1	7.2	7.7	6.9	3.54	1.61
ins.	1 1/4	8.54	9.01	8.03	4.33	1.97
ins.	1 1/2	8.82	9.64	8.46	4.72	2.36
ins.	2	9.80	10.2	8.82	5.9	2.76



Normally Open



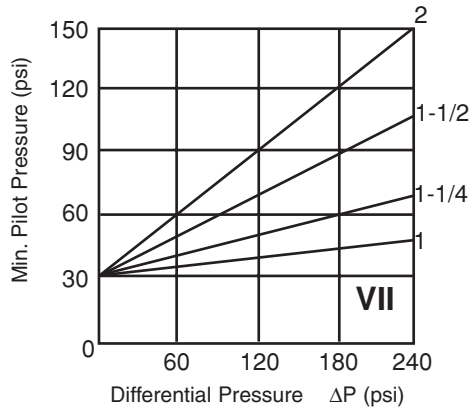
Normally Closed



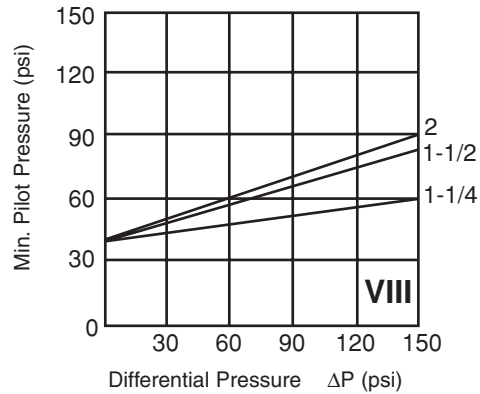
Dimensions: inches

90 mm Operator Graphs for Steam and Fluids

Normally Open Valve - Entry under Disc



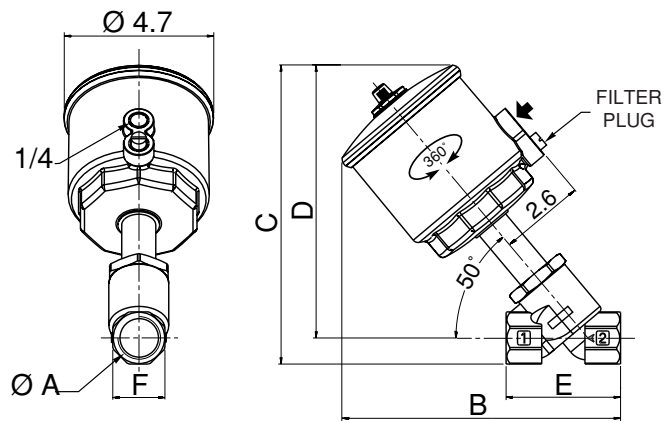
Normally Closed Valve - Entry above Disc



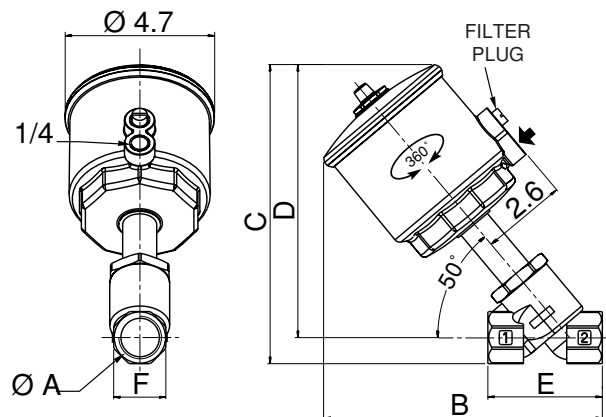
90 mm Operator						
	ØA	B	C	D	E	F
ins.	1	8.0	8.5	7.7	3.54	1.61
ins.	1 1/4	9.29	9.69	8.70	4.33	1.97
ins.	1 1/2	9.57	10.31	9.13	4.72	2.36
ins.	2	10.51	10.87	9.49	5.91	2.76



Normally Open



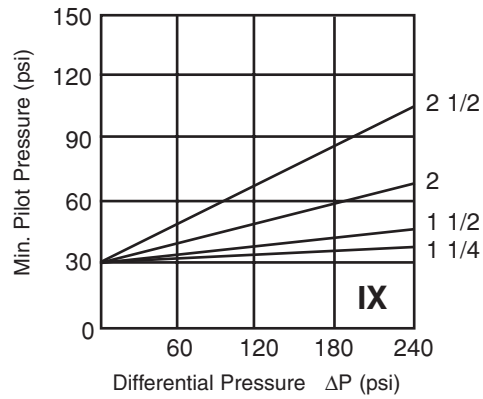
Normally Closed



Dimensions: inches

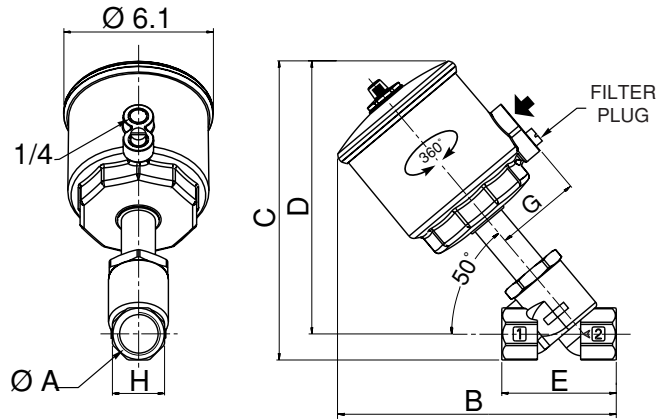
125 mm Operator Graphs for Steam and Fluids

Normally Open Valve - Entry under Disc

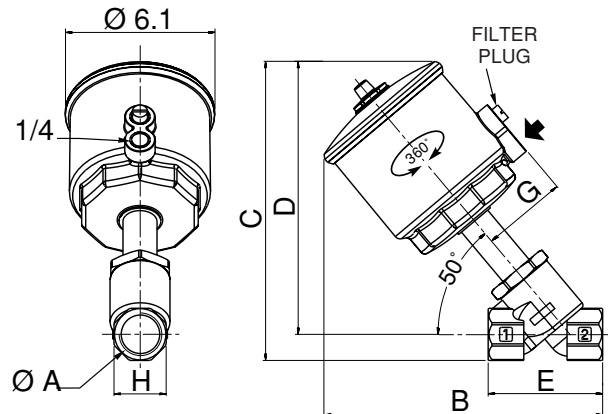


125 mm Operator							
	ØA	B	C	D	E	G	H
ins.	1 1/4	11.1	11.7	10.7	4.3	3.1	2.0
ins.	1 1/2	11.5	12.3	11.2	4.7	3.1	2.4
ins.	2	12.4	12.9	11.5	6.0	3.1	2.8
ins.	2 1/2	13.7	13.9	12.1	7.5	3.1	3.1

Normally Open



Normally Closed



ASCO® 8290 SERIES ACCESSORIES

COMPACT POSITIONERS FOR PROPORTIONAL CONTROL

Varies flow proportional to a 0-10 VDC, 0-20 mA or 4-20 mA control signal. Feedback of valve stem position via a linear potentiometer. Uses profile disc for flow characterization. Available assembled on 50mm through 125mm operator, Normally Closed with fluid entry under disc: (e.g., 8290A384PDB04)

Control Signal	Add Suffix
0-10 VDC	PDB04
0-20 mA	PDB05
4-20 mA	PDB06



COMPACT SIGNALING UNIT

This unit is attached to the stem of the valve and contains the permanent magnet and field-adjustable mini-detectors. Valve stem position is sensed by one or two mini-reed switch detectors with either an integral M8 3-pin connector or a 2 meter cable with leads. Order "Support & Rod" and "Reed Switches": (e.g. 855 29 032 & 881 00 140)

Support & Rod		Reed Switch (Each)	
50mm NC	63, 90, 125 NC/NO	W/Connector	W/Leads
885 29 032	885 29 027	881 00 140	881 00 142



SIGNALING BOX

Supplied with two mechanical or inductive switches with LEDs, and mounts on top of the valve operator in place of the standard visual indicator. As the valve cycles, cams on the signal lengthening stem operate the switches to provide electrical signaling of the valve position. The signaling box can rotate 360°. Available assembled on 50mm Normally Closed and 63mm through 125mm Normally Open and Normally Closed. (e.g., 8290A384SM2)

Switches	Add Suffix
Two Mechanical	SM2
Two Inductive	SI2
Two Intrinsically Safe	SH2



LINEAR POSITION INDICATOR (HS SERIES)

Supplied with two mechanical or Viper Switches and mounts on top of the valve operator in place of the standard visual indicator. Provides wiring box with conduit connections. HS1,2,3 indicators are suitable for hazardous locations while the HS4 indicator is suitable for non-hazardous locations. Optional ASi and DeviceNet communications available. Consult ASCO for details and ordering.



STROKE LIMITER

The stroke limiter allows Cv flow to be adjusted from 0% to 100%, and mounts on top of any 8290 Series valve in place of the position indicator. It is available assembled for 50mm (Normally Closed) and 63mm through 125mm Normally Open or Normally Closed valves with fluid entry under the disc. Add suffix M: (e.g., 8290B002M)



PILOT VALVES

ASCO offers a variety of 3-way Direct Acting Normally Closed pilot valves to pilot 32mm through 125mm 8290 valves. Available in direct, in-line and remote mounting. To order, specify catalog number and voltage (24, 120, 240 AC 60Hz or 110, 220 AC 50Hz or 6, 12, 24, 120 DC).



Series 189

- Direct Mount.
- Swivel "Banjo" fittings, 1/8" NPT male.
- Inlet for 4mm plastic tube.
- DIN plug connection.



Series 8325

- In-line Mount.
- 1/8" NPT.
- Brass or Stainless Steel.
- DIN plug connection.



Series 8320

- In-line Mount.
- 1/8" or 1/4" NPT.
- Brass or Stainless Steel.
- (Explosionproof optional, add Prefix EF).



Bus Island

- Remote Mount.
- 4 to 16 valves.
- Compatible with ASI, DeviceNet, Profibus and others.
- See Catalog 34 for Specifications.

SPECIFICATIONS (for use on 8290 Series)

Catalog Number	Pipe Size (ins.)	Orifice Dia. (ins.)	Cv Flow ③		Operating Pressure Differential Air (psi)		Max. Fluid Temp. °F		Watt Rating/ Class of Coil Insulation		Body Material	Speed Control Exhaust Port
			P-C	C-E	AC	DC	AC	DC	AC	DC		
SERIES 189												
18900049 ①	1/8	1/16	.04	.06	150	150	140	140	2.2/F	2.5/F	Polyamide	w
18900036 ①	1/8	1/16	.04	.06	150	150	140	140	2.2/F	2.5/F	Polyamide	w/o
SERIES 8325												
SC8325B5V ①	1/8	3/64	.05	.07	150	150	180	77	6.3/F	6.9/F	Brass	w/o
SC8325B35V ①	1/8	3/64	.05	.07	150	150	180	77	6.3/F	6.9/F	Stainless	w/o
SERIES 8320												
8320G130 ①	1/8	3/64	.06	.06	175	125	140	120	9.1/F	10.6/F	Brass	w/o
8320G140 ①	1/8	3/64	.06	.06	175	125	140	120	9.1/F	10.6/F	Stainless	w/o
8320G174 ②	1/4	3/32	.12	.12	100	60	200	150	17.1/F	11.6/F	Brass	w/o
8320G200 ②	1/4	3/32	.12	.12	100	60	200	150	17.1/F	11.6/F	Stainless	w/o

① Use with 32mm, 50mm, and 63mm operators; ② Use with 63mm, 90mm, and 125mm operators; ③ P = Pressure, C = Cylinder, E = Exhaust.