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Lesman

INSTRUMENTS • VALVES • CONTROLS

SOLVING APPLICATION PROBLEMS

PROCESS VALVES AND ACCESSORIES

ball • butterfly • control • multi-port • solenoid

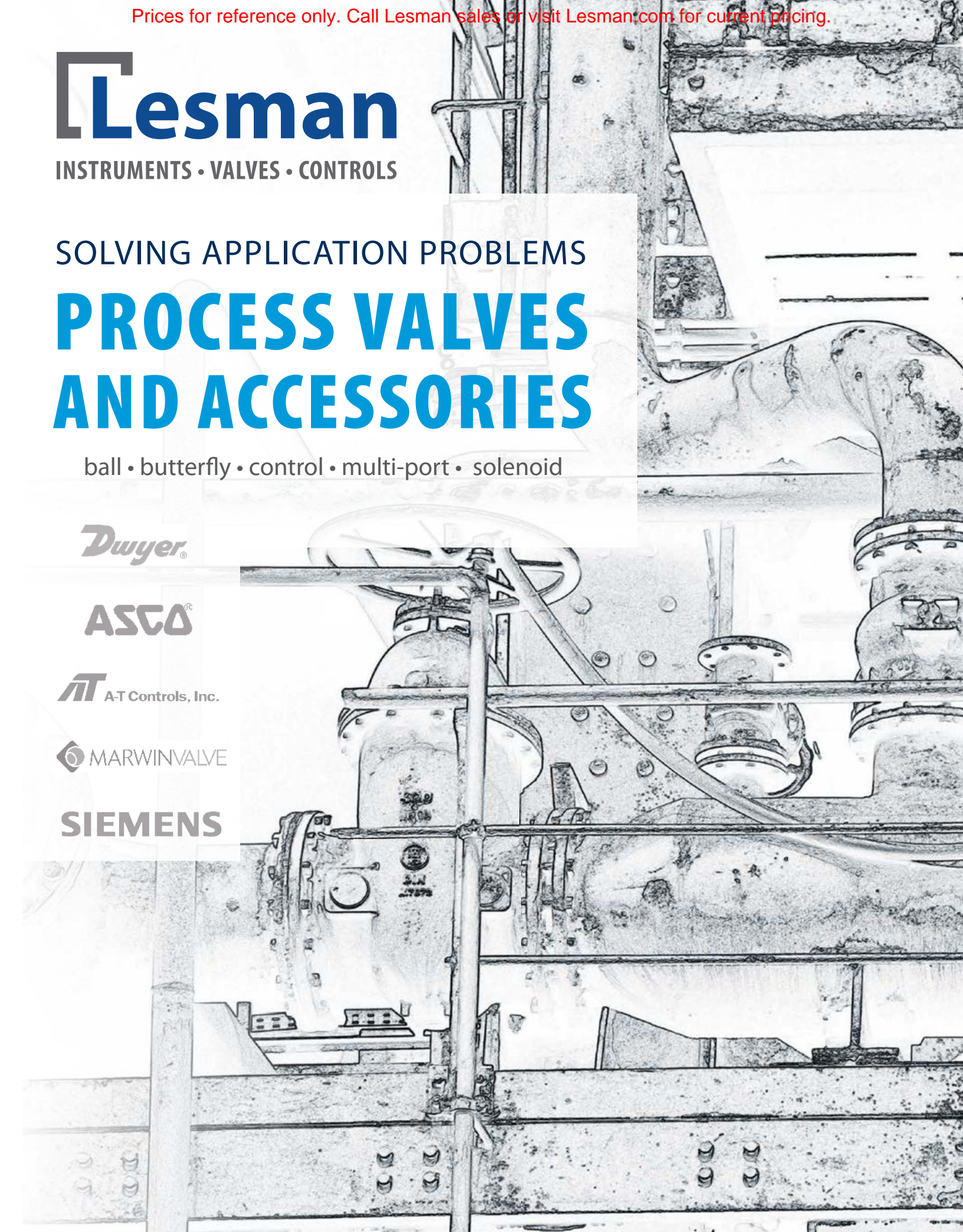
Dwyer

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AT A-T Controls, Inc.

 MARWINVALVE

SIEMENS



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Accessories**
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Get full specifications for all these products at bit.ly/process-valves

Lesman Instrument Company
Corporate Office: 135 Bernice Drive, Bensenville, IL 60106
www.Lesman.com | 800-953-7626 | Sales@Lesman.com

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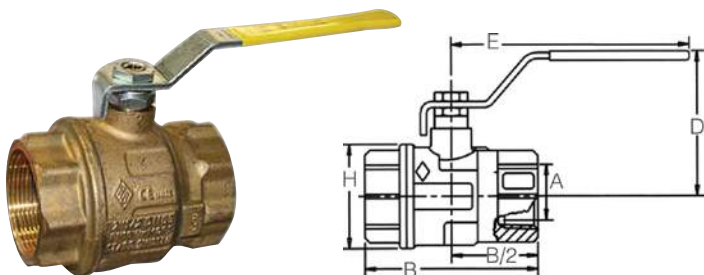
Due to contractual agreements with our manufacturers, some items in this catalog may not be available in all geographic areas or markets.



Valve Size	Number of Ports	Port Type	Max Pressure	Standard Materials			Standard End Connections	Features	Series	See Page
				Body	Trim	Seat				
1/4" to 2"	3	Reduced	1000 PSI	SS	SS	RTFE	Threaded	General service multiport ball valve	38	14
1/4" to 3"	2	Full	1000 PSI	SS	SS	RTFE	Threaded	Two-piece high performance, direct mount ball valve	22	6
1/4" to 4"	2	Full	1500 or 2000 PSI	CS, SS	SS	RTFE	Threaded	Three-piece high performance, direct mount ball valve with locking handle	88	8
1/4" to 4"	2	Full	1450 PSI	CS, SS	SS	RTFE	Threaded	FM-Approved for safety shut-off	F88	5
1/2" to 2"	2	Full	600 PSI	Brass	Brass, SS	PTFE	Threaded	Two-piece cost-effective ball valve for common fluid control applications	600	Below
1/2" to 4"	2	Reduced	4000 PSI	CS, SS	SS	PTFE	Threaded	High pressure valve with encapsulated seats, triple stem seal, dual body seals, and individually bolted end caps; API 607 fire tested	3000	4
1/2" to 4"	2	Full	1000 PSI	SS	SS	Teflon	Tri-Clamp	Cavity-filled manual ball valve	CF8901	Below
1/2" to 6"	2	Reduced	285 PSI	CS, SS	SS	RTFE	150# Flanged	Firesafe unibody direct mount ball valve	F91	10
1/2" to 8"	2	Full	740 PSI	SS	SS	RTFE	150# Flanged	Firesafe two-piece direct mount ball valve with pyramidal stem packing	FD9	12
1/4" to 4"	3	Full	1000 PSI	SS	SS	RTFE	Threaded, Socket Weld, Butt Weld	Five seat design; L, T, X, I, vertical L, vertical T, TT and LL port configurations.	33	15
1/2" to 4"	3	Full	740 PSI	CS, SS	SS	RPTFE	NPT, Flanged	Bolted, investment cast body, 4-seat design	3L/T-2100F	16
1/2" to 2"	3	Reduced	1000 PSI WOG	SS	SS	PTFE	Threaded	High pressure L or T standard port ball valve for shutoff, mixing or diverting flow	3T-3700/3L-3800	16

MARWINVALVE Manual Operated Ball Valves

600 Series Two-Piece Brass Manual Ball Valve



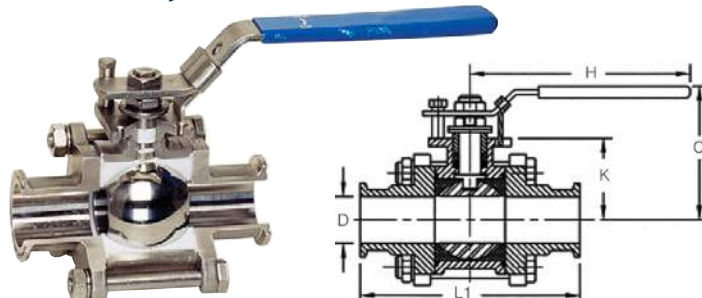
- Brass body, ball, blowout-proof stem, Teflon packing and seats
- Full port configuration, NPT female threaded ends
- Pressure rating: 600 PSI WOG, WSP 150 PSI steam
- Temperature range: -40° to 366° F

Model Selection Guide

Valve Size	Cv	Dimensions					Catalog Number	Price
		A	B	D	E	H		
1/4"	6.3	0.39"	2.02"	1.7"	3.9"	0.9"	666FTTS-025	\$ 10.12
3/8"	7.0	0.39"	2.02"	1.7"	3.9"	0.9"	666FTTS-038	14.72
1/2"	19.0	0.59"	2.44"	1.8"	3.9"	1.25"	666FTTS-050	16.56
3/4"	34.4	0.79"	2.71"	2.3"	4.8"	1.53"	666FTTS-075	23.00
1"	50.0	0.98"	3.07"	2.4"	4.8"	1.92"	666FTTS-100	34.96
1-1/4"	104.0	1.26"	3.42"	3"	6"	2.32"	666FTTS-125	59.80
1-1/2"	268.0	1.57"	3.89"	3.2"	6"	2.87"	666FTTS-150	88.32
2"	309.0	1.95"	4.33"	3.7"	6.4"	3.38"	666FTTS-200	122.36
2-1/2"	629.0	2.4"	5.59"	4.8"	8.1"	4.37"	666FTTS-250	205.16
3"	1018.0	2.87"	6.45"	5.2"	8.1"	5.35"	666FTTS-300	328.44
4"	1622.0	3.82"	7.6"	6.5"	10.2"	6.35"	666FTTS-400	488.52

Also available with locking lever.

CF8901 Three-Piece Stainless Steel Cavity-Filled Manual Ball Valve



- Blowout-proof stem with adjustable live loaded packing
- Body Rated to 1000 PSI, -20° to 400° F
- Tri-clamp flanged ends standard, ISO 5211 mounting pad
- Not ASME BPE certified. Call Lesman for BPE-certified valves.

Model Selection Guide

A complete model number looks like this: **CF8901F-050-S6/AKHLNN0000NN**.

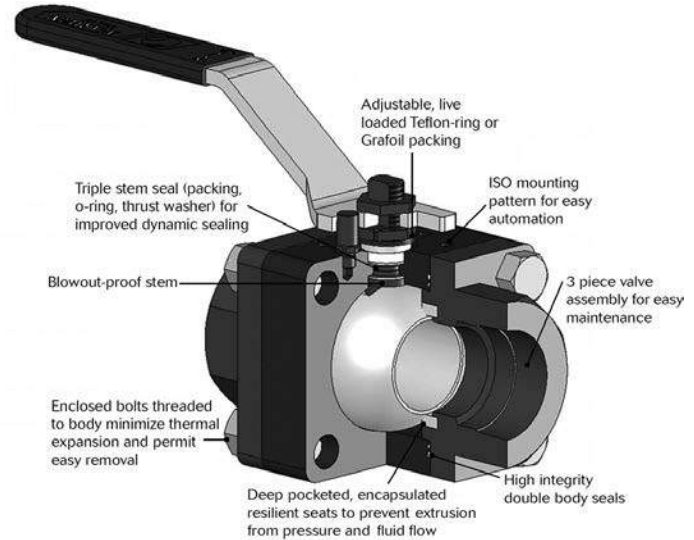
Valve Size	Cv	Dimensions					Catalog Number	Price
		C	D	H	K	L1		
1/2"	8	2.6"	0.37"	5.2"	1.18"	3.5"	-050-S6-	\$ 78.20
3/4"	30	2.8"	0.62"	5.2"	1.37"	4.0"	-075-S6-	90.16
1"	65	3.1"	0.87"	6.5"	1.48"	4.5"	-100-S6-	90.16
1-1/2"	190	4.0"	1.37"	7.9"	2.10"	5.5"	-150-S6-	116.84
2"	435	4.3"	1.87"	8.4"	2.43"	6.1"	-200-S6-	299.00
2-1/2"	720	6.1"	2.37"	10.9"	3.14"	7.8"	-250-S6-	584.20
3"	1120	6.4"	2.87"	14.6"	3.41"	9.0"	-300-S6-	743.36
4"	2100	7.6"	3.83"	14.7"	4.54"	9.5"	-400-S6-	1426.92

Three-piece full port ball valve, SS body and trim, Teflon seat, ISO 5211 direct mount pad, live loaded packing, and standard tri-clamp ends with SS lever handle. CF8901F-

3000 Series Three-Piece High Pressure Ball Valve



Your choice of end connections: NPT threaded, socket welded, butt welded, or ANSI/DIN flanges.

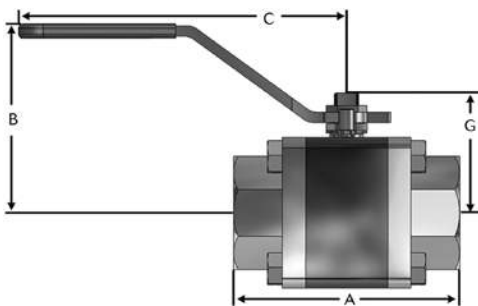


Wide variety of end connections available



- Soft seat valve for applications with pressures to 4000 PSI and temperatures to 600° F, up to 450 PSI steam pressure
- Ideal for hydraulic, gas, steam, or process piping applications
- Anti-static construction
- Sizes 1/4" to 4" reduced port (Call for 1/4" to 3" full port)
- Looking for a V-Ball control valve? See page 18.

Key Specifications and Dimensions



Valve Size	Flow Cv	Torque In-Lbs	Dimensions				
			Port	A	B	C	G
1/2"	8	72	0.43"	2.91"	2.60"	6.00"	1.40"
3/4"	15	72	0.56"	3.17"	2.80"	6.00"	1.50"
1"	34	108	0.74"	3.87"	3.20"	7.60"	2.10"
1-1/4"	48	204	1.00"	4.36"	3.60"	7.60"	2.30"
1-1/2"	85	220	1.25"	4.68"	4.30"	8.90"	2.70"
2"	125	240	1.50"	5.50"	4.50"	8.90"	2.90"
2-1/2"	275	432	1.93"	5.59"	4.70"	11.00"	3.30"
3"	460	1348	2.44"	8.98"	5.40"	13.80"	4.00"
4"	700	1460	3.00"	8.78"	5.90"	19.70"	4.90"

Model Selection Guide

Description	Size	Catalog Number	Price
Reduced Port Valve Carbon Steel Body	1/2"	3000R-050-CS-PTS6TFTVHL	\$288.88
	3/4"	3000R-075-CS-PTS6TFTVHL	322.00
	1"	3000R-100-CS-PTS6TFTVHL	344.08
	1-1/4"	3000R-125-CS-PTS6TFTVHL	437.92
	1-1/2"	3000R-150-CS-PTS6TFTVHL	502.32
	2"	3000R-200-CS-PTS6TFTVHL	588.80
	2-1/2"	3000R-250-CS-PTS6TFTVHL	1104.00
	3"	3000R-300-CS-PTS6TFTVHL	1394.72
	4"	3000R-400-CS-PTS6TFTVHL	2366.24
	Reduced Port Valve Stainless Steel Body	1/2"	3000R-050-S6-PTS6TFTVHL
3/4"		3000R-075-S6-PTS6TFTVHL	335.80
1"		3000R-100-S6-PTS6TFTVHL	375.36
1-1/4"		3000R-125-S6-PTS6TFTVHL	552.00
1-1/2"		3000R-150-S6-PTS6TFTVHL	693.68
2"		3000R-200-S6-PTS6TFTVHL	782.00
2-1/2"		3000R-250-S6-PTS6TFTVHL	1357.00
3"		3000R-300-S6-PTS6TFTVHL	2056.20
4"		3000R-400-S6-PTS6TFTVHL	2648.68

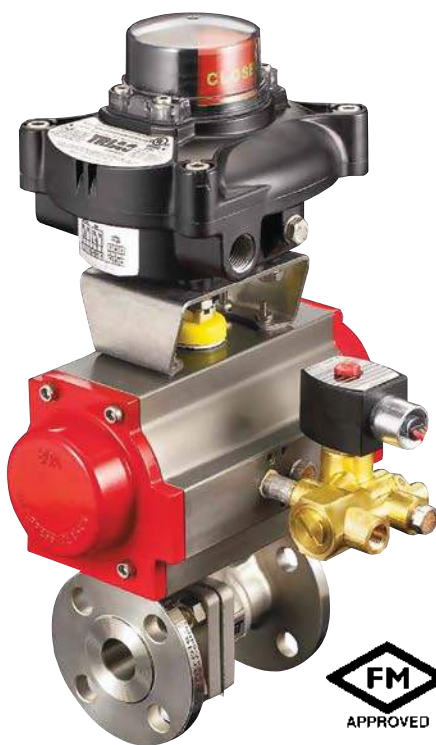


Models shown are hand-operated.
Call Lesman at 800-953-7626 to add an actuator and positioner.

**Call for API 607 4th Edition
 Fire-Tested Approvals**



A-T Controls, Inc. FM-Approved Ball Valves for Safety Shut-Off



Call for pricing and delivery on Oxygen-cleaned valves

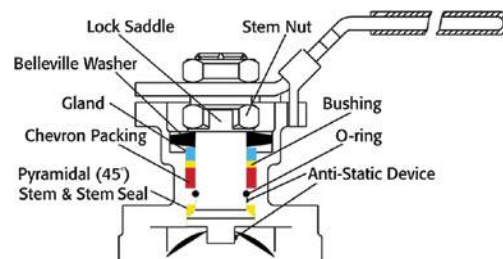
FM approved for use in applications that require protection for fuel-burning equipment. Components include a spring-return automated ball valve, explosion-proof limit switch, and a solenoid pilot valve.

Assemblies feature the latest in quarter-turn automation and rack-and-pinion actuator design, for a marked improvement over older spring-diaphragm technology.

The actuator, combined with the superior valve seating and stem seal design, provides for reliable and consistent closure in a compact fuel gas safety shut-off system.

Features

- Pyramidal stem seal system
- 316 stainless steel or carbon steel bodies, reinforced Teflon seat
- Three-piece threaded or ANSI flanged connections
- Solenoids approved for waterproof and explosion-proof environments
- Two SPDT mechanical limit switch, 5 Amp, NEMA 4, 4X, 7, and 9



A-T Controls' patented Pyramidal stem seal system protects your valve against wear and leakage, and reduce your plant's fugitive emissions.

Specifications

Body: Choice of 316 stainless steel or carbon steel

Approvals: FM Class 7400, 7420, and 7400

Maximum Operating Pressure (depends on valve size): F88 (threaded) carbon steel: 1000 to 1450 PSI at 100° F, F88 stainless steel: 1000 to 1440 PSI at 100° F

Limit Switch: Standard: Two SPDT mechanical switches, 5 Amp @ 125 VAC, NEMA 4, 4X, 7, and 9.

Optional: Two 5 Amp DPDT mechanical switches, two 1 Amp SPDT proximity switches, or two 5 Amp SPDT mechanical switches with 4-20 mA position transmitter

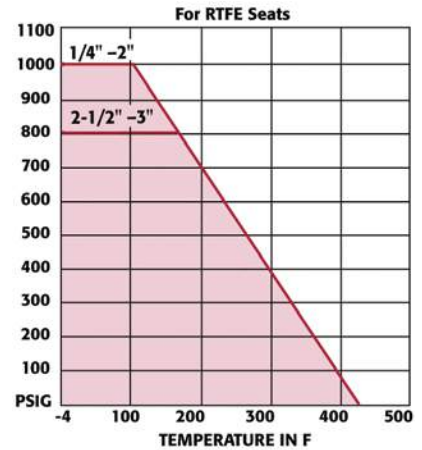
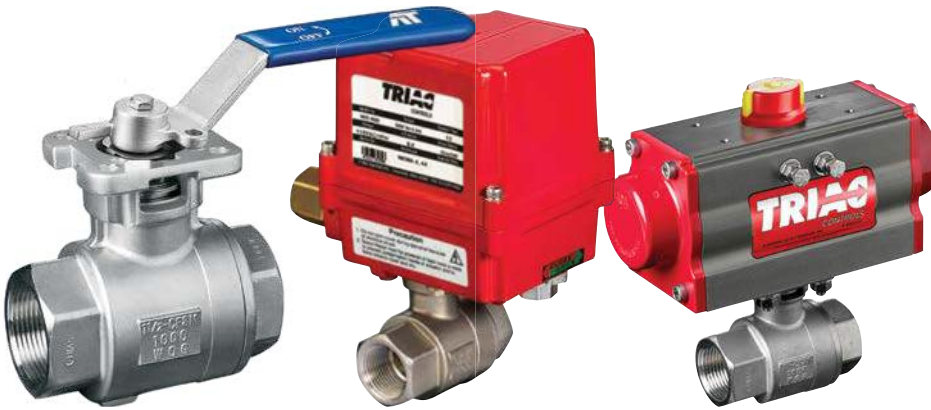
Model Selection Guide — Series F88 Ball Valves with Gas Safety Shutoff Assembly

Valve Size	Valve Cv	Valve Dimensions (in)			Actuator Dimensions (in)			Carbon Steel Valve		Stainless Steel Valve	
		A	C	F	B	D	E	Catalog Number	Price	Catalog Number	Price
Model F88 FireSafe NACE, Three-Piece Full Port Ball Valve, Direct Mount Gas Safety Shutoff Assembly											
1/4"	7	12.14	6.60	2.95	8.00	7.05	5.09	SS-8C-TX-025-6AA	\$ 1432.00	SS-8S-TX-025-6AA	\$ 1420.00
3/8"	8	12.14	6.60	2.95	8.00	7.05	5.09	SS-8C-TX-038-6AA	1432.00	SS-8S-TX-038-6AA	1420.00
1/2"	15	12.14	6.60	2.85	8.00	7.05	5.09	SS-8C-TX-050-6AA	1440.00	SS-8S-TX-050-6AA	1437.00
3/4"	40	13.37	5.98	3.36	9.34	7.05	6.32	SS-8C-TX-075-6AA	1530.00	SS-8S-TX-075-6AA	1515.00
1"	70	13.85	5.98	4.25	9.34	7.05	6.80	SS-8C-TX-100-6AA	1584.00	SS-8S-TX-100-6AA	1583.00
1 1/4"	110	14.00	5.98	4.37	9.34	7.05	6.95	SS-8C-TX-125-6AA	1649.00	SS-8S-TX-125-6AA	1639.00
1 1/2"	250	15.04	6.22	5.01	10.92	7.05	7.99	SS-8C-TX-150-6AA	1880.00	SS-8S-TX-150-6AA	1867.00
2"	430	15.75	6.39	5.62	11.51	7.05	8.70	SS-8C-TX-200-6AA	2218.00	SS-8S-TX-200-6AA	2201.00
2 1/2"	600	17.51	6.85	7.28	13.92	7.05	10.46	SS-8C-TX-250-6AA	2633.00	SS-8S-TX-250-6AA	2547.00
3"	1100	17.51	6.85	8.07	13.92	7.05	10.81	SS-8C-TX-300-6AA	2999.00	SS-8S-TX-300-6AA	2892.00
4"	2200	19.67	7.20	9.45	15.20	7.48	12.19	SS-8C-TX-400-6AA	3573.00	SS-8S-TX-400-6AA	3410.00

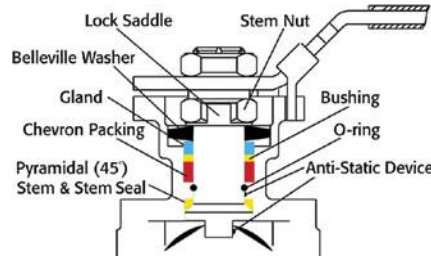


FM-approved assemblies are also available up to 6" with Series FD9 split body flanged ball valves. See page 12 for Series FD9 specs and dimensions. Call Lesman for model selection and delivery.

Series 22 Manual and Automated Direct-Mount Two Piece Ball Valves

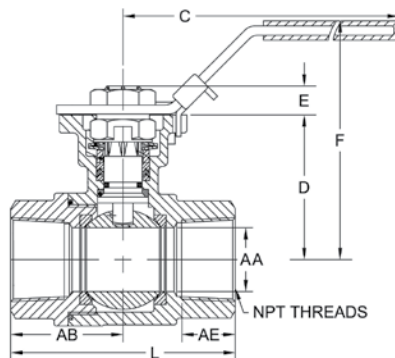


- Available in 1/4" to 3" sizes
- Full port valve with direct actuator mount
- Two-piece, high cycle design
- 316 SS body, ball, and stem
- Rated to 800/1000 PSI for water, oil, or gas (WOG)
- Pyramidal stem packing system
- Blowout-proof stem
- NACE MR-0175
- Meets industry standards ANSI B16.34, B16.25, B1.20.1, API 6D, ISO 5211, MSS SP25, SP55, BS 5351, 21



A-T Controls' patented Pyramidal stem seal system protects your valve against wear and leakage, and reduce your plant's fugitive emissions.

Valves with the TA-Luft certification meet the permissible limit standard for the emission of vapors or gases during processing or transfer of liquids or gaseous materials.



Valve dimensions (AA, L, AB, and AE) will stay the same, regardless of your choice of actuator.

Model Selection Guide: Series 22 Valve with Lever Handle

Valve Size	Valve Cv	Valve Dimensions				Lever Handle Dimensions				Valve and Lever Handle Catalog Number	List Price
		AA	L	AB	AE	C	D	E	F		
0.25"	7	0.45	2.56	1.28	0.55	5.88	1.53	0.26	2.99	22-TH-025-XXX	\$70.00
0.375"	8	0.49	2.56	1.28	0.53	6.12	1.52	0.26	2.99	22-TH-038-XXX	70.00
0.5"	15	0.59	2.56	1.28	0.53	5.83	1.60	0.26	3.05	22-TH-050-XXX	70.00
0.75"	40	0.79	2.94	1.47	0.61	5.88	1.82	0.28	3.23	22-TH-075-XXX	90.00
1"	70	0.98	3.46	1.73	0.72	6.77	2.24	0.43	3.74	22-TH-100-XXX	101.00
1.25"	110	1.26	4.02	2.01	0.81	6.77	2.40	0.43	3.92	22-TH-125-XXX	127.00
1.5"	250	1.5	4.33	2.17	0.76	8.51	3.06	0.55	4.00	22-TH-150-XXX	196.00
2"	350	1.97	4.92	2.46	0.89	8.51	3.35	0.56	5.16	22-TH-200-XXX	246.00
2.5"	600	2.56	6.32	3.16	1.09	10.53	4.31	0.67	6.18	22-TH-250-XXX	449.00
3"	900	3.15	7.01	3.51	1.19	11.88	4.63	0.71	6.80	22-TH-300-XXX	589.00

Need a vented ball? A spring-return handle? An oval handle?
 Call Lesman inside sales at 800-953-7626 for pricing and delivery.

Spring Return Handles

- For applications where open or closed position must be maintained by manual positioning
- For direct mount valves sizes: 1/4" to 1-1/2"
- Spring-to-open or spring-to-close position by manual release of the handle

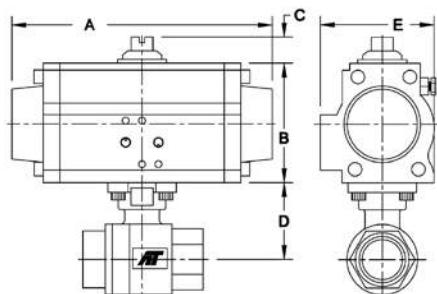


Get full specs and learn more at bit.ly/series-22



Ball Valve with Pneumatic Actuators

Actuators are sized based on clean/clear fluid, and 60 PSI air supply.



Model Selection Guide: Series 22 Valve with Pneumatic Actuator

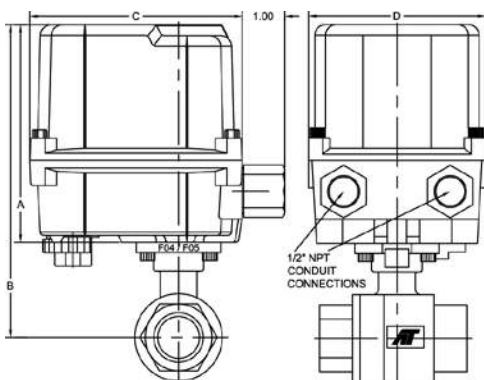
Valve Size	Valve Cv	Valve Dimensions				Actuator Dimensions					Valve and Actuator Catalog Number	List Price
		AA	L	AB	AE	A	B	C	D	E		
Series 22 Two-Piece Ball Valve with Spring-Return Pneumatic Actuator												
0.25"	7	0.45	2.56	1.28	0.55	7.60	2.76	0.79	1.53	2.58	22-TX-025/TR1S-	\$262.00
0.375"	8	0.49	2.56	1.28	0.53	7.60	2.76	0.79	1.53	2.58	22-TX-038/TR1S-	262.00
0.5"	15	0.59	2.56	1.28	0.53	7.60	2.76	0.79	1.60	2.58	22-TX-050/TR1S-	262.00
0.75"	40	0.79	2.94	1.47	0.61	7.95	3.43	0.79	1.82	3.29	22-TX-075/2R2S-	323.00
1"	70	0.98	3.46	1.73	0.72	9.29	4.49	0.79	2.24	3.29	22-TX-100/2R3S-	418.00
1.25"	110	1.26	4.02	2.01	0.81	9.29	4.49	0.79	2.40	4.41	22-TX-125/2R3S-	444.00
1.5"	250	1.5	4.33	2.17	0.76	9.29	4.49	0.79	3.06	4.41	22-TX-150/2R4S-	590.00
2"	350	1.97	4.92	2.46	0.89	7.95	4.49	0.79	3.35	4.41	22-TX-200/2R4S-	650.00
2.5"	600	2.56	6.32	3.16	1.09	11.46	5.28	0.79	4.31	5.20	22-TX-250/2R5S-	839.00
3"	900	3.15	7.01	3.51	1.19	13.90	6.18	0.79	4.63	6.04	22-TX-300/2R6S-	1185.00
Series 22 Two-Piece Ball Valve with Double-Acting Pneumatic Actuator												
0.25"	7	0.45	2.56	1.28	0.55	4.57	1.91	0.79	1.53	1.93	22-TX-025/TRYD-	\$237.00
0.375"	8	0.49	2.56	1.28	0.53	4.57	1.91	0.79	1.53	1.93	22-TX-038/TRYD-	237.00
0.5"	15	0.59	2.56	1.28	0.53	4.57	1.91	0.79	1.60	1.93	22-TX-050/TRYD-	241.00
0.75"	40	0.79	2.94	1.47	0.61	5.98	2.76	0.79	1.82	2.58	22-TX-075/TR1D-	279.00
1"	70	0.98	3.46	1.73	0.72	5.98	2.76	0.79	2.24	2.58	22-TX-100/TR1D-	285.00
1.25"	110	1.26	4.02	2.01	0.81	7.95	3.43	0.79	2.40	3.29	22-TX-125/2R2D-	350.00
1.5"	250	1.5	4.33	2.17	0.76	9.29	4.49	0.79	3.06	3.29	22-TX-150/2R3D-	470.00
2"	350	1.97	4.92	2.46	0.89	9.29	4.49	0.79	3.35	3.29	22-TX-200/2R3D-	609.00
2.5"	600	2.56	6.32	3.16	1.09	9.29	4.49	0.79	4.31	4.41	22-TX-250/2R3D-	711.00
3"	900	3.15	7.01	3.51	1.19	10.87	4.88	0.79	4.63	4.69	22-TX-300/2R4D-	1056.00
Optional Solenoid	None										-X _	0.00
	NEMA 4 NAMUR-Mounted Solenoid, 24 VDC/120 VAC										-A _	96.00
	NEMA 7 NAMUR-Mounted Solenoid, 24 VDC/120 VAC										-B _	180.00
	Intrinsically Safe Solenoid										-C _	230.00
Optional Limit Switches	None										- _ X	0.00
	Two SPDT NEMA 4										- _ A	148.00
	Two SPDT NEMA 7										- _ B	220.00
	Intrinsically Safe Limit Switch										- _ C	178.00

*Please specify solenoid voltage at time of order.



Ball Valve with NEMA 4/4X Electric On/Off Actuator

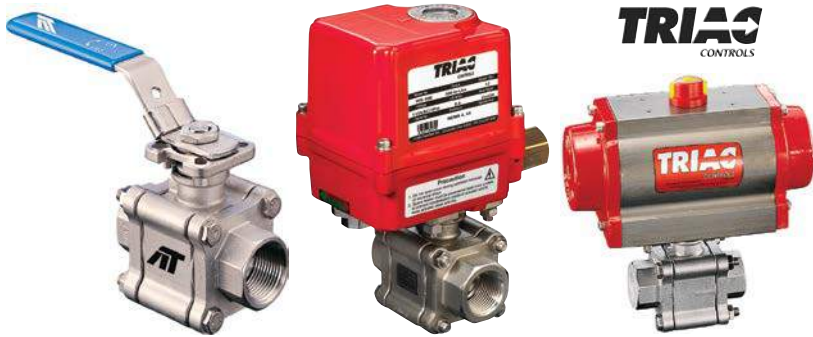
Actuators are sized based on clean/clear fluid.



Model Selection Guide: Series 22 Valve with Electric Actuator

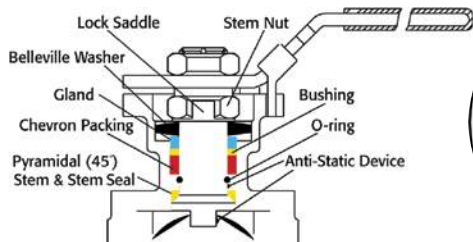
Valve Size	Valve Cv	Valve Dimensions				Electric Actuator Dimensions				Valve and Actuator Catalog Number	List Price	
		AA	L	AB	AE	A	B	C	D			
0.25"	7	0.45	2.56	1.28	0.55	5.24	6.77	4.94	4.08	22-TX-025/WEA1-	\$532.00	
0.375"	8	0.49	2.56	1.28	0.53	5.24	6.77	4.94	4.08	22-TX-038/WEA1-	532.00	
0.5"	15	0.59	2.56	1.28	0.53	5.24	6.84	4.94	4.08	22-TX-050/WEA1-	532.00	
0.75"	40	0.79	2.94	1.47	0.61	5.24	7.06	4.94	4.08	22-TX-075/WEA1-	539.00	
1"	70	0.98	3.46	1.73	0.72	5.24	7.48	4.94	4.08	22-TX-100/WEA1-	567.00	
1.25"	110	1.26	4.02	2.01	0.81	5.24	7.64	4.94	4.08	22-TX-125/WEA1-	590.00	
1.5"	250	1.5	4.33	2.17	0.76	5.24	8.30	4.94	4.08	22-TX-150/WEA1-	651.00	
2"	350	1.97	4.92	2.46	0.89	5.24	8.59	4.94	4.08	22-TX-200/WEA1-	705.00	
2.5"	600	2.56	6.32	3.16	1.09	9.25	13.56	6.69	10.16	22-TX-250/WEB1-	1561.00	
3"	900	3.15	7.01	3.51	1.19	10.55	15.18	9.02	13.31	22-TX-300/WEC1-	1985.00	
Voltage	120/60 VAC										-X _	0.00
	24 VAC/24 VDC/ 220 VAC										-V _	Call
Feedback Signals	None										- _ X	0.00
	Feedback Potentiometer										- _ F	Call

A-T Controls, Inc. Series 88 Direct-Mount Three Piece Ball Valves



- Available in 1/4" to 4" sizes
- Full port valve with direct actuator mount
- Threaded, socket weld, or butt weld
- Choice of manual operator, pneumatic actuator, or electric on/off actuator
- Stainless steel or carbon steel body, reinforced TFE seats
- Rated to 1500/2000 PSI for water, oil, or gas (WOG)
- Pyramidal stem packing system
- Meets industry standards: ANSI B16.34, B16.25, B1.20.1, B16.11, API 6D, 598, ISO 5211, 5209, 5752, 7/1, 261 MSS PS25, PS72, BS 5351, 6755-1, 6755-2

Get full specs and learn more at bit.ly/series-88

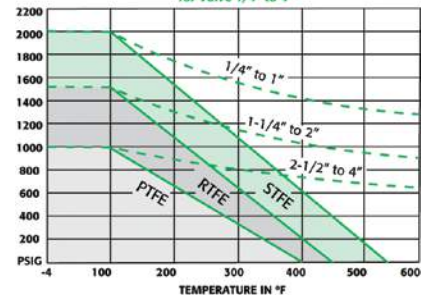


A-T Controls' Pyramidal stem seal system protects your valve against wear and leakage. Valves with the TA-Luft certification meet the permissible limit standard for the emission of vapors or gases during processing or transfer of liquids or gaseous materials.

Pressure vs. Temp. Chart

for Valves 1/4" to 4"

Pressure vs. Temperature Chart for Valve 1/4" to 4"

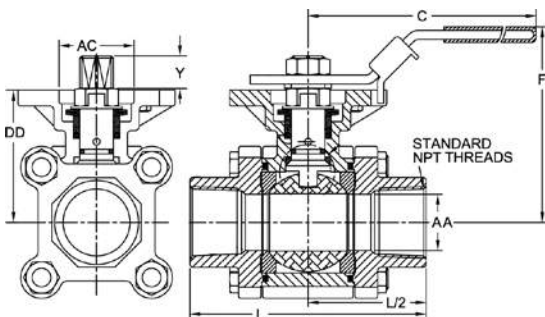


Dimensions

Valve dimensions (AA, L, AC, DD, and Y) will stay the same, regardless of your choice of actuator.

Valve Size	Valve Cv	Valve Dimensions					Valve Size	Valve Cv	Valve Dimensions					Valve Size	Valve Cv	Valve Dimensions				
		AA	L	DD	Y	AC			AA	L	DD	Y	AC			AA	L	DD	Y	AC
0.25"	7	0.45	2.95	1.66	0.25	1.04	1"	70	0.98	4.15	2.31	0.41	1.34	2.5"	600	2.56	7.28	4.28	0.66	2.09
0.375"	8	0.50	2.95	1.66	0.25	1.04	1.25"	110	1.26	4.37	2.46	0.41	1.34	3"	1100	3.15	8.07	4.63	0.70	2.09
0.5"	15	0.59	2.85	1.66	0.25	1.07	1.5"	250	1.5	5.01	3.11	0.53	1.54	4"	2000	3.94	9.45	5.26	0.66	2.09
0.75"	40	0.79	3.36	1.83	0.33	1.07	2"	430	1.97	5.62	3.42	0.53	1.54							

Ball Valves with Slide Lock Lever Handles



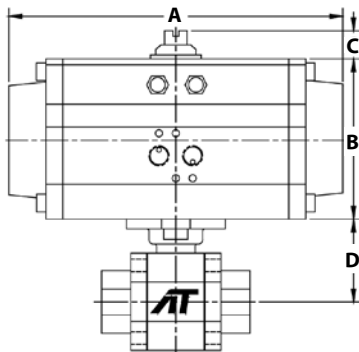
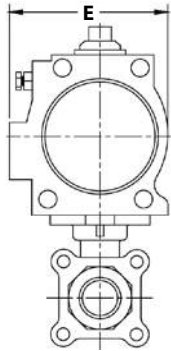
Model Selection Guide: Series 88 Valve with Lever Handle

Valve Size	Valve Cv	Lever Dimensions		Carbon Steel Valve Catalog Number	Price	Stainless Steel Valve Catalog Number	Price
		C	F				
0.25"	7	5.47	3.00	88C-TH-025-XXX	\$103.00	88-TH-025-XXX	\$114.00
0.375"	8	5.47	3.00	88C-TH-038-XXX	103.00	88-TH-038-XXX	114.00
0.5"	15	5.47	3.00	88C-TH-050-XXX	105.00	88-TH-050-XXX	116.00
0.75"	40	5.47	3.20	88C-TH-075-XXX	135.00	88-TH-075-XXX	150.00
1"	70	6.50	3.86	88C-TH-100-XXX	180.00	88-TH-100-XXX	197.00
1.25"	110	6.50	4.00	88C-TH-125-XXX	226.00	88-TH-125-XXX	266.00
1.5"	250	8.46	5.04	88C-TH-150-XXX	303.00	88-TH-150-XXX	347.00
2"	430	8.46	5.35	88C-TH-200-XXX	381.00	88-TH-200-XXX	440.00
2.5"	600	10.31	6.60	88C-TH-250-XXX	693.00	88-TH-250-XXX	761.00
3"	1100	10.31	6.96	88C-TH-300-XXX	881.00	88-TH-300-XXX	933.00
4"	2000	12.28	7.59	88C-TH-400-XXX	1296.00	88-TH-400-XXX	1466.00

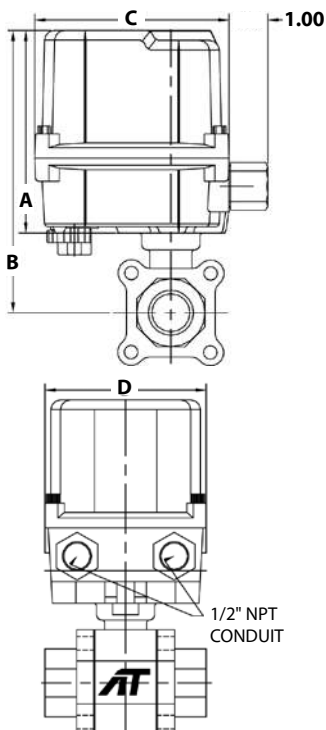


Dimensions: Pneumatic Actuators

Actuators are sized based on clean/clear fluid, and 60 PSI air supply.



Dimensions: Electric Actuators



Model Selection Guide: Series 88 Valve with Pneumatic Actuator

Valve Size	Valve Cv	Actuator Dimensions*					Carbon Steel Valve Catalog Number	Price	Stainless Steel Valve Catalog Number	Price
		A	B	C	D	E				

Series 88 Valve With Pneumatic Spring Return Actuator

0.25"	7	7.6	2.76	0.79	1.66	2.58	88C-TX-025-2R2S-	\$392.00	88-TX-025-2R2S-	\$412.00
0.375"	8	7.6	2.76	0.79	1.66	2.58	88C-TX-038-2R2S-	392.00	88-TX-038-2R2S-	412.00
0.5"	15	7.6	3.43	0.79	1.66	3.29	88C-TX-050-2R2S-	412.00	88-TX-050-2R2S-	434.00
0.75"	40	9.29	4.49	0.79	1.83	4.41	88C-TX-075-2R3S-	491.00	88-TX-075-2R3S-	516.00
1"	70	9.29	4.49	0.79	2.31	4.41	88C-TX-100-2R3S-	544.00	88-TX-100-2R3S-	569.00
1.25"	110	9.29	4.49	0.79	2.46	4.41	88C-TX-125-2R3S-	604.00	88-TX-125-2R3S-	642.00
1.5"	250	9.29	4.49	0.79	3.11	4.41	88C-TX-150-2R4S-	727.00	88-TX-150-2R4S-	774.00
2"	430	10.87	4.88	0.79	3.42	4.82	88C-TX-200-2R5S-	925.00	88-TX-200-2R5S-	984.00
2.5"	600	11.46	5.28	0.79	4.28	5.2	88C-TX-250-2R6S-	1400.00	88-TX-250-2R6S-	1468.00
3"	1100	13.9	6.18	1.18	4.63	6.04	88C-TX-300-2R7S-	1588.00	88-TX-300-2R7S-	1640.00
4"	2000	15.16	6.93	1.18	5.26	6.69	88C-TX-400-2R7S-	2106.00	88-TX-400-2R7S-	2276.00

Series 88 Valve With Pneumatic Double-Acting Actuator

0.25"	7	5.98	2.76	0.79	1.66	2.58	88C-TX-025-TR1D-	\$329.00	88-TX-025-TR1D-	\$344.00
0.375"	8	5.98	2.76	0.79	1.66	2.58	88C-TX-038-TR1D-	329.00	88-TX-038-TR1D-	344.00
0.5"	15	5.98	2.76	0.79	1.66	2.58	88C-TX-050-TR1D-	331.00	88-TX-050-TR1D-	347.00
0.75"	40	7.95	3.43	0.79	1.83	3.29	88C-TX-075-2R2D-	398.00	88-TX-075-2R2D-	418.00
1"	70	7.95	3.43	0.79	2.31	3.29	88C-TX-100-2R2D-	430.00	88-TX-100-2R2D-	458.00
1.25"	110	7.95	3.43	0.79	2.46	3.29	88C-TX-125-2R2D-	480.00	88-TX-125-2R2D-	508.00
1.5"	250	9.29	4.49	0.79	3.11	4.41	88C-TX-150-2R3D-	612.00	88-TX-150-2R3D-	648.00
2"	430	9.29	4.49	0.79	3.42	4.41	88C-TX-200-2R3D-	693.00	88-TX-200-2R3D-	732.00
2.5"	600	10.87	4.88	0.79	4.28	4.82	88C-TX-250-2R4D-	1081.00	88-TX-250-2R4D-	1134.00
3"	1100	11.46	5.28	0.79	4.63	5.20	88C-TX-300-2R5D-	1314.00	88-TX-300-2R5D-	1375.00
4"	2000	13.90	6.18	0.79	5.26	6.04	88C-TX-400-2R6D-	1640.00	88-TX-400-2R6D-	1940.00

Optional Solenoid	None	-X	0.00
	NEMA 4 NAMUR-Mounted Solenoid, 24 VDC/120 VAC	-A	96.00
	NEMA 7 NAMUR-Mounted Solenoid, 24 VDC/120 VAC	-B	180.00
	Intrinsically Safe Solenoid	-C	230.00
Optional Limit Switches	None	-X	0.00
	Two SPDT NEMA 4	-A	148.00
	Two SPDT NEMA 7	-B	220.00
	Intrinsically Safe Limit Switch	-C	178.00

*See model selection guide on previous page for full valve dimensions

Please specify solenoid voltage at time of order.

Model Selection Guide: Series 88 Valve with Electric On/Off Actuator

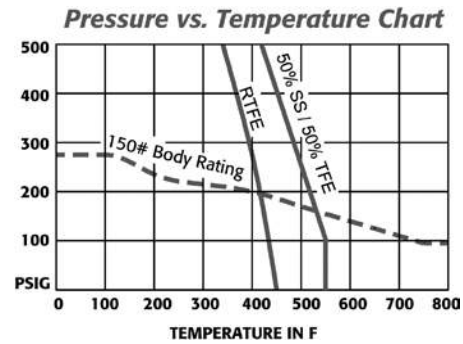
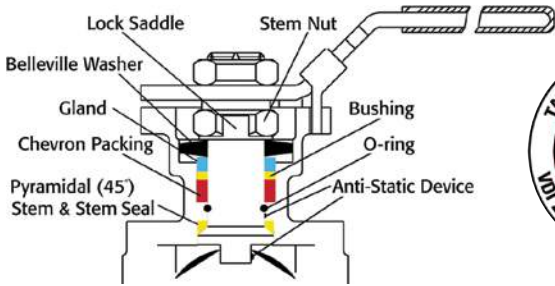
Valve Size	Valve Cv	Actuator Dimensions				Carbon Steel Valve Catalog Number	Price	Stainless Steel Valve Catalog Number	Price
		A	B	C	D				

0.25"	7	5.24	6.9	4.94	4.08	88C-TX-025-WEA1-	\$648.00	88-TX-025-WEA1-	\$677.00
0.375"	8	5.24	6.9	4.94	4.08	88C-TX-038-WEA1-	648.00	88-TX-038-WEA1-	677.00
0.5"	15	5.24	6.9	4.94	4.08	88C-TX-050-WEA1-	654.00	88-TX-050-WEA1-	684.00
0.75"	40	5.24	7.07	4.94	4.08	88C-TX-075-WEA1-	660.00	88-TX-075-WEA1-	691.00
1"	70	5.24	7.55	4.94	4.08	88C-TX-100-WEA1-	674.00	88-TX-100-WEA1-	709.00
1.25"	110	5.24	7.7	4.94	4.08	88C-TX-125-WEA1-	731.00	88-TX-125-WEA1-	771.00
1.5"	250	5.24	8.35	4.94	4.08	88C-TX-150-WEA1-	797.00	88-TX-150-WEA1-	856.00
2"	430	5.24	8.66	4.94	4.08	88C-TX-200-WEA1-	1085.00	88-TX-200-WEA1-	1134.00
2.5"	600	9.25	13.53	6.69	10.16	88C-TX-250-WEB1-	2010.00	88-TX-250-WEB1-	2080.00
3"	1100	10.55	15.18	9.02	13.31	88C-TX-300-WEC1-	2090.00	88-TX-300-WEC1-	2218.00
4"	2000	10.55	15.81	9.02	13.31	88C-TX-400-WED1-	3115.00	88-TX-400-WED1-	3354.00

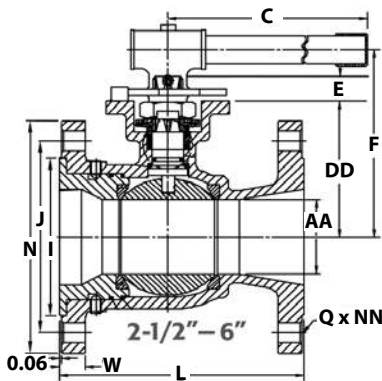
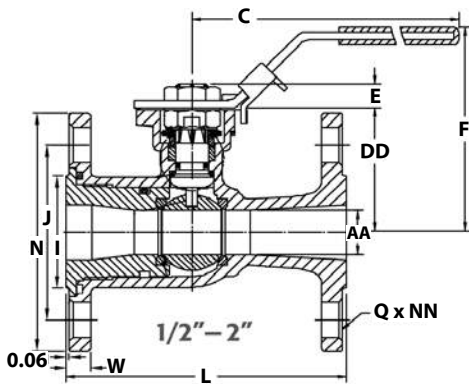
Voltage	120/60 VAC	-X	0.00
	24 VAC/24 VDC/ 220 VAC	-V	Call
Feedback Signals	None	-X	0.00
	Feedback Potentiometer	-F	Call

A-T Controls, Inc. Series F91 Firesafe Direct Mount Flanged Ball Valves

- Available in 1/2" to 6" sizes
- Regular port valve with direct actuator mount
- Pyramidal stem packing system
- ANSI Class 150# flanged connections and ISO 5211 mounting
- Carbon steel or 316 stainless steel body, ball, and blowout-proof stem
- Anti-static and firesafe
- Compliant to NACE MRO175



Valve dimensions (AA, L, W, W1, Q, NN, I, J, and N) will stay the same, regardless of your choice of actuator.



Valve Dimensions

Valve Size	Valve Cv	Valve Dimensions (in)									
		AA	DD	L	W	W1	Q	NN	I	J	N
0.5"	9	0.50	1.80	4.26	0.44	0.06	0.63	4.00	1.38	2.38	3.50
0.75"	15	0.59	2.02	4.62	0.44	0.06	0.63	4.00	1.69	2.75	3.88
1"	42	0.79	2.19	5.00	0.44	0.06	0.63	4.00	2.00	3.12	4.25
1.5"	125	1.26	2.86	6.50	0.56	0.06	0.63	4.00	2.88	3.88	5.00
2"	165	1.50	3.51	7.02	0.63	0.06	0.75	4.00	3.62	4.75	6.00
2.5"	245	1.97	3.80	7.50	0.69	0.06	0.75	4.00	4.12	5.50	7.00
3"	350	2.56	4.57	8.00	0.75	0.06	0.75	4.00	5.00	6.00	7.50
4"	680	3.15	5.22	9.00	0.94	0.06	0.75	8.00	6.19	7.50	9.00
6"	1020	4.37	7.07	10.50	1.00	0.06	0.87	8.00	8.50	9.50	11.00

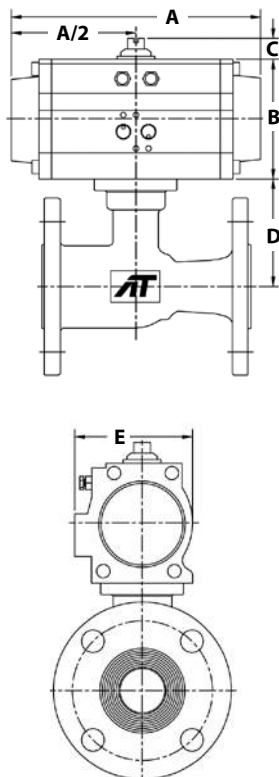
Model Selection Guide: Series F91 with Lever/Handle

Valve Size	Valve Cv	Actuator Dimensions (in)			Carbon Steel Valve		Stainless Steel Valve	
		C	E	F	Catalog Number	Price	Catalog Number	Price
0.5"	9	6.5	0.37	3.22	F91C-F1-050-XXX	\$138.00	F91-F1-050-XXX	\$150.00
0.75"	15	6.5	0.39	3.44	F91C-F1-075-XXX	145.00	F91-F1-075-XXX	152.00
1"	42	6.5	0.39	3.61	F91C-F1-100-XXX	196.00	F91-F1-100-XXX	206.00
1.5"	125	8.46	0.51	4.71	F91C-F1-150-XXX	324.00	F91-F1-150-XXX	354.00
2"	165	10.35	0.75	5.68	F91C-F1-200-XXX	437.00	F91-F1-200-XXX	475.00
2.5"	245	10.35	0.75	5.97	F91C-F1-250-XXX	550.00	F91-F1-250-XXX	779.00
3"	350	14.37	0.75	6.31	F91C-F1-300-XXX	719.00	F91-F1-300-XXX	1018.00
4"	680	14.37	0.91	7.13	F91C-F1-400-XXX	1062.00	F91-F1-400-XXX	1396.00
6"	1020	29.53	1.12	9.63	F91C-F1-600-XXX	2113.00	F91-F1-600-XXX	3655.00



Dimensions: Pneumatic Actuators

Actuator sizes based on clean/clear fluid, and 60PSI air supply.



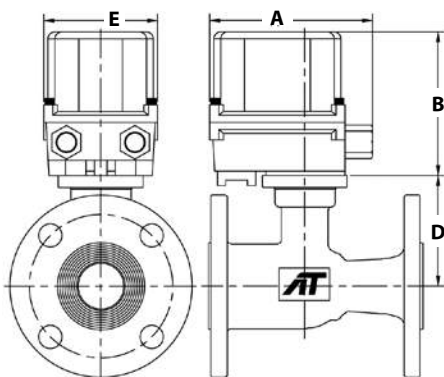
Model Selection Guide: Series F91 with Pneumatic Actuator

Valve Size	Valve Cv	Actuator Dimensions (in)					Carbon Steel Valve		Stainless Steel Valve	
		A	B	C	D	E	Catalog Number	Price	Catalog Number	Price
D91 Flanged Ball Valve with Pneumatic Spring Return Actuator; Supply Air: 60 PSI										
0.5"	9	7.95	3.43	0.79	1.80	3.29	F91C-F1-050/2R3S-	\$509.00	F91-F1-050/2R3S-	\$550.00
0.75"	15	7.95	3.43	0.79	2.02	3.29	F91C-F1-075/2R3S-	537.00	F91-F1-075/2R3S-	585.00
1"	42	9.29	4.49	0.79	2.19	4.41	F91C-F1-100/2R3S-	566.00	F91-F1-100/2R3S-	618.00
1.5"	125	9.29	4.49	0.79	2.86	4.41	F91C-F1-150/2R3S-	693.00	F91-F1-150/2R3S-	788.00
2"	165	10.87	4.88	0.79	3.51	4.82	F91C-F1-200/2R5S-	938.00	F91-F1-200/2R5S-	1066.00
2.5"	245	10.87	4.88	0.79	3.80	4.82	F91C-F1-250/2R5S-	1066.00	F91-F1-250/2R5S-	1556.00
3"	350	11.46	5.28	0.79	4.57	5.20	F91C-F1-300/2R6S-	1438.00	F91-F1-300/2R6S-	1756.00
4"	680	13.90	6.18	0.79	5.22	6.04	F91C-F1-400/2R7S-	1898.00	F91-F1-400/2R7S-	2373.00
6"	1020	20.95	8.30	1.18	7.07	7.64	F91C-F1-600/2R8S-	3743.00	F91-F1-600/2R8S-	5363.00
D91 Flanged Ball Valve with Pneumatic Spring Return Actuator; Supply Air: 60 PSI										
0.5"	9	5.98	2.76	0.79	1.80	2.58	F91C-F1-050/TR1D-	\$389.00	F91-F1-050/TR1D-	\$483.00
0.75"	15	5.98	2.76	0.79	2.02	2.58	F91C-F1-075/TR1D-	400.00	F91-F1-075/TR1D-	498.00
1"	42	7.95	3.43	0.79	2.19	3.29	F91C-F1-100/2R2D-	477.00	F91-F1-100/2R2D-	527.00
1.5"	125	9.29	4.49	0.79	2.86	4.41	F91C-F1-150/2R3D-	605.00	F91-F1-150/2R3D-	746.00
2"	165	9.29	4.49	0.79	3.51	4.41	F91C-F1-200/2R3D-	769.00	F91-F1-200/2R3D-	892.00
2.5"	245	9.29	4.49	0.79	3.80	4.41	F91C-F1-250/2R3D-	898.00	F91-F1-250/2R3D-	1133.00
3"	350	9.29	4.49	0.79	4.57	4.41	F91C-F1-300/2R4D-	1158.00	F91-F1-300/2R4D-	1462.00
4"	680	11.46	5.28	0.79	5.22	5.20	F91C-F1-400/2R6D-	1562.00	F91-F1-400/2R6D-	2021.00
6"	1020	13.90	6.18	0.79	7.07	6.04	F91C-F1-600/2R7D-	2946.00	F91-F1-600/2R7D-	4440.00
		None							-X_	0.00
Optional Solenoid*		NEMA 4 NAMUR-Mounted Solenoid, 24 VDC/120 VAC							-A_	96.00
		NEMA 7 NAMUR-Mounted Solenoid, 24 VDC/120 VAC							-B_	180.00
		Intrinsically Safe Solenoid							-C_	230.00
Optional Limit Switches		None							-_X	0.00
		Two SPDT NEMA 4							-_A	148.00
		Two SPDT NEMA 7							-_B	220.00
		Intrinsically Safe Limit Switch							-_C	178.00

*Please specify solenoid voltage at time of order.

Dimensions: Electric Actuators

Actuator sizes based on clean/clear fluid.



Model Selection Guide: Series F91 with Electric Actuator

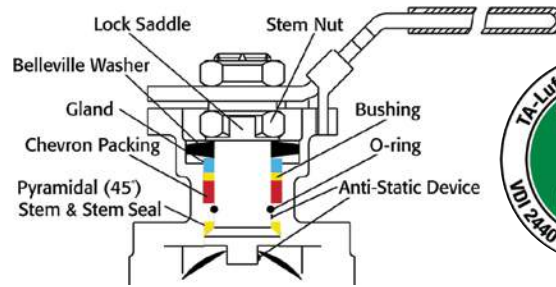
Valve Size	Valve Cv	Actuator Dimensions (in)				Carbon Steel Valve		Stainless Steel Valve	
		A	B	D	E	Catalog Number	Price	Catalog Number	Price
0.5"	9	5.94	5.24	1.8	4.15	F91C-F1-050/WEA1	\$702.00	F91-F1-050/WEA1-	\$751.00
0.75"	15	5.94	5.24	2.02	4.15	F91C-F1-075/WEA1-	714.00	F91-F1-075/WEA1-	769.00
1"	42	5.94	5.24	2.19	4.15	F91C-F1-100/WEA1-	743.00	F91-F1-100/WEA1-	800.00
1.5"	125	5.94	5.24	2.86	4.15	F91C-F1-150/WEA1-	869.00	F91-F1-150/WEA1-	970.00
2"	165	5.94	5.24	3.51	4.15	F91C-F1-200/WEA1-	985.00	F91-F1-200/WEA1-	1112.00
2.5"	245	13.31	10.55	3.8	9.02	F91C-F1-250/WEC1-	2009.00	F91-F1-250/WEC1-	2280.00
3"	350	13.31	10.55	4.57	9.02	F91C-F1-300/WEC1-	2160.00	F91-F1-300/WEC1-	2498.00
4"	680	14.49	11.42	5.22	10.20	F91C-F1-400/WEE1-	2790.00	F91-F1-400/WEE1-	3290.00
6"	1020	14.49	11.42	7.07	10.20	F91C-F1-600/WEE1-	4068.00	F91-F1-600/WEE1-	5685.00
Voltage		1120/60 VAC 24 VAC/24 VDC/ 220 VAC						-X_	0.00
								-V_	Call
Feedback Signals		None						-_X	0.00
		Feedback Potentiometer						-_F	Call

Get full specs and learn more at bit.ly/series-f91

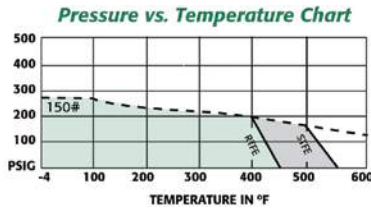
Series FD9 Firesafe Direct Mount Split Body Flanged Ball Valves

Key Specifications

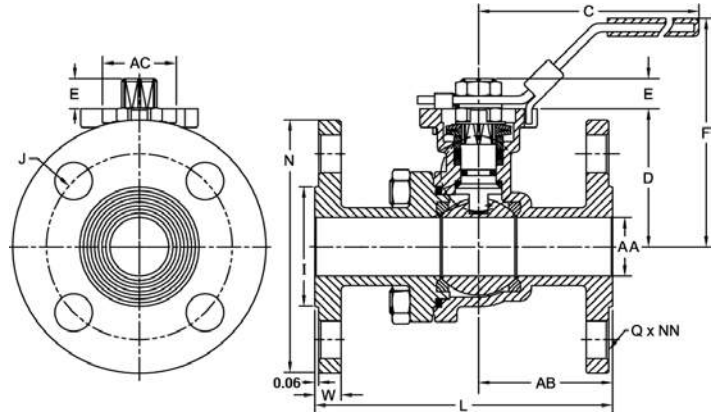
- Available in 1/2" to 6" sizes
- Full port valve with direct actuator mount
- Carbon steel or 316 stainless steel construction
- Pyramidal stem packing system
- ANSI Class 150# flange and ISO 5211 mount
- Anti-static and firesafe



Available in FM-approved safety shutoff assemblies. Call for model selection and pricing.



Direct Mount Ball Valve



Model Selection Guide: Ball Valve with Manual Actuator

Valve Size	Valve CV	Valve Dimensions (in)									Actuator Dimensions (in)					Carbon Steel Valve		Stainless Steel Valve	
		AA	AB	L	W	I	N	J	Q	NN	AC	C	D	E	F	Catalog Number	Price	Catalog Number	Price
0.5"	15	0.59	1.84	4.26	0.44	1.38	3.5	2.38	0.63	4	1.26	6.5	1.84	0.39	3.3	FD9C-F1-050-XXX	\$187.00	FD9-F1-050-XXX	\$187.00
0.75"	45	0.79	2.18	4.62	0.44	1.69	3.88	2.74	0.63	4	1.26	6.5	2.02	0.39	3.45	FD9C-F1-075-XXX	210.00	FD9-F1-075-XXX	210.00
1"	85	0.98	2.21	5	0.44	2	4.25	3.12	0.63	4	1.26	6.5	2.31	0.41	3.81	FD9C-F1-100-XXX	260.00	FD9-F1-100-XXX	260.00
1.5"	275	1.5	2.83	6.5	0.56	2.88	5	3.88	0.63	4	2.09	10.32	3.51	0.75	5.6	FD9C-F1-150-XXX	470.00	FD9-F1-150-XXX	470.00
2"	450	1.97	3.38	7.02	0.63	3.62	6	4.75	0.75	4	2.09	10.32	3.8	0.75	5.78	FD9C-F1-200-XXX	570.00	FD9-F1-200-XXX	570.00
2.5"	700	2.56	3.06	7.48	0.69	4.12	7	5.5	0.75	4	2.09	10.32	4.57	0.75	6.75	FD9C-F1-250-XXX	968.00	FD9-F1-250-XXX	968.00
3"	1100	3.15	4.01	8.01	0.75	5	7.5	6	0.75	4	2.55	14.37	5.22	0.91	8.05	FD9C-F1-300-XXX	1195.00	FD9-F1-300-XXX	1195.00
4"	2200	3.94	4.07	9	0.94	6.19	9	7.5	0.75	8	2.55	14.37	6.18	0.91	9	FD9C-F1-400-XXX	1725.00	FD9-F1-400-XXX	1725.00
6"	5150	5.91	7.00	15.5	1.00	8.5	11	9.5	0.87	8	2.97	29.53	8.28	1.12	12.5	FD9C-F1-600-XXX	4775.00	FD9-F1-600-XXX	4775.00

Model Selection Guide: Ball Valve with NEMA 4/4X On/Off Electric Actuator

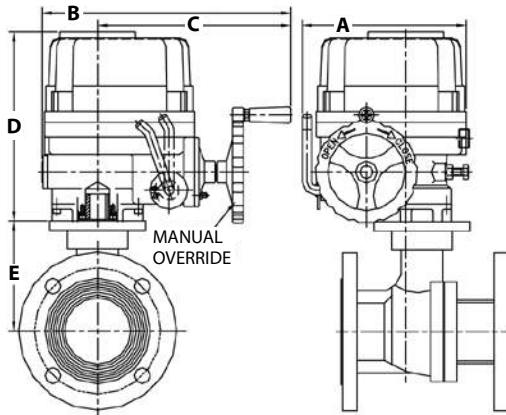
Valve Size	Valve CV	Valve Dimensions (in)									Actuator Dimensions (in)*					Carbon Steel Valve		Stainless Steel Valve	
		AA	AB	L	W	I	N	J	Q	A	B	C	D	E	Catalog Number	Price	Catalog Number	Price	
0.5"	15	0.59	1.84	4.26	0.44	1.38	3.5	2.38	0.63	5.94	4.09	-	5.24	1.84	FD9C-F1-050/WEA1-	\$761.00	FD9-F1-050/WEA1-	\$801.00	
0.75"	45	0.79	2.18	4.62	0.44	1.69	3.88	2.74	0.63	5.94	4.09	-	5.24	2.02	FD9C-F1-075/WEA1-	774.00	FD9-F1-075/WEA1-	808.00	
1"	85	0.98	2.21	5	0.44	2	4.25	3.12	0.63	5.94	4.09	-	5.24	2.31	FD9C-F1-100/WEA1-	851.00	FD9-F1-100/WEA1-	893.00	
1.5"	275	1.5	2.83	6.5	0.56	2.88	5	3.88	0.63	5.94	4.09	-	5.24	3.51	FD9C-F1-150/WEA1-	1216.00	FD9-F1-150/WEA1-	1290.00	
2"	450	1.97	3.38	7.02	0.63	3.62	6	4.75	0.75	5.94	4.09	-	5.24	3.8	FD9C-F1-200/WEA1-	1396.00	FD9-F1-200/WEA1-	1488.00	
2.5"	700	2.56	3.06	7.48	0.69	4.12	7	5.5	0.75	9.02	13.31	10.43	10.55	4.57	FD9C-F1-250/WEC1-	2279.00	FD9-F1-250/WEC1-	2411.00	
3"	1100	3.15	4.01	8.01	0.75	5	7.5	6	0.75	9.02	13.31	10.43	10.55	5.22	FD9C-F1-300/WEC1-	2620.00	FD9-F1-300/WEC1-	2764.00	
4"	2200	3.94	4.07	9	0.94	6.19	9	7.5	0.75	10.2	14.49	11.26	11.42	6.18	FD9C-F1-400/WEE1-	3692.00	FD9-F1-400/WEE1-	3925.00	
6"	5150	5.91	7.00	15.5	1.00	8.5	11	9.5	0.87	11.69	16.14	12.09	12.99	8.28	FD9C-F1-600/WEF1-	6351.00	FD9-F1-600/WEF1-	7298.00	
Voltage		120/60 VAC																-X	0.00
		24 VAC/24 VDC/ 220 VAC																-V	Call
Feedback Signals		None																-X	0.00
		Feedback Potentiometer																-F	Call

*See next page for actuator dimensional drawing.



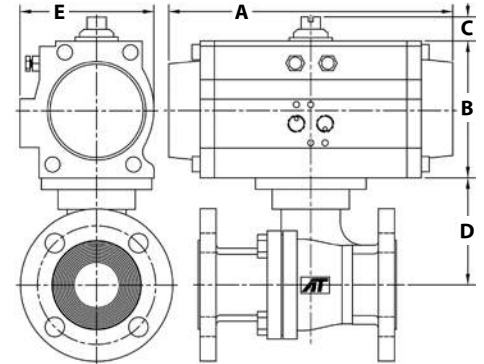
**Dimensions:
Electric On/Off
Actuator**

Actuator sizes based on clean/clear fluid.



**Dimensions:
Pneumatic
Actuators**

Actuators sizes based on clean/clear fluid, and 60 PSI air supply.



Model Selection Guide: Ball Valve with Pneumatic Spring Return Actuator

Valve Size	Valve Cv	Valve Dimensions (in)									Actuator Dimensions (in)					Carbon Steel Valve		Stainless Steel Valve	
		AA	AB	L	W	I	N	J	Q	NN	A	B	C	D	E	Catalog Number	Price	Catalog Number	Price
0.5"	15	0.59	1.84	4.26	0.44	1.38	3.5	2.38	0.63	4	7.95	3.43	0.79	1.84	3.29	FD9C-F1-050/2R3S-	\$637.00	FD9-F1-050/2R3S-	\$665.00
0.75"	45	0.79	2.18	4.62	0.44	1.69	3.88	2.74	0.63	4	7.95	3.43	0.79	2.02	3.29	FD9C-F1-075/2R3S-	652.00	FD9-F1-075/2R3S-	678.00
1"	85	0.98	2.21	5	0.44	2	4.25	3.12	0.63	4	9.29	4.49	0.79	2.31	4.41	FD9C-F1-100/2R3S-	692.00	FD9-F1-100/2R3S-	725.00
1.5"	275	1.5	2.83	6.5	0.56	2.88	5	3.88	0.63	4	10.87	4.88	0.79	3.51	4.82	FD9C-F1-150/2R4S-	919.00	FD9-F1-150/2R4S-	974.00
2"	450	1.97	3.38	7.02	0.63	3.62	6	4.75	0.75	4	10.87	4.88	0.79	3.8	4.82	FD9C-F1-200/2R5S-	1083.00	FD9-F1-200/2R5S-	1166.00
2.5"	700	2.56	3.06	7.48	0.69	4.12	7	5.5	0.75	4	13.9	6.18	0.79	4.57	6.04	FD9C-F1-250/2R6S-	1703.00	FD9-F1-250/2R6S-	1812.00
3"	1100	3.15	4.01	8.01	0.75	5	7.5	6	0.75	4	13.9	6.18	0.79	5.22	6.04	FD9C-F1-300/2R6S-	1923.00	FD9-F1-300/2R6S-	2040.00
4"	2200	3.94	4.07	9	0.94	6.19	9	7.5	0.75	8	15.16	6.93	1.18	6.18	6.69	FD9C-F1-400/2R7S-	2517.00	FD9-F1-400/2R7S-	2721.00
6"	5150	5.91	7.00	15.5	1.00	8.5	11	9.5	0.87	8	24.37	10.12	1.18	8.28	9.29	FD9C-F1-600/2R0S-	6661.00	FD9-F1-600/2R0S-	7609.00
Optional Solenoid		None NEMA 4 NAMUR-Mounted Solenoid, 24 VDC/120 VAC NEMA 7 NAMUR-Mounted Solenoid, 24 VDC/120 VAC Intrinsically Safe Solenoid														-X _	0.00		
																-A _	96.00		
																-B _	180.00		
																-C _	230.00		
Optional Limit Switches		None Two SPDT NEMA 4 Two SPDT NEMA 7 Intrinsically Safe Limit Switch														- _ X	0.00		
																- _ A	148.00		
																- _ B	220.00		
																- _ C	178.00		

*Please specify solenoid voltage at time of order.

Model Selection Guide: Ball Valve with Pneumatic Double-Acting Actuator

Valve Size	Valve Cv	Valve Dimensions (in)									Actuator Dimensions (in)					Carbon Steel Valve		Stainless Steel Valve	
		AA	AB	L	W	I	N	J	Q	NN	A	B	C	D	E	Catalog Number	Price	Catalog Number	Price
0.5"	15	0.59	1.84	4.26	0.44	1.38	3.5	2.38	0.63	4	5.98	2.76	0.79	1.84	2.58	FD9C-F1-050/TR1D-	\$502.00	FD9-F1-050/TR1D-	\$539.00
0.75"	45	0.79	2.18	4.62	0.44	1.69	3.88	2.74	0.63	4	5.98	2.76	0.79	2.02	2.58	FD9C-F1-075/2R2D-	546.00	FD9-F1-075/2R2D-	576.00
1"	85	0.98	2.21	5	0.44	2	4.25	3.12	0.63	4	7.95	3.43	0.79	2.31	3.29	FD9C-F1-100/2R2D-	595.00	FD9-F1-100/2R2D-	619.00
1.5"	275	1.5	2.83	6.5	0.56	2.88	5	3.88	0.63	4	9.29	4.49	0.79	3.51	4.41	FD9C-F1-150/2R3D-	767.00	FD9-F1-150/2R3D-	822.00
2"	450	1.97	3.38	7.02	0.63	3.62	6	4.75	0.75	4	9.29	4.49	0.79	3.8	4.41	FD9C-F1-200/2R3D-	920.00	FD9-F1-200/2R3D-	982.00
2.5"	700	2.56	3.06	7.48	0.69	4.12	7	5.5	0.75	4	10.98	4.88	0.79	4.57	4.82	FD9C-F1-250/2R5D-	1422.00	FD9-F1-250/2R5D-	1517.00
3"	1100	3.15	4.01	8.01	0.75	5	7.5	6	0.75	4	13.9	6.18	0.79	5.22	6.04	FD9C-F1-300/2R6D-	1786.00	FD9-F1-300/2R6D-	1901.00
4"	2200	3.94	4.07	9	0.94	6.19	9	7.5	0.75	8	13.9	6.18	0.79	6.18	6.04	FD9C-F1-400/2R6D-	2308.00	FD9-F1-400/2R6D-	2472.00
6"	5150	5.91	7.00	15.5	1.00	8.5	11	9.5	0.87	8	20.95	8.31	1.18	8.28	7.64	FD9C-F1-600/2R9D-	5974.00	FD9-F1-600/2R9D-	6986.00
Optional Solenoid		None NEMA 4 NAMUR-Mounted Solenoid, 24 VDC/120 VAC NEMA 7 NAMUR-Mounted Solenoid, 24 VDC/120 VAC Intrinsically Safe Solenoid														-X _	0.00		
																-A _	96.00		
																-B _	180.00		
																-C _	230.00		
Optional Limit Switches		None Two SPDT NEMA 4 Two SPDT NEMA 7 Intrinsically Safe Limit Switch														- _ X	0.00		
																- _ A	148.00		
																- _ B	220.00		
																- _ C	178.00		

*Please specify solenoid voltage at time of order.

A-T Controls, Inc. Series 38 General Purpose Multi-Port Ball Valves

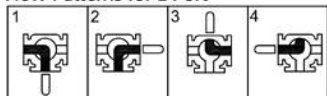
- Available in 1/4" to 2" sizes
- Threaded ends only
- Reduced port design with L and T port options
- 316 stainless steel construction
- Locking handle standard
- Direct actuator mount; ISO 5211 mounting pad
- Blowout-proof stem
- Four-seat design



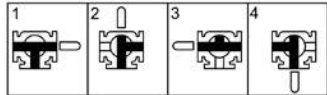
Also available with pneumatic and electric actuators. Call for pricing.

Specify -T or -L when ordering a Series 38 valve.

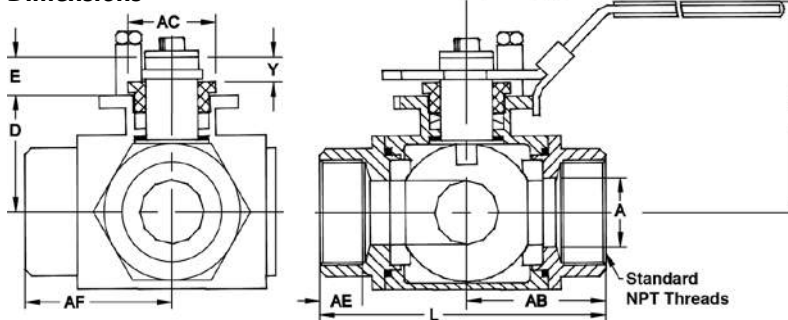
Flow Patterns for L-Port



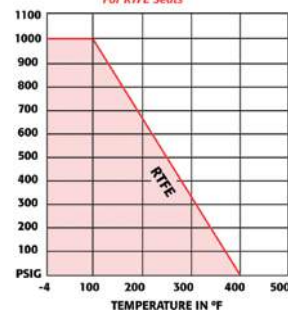
Flow Patterns for T-Port



Dimensions



Pressure vs. Temperature Chart For RTFE Seats



Model Selection Guide: Ball Valve with Lever Operator

Valve Size	Valve Cv		Valve Dimensions (in)						Manual Operator Dimensions (in)					T-Port Valve Catalog Number	L-Port Valve Catalog Number	Price
	T Port	L Port	A	AB	AE	L	AF	D	F	C	E	Y	AC			
0.25"	3	3.5	0.43	1.37	0.61	2.73	1.37	1.06	2.39	5.25	0.42	0.20	0.87	38-TH-025-XXX-T	38-TH-025-XXX-L	\$124.00
0.375"	3.5	4	0.43	1.37	0.61	2.73	1.37	1.06	2.39	5.25	0.42	0.20	0.87	38-TH-038-XXX-T	38-TH-038-XXX-L	124.00
0.5"	4.2	5	0.49	1.49	0.68	2.98	1.49	1.20	2.52	5.25	0.42	0.19	0.87	38-TH-050-XXX-T	38-TH-050-XXX-L	129.00
0.75"	7	8	0.63	1.70	0.76	3.41	1.70	1.45	3.24	7.03	0.55	0.28	1.22	38-TH-075-XXX-T	38-TH-075-XXX-L	152.00
1"	14	20	0.79	2.02	0.85	4.03	2.02	1.60	3.39	7.03	0.79	0.45	1.22	38-TH-100-XXX-T	38-TH-100-XXX-L	215.00
1.25"	19	30	0.098	2.33	0.93	4.65	2.33	1.85	3.60	8.26	0.94	0.63	1.22	38-TH-125-XXX-T	38-TH-125-XXX-L	265.00
1.5"	35	40	1.26	2.48	0.92	4.95	2.48	2.14	4.04	8.19	1.02	0.61	1.22	38-TH-150-XXX-T	38-TH-150-XXX-L	376.00
2"	45	60	1.50	2.93	1.00	5.87	2.93	2.48	4.36	9.05	1.00	0.61	1.34	38-TH-200-XXX-T	38-TH-200-XXX-L	518.00



Aseptic Service Diaphragm Valves

- Valve sizes 3/8" to 4" depending on the model
- Manually Operated Aseptic Valves
- Pneumatically Actuated Aseptic Valves
- Sterile Access Welded Valve Configurations

Call Lesman for pricing and options. Learn more at Lesman.com



A-T Controls, Inc. Series 33 Three Way Direct Mount Ball Valves



- High performance three way direct mount multi-port ball valves
- Pyramidal stem design provides optimum stem sealing and high cycle life
- Flow Cv: 3 to 800, depending on valve size and trim
- Meets ANSI/ASME B16.34 design requirements
- Flanged ends comply with ANSI/ASME B16.5 standards
- Five seat design
- In-line maintenance
- Actuators: lever, gear, double-acting, spring-return, and electric



Specifications

Valve size: 1/4" to 4"

Pressure rating: 1/4" to 1": 1000 PSI; 1-1/4" to 2": 800 PSI; 2-1/2" to 3": 600 PSI; 4": 300 PSI

Body material: 316 stainless steel

Seat material: RTFE (standard), PTFE, CTFE, 50/50 CTFE, TFM™ 1600, MG1241, UHMWPE

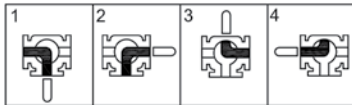
Port configurations: L, T, X, I, vertical L, vertical T, TT, and LL

End Connections: NPT, socket weld, butt weld, flanged Class 150 and Class 300, sanitary clamp, and sanitary cavity filled

Mounting pad: ISO 5211

Get full specifications and learn more at bit.ly/series-33

Flow Patterns for L-Port



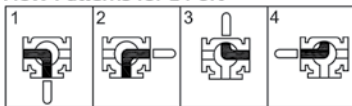
Model Selection Guide: Series 33 (L-Port) with Pneumatic Actuator

Valve Size	Break Away Torque RTFE Seats (In-lbs)	Cv Flow Coefficients	L-Port with Double Acting Actuator Supply Air: 60 PSI		L-Port Valve Spring Return Actuator Supply Air: 60 PSI	
			Catalog Number	Price	Catalog Number	Price

316 Stainless Steel Body, RTFE Seats, NPT End Connections (See Note 1)

1/4"	91	4	33-TX-025/2R2D-XX-L	\$632.00	33-TX-025/2R3S-XX-L	\$632.00
3/8"	91	5	33-TX-038/2R2D-XX-L	632.00	33-TX-038/2R3S-XX-L	632.00
1/2"	91	6	33-TX-050/2R2D-XX-L	632.00	33-TX-050/2R3S-XX-L	632.00
3/4"	195	16	33-TX-075/2R3D-XX-L	789.00	33-TX-075/2R4S-XX-L	789.00
1"	414	31	33-TX-100/2R3D-XX-L	888.00	33-TX-100/2R4S-XX-L	888.00
1-1/4"	483	32	33-TX-125/2R4D-XX-L	1114.00	33-TX-125/2R5S-XX-L	1114.00
1-1/2"	780	75	33-TX-150/2R4D-XX-L	1456.00	33-TX-150/2R6S-XX-L	1456.00
2"	1079	140	33-TX-200/2R5D-XX-L	1778.00	33-TX-200/2R7S-XX-L	1778.00
2-1/2"	1547	210	33-TX-250/2R6D-XX-L	2525.00	33-TX-250/2R7S-XX-L	2525.00
3"	2275	375	33-TX-300/2R7D-XX-L	3212.00	33-TX-300/2R8S-XX-L	3212.00
4"	2860	670	33-TX-400/2R8D-XX-L	6395.00	33-TX-400/2R0S-XX-L	6395.00

Flow Patterns for L-Port



Model Selection Guide: Series 33 (L-Port) with Electric Actuator

Valve Size	Break Away Torque RTFE Seats (In-lbs)	Cv Flow Coefficients	L-Port Valve with Electric On/Off Actuator		L-Port Valve with Electric Modulating Actuator	
			Catalog Number	Price	Catalog Number	Price

316 Stainless Steel Body, RTFE Seats, NPT End Connections (See Note 1)

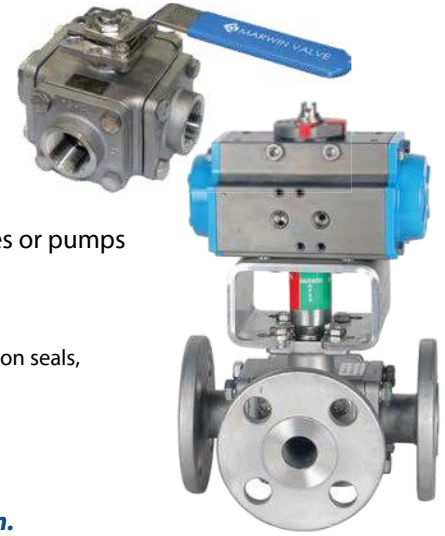
1/4"	91	4	33-TX-025/WEA1-XX-L	\$856.00	33-TX-025/WEA2-XX-L	\$1932.00
3/8"	91	5	33-TX-038/WEA1-XX-L	856.00	33-TX-038/WEA2-XX-L	1932.00
1/2"	91	6	33-TX-050/WEA1-XX-L	856.00	33-TX-050/WEA2-XX-L	1932.00
3/4"	195	16	33-TX-075/WEA1-XX-L	957.00	33-TX-075/WEA2-XX-L	2033.00
1"	414	31	33-TX-100/WEA1-XX-L	1246.00	33-TX-100/WEA2-XX-L	2322.00
1-1/4"	483	32	33-TX-125/WEB1-XX-L	2073.00	33-TX-125/WEB2-XX-L	3152.00
1-1/2"	780	75	33-TX-150/WEC1-XX-L	2411.00	33-TX-150/WEC2-XX-L	3489.00
2"	1079	140	33-TX-200/WED1-XX-L	2835.00	33-TX-200/WED2-XX-L	3913.00
2-1/2"	1547	210	33-TX-250/WEE1-XX-L	3488.00	33-TX-250/WEE2-XX-L	4564.00
3"	2275	375	33-TX-300/WEE1-XX-L	4506.00	33-TX-300/WEE2-XX-L	5581.00
4"	2860	670	33-TX-400/WEF1-XX-L	7624.00	33-TX-400/WEF2-XX-L	8340.00

Notes: 1 Replace I in the catalog number with S for socket weld or with B for butt weld end connections.

MARWIN VALVE General Purpose Three Way Ball Valves

3L/T-2100F Series Three Way Full Port Ball Valve

- For shutoff, mixing or directional flow control with a choice of different flow patterns
- Flow Cv: 8 to 1666, depending on valve size and trim
- Pressure rating: to 740 PSI; Class 150 flanges
- Temperature range: -20° to 400° F
- Four-seat design; blow-out proof stem
- Continuous mixing while switching positions facilitates switching between safety devices or pumps



Specifications

Valve Sizes: Direct mount: 1/2" to 4" NPT and flanged ends; bracket and coupler: 6", flanged ends

Materials: Bolted, investment cast carbon steel or stainless steel; stainless steel trim; RPTFE seats, PTFE/Viton seals, adjustable, live loaded PTFE packing

End Connection: 150# flanges, NPT, socket weld

Mounting pad: ISO 5211

Actuators: locking lever, spring return and double acting pneumatic, on/off electric

Call 800-953-7626 for help configuring the right valve for your application.

Get full specs and learn more at bit.ly/3lt-2100

3T-3700/3L-3800 Series Three Way Ball Valve

- L or T standard port ball valve for shutoff, mixing or diverting flow
- Valve sizes from 1/4" to 2"
- Flow Cv: 5.6 to 213, depending on valve size and trim
- Pressure rating: 1000 PSI WOG
- Temperature range: -20° to 450° F
- Bolted, investment cast 316SS body construction
- Adjustable PTFE packing meets API 598 inspection
- PTFE four-seat design; blow-out proof stem
- ISO 5211 mounting pad standard
- Actuators: locking lever (standard), spring return and double acting pneumatic, on/off NEMA 4 and NEMA 7 electric



Port Configuration

Position Flow Pattern	A	B	C
T1 180°			
T2 180°			
T3 90° (standard)			
T4 90°			
L1 180°			
L2 90° (standard)			
L3 180°			

Model Selection Guide

Valve Size	Flow Cv		Dimensions (inches)				T Port Valve Catalog Number	L Port Valve Catalog Number	Price
	3T3700	3L3800	A	B	C	D			
3T-3700/3L-8000 Series Three Way Manual Valve with Lever Operator, 316SS Body									
1/4"	7	5.6	2.68	2.28	4.17	1.34	3T-3700R-025-S6/AAHLNN00003A	3L-3800R-025-S6/AAHLNN0000A2	\$111.32
3/8"	7	5.6	2.68	2.28	4.17	1.34	3T-3700R-038-S6/AAHLNN00003A	3L-3800R-038-S6/AAHLNN0000A2	111.32
1/2"	13	6	2.95	2.40	5.43	1.48	3T-3700R-050-S6/AAHLNN00003A	3L-3800R-050-S6/AAHLNN0000A2	123.28
3/4"	29	8	3.39	2.91	5.43	1.69	3T-3700R-075-S6/AAHLNN00003A	3L-3800R-075-S6/AAHLNN0000A2	149.04
1"	49	11	4.06	3.19	6.38	2.15	3T-3700R-100-S6/AAHLNN00003A	3L-3800R-100-S6/AAHLNN0000A2	196.88
1-1/4"	72	32	4.53	3.46	6.38	2.26	3T-3700R-125-S6/AAHLNN00003A	3L-3800R-125-S6/AAHLNN0000A2	270.48
1-1/2"	110	65	4.92	4.09	8.66	2.46	3T-3700R-150-S6/AAHLNN00003A	3L-3800R-150-S6/AAHLNN0000A2	347.76
2"	213	112	5.75	4.33	8.66	2.87	3T-3700R-200-S6/AAHLNN00003A	3L-3800R-200-S6/AAHLNN0000A2	429.64

Get full specs and learn more at bit.ly/3t-3700



CVS Controls Series E Globe Control Valves

- Valve sizes: ED and ET Series: 1"–8"; EZ Series: 1"–2"
- Flow: linear, quick opening, or equal percent
- Body material: LCC, WCB, WCC, WC9, C5, Monel, and CF8M SST
- Composition or metal seat
- Balanced valve plug with push down to close action
- Integral end connections: Raised Face (RF), Ring Type Joint (RTJ), NPT, or welded ASME Class 150, 300, and 600 flanges
- **Series ED** is designed for general control applications over a wide variety of temperatures and pressure drops. It features an upper piston ring seal and metal-to-metal seating.
- **Series ET** works well in applications that require low leakage rates. It comes with composition seating for tight shutoff or metal-to-metal seating for higher temperature applications. The valve plug has a two-piece upper seal.
- **Series EZ** are typically used in chemical or hydrocarbon processing, or applications with viscous, non-lubricating, or other hard-to-handle liquids. They come with flanged Class 150, 300, and 600 end connections.

CVS
Controls Ltd.



Call for model selection and pricing.



Dwyer Hi-Flow™ Globe Control Valves

- For flow control or diverting applications; Ideal for steam, water or compatible glycol solutions
- Flow Cv: 6.45 to 50.30, depending on valve size and trim
- Good for temperatures 20° to 400° F
- Pressure ratings: iron and bronze body: 250 PSI; 316SS body: 300 PSI
- Features high flow capacity, and wide rangeability of 50:1 to ensure precise control
- Brass, iron, or 316SS body; 316 stainless steel trim; all welded plug
- PTFE-rings and wiper packing minimizes friction without leaking at high operating pressures
- Actuator type: pneumatic spring/diaphragm

Specifications

Valve Size: 1/2" to 2"

End Connections: Valve: 1/2" to 2" NPTF; Actuator: 1/4" NPTF

Body Style: two-way or three-way

Body Material: Ductile iron, bronze, 316SS

Trim: 316SS

Packing: PTFE

Call for model selection and pricing.

Get full specifications and learn more at bit.ly/dwyer-hi-flow

V200 Pneumatic and Electropneumatic Valve Positioners

- Highly visible arrow indicator
- External and zero span adjustment without removing cover
- Field changeable to any I/P option
- Linkage kits available for rotary and linear control valves

VAC's V200 is a high performance modular valve positioner. The basic pneumatic V200P unit can be easily converted into several versions of electropneumatic positioners by adding 4–20 feedback and/or limit switch. You can order a preconfigured version or easily add modules in the field.

VAC



Call for model selection and pricing.

Specifications

Operation: pneumatic or electropneumatic

Input Range: 3–15 PSI, 6–30 PSI, 4–20 mA, or 0–10 VDC

Supply Pressure: 20–145 PSI depending on the model

Temperature Range: -40° to 185 depending on the model; low and high temperature options also available

Air Connections: 1/4" NPT

Gage Port: 1/8" NPT

Cable Entry (electropneumatic only): 1/2" NPT

Approvals: FM, CSA, Intrinsically Safe, Explosion-Proof, Dust Ignition Proof, depending on the model

See more positioners and valve accessories on pages 26–31.



CV3000 Automated V-Type Control Valve

- Modulating high capacity ball valve
- V-control metal insert behind the upstream seat acts as throttling element, protects the soft seats from high velocities and ensures bubble-tight shutoff when needed
- Soft seats and inserts can be changed in the field
- Metal encapsulated soft seats prevent cold-flowing under adverse temperature, pressure, and modulating service conditions

Model Selection Guide

Valve Size	Torque (In-Lb)	Max Cv at 100% Travel			NPTF Threaded Connection		150# Flanged Connections		
		30°	60°	90°	Catalog Number	Price	Catalog Number	Price	
Three-Piece High Performance Control Valve, Reduced Port, Carbon Steel Body, Teflon Seats									
1/2"	65	2.60	5.90	—	CV-3000R-050-CS/PT	\$ 288.88	CV-3000R-050-CS/F1	\$ 837.20	
3/4"	72	3.00	6.70	—	CV-3000R-075-CS/PT	322.00	CV-3000R-075-CS/F1	953.12	
1"	108	7.30	15.50	19.70	CV-3000R-100-CS/PT	344.08	CV-3000R-100-CS/F1	1153.68	
1-1/4"	190	13.50	25.00	32.00	CV-3000R-125-CS/PT	437.92	CV-3000R-125-CS/F1	1329.40	
1-1/2"	250	16.30	37.50	71.70	CV-3000R-150-CS/PT	502.32	CV-3000R-150-CS/F1	1513.40	
2"	350	26.50	61.60	77.00	CV-3000R-200-CS/PT	588.80	CV-3000R-200-CS/F1	1720.40	
2-1/2"	570	49.50	89.40	165.00	CV-3000R-250-CS/PT	1104.00	CV-3000R-250-CS/F1	2354.28	
3"	973	54.20	124.60	230.00	CV-3000R-300-CS/PT	1394.72	CV-3000R-300-CS/F1	3118.80	
4"	1545	90.00	200.00	380.00	CV-3000R-400-CS/PT	2366.24	CV-3000R-400-CS/F1	4550.32	
Three-Piece High Performance Control Valve, Reduced Port, Stainless Steel Body, Teflon Seats									
1/2"	65	2.60	5.90	—	CV-3000R-050-S6/PT	323.84	CV-3000R-050-S6/F1	1097.56	
3/4"	72	3.00	6.70	—	CV-3000R-075-S6/PT	335.80	CV-3000R-075-S6/F1	1216.24	
1"	108	7.30	15.50	19.70	CV-3000R-100-S6/PT	375.36	CV-3000R-100-S6/F1	1470.16	
1-1/4"	190	13.50	25.00	32.00	CV-3000R-125-S6/PT	552.00	CV-3000R-125-S6/F1	1741.56	
1-1/2"	250	16.30	37.50	71.70	CV-3000R-150-S6/PT	693.68	CV-3000R-150-S6/F1	2003.76	
2"	350	26.50	61.60	77.00	CV-3000R-200-S6/PT	782.00	CV-3000R-200-S6/F1	2269.64	
2-1/2"	570	49.50	89.40	165.00	CV-3000R-250-S6/PT	1357.00	CV-3000R-250-S6/F1	3904.48	
3"	973	54.20	124.60	230.00	CV-3000R-300-S6/PT	2056.20	CV-3000R-300-S6/F1	5388.44	
4"	1545	90.00	200.00	380.00	CV-3000R-400-S6/PT	2648.68	CV-3000R-400-S6/F1	6482.32	
Characterized Insert and Trim		30° Insert, 316SS Trim					A1	0.00	
		60° Insert, 316SS Trim					A2	0.00	
		90° Insert, 316SS Trim					A3	0.00	
Internals		PTFE Seat, Seals, Washer, Packing, Viton O-Ring						TFTVNN	0.00

Steps to Building a Complete Marwin Control Valve

- 1 Pick your CV3000 valve model based on size, material, and connection type.
- 2 Choose a UT Series spring return (single action) or double action pneumatic actuator that fits your valve. (Below)
- 3 Add a valve positioner. (See pages 26-29)

If the configuration you need isn't available, call our factory-trained valve specialists at 800-953-7626.

UT Series Pneumatic Actuators

- Million-cycle normal service life
- 100° rotation (-5° CW to 5° CCW)
- Dual adjustable open, close stops
- Anti-blowout pinion, nickel-plated to protect against corrosion
- Hard-coated anodized aluminum casing, steel shaft
- Long end cap bolts allow spring decompression
- Based on clean lubricating service and 60 PSI air supply
- ANSI B1.20.1 threaded ports, ISO 5211 valve mounting flange, NAMUR mount for air supply ports
- ATEX 94/9/EC and PED 97/23/EC Approvals



Model Selection Guide

Mounting bracket included.

To Fit Valve	Spring Return Actuator		Double-Acting Actuator	
	Catalog No.	Price	Catalog No.	Price
CV3000R-050	UT-2-SR-03	\$ 540.96	UT-0-DA	\$ 397.44
CV3000R-075	UT-2-SR-03	540.96	UT-0-DA	397.44
CV3000R-100	UT-2.5-SR-03	596.16	UT-1-DA	441.60
CV3000R-125	UT-3-SR-03	713.92	UT-2-DA	512.44
CV3000R-150	UT-3-SR-03	713.92	UT-2-DA	512.44
CV3000R-200	UT-3.5-SR-03	882.28	UT-2.5-DA	542.80
CV3000R-250	UT-4-SR-03	1141.72	UT-3-DA	806.84
CV3000R-300*	UT-6-SR-03	2918.24	UT-4-DA	1036.84
CV3000R-400*	UT-6-SR-03	2918.24	UT-4.5-DA	1302.72

* Maximum 700 PSI differential pressure across valve.



VS, VM, and VV Series V-Port Segment Control Valves



- Segmented v-port rotary control valve for throttling applications in slurry and viscous fluid; powder and particles in fluid; chips and fibers in pulp and paper process; flow control; pressure control; steam, gas and liquid applications
- Flow Cv: 0.01 to 7566, depending on valve size and trim
- Good for temperatures -20° to 600° F
- Pressure rating: ANSI Class150/300
- Rangeability: greater than 150:1
- Soft or metal seat; easy to change in the field
- One-piece body design reduces leakage paths
- Raised face flanged or flangeless end connections
- Automatic pressure relief eliminates need for venting
- Rotary-valve design enables the fluid to pass smoothly without obstructions by cutting solids between the v-ball and the seats
- ISO 5211 mounting pad

Specifications

Valve Size: 1" to 16"

End Connection: Flangeless; Flanged, Class 150 and Class 300

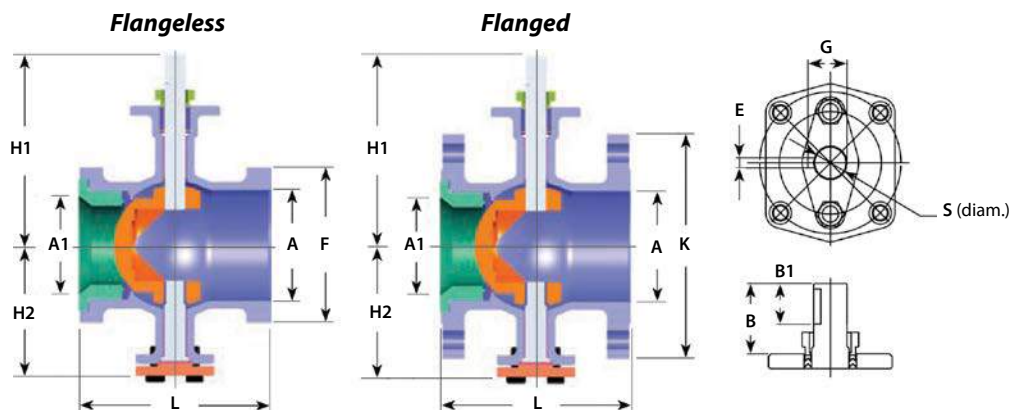
Body Material: 316SS, carbon steel

Seat, Lining and Trim Material: 50/50 STFE seats; Tungsten Carbide coated 316SS seats and ball; HCr coated ball with Stellite® inlay seats

VS Series: soft seat: 50/50 STFE, rated to 400° F

VV Series: metal seat, Viton® packing, rated to 500° F

VM Series: metal seat, graphite packing, rated to 600° F



Dimensions: Direct Mount Segmented V-Port Valve

Valve Size	Dimensions (inches)													ISO 5211
	A	A1	F	K-150 RFF	K-300 RFF	L	H1	H2	B	B1	E	G	S	
1"	1.30	0.98	2.52	4.25	4.88	4.01	4.25	2.75	1.32	0.79	0.197	0.689	0.610	F05
1.5"	1.93	1.57	3.23	5.00	6.14	4.49	5.28	3.31	1.77	1.18	0.197	0.689	0.610	F07
2"	2.36	1.97	3.94	5.98	6.50	4.88	5.59	3.62	1.77	1.18	0.197	0.689	0.610	F07
3"	3.50	3.15	5.16	7.48	8.27	6.50	6.46	4.41	1.77	1.18	0.315	0.984	0.866	F07
4"	4.45	3.94	6.22	9.01	10.00	7.64	7.64	5.28	2.01	1.18	0.315	0.984	0.866	F10
6"	6.30	5.20	8.50	10.98	12.52	9.01	9.13	6.73	2.05	1.18	0.315	1.221	0.984	F10
8"	7.87	7.87	10.51	13.50	15.00	9.57	10.98	7.80	2.76	1.77	0.315	1.417	1.181	F14
10"	9.92	9.84	12.83	15.98	17.48	11.69	12.83	9.21	2.97	2.17	0.551	1.823	1.429	F14
12"	11.81	11.22	14.76	19.01	20.51	13.31	15.20	10.71	3.37	2.64	0.551	2.402	1.890	F16
14"	13.78	13.19	—	21.00	22.99	15.75	17.52	12.40	3.94	3.15	0.551	2.402	1.890	F16
16"	15.75	15.16	—	23.50	25.51	15.75	19.88	14.69	5.31	3.94	0.787	2.992	2.638	F16

Call our factory-trained sales team to configure a valve for your application.

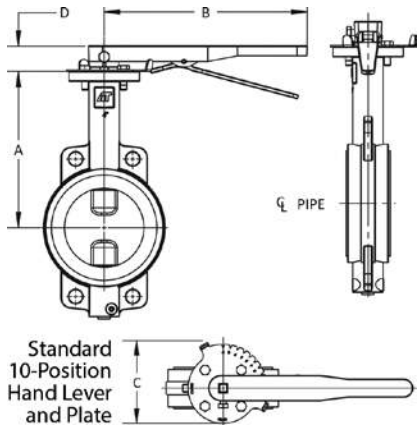
A-T Controls, Inc. Series OC/OS Resilient Seated Butterfly Valves

- Sizes 1-1/2" to 12" standard (shown here); larger sizes also available
- For use with wet media
- 100 PSI pressure drop
- Complies with MSS-SP-67 and API-609

- Epoxy-coated cast ductile iron body, Nickel-plated ductile iron disc, EPDM seat, 316SS stem, bronze bushing, and Buna-N stem seal standard — Call for other materials
- Actuators: lever or gear; pneumatic double-acting or spring return and electric

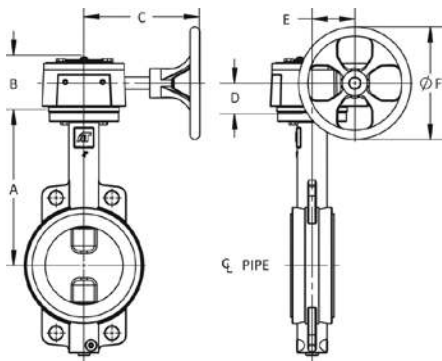


Dimensions and Model Selection Guide — Manual Valve with Handle Operator



Valve Size	Max Cv @ 90°	Dimensions				Catalog Number	Price
		A	B	C	D		
<i>OC/OS Butterfly Valve, 150# Lugged Ductile Iron Body, Handle Operator</i>							
1.5"	70	5.35	10.51	4.45	1.18	OSB-L1-0150-EDR-HE	\$53.00
2"	155	6.38	10.51	4.45	1.18	OSB-L1-0200-EDR-HE	60.00
2.5"	262	6.88	10.51	4.45	1.18	OSB-L1-0250-EDR-HE	68.00
3"	417	7.13	10.51	4.45	1.18	OSB-L1-0300-EDR-HE	74.00
4"	773	7.88	10.51	4.45	1.18	OSB-L1-0400-EDR-HE	110.00
5"	1267	8.38	10.51	4.45	1.18	OSB-L1-0500-EDR-HE	141.00
6"	1771	8.88	10.51	4.45	1.18	OSB-L1-0600-EDR-HE	165.00
8"	3230	10.25	14.13	6.63	1.32	OSB-L1-0800-EDR-HE	249.00
10"	5327	11.50	14.13	6.63	1.32	OSB-L1-1000-EDR-HE	345.00
12"	8117	13.25	20.75	6.63	1.44	OSB-L1-1200-EDR-HE	496.00

Dimensions and Model Selection Guide — Manual Valve with Gear Wheel Operator



Valve Size	Max Cv @ 90°	Dimensions						Catalog Number	Price
		A	B	C	D	E	F		
<i>OC/OS Butterfly Valve, 150# Lugged Ductile Iron Body, Gear Wheel Operator</i>									
1.5"	70	5.35	2.79	6.00	1.48	1.77	5.87	OSB-L1-0150-EDR-GE	\$100.00
2"	155	6.38	2.79	6.00	1.48	1.77	5.87	OSB-L1-0200-EDR-GE	107.00
2.5"	262	6.88	2.79	6.00	1.48	1.77	5.87	OSB-L1-0250-EDR-GE	115.00
3"	417	7.13	2.79	6.00	1.48	1.77	5.87	OSB-L1-0300-EDR-GE	121.00
4"	773	7.88	2.79	6.00	1.48	1.77	5.87	OSB-L1-0400-EDR-GE	157.00
5"	1267	8.38	2.79	6.00	1.48	1.77	5.87	OSB-L1-0500-EDR-GE	188.00
6"	1771	8.88	2.79	6.00	1.48	1.77	5.87	OSB-L1-0600-EDR-GE	209.00
8"	3230	10.25	3.30	8.75	1.57	2.60	11.62	OSB-L1-0800-EDR-GE	334.00
10"	5327	11.50	3.30	8.75	1.57	2.60	11.62	OSB-L1-1000-EDR-GE	430.00
12"	8117	13.25	3.30	8.75	1.57	3.01	11.62	OSB-L1-1200-EDR-GE	584.00

Model Selection Guide — Automated Valve with Electric Actuator



See dimensional drawing for butterfly valves with electric actuators, top of next page.

Valve Size	Max Cv @ 90°	Dimensions				Catalog Number	Price
		A	B	C	D		
<i>OC/OS Butterfly Valve, 150# Lugged Ductile Iron Body, On/Off Electric Actuator</i>							
1.5"	70	5.14	10.49	6.46	5.47	OSB-L1-0150-EDB-XE/KEA1-XX	\$445.00
2"	155	5.14	11.47	6.46	5.47	OSB-L1-0200-EDR-XE/KEA1-XX	452.00
2.5"	262	5.14	12.02	6.46	5.47	OSB-L1-0250-EDR-XE/KEA1-XX	460.00
3"	417	5.14	12.26	6.46	5.47	OSB-L1-0300-EDR-XE/KEA1-XX	466.00
4"	773	5.31	13.18	7.37	6.30	OSB-L1-0400-EDR-XE/KEB1-XX	694.00
5"	1267	8.66	17.04	6.69	10.16	OSB-L1-0500-EDR-XE/WEB1-XX	1304.00
6"	1771	10.24	19.13	9.02	13.31	OSB-L1-0600-EDR-XE/WEC1-XX	1447.00
8"	3230	10.24	20.47	9.02	13.31	OSB-L1-0800-EDR-XE/WED1-XX	1544.00
10"	5327	11.42	22.91	10.20	14.49	OSB-L1-1000-EDR-XE/WEE1-XX	1987.00
12"	8117	11.42	24.68	10.20	14.49	OSB-L1-1200-EDR-XE/WEF1-XX	2505.00

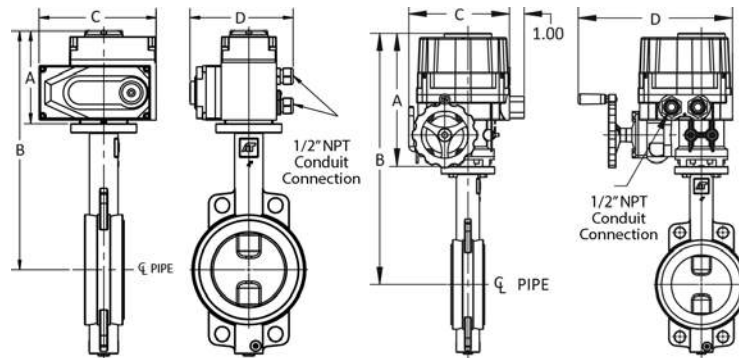


Dimensions:

Automated Butterfly Valves with Electric On/Off Actuators

(See model selection guide on previous page.)

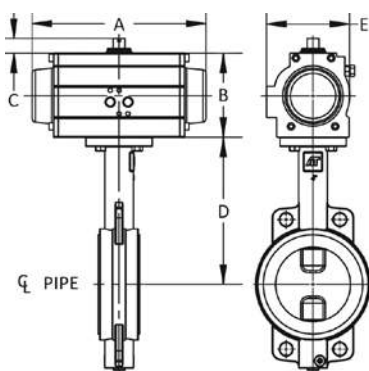
Actuator: KE_ (2" to 3" valves) Actuator: WE_ (4" to 12" valves)



Model Selection Guide — Automated Valve with Pneumatic Actuator

Valve Size	Max Cv @ 90°	Dimensions					Catalog Number	Price
		A	B	C	D	E		
OC/OS Butterfly Valve, 150# Lugged Ductile Iron Body, Double-Acting Pneumatic Actuator								
1.5"	70	7.95	3.43	0.79	5.35	3.29	OSB-L1-0150-EDB-XE/2R2D-XX	\$280.00
2"	155	7.95	3.43	0.79	6.34	3.29	OSB-L1-0200-EDR-XE/2R2D-XX	287.00
2.5"	262	7.95	3.43	0.79	6.89	3.29	OSB-L1-0250-EDR-XE/2R2D-XX	295.00
3"	417	7.95	3.43	0.79	7.13	3.29	OSB-L1-0300-EDR-XE/2R2D-XX	301.00
4"	773	9.29	4.49	0.79	7.87	4.41	OSB-L1-0400-EDR-XE/2R3D-XX	390.00
5"	1267	9.29	4.49	0.79	8.39	4.41	OSB-L1-0500-EDR-XE/2R3D-XX	421.00
6"	1771	10.87	4.88	0.79	8.90	4.69	OSB-L1-0600-EDR-XE/2R4D-XX	549.00
8"	3230	13.90	6.18	0.79	10.24	5.91	OSB-L1-0800-EDR-XE/2R6D-XX	683.00
10"	5327	15.16	6.93	1.18	11.50	6.50	OSB-L1-1000-EDR-XE/2R7D-XX	854.00
12"	8117	15.16	6.93	1.18	13.27	6.50	OSB-L1-1200-EDR-XE/2R7D-XX	1101.00
OC/OS Butterfly Valve, 150# Lugged Ductile Iron Body, Spring Return Pneumatic Actuator								
1.5"	70	9.29	4.49	0.79	5.35	4.41	OSB-L1-0150-EDB-XE/2R3S-XX	\$360.00
2"	155	9.29	4.49	0.79	6.34	4.41	OSB-L1-0200-EDR-XE/2R3S-XX	367.00
2.5"	262	9.29	4.49	0.79	6.89	4.41	OSB-L1-0250-EDR-XE/2R3S-XX	375.00
3"	417	9.29	4.49	0.79	7.13	4.41	OSB-L1-0300-EDR-XE/2R3S-XX	381.00
4"	773	10.87	4.88	0.79	7.87	4.69	OSB-L1-0400-EDR-XE/2R5S-XX	572.00
5"	1267	13.90	6.18	0.79	8.39	5.91	OSB-L1-0500-EDR-XE/2R6S-XX	714.00
6"	1771	13.90	6.18	0.79	8.90	5.91	OSB-L1-0600-EDR-XE/2R6S-XX	735.00
8"	3230	15.16	6.93	1.18	10.24	6.50	OSB-L1-0800-EDR-XE/2R7S-XX	935.00
10"	5327	22.68	9.17	1.18	11.50	7.60	OSB-L1-1000-EDR-XE/2R8S-XX	1587.00
12"	8117	24.37	10.12	1.18	13.27	8.31	OSB-L1-1200-EDR-XE/2R9S-XX	2269.00
Optional Solenoid *	None						-X	0.00
	NEMA 4 NAMUR-Mounted Solenoid, 24 VDC/120 VAC						-A	96.00
	NEMA 7 NAMUR-Mounted Solenoid, 24 VDC/120 VAC						-B	180.00
	Intrinsically Safe Solenoid						-C	230.00
Optional Limit Switches	None						-X	0.00
	Two SPDT NEMA 4						-A	148.00
	Two SPDT NEMA 7						-B	220.00
	Intrinsically Safe Limit Switch						-C	178.00

*Please specify solenoid voltage at time of order.



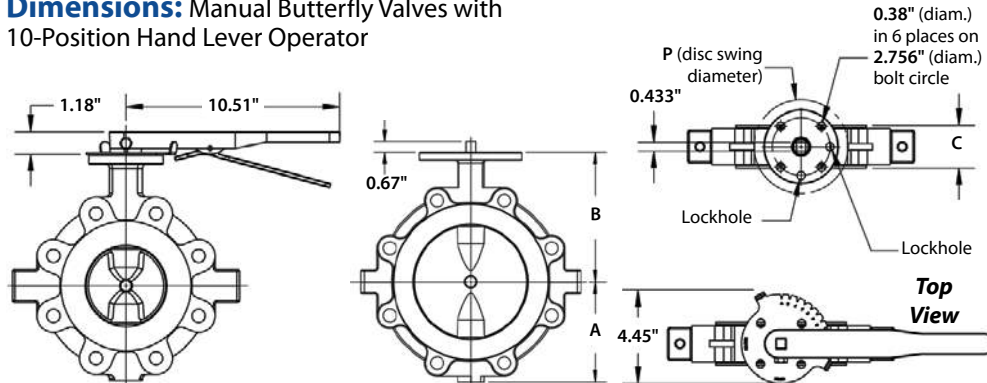
Get full specifications and learn more about A-T Controls OC/OS butterfly valves at bit.ly/oc-os

A-T Controls, Inc. Series AS Teflon® PFA Lined Butterfly Valves

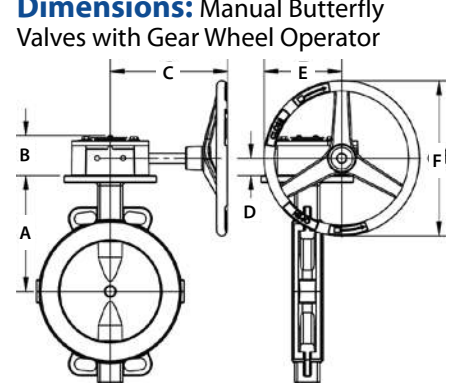
- For severe chemical and corrosive services
- Common applications: hydrochloric acid (HCl), sulfuric acid (H2SO4), nitric acid (HNO3), Phosphoric acid (H3PO4), wet chlorine (Cl2), aqua regia
- Available in 2" to 12" sizes (shown here); 14" to 24" optional
- Flow Cv: 210 to 8870, depending on valve size and trim
- Pressure rating: to 150 PSI; Temperature range: -20° to 355° F
- Bidirectional, bubble-tight shutoff; blowout proof stem; resilient back-up liner; multiple safety seals
- Epoxy-coated two-piece wafer or lug body, ASTM A216 WCB; Teflon® PFA trim
- Actuators: lever or gear; pneumatic double-acting or spring return and electric
- **Looking for wafer body? Valves for dry service? Pressure drops other than 100 PSI? Call Lesman at 800-953-7626**



Dimensions: Manual Butterfly Valves with 10-Position Hand Lever Operator



Dimensions: Manual Butterfly Valves with Gear Wheel Operator



Model Selection Guide — Manual Valve with 10-Position Lever Operator

Valve Size	Max Cv @ 90°	Dimensions (inches)				Catalog Number	Price
		A	B	C	P		
<i>Series AS, 150# Lugged Carbon Steel Body</i>							
2"	155	2.76	4.53	1.75	2.45	ASC-L1-0200-PFR-HA	\$650.00
2.5"	262	2.95	4.53	1.75	2.45	ASC-L1-0250-PFR-HA	670.00
3"	417	3.15	5.22	1.81	2.51	ASC-L1-0300-PFR-HA	790.00
4"	773	4.53	6.30	2.13	3.55	ASC-L1-0400-PFR-HA	1190.00



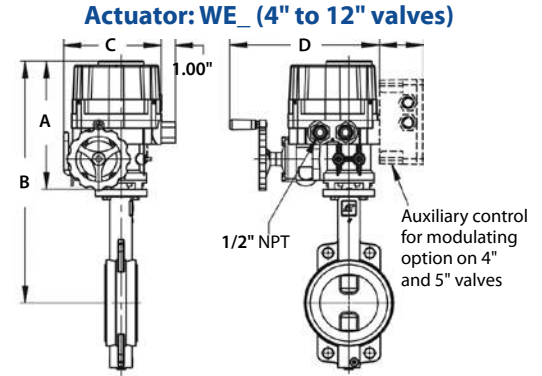
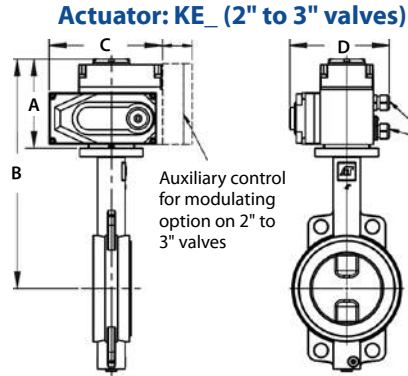
Model Selection Guide — Manual Valve with Gear Wheel Operator

Valve Size	Max Cv @ 90°	Dimensions (inches)						Catalog Number	Price
		A	B	C	D	E	F		
<i>Series AS, 150# Lugged Carbon Steel Body</i>									
2"	155	4.53	2.79	6.00	1.48	1.77	5.87	ASC-L1-0200-PFR-GA	\$695.00
2.5"	262	4.53	2.79	6.00	1.48	1.77	5.87	ASC-L1-0250-PFR-GA	715.00
3"	417	5.22	2.79	6.00	1.48	1.77	5.87	ASC-L1-0300-PFR-GA	835.00
4"	773	6.30	2.79	6.00	1.48	1.77	5.87	ASC-L1-0400-PFR-GA	1235.00
5"	1267	7.56	2.79	6.00	1.48	1.77	5.87	ASC-L1-0500-PFR-GA	1639.00
6"	1771	7.56	2.79	6.00	1.48	1.77	5.87	ASC-L1-0600-PFR-GA	1950.00
8"	3230	8.66	3.30	8.75	1.57	2.60	11.62	ASC-L1-0800-PFR-GA	3085.00
10"	5327	10.83	3.30	8.75	1.57	2.60	11.62	ASC-L1-1000-PFR-GA	4225.00
12"	8117	12.20	3.30	8.75	1.57	3.01	11.62	ASC-L1-1200-PFR-GA	5775.00



Dimensions:

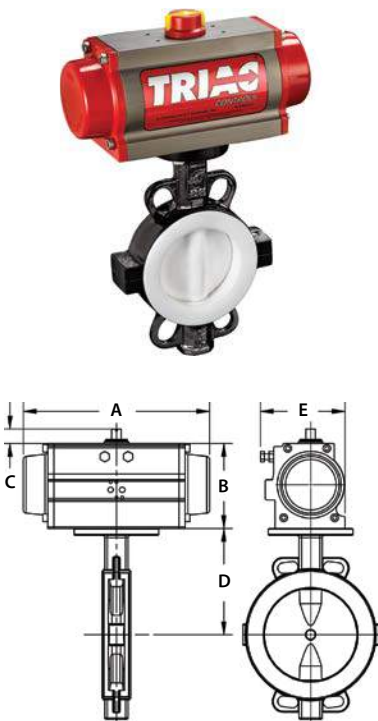
Automated Butterfly Valves with Electric (On/Off & Modulating) Actuators



Model Selection Guide — 150# Lugged Carbon Steel Automated Valve with Electric Actuator

Valve Size	Max Cv @ 90°	Dimensions (inches)				On-Off Electric Actuator		Modulating Electric Actuator	
		A	B	C	D	Catalog Number	Price	Catalog Number	Price
2"	155	5.14	9.67	6.46	5.47	ASC-L1-0200-PFR-XA/KEA1-XX	\$1042.00	ASC-L1-0200-PFR-XA/KEA2-XX	\$1478.00
2.5"	262	5.14	9.67	6.46	5.47	ASC-L1-0250-PFR-XA/KEA1-XX	1062.00	ASC-L1-0250-PFR-XA/KEA2-XX	1498.00
3"	417	5.14	10.36	6.46	5.47	ASC-L1-0300-PFR-XA/KEA1-XX	1182.00	ASC-L1-0300-PFR-XA/KEA2-XX	1618.00
4"	773	8.66	14.96	6.69	10.16	ASC-L1-0400-PFR-XA/WEB1-XX	2298.00	ASC-L1-0400-PFR-XA/WEB2-XX	3216.00
5"	1267	8.66	15.55	6.69	10.16	ASC-L1-0500-PFR-XA/WEB1-XX	2702.00	ASC-L1-0500-PFR-XA/WEB2-XX	3620.00
6"	1771	10.24	17.80	9.02	13.31	ASC-L1-0600-PFR-XA/WEC1-XX	3092.00	ASC-L1-0600-PFR-XA/WEC2-XX	4010.00
8"	3230	10.24	18.90	9.02	13.31	ASC-L1-0800-PFR-XA/WEC1-XX	4237.00	ASC-L1-0800-PFR-XA/WEC2-XX	5237.00
10"	5327	11.42	21.85	10.20	14.49	ASC-L1-1000-PFR-XA/WEF1-XX	6069.00	ASC-L1-1000-PFR-XA/WEF2-XX	6987.00
12"	8117	11.42	23.62	10.20	14.49	ASC-L1-1200-PFR-XA/WEF1-XX	7601.00	ASC-L1-1200-PFR-XA/WEG2-XX	8601.00

Dimensions and Model Selection Guide — 150# Lugged Automated Valve with Pneumatic Actuator



Dimensions:

Automated Butterfly Valves with Pneumatic Double-Acting and Spring Return Actuators

Valve Size	Max Cv @ 90°	Dimensions (Inches)					Catalog Number	Price
		A	B	C	D	E		
Teflon Encapsulated Butterfly Valve, 150# Lugged Carbon Steel Body, Double Acting Actuator								
2"	155	7.95	3.43	0.79	4.53	3.21	ASC-L1-0200-PFR-XA/2R2D-XX	\$877.00
2.5"	262	7.95	3.43	0.79	4.53	3.21	ASC-L1-0250-PFR-XA/2R2D-XX	897.00
3"	417	9.29	4.49	0.79	5.22	4.17	ASC-L1-0300-PFR-XA/2R3D-XX	1062.00
4"	773	9.29	4.49	0.79	6.30	4.17	ASC-L1-0400-PFR-XA/2R3D-XX	1470.00
5"	1267	9.29	4.49	0.79	6.89	4.17	ASC-L1-0500-PFR-XA/2R3D-XX	1874.00
6"	1771	10.87	4.88	0.79	7.56	4.83	ASC-L1-0600-PFR-XA/2R4D-XX	2277.00
8"	3230	11.46	5.28	0.79	8.66	5.19	ASC-L1-0800-PFR-XA/2R5D-XX	3459.00
10"	5327	15.16	6.93	1.18	10.83	6.69	ASC-L1-1000-PFR-XA/2R7D-XX	4785.00
12"	8117	20.95	8.31	1.18	12.20	7.64	ASC-L1-1200-PFR-XA/2R8D-XX	6813.00
Teflon Encapsulated Butterfly Valve, 150# Lugged Carbon Steel Body, Spring Return Actuator								
2"	155	9.29	4.49	0.79	4.53	4.17	ASC-L1-0200-PFR-XA/2R3S-XX	\$957.00
2.5"	262	10.87	4.88	0.79	4.53	4.83	ASC-L1-0250-PFR-XA/2R4S-XX	1070.00
3"	417	11.46	5.28	0.79	5.22	5.19	ASC-L1-0300-PFR-XA/2R5S-XX	1244.00
4"	773	13.90	6.18	0.79	6.30	6.05	ASC-L1-0400-PFR-XA/2R6S-XX	1763.00
5"	1267	13.90	6.18	0.79	6.89	6.05	ASC-L1-0500-PFR-XA/2R6S-XX	2167.00
6"	1771	15.16	6.93	1.18	7.56	6.69	ASC-L1-0600-PFR-XA/2R7S-XX	2566.00
8"	3230	15.16	6.93	1.18	8.66	6.69	ASC-L1-0800-PFR-XA/2R7S-XX	3711.00
10"	5327	24.37	10.12	1.18	10.83	9.29	ASC-L1-1000-PFR-XA/2R0S-XX	6159.00
12"	8117	27.38	10.12	1.18	12.20	9.38	ASC-L1-1200-PFR-XA/2RAS-XX	8691.00
Optional Solenoid		None					-X	0.00
		NEMA 4 NAMUR-Mounted Solenoid, 24 VDC/120 VAC					-A	96.00
		NEMA 7 NAMUR-Mounted Solenoid, 24 VDC/120 VAC					-B	180.00
		Intrinsically Safe Solenoid					-C	230.00
Optional Limit Switches		None					-X	0.00
		Two SPDT NEMA 4					-A	148.00
		Two SPDT NEMA 7					-B	220.00
		Intrinsically Safe Limit Switch					-C	178.00

*Please specify solenoid voltage at time of order.

A-T Controls, Inc. Series P1 POWER-SEAL High Performance Butterfly Valves



*Need an automated butterfly valve?
Call for pricing and delivery.*

Key Specifications

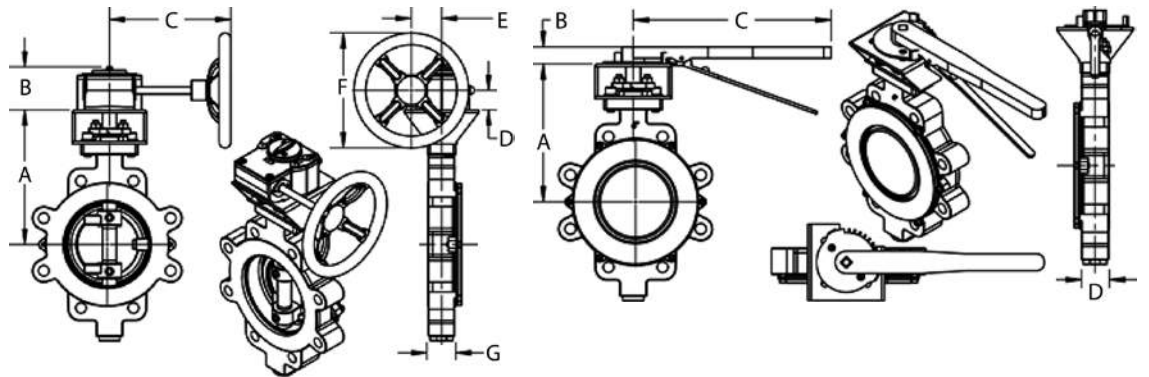
- Available in 2" to 24" sizes (2" to 12" shown here)
- Standard body materials in carbon steel and 316 stainless steel
- ANSI Class 150# lug or wafer bodies: CS or 316SS, RTFE soft seat, 316SS disc, 316SS stem standard
- ANSI Class 300# lug or wafer bodies: CS or 316SS, RTFE soft seat, 316SS disc, XM-19 stem standard
- Bubble-tight shutoff of general purpose applications to 450°F
- Blowout-proof stem design
- Meets industry standards: ANSI-B 16.10, B16.34, API-598, API-607, API-609, ASME-B16.5, BS-6755, FCI 70-2, MS SP-25 and SP-55

Dimensions: Manual High Performance Butterfly Valves

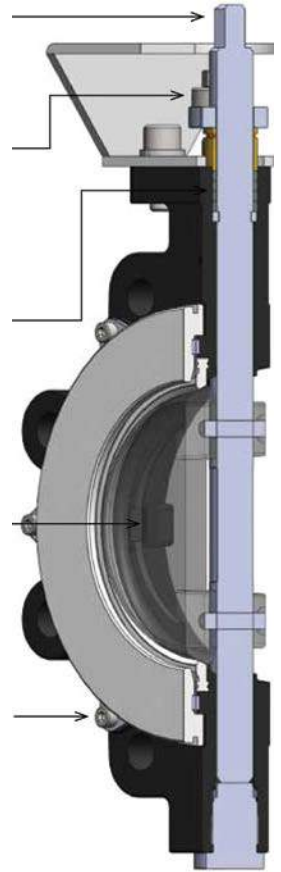
Left: Valve with Gear Operator

Right: Valve with Lever Operator

(See model selection guides on next page.)



- **Square Stem:** Facilitates mounting of pneumatic and electric actuators or gear operators through 12"
- **Live Loaded Packing:** Three sets of Belleville washers are added to each gland stud to maintain a self-adjusting packing load.
- **Application-Specific Stem Packing:** Standard packing is graphite. Options include double PTFE V-ring or double PTFE inverted packing.
- **Internally Cast Travel Stop:** Prevents over-rotation of the disc in an effort to limit possible seat damage
- **Seat Retainer Design:** Designed so fasteners don't interfere with the flange gasket sealing surface.



*Need help specifying the valve for your application?
Call our factory-trained sales team.*



Model Selection Guide — Manual Valve with 10-Position Lever/Handle Operator

Body Style	Valve Size	Valve CV	Dimensions				Carbon Steel Body		Stainless Steel Body	
			A	B	C	D	Catalog Number	Price	Catalog Number	Price
150# Lugged	2"	103	6.69	1.02	11.00	2.09	PSC-L1-0200-RSR-HXG	\$570.00	PS-L1-0200-RSR-HXG	\$850.00
	3"	210	7.99	1.02	17.00	1.89	PSC-L1-0300-RSR-HXG	690.00	PS-L1-0300-RSR-HXG	1030.00
	4"	418	8.46	1.02	17.00	2.13	PSC-L1-0400-RSR-HXG	807.00	PS-L1-0400-RSR-HXG	1349.00
	6"	1132	9.65	1.14	17.00	2.24	PSC-L1-0600-RSR-HXG	1110.00	PS-L1-0600-RSR-HXG	1867.00
	8"	2268	10.36	1.14	22.00	2.52	PSC-L1-0800-RSR-HXG	1495.00	PS-L1-0800-RSR-HXG	2800.00
300# Lugged	2"	97	6.69	1.02	11.00	2.09	PSC-L3-0200-RSR-HBG	630.00	PS-L3-0200-RSR-HBG	950.00
	3"	211	7.99	1.02	17.00	1.89	PSC-L3-0300-RSR-HBG	755.00	PS-L3-0300-RSR-HBG	1110.00
	4"	412	8.46	1.02	17.00	2.13	PSC-L3-0400-RSR-HBG	860.00	PS-L3-0400-RSR-HBG	1385.00
	6"	1054	9.65	1.14	17.00	2.32	PSC-L3-0600-RSR-HBG	1440.00	PS-L3-0600-RSR-HBG	2240.00
150# Wafer	2"	103	6.69	1.02	11.00	2.09	PSC-W1-0200-RSR-HXG	500.00	PS-W1-0200-RSR-HXG	705.00
	3"	210	7.99	1.02	17.00	1.89	PSC-W1-0300-RSR-HXG	555.00	PS-W1-0300-RSR-HXG	855.00
	4"	418	8.46	1.02	17.00	2.13	PSC-W1-0400-RSR-HXG	665.00	PS-W1-0400-RSR-HXG	995.00
	6"	1132	9.65	1.14	17.00	2.24	PSC-W1-0600-RSR-HXG	890.00	PS-W1-0600-RSR-HXG	1370.00
300# Wafer	2"	97	6.69	1.02	11.00	2.09	PSC-W3-0200-RSR-HBG	510.00	PS-W3-0200-RSR-HBG	720.00
	3"	211	7.99	1.02	17.00	1.89	PSC-W3-0300-RSR-HBG	595.00	PS-W3-0300-RSR-HBG	900.00
	4"	412	8.46	1.02	17.00	2.13	PSC-W3-0400-RSR-HBG	715.00	PS-W3-0400-RSR-HBG	1030.00
	6"	1054	9.65	1.14	17.00	2.32	PSC-W3-0600-RSR-HBG	1140.00	PS-W3-0600-RSR-HBG	1680.00

Model Selection Guide & Dimensions — Manual Valve with Gear Operator

Body Style	Valve Size	Valve CV	Dimensions							Carbon Steel Body		Stainless Steel Body	
			A	B	C	D	E	F	G	Catalog Number	Price	Catalog Number	Price
150# Lugged	2"	103	6.69	2.52	5.16	1.12	1.71	4.00	2.09	PSC-L1-0200-RSR-GXG	\$677.00	PS-L1-0200-RSR-GXG	\$957.00
	3"	210	7.99	2.52	5.16	1.12	1.71	4.00	1.89	PSC-L1-0300-RSR-GXG	787.00	PS-L1-0300-RSR-GXG	1127.00
	4"	418	8.46	2.52	5.16	1.12	1.71	4.00	2.13	PSC-L1-0400-RSR-GXG	904.00	PS-L1-0400-RSR-GXG	1446.00
	6"	1132	9.65	2.94	7.28	1.34	2.07	6.00	2.24	PSC-L1-0600-RSR-GXG	1244.00	PS-L1-0600-RSR-GXG	2001.00
	8"	2268	10.63	3.56	10.24	1.67	2.71	12.00	2.52	PSC-L1-0800-RSR-GXG	1704.00	PS-L1-0800-RSR-GXG	3009.00
	10"	3715	13.58	3.56	10.24	1.67	2.71	12.00	2.80	PSC-L1-1000-RSR-GXG	2399.00	PS-L1-1000-RSR-GXG	4124.00
	12"	5486	14.57	3.56	11.71	1.67	2.71	16.00	3.19	PSC-L1-2200-RSR-GXG	3042.00	PS-L1-2200-RSR-GXG	5447.00
300# Lugged	2"	97	6.69	2.52	5.16	1.12	1.71	4.00	2.09	PSC-L3-0200-RSR-GBG	737.00	PS-L3-0200-RSR-GBG	1057.00
	3"	211	7.99	2.52	5.16	1.12	1.71	4.00	1.89	PSC-L3-0300-RSR-GBG	852.00	PS-L3-0300-RSR-GBG	1207.00
	4"	412	8.46	2.52	5.16	1.12	1.71	4.00	2.13	PSC-L3-0400-RSR-GBG	957.00	PS-L3-0400-RSR-GBG	1482.00
	6"	1054	9.65	2.94	7.28	1.34	2.07	6.00	2.32	PSC-L3-0600-RSR-GBG	1563.00	PS-L3-0600-RSR-GBG	2375.00
	8"	1987	11.02	3.56	10.73	1.67	2.71	12.00	2.87	PSC-L3-0800-RSR-GBG	2349.00	PS-L3-0800-RSR-GBG	3749.00
	10"	3184	13.58	3.56	11.71	1.67	2.71	16.00	3.27	PSC-L3-1000-RSR-GBG	3249.00	PS-L3-1000-RSR-GBG	5394.00
	12"	4633	15.35	3.94	12.64	1.97	3.80	16.00	3.62	PSC-L3-2200-RSR-GBG	4467.00	PS-L3-2200-RSR-GBG	7492.00
150# Wafer	2"	103	6.69	2.52	5.16	1.12	1.71	4.00	2.09	PSC-W1-0200-RSR-GXG	607.00	PS-W1-0200-RSR-GXG	812.00
	3"	210	7.99	2.52	5.16	1.12	1.71	4.00	1.89	PSC-W1-0300-RSR-GXG	652.00	PS-W1-0300-RSR-GXG	952.00
	4"	418	8.46	2.52	5.16	1.12	1.71	4.00	2.13	PSC-W1-0400-RSR-GXG	762.00	PS-W1-0400-RSR-GXG	1092.00
	6"	1132	9.65	2.94	7.28	1.34	2.07	6.00	2.24	PSC-W1-0600-RSR-GXG	1024.00	PS-W1-0600-RSR-GXG	1504.00
	8"	2268	10.63	3.56	10.24	1.67	2.71	12.00	2.52	PSC-W1-0800-RSR-GXG	1459.00	PS-W1-0800-RSR-GXG	2374.00
	10"	3715	13.58	3.56	10.24	1.67	2.71	12.00	2.80	PSC-W1-1000-RSR-GXG	2024.00	PS-W1-1000-RSR-GXG	3274.00
	12"	5486	14.57	3.56	11.71	1.67	2.71	16.00	3.19	PSC-W1-2200-RSR-GXG	2687.00	PS-W1-2200-RSR-GXG	4467.00
300# Wafer	2"	97	6.69	2.52	5.16	1.12	1.71	4.00	2.09	PSC-W3-0200-RSR-GBG	617.00	PS-W3-0200-RSR-GBG	827.00
	3"	211	7.99	2.52	5.16	1.12	1.71	4.00	1.89	PSC-W3-0300-RSR-GBG	692.00	PS-W3-0300-RSR-GBG	997.00
	4"	412	8.46	2.52	5.16	1.12	1.71	4.00	2.13	PSC-W3-0400-RSR-GBG	812.00	PS-W3-0400-RSR-GBG	1127.00
	6"	1054	9.65	2.94	7.28	1.34	2.07	6.00	2.32	PSC-W3-0600-RSR-GBG	1264.00	PS-W3-0600-RSR-GBG	1804.00
	8"	1987	11.02	3.56	10.73	1.67	2.71	12.00	2.87	PSC-W3-0800-RSR-GBG	2039.00	PS-W3-0800-RSR-GBG	2774.00
	10"	3184	13.58	3.56	11.71	1.67	2.71	16.00	3.27	PSC-W3-1000-RSR-GBG	2599.00	PS-W3-1000-RSR-GBG	4264.00
	12"	4633	15.35	3.94	12.64	1.97	3.80	16.00	3.62	PSC-W3-2200-RSR-GBG	3542.00	PS-W3-2200-RSR-GBG	5802.00

760 P/E Pneumatic and Electropneumatic Valve Positioners

Siemens Series 760 valve positioners provide a cost-effective, universal approach to valve control. Their modular concept allows all models to be built on the basic pneumatic unit. The electropneumatic model is created by adding an I/P transducer to the base, and installing needed accessories inside the unit.

The 760 base pneumatic unit provides cam characterization, split ranging, direct or reverse action, and single or double acting without requiring additional parts. Key design features include non-interaction of the zero and span adjustments and positive cam locking mechanism, which reduce calibration and setup

- Universal design and choice of interchangeable NAMUR IEC 534-6 rectilinear or VDI/VDE 3845 rotary mountings provide wide application flexibility
- Double-acting or single-acting service and split ranging afford application versatility in a single unit
- Modular design supports interchangeable spare parts and reduces inventory: 4-20 mA feedback, limit switches, NAMUR switches, I/P module, and high flow spool valve all fit inside the enclosure
- Choice of beacon or flat indicator
- FM, CSA, CE, and ATEX approvals

Specifications

Input Signal: 760P: 3-15 PSIG, 3-27 PSIG, 50% split range; 760E: 4-20 mA, 50% split range

Linearity: 760P: 0.5% span typical; 760E: 0.75% span typical

Hysteresis: 760P: 0.75% span typical; 760E: 1.0% span typical

Deadband: ≤ 0.25% span

Repeatability: Within 0.5% span

Output Configuration: Single or double acting

Action: Direct or reverse

Mechanical Feedback: 90° rotary standard; 1/2" to 6" rectilinear optional

Characterization: Equal percent, quick opening, or linear

Pressure Gain: 160:1 at 60 PSIG standard

Span: Adjustable -60% to 25% of normal span

Zero: Adjustable -10% to 60% of normal span

Supply Pressure: 150 PSIG max; *Supply pressure effect:* <0.2% span for a 5 PSI change in supply pressure

Air Consumption: *Standard or low-gain spool:* 0.5 scfm; *High flow capacity spool:* 1.0 scfm typical

Flow Capacity (at 60 PSI with 25% drop): 9.0 scfm (Cv=0.3) standard; 20.0 scfm (Cv=0.6) optional

Temperature Range: 760P: -40° or -4° to 185° F, 300 °F optional; 760E: -40° or -4° to 167° F

Enclosure: Aluminum, polyester powder coated epoxy finished, Type 4X in accordance with NEMA standard 250, Type IP65 in accordance with IEC standard 529

Connections: 1/4" NPT pneumatic and exhaust, 1/8" NPT gauge, 3/4" NPT (25mm) electrical

Hazardous Area Classification Approvals: *FM: Intrinsically Safe:* Class I, Div 1, Groups A-D, Class II, Div 1, Groups E-G, Class III, Div 1; *Non-Incendive:* Class I, Div 2, Groups A-D; *Suitable for:* Class II, Div 2, Groups F, G; Class III, Div 2; *CSA: Intrinsically Safe:* Class I, Div 1, Groups A-D, Class II, Div 1, Groups E-G, Class III, Div 1; *Suitable for:* Class I, Div 2, Groups A-D, Class II, Div 2, Groups E-G, Class III, Div 2; *CE:* EN50081-1 and EN50081-2 Emission, and EN61000-6-1 and EN60000-6-2 Immunity; *ATEX:* Ex II 2G EEx ia IIC T4/T5/T6, Ex II 3G EEx nL IIC T5, SIRA 03 ATEX 2577X, SIRA 03 ATEX 4578



Issue orders to: Siemens Industry Inc., c/o Lesman Instrument Company

Model Selection Guide

Make one selection from each table below. A complete catalog number looks like this: 760E1 _____.

Description		Catalog No.	Price
Siemens Series 760P/E Valve PAC™ Valve Control Positioner			
Input Signal	Pneumatic, 3 to 15 PSIG	760P1	\$569.00
	Electropneumatic, 4-20 mA DC	760E1	734.00
Action (Rising Stem/Linear or Rotary) [Note A]	0.5"–2" stroke lever, three 60° cams	4	14.00
	0.5"–4" stroke lever, three 60° cams	1	14.00
	0.5"–4" stroke lever, one 90° linear cam	E	14.00
	2"–6" stroke lever, three 60° cams	2	14.00
	2"–6" stroke lever, one 90° linear cam	F	14.00
	1/4 turn, 1/2" square shaft, three 90° cams	3	14.00
	1/4 turn, NAMUR style shaft end, three 90° cams	5	0.00
	1/4 turn, 1/2" square shaft, three 60° cams 1/4 turn, NAMUR shaft, three 60° cams	7 S	14.00 0.00
Enclosure Type [Note B]	No indicator, 3/4" NPT conduit connection	A	0.00
	No indicator, M25 conduit connection	E	89.00
	90° beacon indicator, 3/4" NPT conduit conn	B	78.00
	90° beacon indicator, M25 conduit conn	F	163.00
	60° flat indicator, 3/4" NPT conduit conn 90° flat indicator, 3/4" NPT conduit conn	J K	78.00 78.00
Flow Capacity	Standard capacity spool valve assembly Cv=0.3	A	0.00
	High flow capacity spool valve assembly Cv-0.6	B	37.00
Temp Option	Standard temperature (-40° to 185°F)	A	0.00
	High temperature (-20° to 300°F) [Note B]	C	133.00
Gauges	None	N	0.00
	Set of three gauges	G	84.00
Limit Switches/Feed Back Devices	None	NN	0.00
	4-20 mA feedback	N2	483.00
	4-20 mA feedback, stainless steel feedback gear	N4	499.00
	Two SPDT mechanical switches	1N	309.00
	Two SPDT mechanical switches, 4-20 mA feedback Two SPDT mechanical switches, 4-20 mA feedback, stainless steel feedback gear	12 14	616.00 649.00
Approval	None	DN	0.00
	FM/CSA/CE/ATEX	D6	22.00
Options	Printed English 760 User Manual	SD760	57.00
	I/P module kit (converts 760P to 760E)	16300-1355	769.00
	Pressure gauge kit (set of three)	16300-442	86.00
	Standard flow spool valve kit	16300-468	161.00
	High flow spool valve kit	16300-469	195.00
	Spare NAMUR adapter kit	TGX:16300-1556	83.00
	Spare 1/2" square adapter drive	TGX:16300-1545	57.00
	Type 950 explosion-proof I/P transducer	16300-1048	Call

Notes

- A Action options E, F, and S are subject to increased linearity error. Fix feedback pin in lever to hold non-linearity error to 3% max.
- B High temp only available on 760P models without electrical options, indicators, gauges, limit switches, or feedback devices.



Siemens SIPART PS100 Electropneumatic Valve Positioners

- Can be used with pneumatic actuators and an analog input, 4 to 20 mA
- For use on pneumatic linear or part-turn actuators
- Quick and easy one button initialization
- Automatically adjusts itself to the attached valve
- Simple operation with large display and diagnostic symbols according to NAMUR NE107
- Quick setting to different modes for precise and fast adjustment, open/close operation, and other applications with existing application profiles
- Robust design and corrosion resistant materials for harsh environments
- Contactless magnetic sensor for accurate and wear-free detection of valve position
- Only uses air to move the valve; negligible air consumption in stationary operation

SIPART PS100 electropneumatic valve positioners are built for ease of use and durability. The four-button operation lets you choose parameters that suit your application, including precise control, on/off operation, booster and other applications. And initialization is quick with just a push of a button!

PS100 positioners feature a vibration-resistant, non-contacting sensor to detect valve position at all times. They also come with aluminum enclosure and a corrosion resistant silencer. This design lets the positioner withstand extremely harsh or aggressive environments.



Condensed Specifications

- Types of actuators:** Single-acting and double-acting
- Travel range (linear actuators):** 10–130 mm (0.39”–5.12”)
- Angle of rotation (part-turn actuators):** 10°–100°
- Input:** 4–20 mA
- Output:** 2-wire 4–20 mA analog; 35V digital
- Operating conditions:** Ambient Temperature: -4 to 176 °F; Relative Humidity: 0 to 100%
- Vibration resistance:** Harmonic oscillations (sine-wave): 0.14”, 2–27 Hz, 3 cycles/axis; 321.84 ft/s², 27–300 Hz, 3 cycles/axis; Bumping (half-sine): 492 ft/s², 6 ms, 1000 shocks/axis; Noise (digitally controlled): 10–200 Hz; 1 (m/s²)²/Hz (3.28 (ft/s²)²/Hz); 200–500 Hz; 0.3 (m/s²)²/Hz (0.98 (ft/s²)²/Hz); 4 hours/axis
- Pneumatic operating medium:** Compressed air, carbon dioxide (CO₂), nitrogen (N₂), noble gases
- Operating pressure:** 20.3 to 101.5 PSI
- Controller:** Five-point switch: Adaptive; Deadband: ±0.1 to 3% adjustable peak value, always active minimization of the peak value

Need HART®? See the SIPART PS2 on page 28.

Model Selection Guide

Issue orders to: Siemens Industry Inc., c/o Lesman Instrument Company

Description		Catalog Number	Price
Siemens Sipart PS100 Valve Control Positioner, 4–20 mA Input, Aluminum Enclosure (no inspection window)		6DR711_-	\$1067.00
Actuator Type	For single-acting actuators	1-	0.00
	For double-acting actuators	2-	190.00
I/O Option 1	None	0NN __-	0.00
	Digital input (DI) and digital output (DO)	0NA __-	145.00
I/O Option 2	None	___ 0 _-	0.00
	4–20 mA analog output (AO)	___ 1 _-	458.00
Lower Cable Entry Thread	1/2 NPT	___ _ 4-	14.00
	No cable gland		
Upper Cable Entry Thread	1/2 NPT	4 ___	14.00
	No cable gland		
Pneumatic Thread	1/4–18 NPT	_ B _-	0.00
	No pressure gauge block	__ A0	0.00
Gauge Block	Plastic pressure gauge, aluminum block	__ C0	217.00
	Metal pressure gauge, aluminum block	__ D0	324.00
	Stainless steel pressure gauge and block	__ E0	727.00

Dwyer Proximity® Series Mark Position Indicators

- For use on rotary or linear valves
- Mark 1 & Mark 3 feature magnetically coupled construction (between the process and the electronics) eliminates through shafts and bearings, which can cease over time
- Mark 4 has a thru-shaft design that features a 1" bearing for long life and o-rings to seal the switch compartment for hazard, corrosion, and leak protection
- Mounted directly or indirectly using brackets or linkages
- Weatherproof, explosion-proof, and submersible up to 50 feet of water; Environmentally sealed for corrosive areas
- Polyester coated aluminum or stainless steel
- Outputs: mechanical or proximity switches, potentiality, or 4–20 mA



Model Selection Guide

Description	Catalog No.	Price
Mark 1, magnetic coupling, 2 SPDT switches, Direct drive with visual indicator, Black painted aluminum enclosure	12AD0	\$230.70
Mark 4, through-shaft, 2 SPDT switches, Direct drive with visual indicator, Black painted aluminum enclosure	42AD0	191.70

Don't see the option you need? Call us for help configuring a position indicator for your application.

SIPART PS2 Electropneumatic Valve Positioners



**Enclosures (top to bottom right):
Standard IP65 version, explosion-proof and flame-proof
model, stainless steel enclosure**

SIPART PS2 excels through its reduced installation overheads, functional expansion with low-cost option modules, and enhanced diagnostics.

You can choose between conventional 0/4–20 mA control technology or the PROFIBUS PA standard. Just a single two-wire lead provides the unit with the auxiliary power required and facilitates communication with the control system for complete integration.

A single SIPART® PS2 electropneumatic positioner works for both linear and rotary actuators, and features your choice of PROFIBUS PA or HART protocol for its communications capabilities.

SIMATIC PDM communications software ensures complete information interchange with each positioner in the system. Both PROFIBUS PA and HART provide detailed information on the history and operating state of the valves, such as leakages, spring breakages and travel. They can also log alarms.

With its wide range and an infinitely adjustable 3- to 130-mm stroke range, SIPART PS2 can be directly integrated to modern actuators without pipe work and without additional overhead.

SIPART PS2 can be used with even the smallest actuators because the fully integrated valve block comprehends external position signals and makes the SIPART PS2 a lot more compact.

Its user-friendly digital display shows operating states clearly, and can be operated directly at the machine without the need for additional equipment.

In contrast to conventional units, SIPART PS2's automatic start-up means that you need just five minutes for an optimum process start with the highest control accuracy. Automatic online adaptation enables permanent optimization of the dynamic performance.

Without adding programming overhead, Siemens has integrated functions into the configuration menu, making SIPART PS2 a lot more versatile. Using three pushbuttons and the two-line LCD display, you just

Features

- One device for both linear and rotary actuators
- Choice of 0/4–20 mA with or without HART® or PROFIBUS PA
- Intrinsically safe or explosion-proof housings available
- Minimal own air consumption, thanks to piezo technology — short return on investment
- Automatic commissioning at initialization optimizes control by determining zero point, end value, direction of action, positioning speed, minimum pulse time, and dead zone
- Local operation and configuration with three pushbuttons and two-line front-panel LCD display
- Optional modules expand functionality for position feedback, alarms, and fault signaling
- Basic and extended diagnostic functions accessed directly or through PROFIBUS PA or HART protocols
- IP65 rated enclosure insensitive to environmental influences
- Switch between automatic, manual, and configuration modes at the push of a button
- Fully compatible with SIMATIC PDM configuration software



select the menus that deviate from the standard application.

The air loss associated with conventional positioners can be very expensive. Thanks to modern piezo technology, the SIPART PS2, by comparison, uses air only when it is required, so it pays for itself quickly.

Need diagnostics?

The SIPART PS2 provides diagnostic data about itself and its environment, the valve and actuator. For example, a change in the valve end-positions can be signaled automatically when a set limit has been exceeded. Basic diagnostics include a service time counter, temperature minimum/maximum/actual temperature, service time memory per temperature class, and setpoint alarm detection.

Extended diagnostics include online control of the valve seat (upper and lower end travel positions), monitoring and display of adjustable thresholds for accumulated travel, the number of direction changes, and the valve seat (0% position)

No matter what kind of atmosphere surrounds your SIPART PS2 positioner, the newly designed plastic enclosure and the corrosion-proof metal housing ensure that you are equipped for all occasions. With its standard IP65 protection, the SIPART PS2 defies even the roughest environment.

An integrated maintenance-free water separator can cope with moist compressed air for a few days. You can forget problems caused by temperature variations. Not even pressure changes in the pneumatic supply affect control — so a pressure regulator becomes a thing of the past. For especially critical applications, external position sensors can be used.

SIPART PS2 is also available in explosion-proof housing with EExd IIC T4/T5/T6 protection. With the help of three operating keys hidden behind a flap, the unit can be controlled even during operation without opening the housing. The display can be easily read from behind heavy-duty glass.



SIEMENS

Condensed Specifications

Types of actuators: In plastic, flameproof, or stainless steel casing; Single-action and double-action; In aluminium casing: Single-action

Travel range (linear actuators): 3–130 mm (0.12”–5.12”) (angle of feedback shaft 16°–90°)

Angle of rotation (part-turn actuators): 30°–100°

Power supply (inlet air): Pressure: 20.3–101.5 PSI, Sufficiently greater than max. drive pressure (actuating pressure)

Air quality to ISO 8573-1: Class 2 for solid particle size and density, pressure dewpoint, and oil content

Air valve unthrottled flow: 29 psi: 18.1 GPM inlet, 36.1 GPM outlet; 58 psi: 31.3 GPM inlet, 60.3 GPM outlet; 87 psi: 43.1 GPM inlet, 84.5 GPM outlet

Valve leakage: < 0.0026 GPM

Throttle ratio: Adjustable up to ∞:1

Power consumption in the controlled state: <0.158 GPM

Installation: On linear actuators: Using attachment set 6DR4004-8V and where necessary with an additional lever arm 6DR4004-8L on actuators according to IEC 534-6 (NAMUR) with ribs, bars or flat face; On part-turn actuators: Using attachment set 6DR4004-8D on actuators with mounting plane according to VDI/VDE 3845 and DIN 3337: The required mounting console has to be provided on the actuator side; shaft with groove and female thread M6

Mounting position: Any; pneumatic connections and exhaust opening not facing up in wet environment

Controller: Five-point switch: Self-adjusting; Dead zone: -dEbA = Auto, Self-adjusting or can be set as fixed value; -dEbA = 0.1–10%, Self-adjusting or can be set as fixed value

A/D converter: Scan time: 10 ms; Resolution: ≤0.05%; Transmission error: ≤0.2%; Temperature effect: ≤0.1%/18 °F

Cycle time: 20 mA/HART device: 20 ms; Profibus PA device: 60 ms; Foundation Fieldbus device: 60 ms (min. loop time)


Binary input BE1: (Terminals 9/10; electrically connected to basic device), Suitable only for floating contact; max. load <5 mA with 3V

Vibration resistance: Harmonic oscillations (sine-wave): 0.14” 2–27 Hz, 3 cycles/axis; 321.84 ft/s², 27–300 Hz, 3 cycles/axis; Bumping (half-sine): 492 ft/s², 6 ms, 1000 shocks/axis; Noise (digitally controlled): 10–200 Hz; 1 (m/s²)²/Hz (3.28 (ft/s²)²/Hz); 200–500 Hz; 0.3 (m/s²)²/Hz (0.98 (ft/s²)²/Hz); 4 hours/axis; Recommended continuous duty range: ≤ 30 m/s² (≤ 98.4 ft/s²) without resonance sharpness

Climate class 4: To DIN EN 60721-3-4; Operation: 4K3, but -22° to 176 °F

Classifications: Classification according to pressure equipment directive (DRGL 97/23/EC): For gases of fluid group 1, complies with requirements of article 3, paragraph 3 (sound engineering practice SEP)

Degree of protection: IP65 to EN 60 529/NEMA 4x

CE mark: Conformity as regards EMC Directive 89/336 EC in accordance with the following standards 

EMC requirements: EN 61326/A1 Appendix A.1 and NAMUR NE21

Materials: Housing: Glass-fiber-reinforced Macrolon plastic, GD AISi12 metal, Austenitic stainless steel # 1.4581, or Aluminium AlMgSi, anodized pressure gauge block

Approvals: FM/CSA/ATEX; Class I, Div 1, Groups A-D, and Zone 1 Area Ex ia/ib IIC (with suitable intrinsically safe barrier); Class I, Div 2, Groups A-D, and Zone 1 Area Ex ia/ib IIC; Plastic and aluminum housing; FM intrinsically safe with customer-supplied barrier, Non-incendive, no barrier required; Stainless steel housing: Only ATEX approved for EEx in EEx n; Explosion-proof housing: EEx d approved



Model Selection Guide

Issue orders to: Siemens Industry Inc., c/o Lesman Instrument Company

Make one selection from each table below. A complete catalog number looks like this: 6DR5____-_____-0AA_

Description	Catalog Number	Price
SIPART PS2 Electropneumatic/Digital Positioner		
Input	4-20 mA, 2-Wire	6DR50 __- \$953.00
	4-20 mA, 2-/3-/4-Wire	6DR53 __- 1003.00
	4-20 mA, 2-Wire, with HART®	6DR51 __- 1137.00
	4-20 mA, 2-/3-/4-Wire, with HART®	6DR52 __- 1157.00
	Profibus PA	6DR55 __- 1327.00
(Note 1)	Foundation Fieldbus	6DR56 __- 1327.00
	Actuator Action	
Actuator Action	Single Acting	____ 1_- 0.00
	Double Acting	____ 2_- 145.00
Enclosure	Plastic Housing	____ 0- 0.00
	Aluminum Housing (Single Acting Only)	____ 11- 145.00
	Stainless Steel Housing	____ 2- 1096.00
	Explosion-Proof Housing	____ 5- 733.00
Safety Rating	None	0N ____- 0.00
	FM/CSA Explosion-Proof	0E ____- 76.00
Connection	1/2" NPT Electrical, 1/4" NPT Pneumatic	__ N __- 0.00
Limit Switch	None	__ 0_- 0.00
	Solid State Alarm Module	__ 1_- 233.00
	Mechanical Limit Switch Module	__ 3_- 291.00
Option Module	None	__ 0- 0.00
	4-20 mA Position Feedback	__ 1- 301.00
Options	None	0AA0- 0.00
	Gauge Options (Add R-Code Below)	0AA9- 0.00
Gauge Block	Aluminum, Single Acting	R1B 220.00
	Aluminum, Double Acting	R2B 261.00
	316 Stainless Steel, Single Acting	R1D 516.00
	316 Stainless Steel, Double Acting	R2D 565.00

Accessories and Options		
FM-Approved Alarm Module	6DR4004-6A	240.00
Mounting Set, 2-35 mm Linear Actuators (IEC 534)	6DR4004-8V	102.00
Mounting Set, Part-Turn Actuators (VDI/VDE 3845)	6DR4004-8D	79.00
Aluminum Gauge Block, Single Acting, 1/4" NPT	6DR4004-1MN	155.00
Aluminum Gauge Block, Double Acting, G1/4	6DR4004-2M	181.00
NCS Sensor for Part-Turn Actuator	6DR4004-8NN10	374.00
NCS Sensor for Linear Actuator (>14mm)	6DR4004-6NN30	683.00
USB Siemens HART® Modem	7MF4997-1DB	706.00

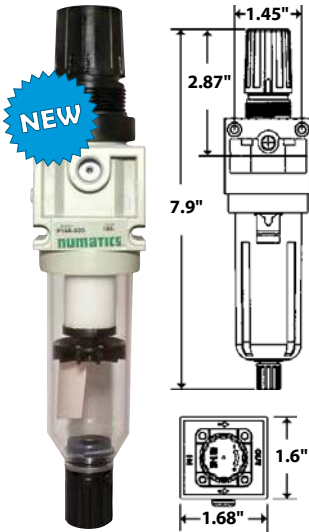
Notes

1 Models 6DR53 and 6DR51 only have explosion-proof ratings when ordered with the EExD explosion-proof housing (Option 5)

Model Selection Guide

SIMATIC PDM Software for Configuration and Monitoring

Description	Catalog Number	Price
SIMATIC PDM v9.1 Software for Configuration, Commissioning, and Diagnostics of Intelligent Field Devices (Supports Profibus and HART®)		
SIMATIC PDM with 1 Tag	6ES7658-3HA58-0YA5	\$101.00
SIMATIC PDM with 4 Tags	6ES7658-3AB68-0YA5	805.00
10 Additional SIMATIC PDM Tags	6ES7658-3XC00-0YA5	182.00
100 Additional SIMATIC PDM Tags	6ES7658-3XD00-0YA5	1700.00



numatics™ ASCO P14B Series Particulate Filter

The ASCO Numatics Series 14 particulate filter and regulator protects pneumatic systems from airborne contamination. The filter removes particulates from air in applications and prevents them from continuing through the process and possibly harming other instruments.

Its design features a square head that has integrated mounting holes for easier and less costly mounting. A single O-ring and two button head screws are all that is needed to connect to other components. The simple mounting eliminates adapters and reduces the cost and the potential for leaks.

- Can be installed as an individual or modular unit
- Nominal Flow SCFM (L/M): 40
- 5 micron or 40 micron element
- Optimal 1.5 oz bowl
- Body material: zinc
- Standard output pressure: 0 to 125 PSIG
- Temperature range: 40° to 120° F

Model Selection Guide

Description	Catalog Number	Price
5 Micron Particulate Filter/Regulator with Pressure Gauge	P14B-02G	\$83.15
40 Micron Particulate Filter/Regulator with Pressure Gauge	P14A-02G	83.55

Don't see the option you need? Call Lesman at 800-953-7626.

MARSH BELLOFRAM® Group of Companies

I/P Transducer with NEMA 4 Housing

- External Span and Zero Adjustments
- Low Air Consumption
- Built-in Volume Booster
- Light Weight, Mounts at Any Angle

Specifications

Linearity, Hysteresis: $\leq \pm 1.0\%$ span

Repeatability: $< 0.5\%$ span

Supply Pressure: 3 PSIG above max output to 100 PSIG; **Sensitivity:** $< \pm 0.1\%$ span/PSIG at mid-range.

Min. Flow Rate at Mid-range: GP, IS Mod.: 4.5 SCFM @ 25 PSIG; 12 SCFM @ 100 PSIG; **Explosion-Proof Mod.:** 1.9 SCFM @ 25 PSIG; 2.2 SCFM @ 100 PSIG.

Air Consumption (Max.): 0.2 m³/hr (0.1 SCFM) at midrange

Port Sizes: 1/4" NPT (pneumatic); 1/2" NPT (electric)

Approvals: FM approved non-incendive for Class I, Div. 2, Grps A-D, suitable for Class II and III, Div. 2, Group G. No barriers needed. FM approved Intrinsically Safe for Class I, II, III, Div. 1, Grps A-E and G with suitable barriers. **Explosion-Proof Model:** FM approved for Class I, Div. 1, Group D; Class II, Div. 1, Groups E-G; and Class III. FM-Rated NEMA 4 outdoor.

Model Selection Guide

Approval	Output	Catalog Number	Price
<i>I/P Transducer 4-20 mA Input; 180Ω Nominal Impedance</i>			
General Purpose	3-15 PSI	961-070-000	\$396.65
General Purpose	9-15 PSI	961-073-000	396.65
General Purpose	3-27 PSI	961-074-000	396.65
General Purpose	6-30 PSI	961-075-000	396.65
Intrinsically Safe	3-15 PSI	961-099-000	453.75
Intrinsically Safe	3-27 PSI	961-100-000	453.75
Explosion-Proof	3-15 PSI	961-098-000	736.08

High Accuracy I/P Transducer

- 0.1% Accuracy Typical
- Exhaust Capacity 3 SCFM at 5 PSIG Above Setpoint
- Piezo-Ceramic Actuator Serves as Control Link Between Electrical Input and Pressure Output

The Type 2000 has been designed to meet your electropneumatic needs: field-selectable inputs, direct/reverse/split ranging, and precise, reliable performance under extreme conditions.

Type 2000 transducers use closed-loop pressure feedback control for precision pressure output, and to minimize the effects of temperature, supply pressure and voltage changes, and mounting angle.



Model Selection Guide

Description	Catalog Number	Price
Type 2000 Transducer, Intrinsically Safe Enclosure	2K-SNN _-	\$664.55
Type 2000 Transducer, Explosion-Proof Enclosure	2K-ENN _-	781.82
Approvals	FM/CSA	___F- 0.00
	ATEX	___C- 0.00
	CSA (Explosion-Proof Model Only)	___G- 0.00
Electrical Inputs	4-20 mA, Direct Acting	-42D ___- 0.00
	0-10 V, Direct Acting	-10D ___- 0.00
	0-5 PSIG, Full Range	___F005-00 0.00
	3-15 PSIG, Full Range	___F315-00 0.00
Pneumatic Output	0-30 PSIG, Full Range	___F030-00 0.00
	3-27 PSIG, Full Range	___F327-00 0.00
	0-100 PSIG, Full Range	___F100-00 0.00

To specify reverse acting, change the **D** to an **R**. To specify Split Range High, replace the **F** with an **H**, for Split Range Low, replace the **F** with an **L**. Other output ranges are available. Call Lesman for details.



8551 Series Direct-Mount Inline Spool Valves

- Compact spool valve convertible from 3/2 to 5/2
- NAMUR mount construction
- Standard manual operator
- DIN, Watertight and Explosion-proof solenoids available
- Single and dual solenoid constructions
- Mountable in any position
- Vents air from spring side to prevent actuator corrosion

Specifications

Construction: *Body:* Black anodized aluminum; *Spring:* Phosphate-treated black steel; *Shading coil:* Copper; *Seals:* NBR + PUR; *Core/Core tube:* Stainless Steel, Brass; *End covers/Plate:* 6/6 glass-filled PA/FV; *Spool:* Aluminum; *Internal parts:* Zamak, Steel, CA

Solenoid Enclosures: *Standard (SC):* IP65 type DIN (open frame) per 46244; *General Purpose and Watertight (WT):* Types 1, 2, 3, 3S, 4, and 4X; *Explosion-proof and Watertight (EF):* Types 3, 3S, 4, 4X, 6, 5P, 7, 9; Class I, Div. 1 (Groups A - D) and Class II, Div. 1 Type 9 (Groups E-G)

Standard Voltages: *SC:* 24, 120, 240 VAC, 50-60 Hz; 12, 24, 120 VDC. *WT and EF:* 24/50-60HZ, (120/60, 110-120/50), (240/60, 220-240/50) VAC; 6, 12, 24, 120 VDC.

Nominal Ambient Temperature: *SC:* AC/DC: 5° to 140°F (-15° to 60°C); *WT/EF:* AC: 5° to 140°F (-15° to 60°C) DC: 5° to 77°F (-15° to 25°C); Note: For temperatures below 32°F (0°C) moisture-free air must be used.

Approvals: *SC:* (2.5W and 3W only) UL recognized component, CSA certified. *WT:* UL recognized component, CSA certified. *EF:* UL and CSA solenoid approval. Meets applicable CE directives.

Model Selection Guide

Anodized aluminum body, NAMUR mount – 120 volts AC / 60 Hz

Pipe Size	Orifice Size	Cv Flow Factor	Operating Pressure Differential (PSI)		Watt Rating/ Class of Coil Insulation	Solenoid Enclosure Style	Solenoid Valve		Replacement Coil	
			Min.	Max.			Catalog No.	Price	Catalog No.	Price
<i>Direct mount inline spool valve, single solenoid</i>										
1/4"	1/4"	0.86	30	150	2.5	Open frame, DIN coil	SC8551A001MS	\$134.00	400127-088-*	\$51.00
1/4"	1/4"	0.86	30	150	6.3	Watertight	WT8551A001MS	182.00	266763-902-D	124.00
1/4"	1/4"	0.86	30	150	6.3	Explosion-proof and watertight	EF8551A001MS	203.00	266762-902-D	183.00

8320 Series General Service 3-Way Solenoid Valves

Specifications

Nominal Ambient Temperature Ranges: *AC Construction:* 32° to 125° F; *DC Construction:* 32° to 104° F.

Valve Parts in Contact with Fluids: *Body:* Brass or 303 S.S.; *Seals and Discs:* Buna-N or Cast Urethane; *Core Tube:* 305 S.S.; *Core and Plugnut:* 430F S.S.; *Core Springs:* 302 S.S.; *Shading Coil:* Copper (brass body); Silver (stainless steel body); *Disc Holder:* Acetal; *Core Guide:* Acetal (10.1 and 17.1 watt only)

Coil: Continuous duty molded Class F; Coils shown: 120VAC, 60Hz.

Electrical: *Standard Voltage:* 120 VAC, 60 Hz; *Other voltages available:* 24, 240, 480 VAC, 60 Hz (or 110, 220 VAC, 50 Hz); 6, 12, 24, 120, 240 VDC. Call Lesman for price and availability.

Solenoid Enclosures: Valves in this series have Red-Hat II molded epoxy solenoids and are identified by the letter G in their catalog numbers, e.g., 8320G130.

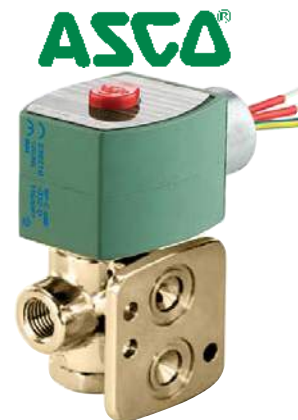
Standard Enclosures: *Red-Hat II:* Types 1–4, 3S and 4X Combination General Purpose and Watertight

Optional Enclosures: *Red-Hat II:* Types 3, 3S, 4, 4X, 6, 6P, 7 and 9 Combination Explosion-proof and Watertight. To order, add prefix EF to catalog number and call for price and availability.

Additional constructions are available. For optional open frame solenoids, junction box enclosures, panel mount constructions, call Lesman.

Approvals: CSA certified. UL listed General Purpose Valves.

Kits: Include all internal parts that may require replacement in normal service: solenoid base subassembly, cores, resilient discs, seats, springs and all gaskets. Installation/maintenance sheets are included. Replacement coils must be ordered separately.



Model Selection Guide

Brass Body, NAMUR mount – 120 volts AC / 60 Hz

Pipe Size	Orifice Size	Cv Flow Factor	Max. Operating Pressure (PSI)	Max. Fluid Temp.	Watt Rating Class of Coil Insulation	Solenoid Valve	
						Catalog Number	Price
<i>Normally Closed (Closed when de-energized). NAMUR interface for mounting directly to spring return actuators</i>							
1/4"	1/16"	0.09	150	180°F	6.1/F	8320G701	\$99.00
1/4"	1/16"	0.09	210	200°F	17.1/F	8320G703	138.00
1/4"	3/32"	0.12	150	180°F	6.1/F	8320G702	99.00
1/4"	3/32"	0.12	100	200°F	10.1/F	8320G704	135.00
1/4"	3/8"	0.21	100	200°F	17.1F	8320G705	138.00

Lesman

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135 Bernice Dr • Bensenville, IL 60106-3366

www.Lesman.com • 800-953-7626

Prices in this document are current at the publication date, and are subject to change without notice.

Due to manufacturer agreements, some products may not be available in all Lesman markets or geographic areas.

Call Lesman for help choosing the right valve for your application.

Our factory trained valve specialists...

- Are backed by hundreds of years of experience
- Have the tools to properly assess your process needs and limitations
- Pay attention to your specific application details to ensure a successful implementation
- Work with you to improve your process and performance results

Butterfly Valves



See Pages 20-25

FM Approved Assemblies



See Page 5

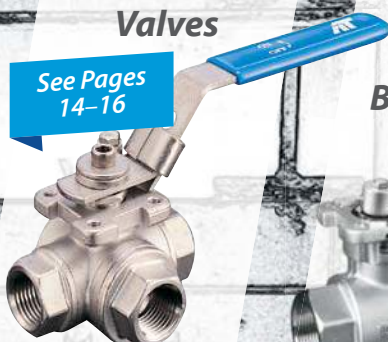
Control Valves



See Pages 17-19

PRV02-D

Multi-Port Valves



See Pages 14-16

Ball Valves



See Pages 3-16

Valve Accessories



See Pages 17 & 26-31