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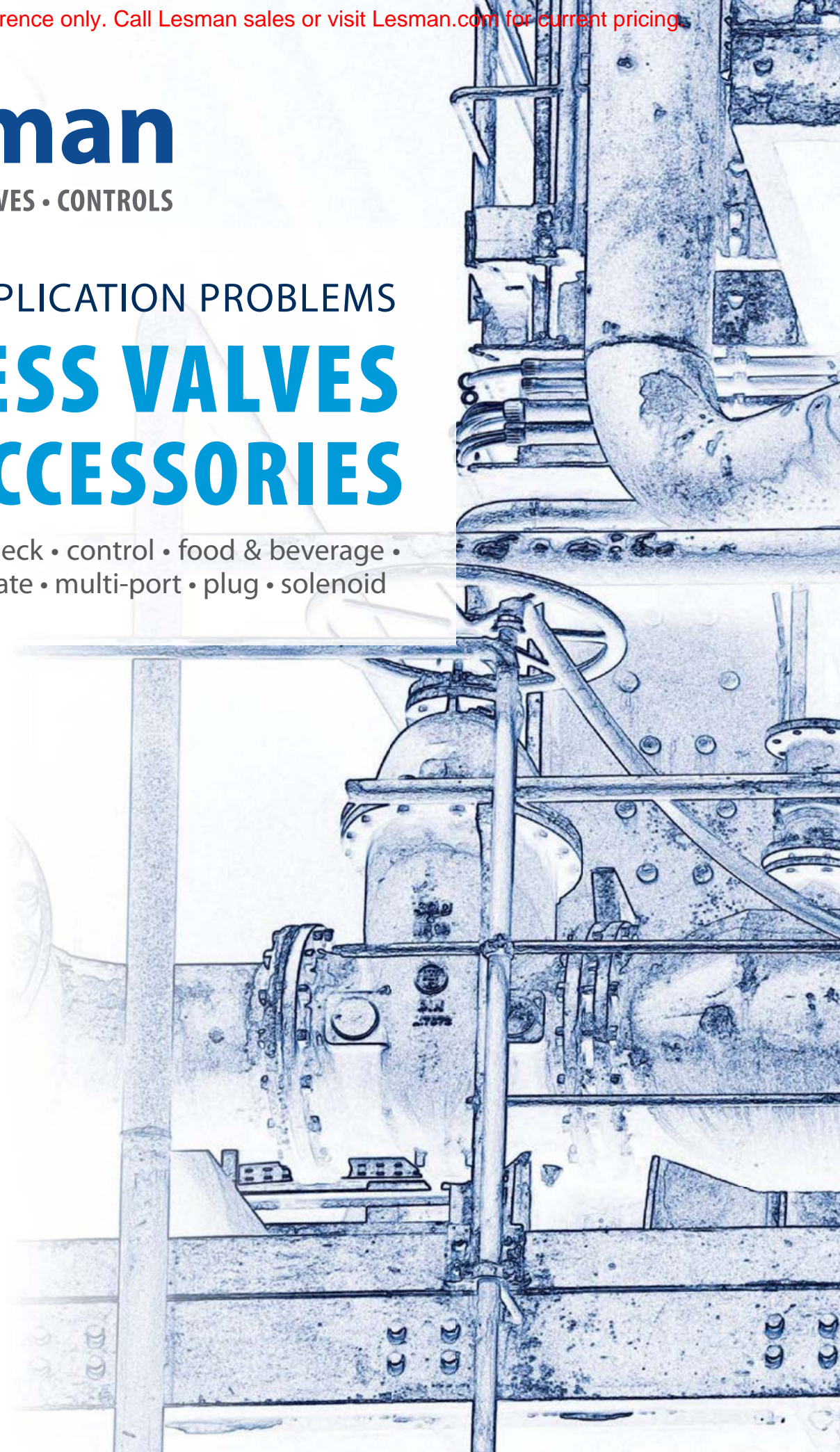


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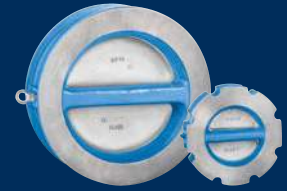
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Due to contractual agreements with our manufacturers, some items in this catalog may not be available in all geographic areas or markets.

Finding the Right Butterfly Valve for Your Application

Series	Valve Sizes	Flow Cv	Seat	Features	Page
 BOS-US	2" to 20" Call for larger sizes	101 to 18974	Resilient	Process-grade valve capable of high cycles; For on/off, throttling, or control operation in clean liquids and clean gases applications; High flow capacity; Low head loss	10-13
 OC/OS	1-1/2" to 36" Call for valves to 126"	70 to 31320	Resilient	Resilient-seated butterfly valves	14-15
 AS	2" to 12"	210 to 8870	Teflon-Lined	Fully encapsulated Teflon® butterfly valves for severe chemical and corrosive services	16-17
 BHP	2"-60"	85 to 10300	PTFE, Dual Metal/PTFE, Fyre Block	High performance butterfly valves for shutoff or throttling control in applications ranging from general service to viscous and corrosive liquids; corrosive gases and steam	4-9

Finding the Right Control Valve for Your Application

Series	Valve Sizes	Flow Cv	Type	Key Feature	Page
 Lowflow 708	1/4" to 3/4"	0.00001 to 4.0	Globe style Fractional flow control valve	Ideal for pilot plant installations; ANSI Class IV Shutoff	37
 Lowflow 709	1/2" to 3/4"	1.0 to 4.0	Globe style Fractional flow control valve	Mixing valve in low flow process applications.	38
 Lowflow 8000	1/2" to 2"	0.05 to 25.0	Globe style Pneumatic fractional flow control valve	Pressures to 6000 PSIG ANSI Class III or Class IV Shutoff	36
 Jordan Valve Mark 70	1/2" to 2"	0.21 to 30	Sliding gate Pneumatic diaphragm control valve	For general service. Cryogenic bonnet available for temperatures to -425°F; ANSI Class IV Shutoff	34
 Dwyer Hi-Flow	1/2" to 2"	6.45 to 50.30	Globe style Pneumatic diaphragm controls valve	Ideal for steam, water or compatible glycol solutions	39
 Steriflow Mark 978	1/2" and 3"	0.05 to 125	Globe style Sanitary low flow control valve; O-ring stem seal; Jorlon diaphragm	For sterile liquid media; ASME BPE 2009 guidelines, FDA, and USP compliant sanitary valves; ANSI Class III or Class VI Shutoff	61
 Marwin Valve CV3000	1/2" to 4"	2.6 to 380	V-Ball Ball-type automated control valve	High capacity; ANSI Class VI Shutoff	40
 PEC/PEF	1/2" to 72"	10 to 150000	Eccentric plug valves	For on/off, throttling, and control operation in clean, dirty, viscous and corrosive liquids, sludge, fibrous slurries and clean, dirty and corrosive gases	57
 Jordan Valve Mark 75	1" to 8"	9.5 to 600	Sliding gate Wafer-style pneumatic control valve	Light weight, easy maintenance; ANSI Class IV Shutoff	35
 CVS E Series	1" to 8"	—	Cage-guided Balanced trim control valve	Differential pressures up to 1480 PSIG	39
 DeZURIK RCV	1" to 12"	2.60 to 2600	Eccentric rotary control valve	High control accuracy; fast repairs and trim changes; four flow capacity ranges	32
 DeZURIK VPB	1" to 20"	36 to 12430	V-Ball Ball-type automated control valve	For control of fibrous suspension applications; clean dirty, viscous and corrosive liquids and gases	33

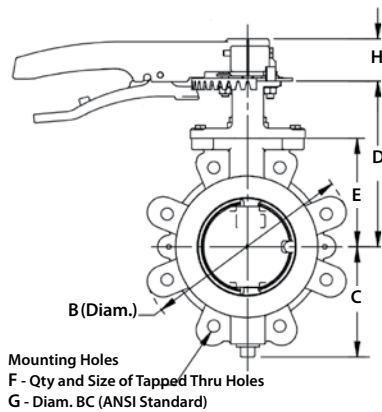


BHP High Performance Butterfly Valves

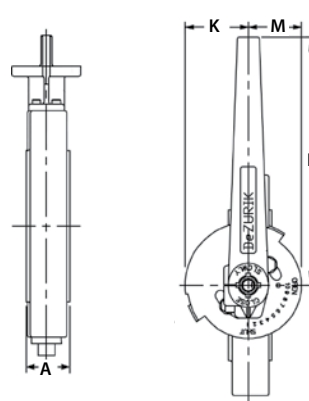


- For shutoff or throttling control in applications ranging from general service to viscous and corrosive liquids; corrosive gases and steam
- Flow Cv: 85 to 10300, depending on valve size and trim
- Temperature range: to 700° F standard; to 1000° F optional
- Pressure ratings: 275-740 PSI; 150 PSI option 36" and larger
- Body materials: carbon steel, 316 stainless steel (317 stainless steel optional)
- Seat types: PTFE seat for bubble-tight shutoff in both directions; dual metal/PTFE seat for dirty, viscous service; and the Fyre Block seat for fire-safe applications (meets API 607)
- Compliant with API 609 Category B
- Actuators: handwheel, chainwheel, square nut, lever, PowerRac® double-acting and spring-return cylinder, Compak double-acting and spring-return cylinder, and spring-return diaphragm

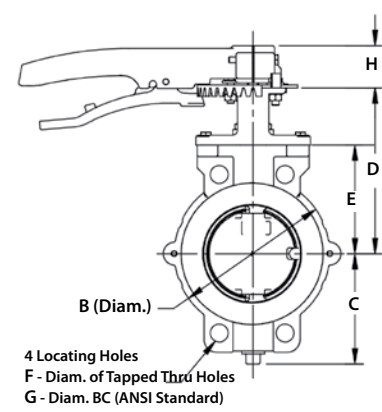
Lugged Valve with Lever Operator



Top View



Wafer Valve with Lever Operator



Dimensions: 150# Lugged and Wafer BHP Valves with Lever Operator

Valve Size	Max Cv 100% Open	Dimensions (inches)												
		A	B		C	D	E	F (Quantity)		G	H	K	L	M
			Lugged	Wafer				Lugged UNC [1]	Wafer					
2"	85	1.75	6.06	4.31	3.31	5.50	3.50	5/8-11 (4)	0.641 (4)	4.75	2.00	2.44	10.00	2.00
2.5"	180	1.88	7.00	5.00	3.44	5.75	3.75	5/8-11 (4)	0.641 (4)	5.50	2.00	2.44	10.00	2.00
3"	275	1.88	7.62	5.66	3.97	6.00	4.00	5/8-11 (4)	0.641 (4)	6.00	2.00	2.44	10.00	2.00
4"	520	2.12	9.00	6.78	4.75	6.75	4.75	5/8-11 (8)	0.656 (4)	7.50	2.00	2.44	10.00	2.00
5"	860	2.31	10.00	7.69	5.50	7.75	5.25	3/4-10 (8)	0.781 (4)	8.50	2.00	2.44	10.00	2.00
6"	1360	2.31	11.00	8.88	6.50	8.25	5.75	3/4-10 (8)	0.781 (4)	9.50	2.25	3.56	14.00	3.00
8"	2260	2.50	13.50	11.00	7.59	9.50	7.00	3/4-10 (8)	0.781 (4)	11.75	2.25	3.38	22.00	2.75

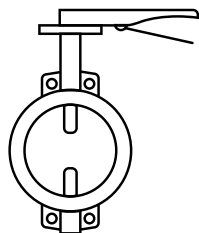
Dimensions: 300# Lugged and Wafer BHP Valves with Lever Operator

Valve Size	Max Cv 100% Open	Dimensions (inches)													
		A	B		C		D	E	F (Quantity)		G	H	K	L	M
			Lugged	Wafer	Lugged	Wafer			Lugged UNC [1]	Wafer					
2"	85	1.75	6.44	4.31	3.62	3.50	5.50	3.50	5/8-11 (8)	0.641 (4)	5.00	2.00	2.44	10.00	2.00
2.5"	160	1.88	7.44	5.00	4.12	4.00	6.00	4.00	3/4-10 (8)	0.781 (4)	5.88	2.00	2.44	10.00	2.00
3"	260	1.88	8.19	5.66	4.50	4.38	6.38	4.38	3/4-10 (8)	0.781 (4)	6.62	2.00	2.44	10.00	2.00
4"	475	2.12	9.75	6.78	5.19	5.06	7.75	5.25	3/4-10 (8)	0.781 (4)	7.88	2.00	2.75	10.00	2.25
5"	770	2.31	10.94	7.75	6.06	5.94	8.25	5.75	3/4-10 (8)	0.781 (4)	9.25	2.00	2.75	14.00	2.25
6"	1130	2.44	12.44	9.00	7.28	7.16	9.00	6.50	3/4-10 (12)	0.781 (4)	10.62	2.25	3.38	22.00	2.75
8"	2110	2.88	14.88	11.12	8.59	8.47	10.75	7.88	7/8-9 (12)	0.906 (4)	13.00	2.25	3.38	22.00	2.75

Notes: [1] Unified National Coarse (UNC) is a thread standard in accordance with ASME/ANSI.

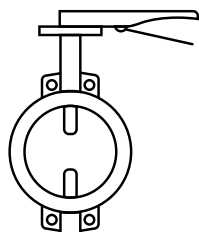


Model Selection Guide: 150# Wafer Valve with Manual 10-Position Lever Operator



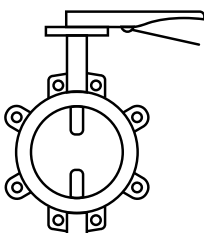
Valve Size	Max. Shutoff Pressure	Carbon Steel Bod Reinforced PTFE/Titanium Seat	Price	316 Stainless Steel Body PTFE/Titanium Seat	Price
		Catalog Number		Catalog Number	
2"	285 PSI	BHP,2,W1,CS,TC,S2-S10B-FT-RT*LT	\$572.96	BHP,2,W1,S2,TC,S2-S10-FT-TT*LT	\$660.56
2.5"	285 PSI	BHP,2.5,W1,CS,TC,S2-S10-FT-RT*LT	603.84	BHP,2.5,W1,S2,TC,S2-S10-FT-TT*LT	721.59
3"	285 PSI	BHP,3,W1,CS,TC,S2-S10-FT-RT*LT	661.28	BHP,3,W1,S2,TC,S2-S10-FT-TT*LT	808.47
4"	285 PSI	BHP,4,W1,CS,TC,S2-S10B-FT-RT*LT	758.21	BHP,4,W1,S2,TC,S2-S10-FT-TT*LT	878.11
5"	285 PSI	BHP,5,W1,CS,TC,S2-S10-FT-RT*LT	971.45	BHP,5,W1,S2,TC,S2-S10-FT-TT*LT	1258.65
6"	285 PSI	BHP,6,W1,CS,TC,S2-S10B-FT-RT*LT	1125.82	BHP,6,W1,S2,TC,S2-S10B-FT-TT*LT	1385.74
8"	285 PSI	BHP,8,W1,CS,TC,S2-S10-FT-RT*LT	1464.72	BHP,8,W1,S2,TC,S2-S10B-FT-TT*LT	1819.41

Model Selection Guide: 300# Wafer Valve with Manual 10-Position Lever Operator



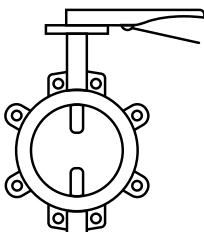
Valve Size	Max. Shutoff Pressure	Carbon Steel Bod Reinforced PTFE/Titanium Seat	Price	316 Stainless Steel Body PTFE/Titanium Seat	Price
		Catalog Number		Catalog Number	
2"	740 PSI	BHP,2,W2,CS,TC,S2-S10-FT-RT*LT	\$789.08	BHP,2,W2,S2,TC,S2-S10-FT-TT*LT	\$963.56
2.5"	740 PSI	BHP,2.5,W2,CS,TC,S2-S10-FT-RT*LT	827.14	BHP,2.5,W2,S2,TC,S2-S10-FT-TT*LT	1063.36
3"	740 PSI	BHP,3,W2,CS,TC,S2-S10-FT-RT*LT	926.94	BHP,3,W2,S2,TC,S2-S10-FT-TT*LT	1183.26
4"	740 PSI	BHP,4,W2,CS,TC,S2-S10-FT-RT*LT	1083.46	BHP,4,W2,S2,TC,S2-S10-FT-TT*LT	1431.69
5"	740 PSI	BHP,5,W2,CS,TC,S2-S10-FT-RT*LT	1411.59	BHP,5,W2,S2,TC,S2-S10-FT-TT*LT	1944.34
6"	740 PSI	BHP,6,W2,CS,TC,S2-S10-FT-RT*LT	1593.24	BHP,6,W2,S2,TC,S2-S10-FT-TT*LT	2477.10
8"	740 PSI	BHP,8,W2,CS,TC,S2-S10-FT-RT*LT	2186.31	BHP,8,W2,S2,TC,S2-S10-FT-TT*LT	3245.36

Model Selection Guide: 150# Lugged Valve with Manual 10-Position Lever Operator



Valve Size	Max. Shutoff Pressure	Carbon Steel Bod Reinforced PTFE/Titanium Seat	Price	316 Stainless Steel Body PTFE/Titanium Seat	Price
		Catalog Number		Catalog Number	
2"	285 PSI	BHP,2,L1,CS,TC,S2-S10-FT-RT*LT	\$669.18	BHP,2,L1,S2,TC,S2-S10B-FT-TT*LT	\$801.29
2.5"	285 PSI	BHP,2.5,L1,CS,TC,S2-S10B-FT-RT*LT	739.54	BHP,2.5,L1,S2,TC,S2-S10B-FT-TT*LT	865.19
3"	285 PSI	BHP,3,L1,CS,TC,S2-S10B-FT-RT*LT	762.52	BHP,3,L1,S2,TC,S2-S10B-FT-TT*LT	954.94
4"	285 PSI	BHP,4,L1,CS,TC,S2-S10B-FT-RT*LT	863.04	BHP,4,L1,S2,TC,S2-S10B-FT-TT*LT	1090.64
5"	285 PSI	BHP,5,L1,CS,TC,S2-S10-FT-RT*LT	1206.24	BHP,5,L1,S2,TC,S2-S10B-FT-TT*LT	1559.50
6"	285 PSI	BHP,6,L1,CS,TC,S2-S10B-FT-RT*LT	1359.89	BHP,6,L1,S2,TC,S2-S10B-FT-TT*LT	1707.40
8"	285 PSI	BHP,8,L1,CS,TC,S2-S10B-FT-RT*LT	1675.09	BHP,8,L1,S2,TC,S2-S10B-FT-TT*LT	2226.52

Model Selection Guide: 300# Lugged Valve with Manual 10-Position Lever Operator

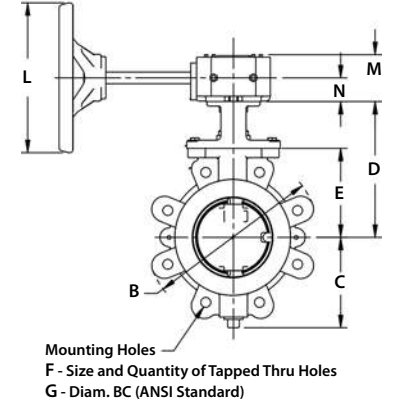
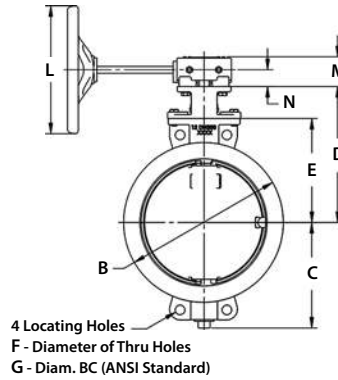
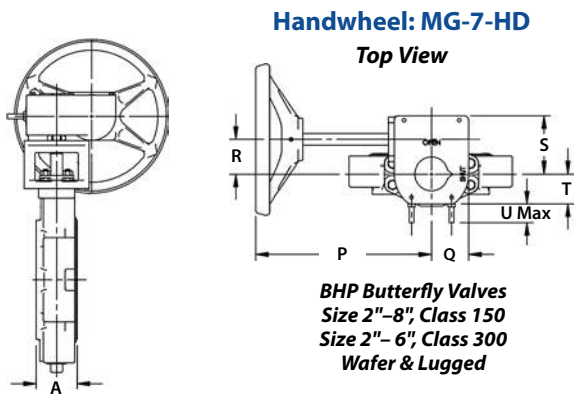


Valve Size	Max. Shutoff Pressure	Carbon Steel Bod Reinforced PTFE/Titanium Seat	Price	316 Stainless Steel Body PTFE/Titanium Seat	Price
		Catalog Number		Catalog Number	
2"	740 PSI	BHP,2,L2,CS,TC,S2-S10-FT-RT*LT	\$916.89	BHP,2,L2,S2,TC,S2-S10-FT-TT*LT	\$1069.10
2.5"	740 PSI	BHP,2.5,L2,CS,TC,S2-S10-FT-RT*LT	1060.49	BHP,2.5,L2,S2,TC,S2-S10-FT-TT*LT	1249.32
3"	740 PSI	BHP,3,L2,CS,TC,S2-S10-FT-RT*LT	1087.77	BHP,3,L2,S2,TC,S2-S10-FT-TT*LT	1308.91
4"	740 PSI	BHP,4,L2,CS,TC,S2-S10-FT-RT*LT	1311.79	BHP,4,L2,S2,TC,S2-S10-FT-TT*LT	1665.04
5"	740 PSI	BHP,5,L2,CS,TC,S2-S10-FT-RT*LT	1813.67	BHP,5,L2,S2,TC,S2-S10-FT-TT*LT	2687.47
6"	740 PSI	BHP,6,L2,CS,TC,S2-S10-FT-RT*LT	1933.57	BHP,6,L2,S2,TC,S2-S10-FT-TT*LT	2809.53
8"	740 PSI	BHP,8,L2,CS,TC,S2-S10-FT-RT*LT	2518.74	BHP,8,L2,S2,TC,S2-S10-FT-TT*LT	3908.79

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DeZURIK BHP Butterfly Valves with Handwheel Operator



Dimensions: 150# Wafer and Lugged BHP Valves with Handwheel Operator

Valve Size	Dimensions (inches)																	
	A	B		C	D	E	F (Quantity)		G	L	M	N	P	Q	R	S	T	U
		Lugged	Wafer				Lugged UNC [1]	Wafer										
6"	2.31	11.00	8.88	6.50	8.25	5.75	3/4-10 (8)	0.781 (4)	9.50	8.00	2.56	1.25	9.50	2.12	1.81	3.09	1.59	1.00
8"	2.50	13.50	11.00	7.59	9.50	7.00	3/4-10 (8)	0.781 (4)	11.75	8.00	2.56	1.25	9.50	2.12	1.81	3.09	1.59	1.00
10"	2.93	16.12	13.75	8.78	11.19	8.31	7/8-9 (12)	0.906 (4)	14.25	8.00	2.93	1.57	12.75	2.65	2.36	3.75	2.00	1.62
12"	3.28	19.12	15.50	10.19	12.75	9.75	7/8-9 (12)	0.906 (4)	17.00	8.00	2.93	1.57	12.75	2.65	2.36	3.75	2.00	1.62
14"	3.61	21.00	16.50	11.81	14.50	11.00	1-8 (12)	1.016 (4)	18.75	8.00	2.93	1.57	12.75	2.65	2.36	3.75	2.00	1.62
16"	3.99	23.50	18.75	12.94	15.75	12.25	1-8 (16)	1.016 (4)	21.25	8.00	2.93	1.57	12.75	2.65	2.36	3.75	2.00	1.62
18"	4.43	25.00	21.25	14.31	18.59	13.72	1-1/8-8 (16)	1.141 (4)	20.34	16.00	4.12	2.36	14.12	3.00	2.56	4.25	2.22	2.00
20"	4.92	27.75	23.25	15.81	20.56	15.69	1-1/8-8 (16)	Note [2]	25.00	16.00	4.12	2.36	14.12	3.00	2.56	4.25	2.22	2.00

[1] Unified National Coarse (UNC) is a thread standard in accordance with ASME/ANSI

[2] 20" valve only has 1-1/8-8 UN x 1.00 deep 4 holes on each side

Dimensions: 300# Wafer and Lugged BHP Valves with Handwheel Operator

Valve Size	Dimensions (inches)																	
	A	B	C	D	E	F (Qty)	G	H (Qty)	L	M	N	P	Q	R	S	T	U	
300# Wafer Valves with Handwheel Operator																		
6"	2.44	9.00	7.16	9.00	6.50	0.781 (4)	10.62	—	8.00	2.56	1.25	9.50	2.12	1.81	3.09	1.59	1.00	
8"	2.88	11.12	8.47	10.75	7.88	0.906 (4)	13.00	—	8.00	2.93	1.57	12.75	2.65	2.36	3.75	2.00	1.62	
10"	3.36	13.25	10.06	12.62	9.62	1.031 (4)	15.25	—	8.00	2.93	1.57	12.75	2.65	2.36	3.75	2.00	1.62	
12"	3.72	15.50	11.38	13.75	10.75	1.140 (4)	17.75	—	16.00	4.12	2.36	14.25	3.00	2.56	4.25	2.22	2.00	
14"	4.64	16.62	12.84	16.69	12.00	1-1/8-8 (4)	20.25	—	24.00	4.12	2.36	17.88	3.00	2.56	4.25	2.22	2.00	
16"	5.26	18.69	13.81	17.96	14.25	1-1/4-8 (4)	22.50	1.25	24.00	3.94	2.36	17.88	3.00	2.56	4.15	2.22	2.00	
18"	5.59	21.38	16.00	19.21	15.50	1-1/4-8 (4)	24.75	1.25	30.00	4.12	2.00	20.50	3.68	3.35	5.31	3.00	1.69	
20"	6.26	23.50	16.81	19.81	16.75	1-1/4-8 (4)	27.00	1.25	30.00	3.56	1.87	19.88	4.50	4.38	6.63	3.50	2.65	
300# Lugged Valves with Handwheel Operator																		
6"	2.44	12.44	12.44	9.00	6.50	3/4-10 (12)	10.62	—	8.00	2.56	1.25	9.50	2.12	1.81	3.09	1.59	1.00	
8"	2.88	14.88	8.59	10.75	7.88	7/8-9 (12)	13.00	—	8.00	2.93	1.57	12.75	2.65	2.36	3.75	2.00	1.62	
10"	3.36	17.50	10.06	12.62	9.62	1-8 (16)	15.25	—	8.00	2.93	1.57	12.75	2.65	2.36	3.75	2.00	1.62	
12"	3.72	20.38	11.38	13.75	10.75	1-1/8-8 (16)	17.75	—	16.00	4.12	2.36	14.25	3.00	2.56	4.25	2.22	2.00	
14"	4.64	22.25	12.84	16.69	12.00	1-1/8-8 (16)	20.25	1.12 (4)	24.00	4.12	2.36	17.88	3.00	2.56	4.25	2.22	2.00	
16"	5.26	25.62	13.81	19.13	14.25	1-1/4-8 (16)	22.50	1.25 (4)	24.00	3.94	2.36	17.88	3.00	2.56	4.15	2.22	2.00	
18"	5.59	27.00	16.00	19.21	15.50	1-1/4-8 (20)	24.75	1.25 (4)	30.00	4.12	2.00	20.50	3.68	3.35	5.31	3.00	1.69	
20"	6.26	29.25	16.81	20.46	16.75	1-1/4-8 (20)	27.00	1.25 (4)	30.00	3.56	1.87	19.88	4.50	4.38	6.63	3.50	2.65	

[1] Unified National Coarse (UNC) is a thread standard in accordance with ASME/ANSI.



Model Selection Guide: 150# Wafer Valve with Manual Handwheel Operator

Valve Size	Max Cv 100% Open	Max Shutoff Pressure	Carbon Steel Bod Reinforced PTFE/Titanium Seat	Price	316 Stainless Steel Body PTFE/Titanium Seat	Price
			Catalog Number		Catalog Number	
6"	1360	285 PSI	BHP,6,W1,CS,TC,S2-S10-FT-RT*MG-7-HD8	\$1295.99	BHP,6,W1,S2,TC,S2-S10B-FT-TT*MG-7-HD8	\$1563.80
8"	2260	285 PSI	BHP,8,W1,CS,TC,S2-S10B-FT-RT*MG-7-HD8	1644.94	BHP,8,W1,S2,TC,S2-S10B-FT-TT*MG-7-HD8	2010.40
10"	3550	285 PSI	BHP,10,W1,CS,TC,S2-S10B-FT-RT*MG-1012-HD8	2072.15	BHP,10,W1,CS,TC,S2-S10B-FT-TT*MG-1012-HD8	1880.44
12"	5000	175 PSI	BHP,12,W1,CS,TC,S2-S10-FT-RT*MG-1012-HD8	2664.50	BHP,12,W1,CS,TC,S2-S10-FT-TT*MG-1012-HD8	2439.05
14"	6800	100 PSI	BHP,14,W1,CS,TC,S2-S10B-FT-RT*MG-1012-HD8	3824.79	BHP,14,W1,CS,TC,S2-S10B-FT-TT*MG-1012-HD8	3462.91
16"	9000	50 PSI	BHP,16,W1,CS,TC,S2-S10B-FT-RT*MG-1012-HD8	5417.31	BHP,16,W1,CS,TC,S2-S10B-FT-TT*MG-1012-HD8	4953.48
18"	11800	125 PSI	BHP,18,W1,CS,TC,S2-S10-FT-RT*MG-1216-HD16	7024.91	BHP,18,W1,CS,TC,S2-S10-FT-TT*MG-1216-HD16	6402.41
20"	14400	25 PSI	BHP,20,W1,CS,TC,S2-S10B-FT-RT*MG-1216-HD16	8839.30	BHP,20,W1,CS,TC,S2-S10B-FT-TT*MG-1216-HD16	8081.81

Model Selection Guide: 300# Wafer Valve with Manual Handwheel Operator

Valve Size	Max Cv 100% Open	Max Shutoff Pressure	Carbon Steel Bod Reinforced PTFE/Titanium Seat	Price	316 Stainless Steel Body PTFE/Titanium Seat	Price
			Catalog Number		Catalog Number	
6"	1130	740 PSI	BHP,6,W2,CS,TC,S2-S10-FT-RT*MG-7-HD8	\$1777.05	BHP,6,W2,S2,TC,S2-S10-FT-TT*MG-7-HD8	\$2687.47
8"	2110	740 PSI	BHP,8,W2,CS,TC,S2-S10-FT-RT*MG-1012-HD8	2467.05	BHP,8,W2,S2,TC,S2-S10-FT-TT*MG-1012-HD8	3557.69
10"	3350	740 PSI	BHP,10,W2,CS,TC,S2-S10-FT-RT*MG-1012-HD8	3490.20	BHP,10,W2,CS,TC,S2-S10-FT-TT*MG-1012-HD8	3298.49
12"	4800	740 PSI	BHP,12,W2,CS,TC,S2-S10-FT-RT*MG-1216-HD16	4816.34	BHP,12,W2,CS,TC,S2-S10-FT-TT*MG-1216-HD16	4590.89
14"	6390	740 PSI	BHP,14,W2,CS,TC,S2-S10-FT-RT*MG-1216-HD24	6951.68	BHP,14,W2,CS,TC,S2-S10-FT-TT*MG-1216-HD24	6589.80
16"	8460	740 PSI	BHP,16,W2,CS,TC,S2-S10-FT-RT*MG-1216-HD24	8587.28	BHP,16,W2,CS,TC,S2-S10-FT-TT*MG-1216-HD24	8123.45
18"	11100	740 PSI	BHP,18,W2,CS,TC,S2-S10-FT-RT*MG-16-HD30	11409.74	BHP,18,W2,CS,TC,S2-S10-FT-TT*MG-16-HD30	10787.23
20"	13500	740 PSI	BHP,20,W2,CS,TC,S2-S10-FT-RT*MG-64-HD30	13827.96	BHP,20,W2,CS,TC,S2-S10-FT-TT*MG-64-HD30	13070.47

Model Selection Guide: 150# Lugged Valve with Manual Handwheel Operator

Valve Size	Max Cv 100% Open	Max Shutoff Pressure	Carbon Steel Bod Reinforced PTFE/Titanium Seat	Price	316 Stainless Steel Body PTFE/Titanium Seat	Price
			Catalog Number		Catalog Number	
6"	1360	285 PSI	BHP,6,L1,CS,TC,S2-S10B-FT-RT*MG-7-HD8	\$1486.26	BHP,6,L1,S2,TC,S2-S10B-FT-TT*MG-7-HD8	\$1894.80
8"	2260	285 PSI	BHP,8,L1,CS,TC,S2-S10B-FT-RT*MG-7-HD8	1801.46	BHP,8,L1,S2,TC,S2-S10B-FT-TT*MG-7-HD8	2429.71
10"	3550	285 PSI	BHP,10,L1,CS,TC,S2-S10B-FT-RT*MG-1012-HD8	2644.39	BHP,10,L1,S2,TC,S2-S10B-FT-TT*MG-1012-HD8	3462.91
12"	5000	175 PSI	BHP,12,L1,CS,TC,S2-S10B-FT-RT*MG-1012-HD8	3108.22	BHP,12,L1,S2,TC,S2-S10B-FT-TT*MG-1012-HD8	4469.55
14"	6800	100 PSI	BHP,14,L1,CS,TC,S2-S10-FT-RT*MG-1012-HD8	4755.31	BHP,14,L1,S2,TC,S2-S10B-FT-TT*MG-1012-HD8	6334.20
16"	9000	50 PSI	BHP,16,L1,CS,TC,S2-S10B-FT-RT*MG-1012-HD8	6347.12	BHP,16,L1,S2,TC,S2-S10B-FT-TT*MG-1012-HD8	8208.18
18"	11800	125 PSI	BHP,18,L1,CS,TC,S2-S10B-FT-RT*MG-1216-HD16	7905.90	BHP,18,L1,S2,TC,S2-S10B-FT-TT*MG-1216-HD16	10946.63
20"	14400	25 PSI	BHP,20,L1,CS,TC,S2-S10B-FT-RT*MG-1216-HD16	9802.14	BHP,20,L1,S2,TC,S2-S10B-FT-TT*MG-1216-HD16	13152.32

Model Selection Guide: 300# Lugged Valve with Manual Handwheel Operator

Valve Size	Max Cv 100% Open	Max Shutoff Pressure	Carbon Steel Bod Reinforced PTFE/Titanium Seat	Price	316 Stainless Steel Body PTFE/Titanium Seat	Price
			Catalog Number		Catalog Number	
6"	1130	740 PSI	BHP,6,L2,CS,TC,S2-S10-FT-RT*MG-7-HD8	\$2127.43	BHP,6,L2,S2,TC,S2-S10-FT-TT*MG-7-HD8	\$3029.96
8"	2110	740 PSI	BHP,8,L2,CS,TC,S2-S10-FT-RT*MG-1012-HD8	2809.53	BHP,8,L2,S2,TC,S2-S10-FT-TT*MG-1012-HD8	4241.23
10"	3350	740 PSI	BHP,10,L2,CS,TC,S2-S10-FT-RT*MG-1012-HD8	4000.70	BHP,10,L2,S2,TC,S2-S10-FT-TT*MG-1012-HD8	5712.41
12"	4800	740 PSI	BHP,12,L2,CS,TC,S2-S10-FT-RT*MG-1216-HD16	5863.91	BHP,12,L2,S2,TC,S2-S10-FT-TT*MG-1216-HD16	7700.55
14"	6390	740 PSI	BHP,14,L2,CS,TC,S2-S10-FT-RT*MG-1216-HD24	8761.04	BHP,14,L2,S2,TC,S2-S10-FT-TT*MG-1216-HD24	10815.23
16"	8460	740 PSI	BHP,16,L2,CS,TC,S2-S10-FT-RT*MG-1216-HD24	10635.73	BHP,16,L2,S2,TC,S2-S10-FT-TT*MG-1216-HD24	13902.63
18"	11100	740 PSI	BHP,18,L2,CS,TC,S2-S10-FT-RT*MG-16-HD30	13878.22	BHP,18,L2,S2,TC,S2-S10-FT-TT*MG-16-HD30	18271.66
20"	13500	740 PSI	BHP,20,L2,CS,TC,S2-S10-FT-RT*MG-64-HD30	16420.66	BHP,20,L2,S2,TC,S2-S10-FT-TT*MG-64-HD30	22023.93

DeZURIK Automated BHP Butterfly Valves

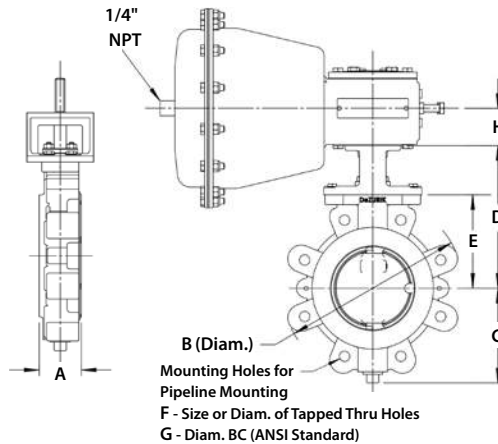
APCO | HILTON



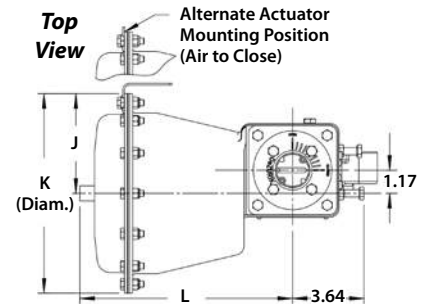
DeZURIK BHP valve shown with rotary diaphragm actuator and optional positioner

- Valve Sizes: 2" to 8" shown here
- Body Material: Carbon steel and 316 SS
- Available to 60" and in variety of materials

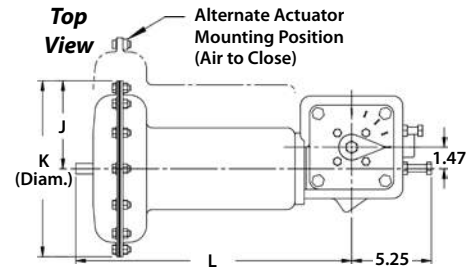
Dimensions: Automated Butterfly Valves with Double-Acting Cylinder Actuator



Actuator: DR-40B



Actuators: DR-55 & DR-85



Call Lesman for help configuring a valve for your application

Dimensions: 150# Lugged and Wafer Valves with Rotary Diaphragm Actuator

Valve Size	Max Cv 100% Open	Max. Shutoff PSI	Dimensions (inches)												
			A	B		C	D	E	F (Quantity)		G	H	J	K	L
				Lugged	Wafer				Lugged UNC [1]	Wafer					
2"	85	285	1.75	6.06	4.31	3.31	5.50	3.50	5/8-11 (4)	0.641 (4)	4.75	1.90	5.06	10.12	10.83
2.5"	180	285	1.88	7.00	5.00	3.44	5.75	3.75	5/8-11 (4)	0.641 (4)	5.50	1.90	5.06	10.12	10.83
3"	275	285	1.88	7.62	5.66	3.97	6.00	4.00	5/8-11 (4)	0.641 (4)	6.00	1.90	5.06	10.12	10.83
4"	520	285	2.12	9.00	6.78	4.75	7.25	4.75	5/8-11 (8)	0.656 (4)	7.50	1.90	5.06	10.12	10.83
5"	860	285	2.31	10.00	7.69	5.50	7.75	5.25	3/4-10 (8)	0.781 (4)	8.50	1.90	5.06	10.12	10.83
6"	1360	50	2.31	11.00	8.88	6.50	8.25	5.75	3/4-10 (8)	0.781 (4)	9.50	1.90	5.06	10.12	10.83
		285	2.31	11.00	8.88	6.50	8.25	5.75	3/4-10 (8)	0.781 (4)	9.50	1.88	6.00	12.00	18.50
8"	2260	200	2.50	13.50	11.00	7.59	9.50	7.00	3/4-10 (8)	0.781 (4)	11.75	1.88	6.00	12.00	18.50
		285	2.50	13.50	11.00	7.59	8.88	7.00	3/4-10 (8)	0.781 (4)	11.75	1.88	7.38	14.75	19.88

Dimensions: 300# Lugged and Wafer Valves with Rotary Diaphragm Actuator

Valve Size	Max Cv 100% Open	Max. Shutoff PSI	Dimensions (inches)												
			A	B		C	D	E	F (Quantity)		G	H	J	K	L
				Lugged	Wafer				Lugged UNC [1]	Wafer					
2"	85	740	1.75	6.44	4.31	3.62	5.50	3.50	5/8-11 (8)	0.641 (4)	5.00	1.90	5.06	10.12	10.83
2.5"	160	740	1.88	7.44	5.00	4.12	6.00	4.00	3/4-10 (8)	0.781 (4)	5.88	1.90	5.06	10.12	10.83
3"	260	740	1.88	8.19	5.66	4.50	6.38	4.38	3/4-10 (8)	0.781 (4)	6.62	1.90	5.06	10.12	10.83
4"	475	740	2.12	9.75	6.78	5.19	7.75	5.25	3/4-10 (8)	0.781 (4)	7.88	1.90	5.06	10.12	10.83
5"	770	740	2.31	10.94	7.75	6.06	8.25	5.75	3/4-10 (8)	0.781 (4)	9.25	1.90	5.06	10.12	10.83
6"	1130	50	2.44	12.44	9.00	7.28	9.00	6.50	3/4-10 (12)	0.781 (4)	10.62	1.90	5.06	10.12	10.83
		475	2.44	12.44	9.00	7.28	8.38	6.50	3/4-10 (12)	0.781 (4)	10.62	1.88	6.00	12.00	18.50
		740	2.44	12.44	9.00	7.28	8.38	6.50	3/4-10 (12)	0.781 (4)	10.62	1.88	7.38	14.75	19.88
8"	2110	350	2.88	14.88	11.12	8.59	10.06	7.88	7/8-9 (12)	0.906 (4)	13.00	1.88	7.38	14.75	19.88

[1] Unified National Coarse (UNC) is a thread standard in accordance with ASME/ANSI.



Actuators shown are Spring to Close. To order Spring to Open Configuration replace -R at the end of the catalog number with a -D. A catalog number with a Spring to Open Configuration looks like this: BHP,2,L1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-D

Model Selection Guide: 150# Wafer Valve with Rotary Diaphragm Actuator (Supply Air: 60 PSI)

Valve Size	Max Cv 100% Open	Max Shutoff PSI	Carbon Steel Body, Reinforced PTFE/Titanium Seat		316 Stainless Steel Body, PTFE/Titanium Seat	
			Catalog Number	Price	Catalog Number	Price
2"	85	285	BHP,2,W1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	\$1438.15	BHP,2,W1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	\$1528.62
2.5"	180	285	BHP,2.5,W1,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	1469.75	BHP,2.5,W1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	1591.09
3"	275	285	BHP,3,W1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	1529.34	BHP,3,W1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	1680.84
4"	520	285	BHP,4,W1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	1629.14	BHP,4,W1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	1752.64
5"	860	285	BHP,5,W1,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	1830.90	BHP,5,W1,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	2126.72
6"	1360	50	BHP,6,W1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	2059.94	BHP,6,W1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	2198.52
		285	BHP,6,W1,CS,TC,S2-S10B-FT-RT*DR-55-SP60-R	2227.24	BHP,6,W1,S2,TC,S2-S10B-FT-TT*DR-55-SP60-R	2495.05
8"	2260	200	BHP,8,W1,CS,TC,S2-S10B-FT-RT*DR-55-SP60-R	2576.18	BHP,8,W1,S2,TC,S2-S10B-FT-TT*DR-55-SP60-R	2941.65
		285	BHP,8,W1,CS,TC,S2-S10B-FT-RT*DR-85-SP60-R	2832.51	BHP,8,W1,S2,TC,S2-S10B-FT-TT*DR-85-SP60-R	3197.97

Model Selection Guide: 300# Wafer Valve with Rotary Diaphragm Actuator (Supply Air: 60 PSI)

Valve Size	Max Cv 100% Open	Max Shutoff PSI	Carbon Steel Body, Reinforced PTFE/Titanium Seat		316 Stainless Steel Body, PTFE/Titanium Seat	
			Catalog Number	Price	Catalog Number	Price
2"	85	740	BHP,2,W2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	\$1660.73	BHP,2,W2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	\$1840.23
2.5"	160	740	BHP,2.5,W2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	1699.51	BHP,2.5,W2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	1942.91
3"	260	740	BHP,3,W2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	1802.90	BHP,3,W2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	2066.40
4"	475	740	BHP,4,W2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	1946.50	BHP,4,W2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	2304.78
5"	770	740	BHP,5,W2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	2227.24	BHP,5,W2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	2773.63
6"	1130	50	BHP,6,W2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	2411.76	BHP,6,W2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	3322.19
		475	BHP,6,W2,CS,TC,S2-S10-FT-RT*DR-55-SP60-R	2708.30	BHP,6,W2,S2,TC,S2-S10-FT-TT*DR-55-SP60-R	3618.72
		740	BHP,6,W2,CS,TC,S2-S10-FT-RT*DR-85-SP60-R	2964.62	BHP,6,W2,S2,TC,S2-S10-FT-TT*DR-85-SP60-R	3875.05
8"	2110	350	BHP,8,W2,CS,TC,S2-S10-FT-RT*DR-85-SP60-R	3575.64	BHP,8,W2,S2,TC,S2-S10-FT-TT*DR-85-SP60-R	4666.28

Model Selection Guide: 150# Lugged Valve with Rotary Diaphragm Actuator (Supply Air: 60 PSI)

Valve Size	Max Cv 100% Open	Max Shutoff PSI	Carbon Steel Body, Reinforced PTFE/Titanium Seat		316 Stainless Steel Body, PTFE/Titanium Seat	
			Catalog Number	Price	Catalog Number	Price
2"	85	285	BHP,2,L1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	\$1537.24	BHP,2,L1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	\$1672.94
2.5"	180	285	BHP,2.5,L1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	1609.04	BHP,2.5,L1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	1739.00
3"	275	285	BHP,3,L1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	1633.45	BHP,3,L1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	1831.62
4"	520	285	BHP,4,L1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	1736.84	BHP,4,L1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	1971.63
5"	860	285	BHP,5,L1,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	2072.87	BHP,5,L1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	2436.17
6"	1360	50	BHP,6,L1,CS,TC,S2-S10B-FT-RT*DR-40B-SP60-R	2171.23	BHP,6,L1,S2,TC,S2-S10B-FT-TT*DR-40B-SP60-R	2529.51
		285	BHP,6,L1,CS,TC,S2-S10B-FT-RT*DR-55-SP60-R	2467.77	BHP,6,L1,S2,TC,S2-S10B-FT-TT*DR-55-SP60-R	2826.05
8"	2260	200	BHP,8,L1,CS,TC,S2-S10B-FT-RT*DR-55-SP60-R	2793.02	BHP,8,L1,S2,TC,S2-S10B-FT-TT*DR-55-SP60-R	3360.96
		285	BHP,8,L1,CS,TC,S2-S10B-FT-RT*DR-85-SP60-R	3049.35	BHP,8,L1,S2,TC,S2-S10B-FT-TT*DR-85-SP60-R	3617.28

Model Selection Guide: 300# Lugged Valve with Rotary Diaphragm Actuator (Supply Air: 60 PSI)

Valve Size	Max Cv 100% Open	Max Shutoff PSI	Carbon Steel Body, Reinforced PTFE/Titanium Seat		316 Stainless Steel Body, PTFE/Titanium Seat	
			Catalog Number	Price	Catalog Number	Price
2"	85	740	BHP,2,L2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	\$1792.13	BHP,2,L2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	\$1949.37
2.5"	160	740	BHP,2.5,L2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	1940.04	BHP,2.5,L2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	2108.77
3"	260	740	BHP,3,L2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	1968.76	BHP,3,L2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	2196.36
4"	475	740	BHP,4,L2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	2181.28	BHP,4,L2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	2545.31
5"	770	740	BHP,5,L2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	2639.37	BHP,5,L2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	3539.02
6"	1130	50	BHP,6,L2,CS,TC,S2-S10-FT-RT*DR-40B-SP60-R	2762.15	BHP,6,L2,S2,TC,S2-S10-FT-TT*DR-40B-SP60-R	3664.67
		475	BHP,6,L2,CS,TC,S2-S10-FT-RT*DR-55-SP60-R	3058.68	BHP,6,L2,S2,TC,S2-S10-FT-TT*DR-55-SP60-R	3961.21
		740	BHP,6,L2,CS,TC,S2-S10-FT-RT*DR-85-SP60-R	3315.01	BHP,6,L2,S2,TC,S2-S10-FT-TT*DR-85-SP60-R	4217.53
8"	2110	350	BHP,8,L2,CS,TC,S2-S10-FT-RT*DR-85-SP60-R	3918.13	BHP,8,L2,S2,TC,S2-S10-FT-TT*DR-85-SP60-R	5349.82



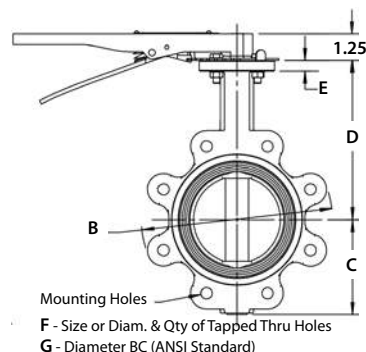
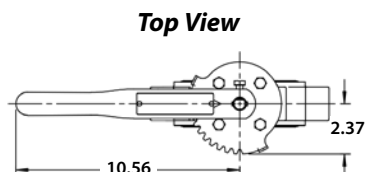
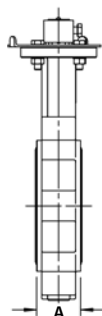
BOS-US Uninterrupted Seat Process Butterfly Valves



- For on/off, throttling or control operation in clean liquids and clean gases applications
- Valve sizes: 2" to 20" standard: ductile iron body, seat bonded to the body (shown); also available 24" to 42": cast iron body, seat bonded to a solid backing ring
- Lugged or wafer body; Uninterrupted seat design, solid one-piece shaft and a high-performance resilient seat
- Temperature range up to 250° F
- Pressure ratings: 250 PSI with ductile iron/nickel plated disc; 200 PSI with 316SS disc
- High flow capacity; low head loss
- Bubble-tight, bidirectional shutoff to the full valve rating; lugged valves provide dead-end service to full valve rating
- Actuators: lever, handwheel, PowerRac® double-acting and spring-return cylinder, and G-Series cylinder (shown here); chainwheel, square nut also available

[Learn more and get full specs at bit.ly/bos-us](http://bit.ly/bos-us)

Dimensions: Manual Butterfly Valve with Lever Operator



Model Selection Guide: Lugged ANSI 125/150 BOS-US Valves with 10-Position Lever Operator

Valve Size	Flow Cv	Dimensions (in)							Ductile Iron Nickel-Plated Disc, 410 SS Shaft		316 SS Disc, 316 SS Shaft	
		A	B	C	D	E	F (Qty) [1]	G	Catalog Number	Price	Catalog Number	Price
Ductile Iron Body, NBR Seat, NBR Shaft Seal [Note 2]												
2"	101	1.69	6.42	3.31	5.79	0.51	5/8-11 (4)	4.75	BOS,2,US,L1,DI,NBR,NBR,DI-S8*LT	\$252.74	BOS,2,US,L1,DI,NBR,NBR,S2-S2*LT	\$314.48
2.5"	163	1.81	7.00	3.31	6.10	0.51	5/8-11 (4)	5.50	BOS,2.5,US,L1,DI,NBR,NBR,DI-S8*LT	296.53	BOS,2.5,US,W1,DI,NBR,NBR,S2-S2*LT	338.90
3"	287	1.81	7.50	3.54	6.50	0.51	5/8-11 (4)	6.00	BOS,3,US,L1,DI,NBR,NBR,DI-S8*LT	315.20	BOS,3,US,W1,DI,NBR,NBR,S2-S2*LT	383.41
4"	507	2.06	9.00	4.47	7.52	0.63	5/8-11 (8)	7.50	BOS,4,US,L1,DI,NBR,NBR,DI-S8*LT	371.21	BOS,4,US,W1,DI,NBR,NBR,S2-S2*LT	515.52
5"	840	2.19	10.00	4.82	8.11	0.63	3/4-10 (8)	8.50	BOS,5,US,L1,DI,NBR,NBR,DI-S8*LT	529.17	BOS,5,US,W1,DI,NBR,NBR,S2-S2*LT	686.41
6"	1166	2.19	11.00	5.51	8.62	0.63	3/4-10 (8)	9.50	BOS,6,US,L1,DI,NBR,NBR,DI-S8*LT	562.91	BOS,6,US,W1,DI,NBR,NBR,S2-S2*LT	827.14

Model Selection Guide: Wafer ANSI 125/150 BOS-US Valves with 10-Position Lever Operator

Valve Size	Flow Cv	Dimensions (in)							Ductile Iron Nickel-Plated Disc, 410 SS Shaft		316 SS Disc, 316 SS Shaft	
		A	B	C	D	E	F (Qty)	G	Catalog Number	Price	Catalog Number	Price
Ductile Iron Body, NBR Seat, NBR Shaft Seal [Note 2]												
2"	101	1.69	3.90	3.31	5.79	0.51	0.75 (4)	4.75	BOS,2,US,W1,DI,NBR,NBR,DI-S8*LT	\$237.66	BOS,2,US,W1,DI,NBR,NBR,S2-S2*LT	\$278.58
2.5"	163	1.81	4.41	3.31	6.10	0.51	0.75 (4)	5.50	BOS,2.5,US,W1,DI,NBR,NBR,DI-S8*LT	259.92	BOS,2.5,US,W1,DI,NBR,NBR,S2-S2*LT	338.90
3"	287	1.81	5.10	3.54	6.50	0.51	0.75 (4)	6.00	BOS,3,US,W1,DI,NBR,NBR,DI-S8*LT	276.43	BOS,3,US,W1,DI,NBR,NBR,S2-S2*LT	383.41
4"	507	2.06	6.42	4.47	7.52	0.63	0.75 (4)	7.50	BOS,4,US,W1,DI,NBR,NBR,DI-S8*LT	320.23	BOS,4,US,W1,DI,NBR,NBR,S2-S2*LT	515.52
5"	840	2.19	7.58	4.82	8.11	0.63	0.88 (4)	8.50	BOS,5,US,W1,DI,NBR,NBR,DI-S8*LT	453.78	BOS,5,US,W1,DI,NBR,NBR,S2-S2*LT	686.41
6"	1166	2.19	8.74	5.51	8.62	0.63	0.88 (4)	9.50	BOS,6,US,W1,DI,NBR,NBR,DI-S8*LT	471.73	BOS,6,US,W1,DI,NBR,NBR,S2-S2*LT	827.14

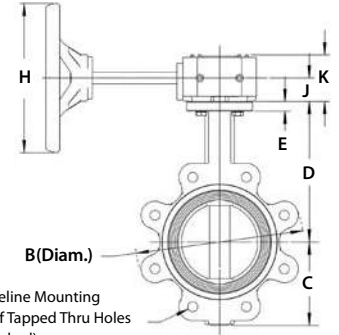
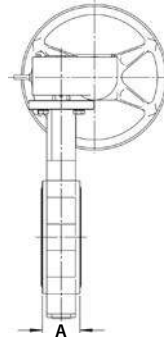
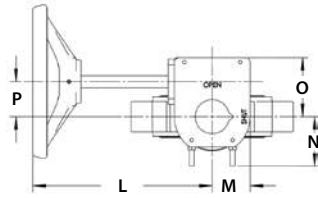
Notes:

[1] Sizes of the tapped through holes on lugged valves are Unified National Coarse (UNC), a thread standard in accordance with ASME/ANSI.

[2] To substitute seat and shaft material with EPDM, replace NBR,NBR with EPDM,EPDM in the catalog number.

Prices for reference only. Call Lesman sales or visit Lesman.com for current pricing.

Dimensions: Lugged and Wafer BOS-US with Manual Handwheel Operator



Mounting Holes for Pipeline Mounting
F - Size UNC [1] & Qty of Tapped Thru Holes
G - Diam. BC (ANSI Standard)

Valve Size	Max. Shutoff (PSI)	Dimensions (inches)																	
		A	B		C		D	E	F (Quantity)		G	H	J	K	L	M	N	O	P
			Lug.	Waf.	Lug.	Waf.			Lugged [1]	Wafer									

Manual Worm Gear Handwheel Operator for BOS-US Lugged ANSI Class 125/150 Butterfly Valve

2"	250	1.69	6.42	3.90	3.31	3.31	5.79	0.51	5/8-11 (4)	0.75 (4)	4.75	8.00	1.26	2.50	9.31	1.97	2.57	3.07	1.82
2.5"	250	1.81	7.00	4.41	3.31	3.31	6.10	0.51	5/8-11 (4)	0.75 (4)	5.50	8.00	1.26	2.50	9.31	1.97	2.57	3.07	1.82
3"	250	1.81	7.50	5.10	3.54	3.54	6.50	0.51	5/8-11 (4)	0.75 (4)	6.00	8.00	1.26	2.50	9.31	1.97	2.57	3.07	1.82
4"	250	2.06	9.00	6.42	4.47	4.47	7.52	0.63	5/8-11 (8)	0.75 (4)	7.50	8.00	1.26	2.50	9.31	1.97	2.57	3.07	1.82
5"	250	2.19	10.00	7.58	4.82	4.82	8.11	0.63	3/4-10 (8)	0.88 (4)	8.50	8.00	1.26	2.50	9.31	1.97	2.57	3.07	1.82
6"	250	2.19	11.00	8.74	5.51	5.51	8.62	0.63	3/4-10 (8)	0.88 (4)	9.50	8.00	1.26	2.50	9.31	1.97	2.57	3.07	1.82
8"	250	2.38	13.33	10.86	6.75	6.75	10.24	0.71	3/4-10 (8)	0.88 (4)	11.75	8.00	1.58	2.80	12.57	2.56	3.00	3.75	2.36
10"	250	2.69	16.00	12.84	7.93	7.93	11.50	0.71	7/8-9 (12)	1.00 (4)	14.25	12.00	1.58	2.80	12.83	2.56	3.00	3.75	2.36
12"	100	3.06	18.89	15.25	9.06	9.06	13.35	0.98	7/8-9 (12)	1.00 (4)	17.00	12.00	1.58	2.80	12.83	2.56	3.00	3.75	2.36
	250	3.06	18.89	15.25	9.06	9.06	13.25	0.98	7/8-9 (12)	1.00 (4)	17.00	16.00	2.36	4.03	14.12	3.09	3.22	4.15	2.56
14"	250	3.06	20.72	17.32	10.14	10.14	14.50	0.98	1-8 (12)	1.12 (4)	18.75	20.00	2.36	4.03	16.63	3.09	3.22	4.15	2.56
	150	4.00	23.48	18.97	11.81	11.81	15.83	1.06	1-8 (16)	1.12 (4)	21.25	24.00	2.36	4.03	18.47	3.09	3.22	4.15	2.56
16"	250	4.00	23.48	18.97	11.81	11.81	15.83	1.06	1-8 (16)	1.12 (4)	21.25	30.00	2.01	3.81	20.01	3.49	3.81	5.12	3.35
	150	4.50	26.12	21.30	12.93	12.93	16.62	1.06	1-1/8-7 (20)	1.25 (4)	22.75	30.00	2.01	3.81	20.01	3.49	3.81	5.12	3.35
18"	250	4.50	26.12	21.30	12.93	12.93	16.62	1.06	1-1/8-7 (16)	1.25 (4)	22.75	28.00	2.01	4.01	13.62	4.33	5.83	4.33	4.11
	75	5.00	28.59	23.38	14.06	15.06	18.90	1.06	1-1/8-7 (20)	1.25 (4)	25.00	30.00	2.01	3.81	20.01	3.49	3.81	5.12	3.35
20"	250	5.00	28.59	23.38	14.06	15.06	18.90	1.06	1-1/8-7 (20)	1.25 (4)	25.00	28.00	2.01	4.01	13.62	4.33	5.83	4.33	4.11

Note: [1] Unified National Coarse (UNC) is a thread standard in accordance with ASME/ANSI.

Model Selection Guide: Wafer & Lugged ANSI 125/150 BOS-US Valves with Manual Handwheel Operator

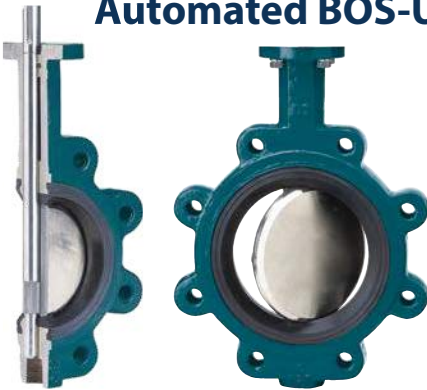
Valve Size	Max. Shutoff (PSI)	Flow Cv	Ductile Iron Nickel-Plated Disc, 410 SS Shaft		Price		316 SS Disc, 316 SS Shaft		Price	
			Catalog Number		Wafer	Lugged	Catalog Number		Wafer	Lugged

Ductile Iron Body, NBR Seat, NBR Shaft Seal [2]

2"	250	101	BOS,2,US,W1,DI,NBR,NBR,DI-S8*MG-7-HD8	\$493.98	\$509.06	BOS,2,US,W1,DI,NBR,NBR,S2-S2*MG-7-HD8	\$534.91	\$570.81
2.5"	250	163	BOS,2.5,US,W1,DI,NBR,NBR,DI-S8*MG-7-HD8	516.24	552.86	BOS,2.5,US,W1,DI,NBR,NBR,S2-S2*MG-7-HD8	550.71	595.22
3"	250	287	BOS,3,US,W1,DI,NBR,NBR,DI-S8*MG-7-HD8	532.76	552.14	BOS,3,US,W1,DI,NBR,NBR,S2-S2*MG-7-HD8	601.68	639.74
4"	250	507	BOS,4,US,W1,DI,NBR,NBR,DI-S8*MG-7-HD8	576.55	627.53	BOS,4,US,W1,DI,NBR,NBR,S2-S2*MG-7-HD8	670.61	771.85
5"	250	840	BOS,5,US,W1,DI,NBR,NBR,DI-S8*MG-7-HD8	710.10	785.49	BOS,5,US,W1,DI,NBR,NBR,S2-S2*MG-7-HD8	810.62	942.73
6"	250	1166	BOS,6,US,W1,DI,NBR,NBR,DI-S8*MG-7-HD8	728.05	819.24	BOS,6,US,W1,DI,NBR,NBR,S2-S2*MG-7-HD8	952.79	1083.46
8"	250	2620	BOS,8,US,W1,DI,NBR,NBR,DI-S8*MG-1012-HD8	1036.79	1125.11	BOS,8,US,W1,DI,NBR,NBR,S2-S2*MG-1012-HD8	1387.18	1479.80
10"	250	4003	BOS,10,US,W1,DI,NBR,NBR,DI-S8*MG-1012-HD12	1217.01	1400.10	BOS,10,US,W1,DI,NBR,NBR,S2-S2*MG-1012-HD12	1791.41	1899.11
12"	100	7448	BOS,12,US,W1,DI,NBR,NBR,DI-S8*MG-1012-HD12	1558.06	1681.56	BOS,12,US,W1,DI,NBR,NBR,S2-S2*MG-1012-HD12	2645.83	2719.78
	250		BOS,12,US,W1,DI,NBR,NBR,DI-S8*MG-1216-HD16	1805.05	1928.55	BOS,12,US,W1,DI,NBR,NBR,S2-S2*MG-1216-HD16	2892.82	2966.78
14"	250	8330	BOS,14,US,W1,DI,NBR,NBR,DI-S8*MG-1216-HD20	2357.19	2793.02	BOS,14,US,W1,DI,NBR,NBR,S2-S2*MG-1216-HD20	3953.31	4068.91
16"	150	11811	BOS,16,US,W1,DI,NBR,NBR,DI-S8*MG-1216-HD24	3189.36	3373.88	BOS,16,US,W1,DI,NBR,NBR,S2-S2*MG-1216-HD24	5731.79	5914.88
	250		BOS,16,US,W1,DI,NBR,NBR,DI-S8*MG-16-HD30	3469.38	3653.90	BOS,16,US,W1,DI,NBR,NBR,S2-S2*MG-16-HD30	6011.81	6194.90
18"	150	14488	BOS,18,US,W1,DI,NBR,NBR,DI-S8*MG-16-HD30	3801.09	4054.55	BOS,18,US,W1,DI,NBR,NBR,S2-S2*MG-16-HD30	7658.91	7896.56
	250		BOS,18,US,W1,DI,NBR,NBR,DI-S8*MG-1250-HD28	3994.95	4248.41	BOS,18,US,W1,DI,NBR,NBR,S2-S2*MG-1250-HD28	7852.77	8090.42
20"	75	18974	BOS,20,US,W1,DI,NBR,NBR,DI-S8*MG-16-HD30	4623.20	5183.96	BOS,20,US,W1,DI,NBR,NBR,S2-S2*MG-16-HD30	9680.08	10197.75
	250		BOS,20,US,W1,DI,NBR,NBR,DI-S8*MG-1250-HD28	4817.06	5377.82	BOS,20,US,W1,DI,NBR,NBR,S2-S2*MG-1250-HD28	9873.94	10391.61

Notes: [2] To substitute seat and shaft material with EPDM, replace NBR,NBR with EPDM,EPDM in the catalog number.
[3] To order a lugged valve, replace W1 with L1 in the catalog number. Example: BOS,2,US,L1,DI,NBR,NBR,DI-S8*MG-7-HD8

Automated BOS-US Process Butterfly Valves



- Valve sizes: 2" to 20" standard: ductile iron body, seat bonded to the body (shown)
- Also available 24" to 42": cast iron body, seat bonded to a solid backing ring

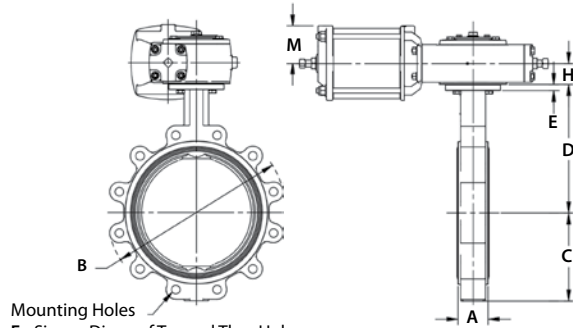
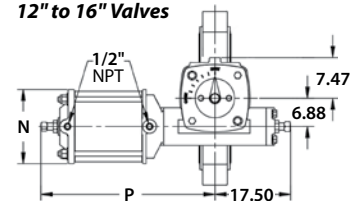
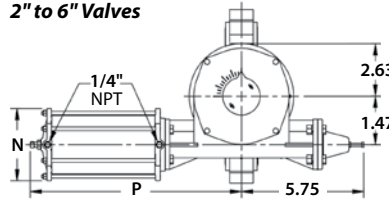


Actuator: PR-R1A
2" to 6" Valves



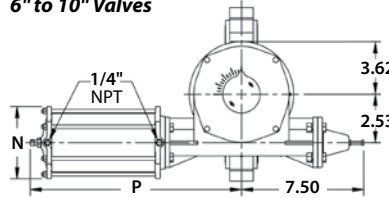
Actuators: GS-12A-PC6 & GS-12A-PC8
12" to 16" Valves

Dimensions: Automated Butterfly Valves with Double-Acting Cylinder Actuator

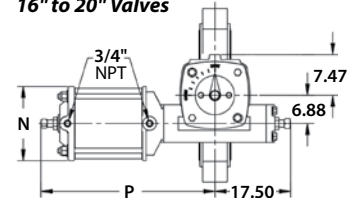


Mounting Holes
F - Size or Diam. of Tapped Thru Holes
G - Diam. BC (ANSI Standard)

Actuator: PR-R2A
6" to 10" Valves



Actuator: GS-12A-PC10
16" to 20" Valves



Dimensions: BOS-US Valves with Double-Acting Cylinder Actuator

Valve Size	Max. Shutoff (PSI)		Dimensions (inches)													
	Wet Service	Dry Service	A	B		C		D	E	F (Quantity)		G	H	M	N	P
				Lugged	Wafer	Lugged	Wafer			Lugged [1]	Wafer					
2"	250	50	1.69	6.42	3.90	3.31	3.31	5.79	0.51	5/8-11 (4)	0.75 (4)	4.75	1.53	2.31	4.50	12.12
2.5"	250	50	1.81	7.00	4.41	3.31	3.31	6.10	0.51	5/8-11 (4)	0.75 (4)	5.50	1.53	2.31	4.50	12.12
3"	250	50	1.81	7.50	5.10	3.54	3.54	6.50	0.51	5/8-11 (4)	0.75 (4)	6.00	1.53	2.31	4.50	12.12
4"	250	50	2.06	9.00	6.42	4.47	4.47	7.52	0.63	5/8-11 (8)	0.75 (4)	7.50	1.53	2.31	4.50	12.12
5"	50	N/A	2.19	10.00	7.58	4.82	4.82	8.11	0.63	3/4-10 (8)	0.88 (4)	8.50	1.53	2.31	4.50	12.12
	250	50	2.19	10.00	7.58	4.82	4.82	8.11	0.63	3/4-10 (8)	0.88 (4)	8.50	1.53	3.38	6.62	12.62
6"	200	50	2.19	11.00	8.74	5.51	5.51	8.62	0.63	3/4-10 (8)	0.88 (4)	9.50	1.53	3.38	6.62	12.62
	250	N/A	2.19	11.00	8.74	5.51	5.51	8.62	0.63	3/4-10 (8)	0.88 (4)	9.50	1.87	3.38	6.62	16.00
8"	175	50	2.38	13.33	10.86	6.75	6.75	10.24	0.71	3/4-10 (8)	0.88 (4)	11.75	1.87	3.38	6.62	16.00
	250	N/A	2.38	13.33	10.86	6.75	6.75	10.24	0.71	3/4-10 (8)	0.88 (4)	11.75	1.87	4.81	10.25	16.12
10"	225	50	2.69	16.00	12.84	7.93	7.93	11.50	0.71	7/8-9 (12)	1.00 (4)	14.25	1.87	4.81	10.25	16.12
12"	100	N/A	3.06	18.89	15.25	9.06	9.06	13.35	0.98	7/8-9 (12)	1.00 (4)	17.00	2.63	3.25	7.88	30.56
	250	50	3.06	18.89	15.25	9.06	9.06	13.35	0.98	7/8-9 (12)	1.00 (4)	17.00	2.63	4.25	10.25	30.88
14"	250	50	3.06	20.72	17.32	10.14	10.14	14.50	0.98	1-8 (12)	1.12 (4)	18.75	2.63	4.25	10.25	30.88
16"	75	N/A	4.00	23.48	18.97	11.81	11.81	15.83	1.06	1-8 (16)	1.12 (4)	21.25	2.63	4.25	10.25	30.88
	250	50	4.00	23.48	18.97	11.81	11.81	15.83	1.06	1-8 (16)	1.12 (4)	21.25	2.63	5.25	12.31	31.00
18"	200	50	4.50	26.12	21.30	12.93	12.93	16.62	1.06	1-1/8-7 (16)	1.25 (4)	22.75	2.63	5.25	12.31	31.00
20"	100	25	5.00	28.59	23.38	14.06	15.06	18.90	1.06	1-1/8-7 (20)	1.25 (4)	25.00	2.63	5.25	12.31	31.00

Notes:

[1] Sizes of the tapped through holes on lugged valves are Unified National Coarse (UNC), a thread standard in accordance with ASME/ANSI.



Model Selection Guide: Wafer BOS-US Valves with Double-Acting Cylinder Actuator (Supply Air: 60 PSI)

Valve Size	Max. Shutoff (PSI)		Ductile Iron Nickel-Plated Disc, 410 SS Shaft	Price	316 SS Disc, 316 SS Shaft	Price
	Wet Service	Dry Service	Catalog Number		Catalog Number	
2"	250	50	BOS,2,US,W1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	\$774.00	BOS,2,US,W1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	\$814.93
2.5"	250	50	BOS,2.5,US,W1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	796.26	BOS,2.5,US,W1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	830.73
3"	250	50	BOS,3,US,W1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	812.78	BOS,3,US,W1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	881.70
4"	250	50	BOS,4,US,W1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	856.57	BOS,4,US,W1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	950.63
5"	50	N/A	BOS,5,US,W1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	990.12	BOS,5,US,W1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	1090.64
	250	50	BOS,5,US,W1,DI,NBR,NBR,DI-S8*PR-R1A-PC6	1002.33	BOS,5,US,W1,DI,NBR,NBR,S2-S2*PR-R1A-PC6	1102.85
6"	200	50	BOS,6,US,W1,DI,NBR,NBR,DI-S8*PR-R1A-PC6	1020.28	BOS,6,US,W1,DI,NBR,NBR,S2-S2*PR-R1A-PC6	1245.01
	250	N/A	BOS,6,US,W1,DI,NBR,NBR,DI-S8*PR-R2A-PC6	1222.04	BOS,6,US,W1,DI,NBR,NBR,S2-S2*PR-R2A-PC6	1446.77
8"	175	50	BOS,8,US,W1,DI,NBR,NBR,DI-S8*PR-R2A-PC6	1448.21	BOS,8,US,W1,DI,NBR,NBR,S2-S2*PR-R2A-PC6	1798.59
	250	N/A	BOS,8,US,W1,DI,NBR,NBR,DI-S8*PR-R2A-PC8	1558.06	BOS,8,US,W1,DI,NBR,NBR,S2-S2*PR-R2A-PC8	1908.44
10"	225	50	BOS,10,US,W1,DI,NBR,NBR,DI-S8*PR-R2A-PC8	1738.28	BOS,10,US,W1,DI,NBR,NBR,S2-S2*PR-R2A-PC8	2312.68
12"	100	N/A	BOS,12,US,W1,DI,NBR,NBR,DI-S8*GS-12A-PC6	3699.14	BOS,12,US,W1,DI,NBR,NBR,S2-S2*GS-12A-PC6	4786.91
	250	50	BOS,12,US,W1,DI,NBR,NBR,DI-S8*GS-12A-PC8	4101.93	BOS,12,US,W1,DI,NBR,NBR,S2-S2*GS-12A-PC8	5189.70
14"	250	50	BOS,14,US,W1,DI,NBR,NBR,DI-S8*GS-12A-PC8	4654.08	BOS,14,US,W1,DI,NBR,NBR,S2-S2*GS-12A-PC8	6250.19
16"	75	N/A	BOS,16,US,W1,DI,NBR,NBR,DI-S8*GS-12A-PC8	5486.24	BOS,16,US,W1,DI,NBR,NBR,S2-S2*GS-12A-PC8	8028.68
	250	50	BOS,16,US,W1,DI,NBR,NBR,DI-S8*GS-12A-PC10	5826.57	BOS,16,US,W1,DI,NBR,NBR,S2-S2*GS-12A-PC10	8369.01
18"	200	50	BOS,18,US,W1,DI,NBR,NBR,DI-S8*GS-12A-PC10	6158.29	BOS,18,US,W1,DI,NBR,NBR,S2-S2*GS-12A-PC10	10016.10
20"	100	25	BOS,20,US,W1,DI,NBR,NBR,DI-S8*GS-12A-PC10	6980.40	BOS,20,US,W1,DI,NBR,NBR,S2-S2*GS-12A-PC10	12037.27

Model Selection Guide: Lugged BOS-US Valves with Double-Acting Cylinder Actuator (Supply Air: 60 PSI)

Valve Size	Max. Shutoff (PSI)		Ductile Iron Nickel-Plated Disc, 410 SS Shaft	Price	316 SS Disc, 316 SS Shaft	Price
	Wet Service	Dry Service	Catalog Number		Catalog Number	
2"	250	50	BOS,2,US,L1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	\$789.08	BOS,2,US,L1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	\$850.83
2.5"	250	50	BOS,2.5,US,L1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	832.88	BOS,2.5,US,L1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	875.24
3"	250	50	BOS,3,US,L1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	851.55	BOS,3,US,L1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	919.76
4"	250	50	BOS,4,US,L1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	907.55	BOS,4,US,L1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	1051.87
5"	50	N/A	BOS,5,US,L1,DI,NBR,NBR,DI-S8*PR-R1A-PC4	1065.51	BOS,5,US,L1,DI,NBR,NBR,S2-S2*PR-R1A-PC4	1222.75
	250	50	BOS,5,US,L1,DI,NBR,NBR,DI-S8*PR-R1A-PC6	1077.72	BOS,5,US,L1,DI,NBR,NBR,S2-S2*PR-R1A-PC6	1234.96
6"	200	50	BOS,6,US,L1,DI,NBR,NBR,DI-S8*PR-R1A-PC6	1111.46	BOS,6,US,L1,DI,NBR,NBR,S2-S2*PR-R1A-PC6	1375.69
	250	N/A	BOS,6,US,L1,DI,NBR,NBR,DI-S8*PR-R2A-PC6	1313.22	BOS,6,US,L1,DI,NBR,NBR,S2-S2*PR-R2A-PC6	1577.45
8"	175	50	BOS,8,US,L1,DI,NBR,NBR,DI-S8*PR-R2A-PC6	1536.52	BOS,8,US,L1,DI,NBR,NBR,S2-S2*PR-R2A-PC6	1891.21
	250	N/A	BOS,8,US,L1,DI,NBR,NBR,DI-S8*PR-R2A-PC8	1646.37	BOS,8,US,L1,DI,NBR,NBR,S2-S2*PR-R2A-PC8	2001.07
10"	225	50	BOS,10,US,L1,DI,NBR,NBR,DI-S8*PR-R2A-PC8	1921.37	BOS,10,US,L1,DI,NBR,NBR,S2-S2*PR-R2A-PC8	2420.38
12"	100	N/A	BOS,12,US,L1,DI,NBR,NBR,DI-S8*GS-12A-PC6	3822.63	BOS,12,US,L1,DI,NBR,NBR,S2-S2*GS-12A-PC6	4860.86
	250	50	BOS,12,US,L1,DI,NBR,NBR,DI-S8*GS-12A-PC8	4225.43	BOS,12,US,L1,DI,NBR,NBR,S2-S2*GS-12A-PC8	5263.66
14"	250	50	BOS,14,US,L1,DI,NBR,NBR,DI-S8*GS-12A-PC8	5089.90	BOS,14,US,L1,DI,NBR,NBR,S2-S2*GS-12A-PC8	6365.79
16"	75	N/A	BOS,16,US,L1,DI,NBR,NBR,DI-S8*GS-12A-PC8	5670.76	BOS,16,US,L1,DI,NBR,NBR,S2-S2*GS-12A-PC8	8211.77
	250	50	BOS,16,US,L1,DI,NBR,NBR,DI-S8*GS-12A-PC10	6011.10	BOS,16,US,L1,DI,NBR,NBR,S2-S2*GS-12A-PC10	8552.10
18"	200	50	BOS,18,US,L1,DI,NBR,NBR,DI-S8*GS-12A-PC10	6411.74	BOS,18,US,L1,DI,NBR,NBR,S2-S2*GS-12A-PC10	10253.76
20"	100	25	BOS,20,US,L1,DI,NBR,NBR,DI-S8*GS-12A-PC10	7541.15	BOS,20,US,L1,DI,NBR,NBR,S2-S2*GS-12A-PC10	12554.95

Notes:

[1] Sizes of the tapped through holes on lugged valves are Unified National Coarse (UNC), a thread standard in accordance with ASME/ANSI.

N/A Not available. Use next larger actuator.

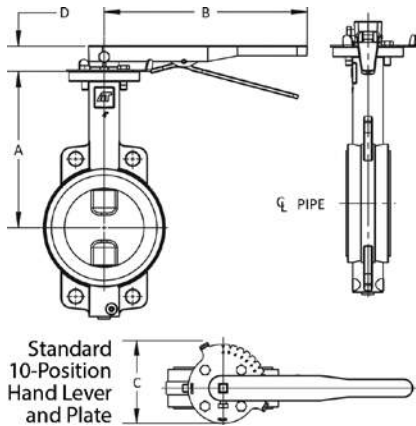
Get full specifications and learn more about DeZURIK BOS-US butterfly valves at bit.ly/bos-us

A-T Controls, Inc. OC/OS Series 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

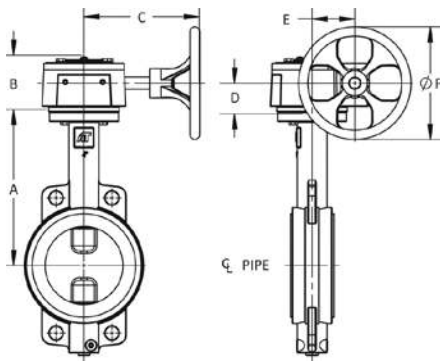


Dimensions and Model Selection Guide — Manual Valve with Handle Operator



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

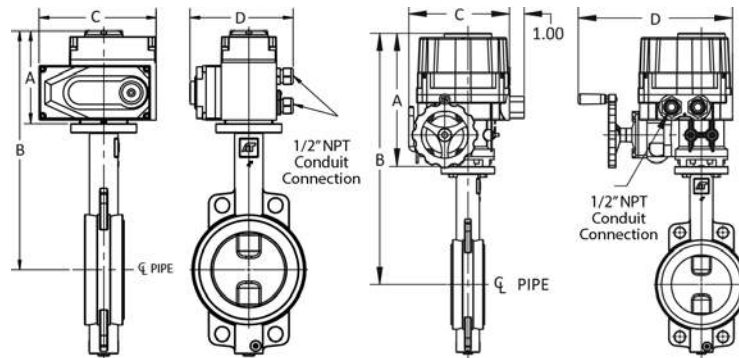


Dimensions:

Automated Butterfly Valves with Electric On/Off Actuators

(See model selection guide on previous page.)

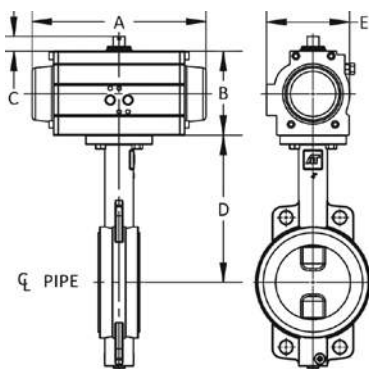
Actuator: KE_ (2" to 3" valves) Actuator: WE_ (4" to 12" valves)



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.



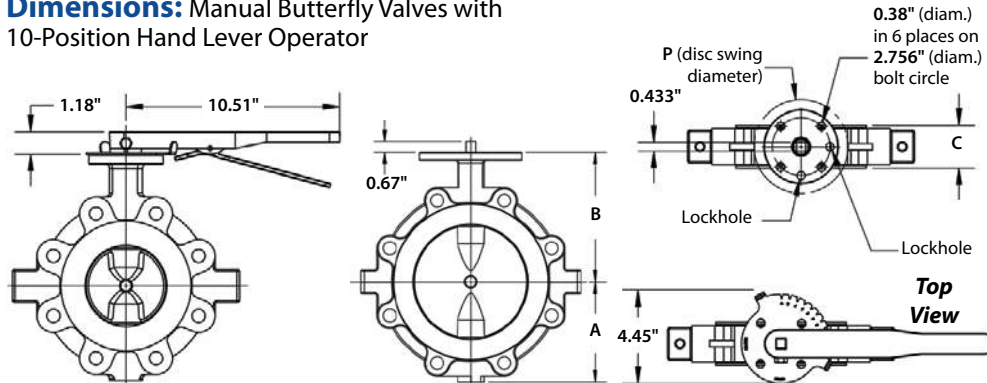
Get full specifications and learn more about A-T Controls OC/OS butterfly valves at bit.ly/oc-os

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

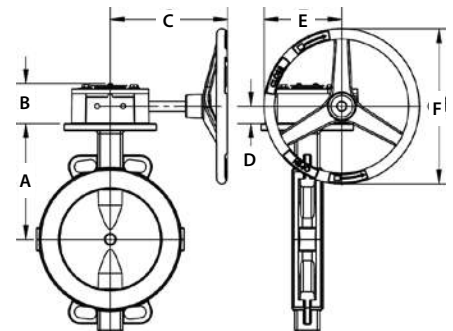
- For severe chemical and corrosive services
- Common applications: hydrochloric acid (HCl), sulfuric acid (H2SO4), nitric acid (HNO3), Phosphoric acid (H3PO4), wet chlorine (Cl2), aqua regia
- Available in 2" to 12" sizes (shown here); 14" to 24" optional
- Flow Cv: 210 to 8870, depending on valve size 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



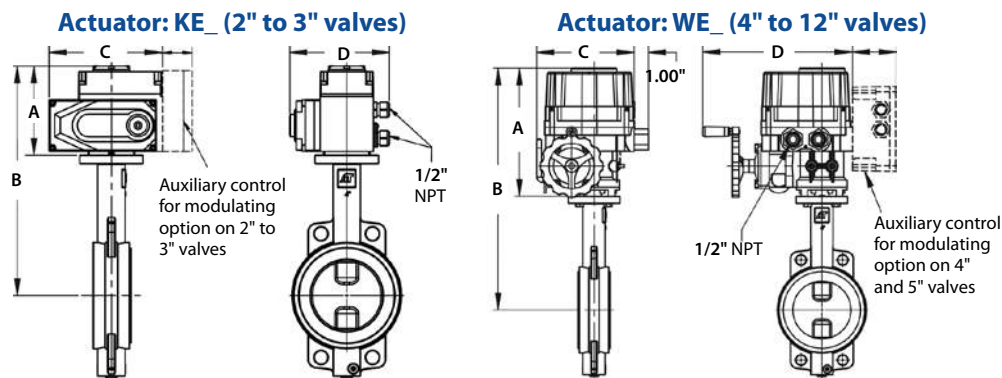
Model Selection Guide — Manual Valve with Gear Wheel Operator

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:

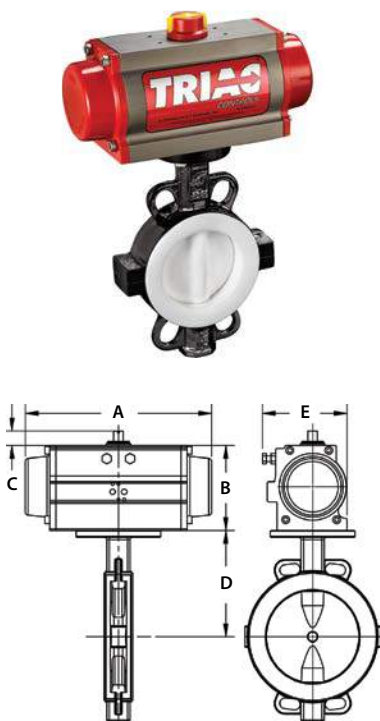
Automated Butterfly Valves with Electric (On/Off & Modulating) Actuators



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

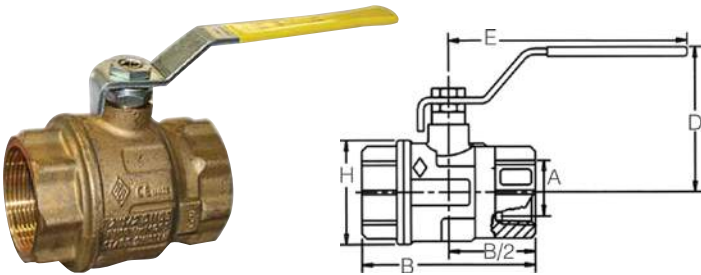
*Please specify solenoid voltage at time of order.

Which ball valve do you need?

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	28
1/4" to 3"	2	Full	1000 PSI	SS	SS	RTFE	Threaded	Two-piece high performance, direct mount ball valve	22	20
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	22
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	19
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	24
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	26
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	29
1/2" to 4"	3	Full	740 PSI	CS, SS	SS	RPTFE	NPT, Flanged	Bolted, investment cast body, 4-seat design	3L/T-2100F	30
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	30

MARWIN VALVE Manual Operated Ball Valves

600 Series Two-Piece Brass Manual Ball Valve



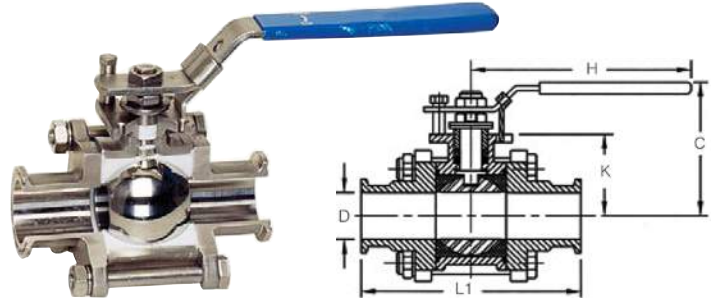
- Brass body, ball, blowout-proof stem, Teflon packing and seats
- Full port configuration, NPT female threaded ends
- Pressure rating: 600 PSI WOG, WSP 150 PSI steam
- Temperature range: -40° to 366° F

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**.

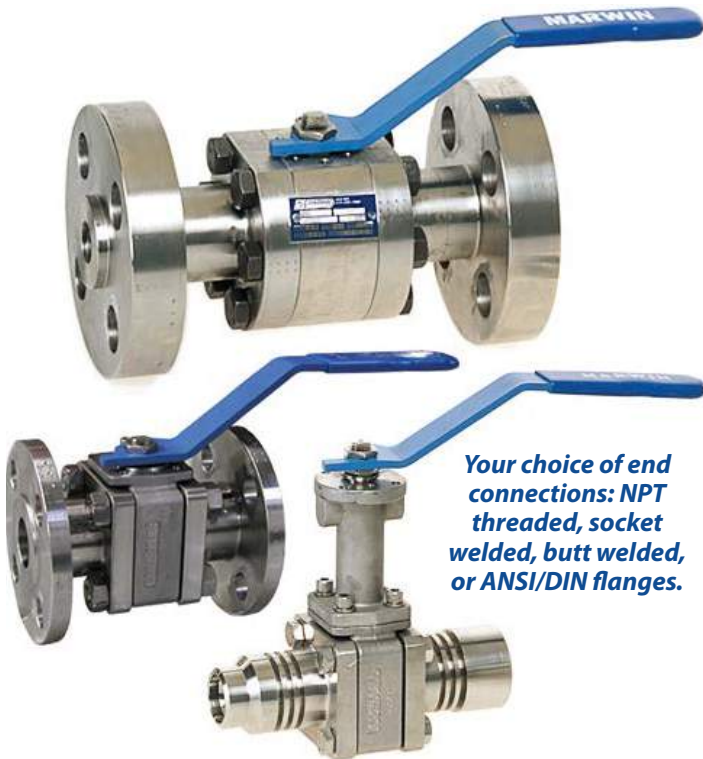
Valve Size	Cv	Dimensions					Catalog Number	Price
		C	D	H	K	L1		
1/2"	8	2.6"	0.37"	5.2"	1.18"	3.5"	-050-S6-	\$ 78.20
3/4"	30	2.8"	0.62"	5.2"	1.37"	4.0"	-075-S6-	90.16
1"	65	3.1"	0.87"	6.5"	1.48"	4.5"	-100-S6-	90.16
1-1/2"	190	4.0"	1.37"	7.9"	2.10"	5.5"	-150-S6-	116.84
2"	435	4.3"	1.87"	8.4"	2.43"	6.1"	-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.

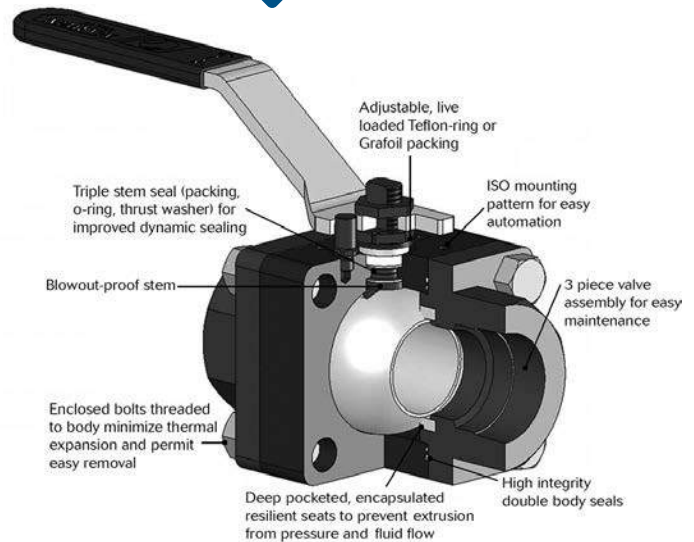
CF8901F-



3000 Series Three-Piece High Pressure Ball Valve



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

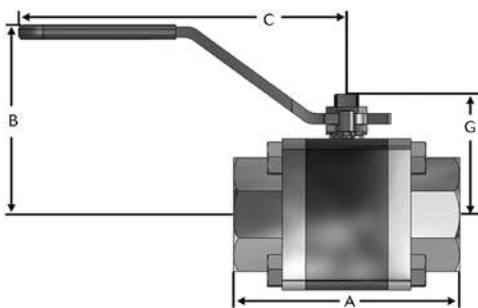


Wide variety of end connections available



- Sizes 1/4" to 4" reduced port (Call for 1/4" to 3" full port)
- 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
- Looking for a V-Ball control valve? See pages 33 and 40.

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

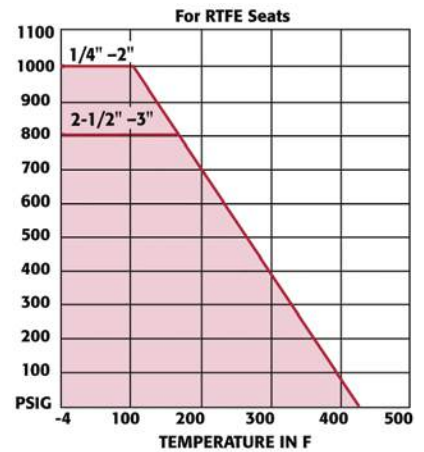
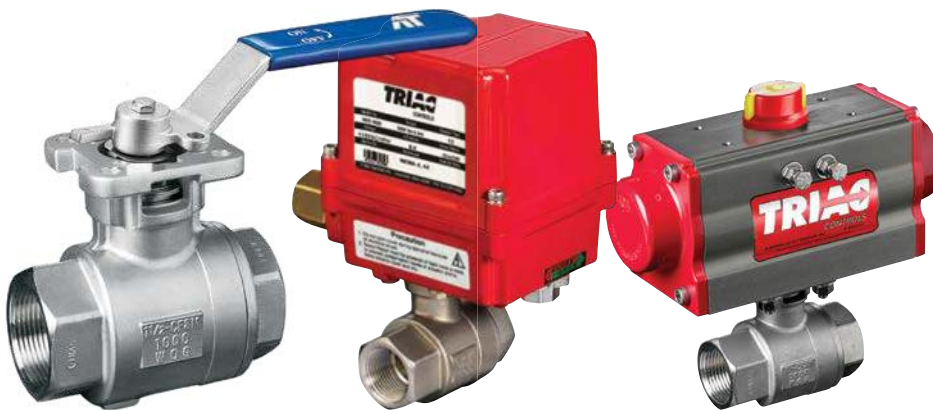
Description	Size	Catalog Number	Price
<i>Three-piece high performance reduced port ball valve, ASTM A26 Grade WCB carbon steel body, 316 stainless steel trim, encapsulated Teflon seats, seals, and thrust washer, NPT threaded end connections, and handle lever operator</i>			
Reduced Port Valve Carbon 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
Reduced Port Valve Stainless Steel Body	1/2"	3000R-050-S6-PTS6TFTVHL	323.84
	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	



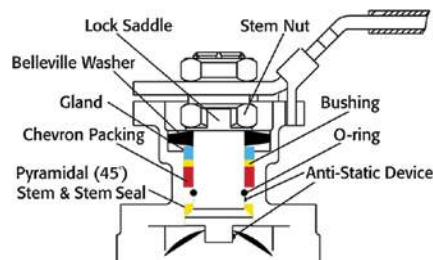
Models shown are hand-operated.
Call Lesman at 800-953-7626 to add an actuator and positioner.

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

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

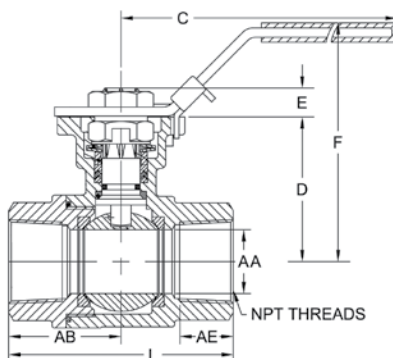


- Available in 1/4" to 3" sizes
- Full port valve with direct actuator mount
- Two-piece, high cycle design
- 316 SS body, ball, and stem
- Rated to 800/1000 PSI for water, oil, or gas (WOG)
- Pyramidal stem packing system
- Blowout-proof stem
- NACE MR-0175
- Meets industry standards ANSI B16.34, B16.25,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

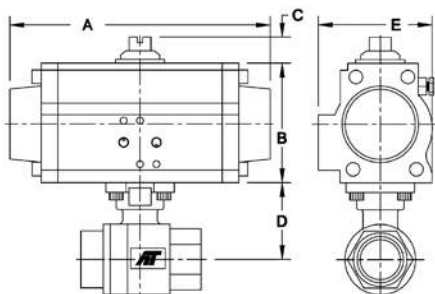


Get full specs and learn more at bit.ly/series-22



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

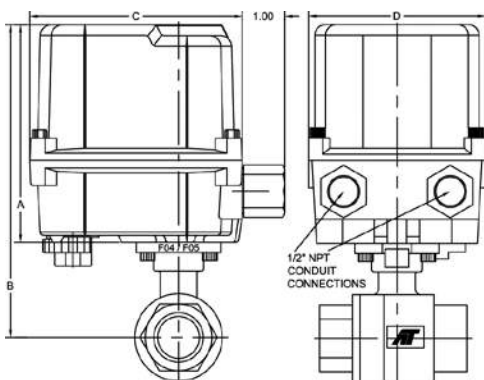
Valve Size	Valve Cv	Valve Dimensions				Actuator Dimensions					Valve and Actuator Catalog Number	List Price
		AA	L	AB	AE	A	B	C	D	E		
Series 22 Two-Piece Ball Valve with Spring-Return Pneumatic Actuator												
0.25"	7	0.45	2.56	1.28	0.55	7.60	2.76	0.79	1.53	2.58	22-TX-025/TR1S-	\$262.00
0.375"	8	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

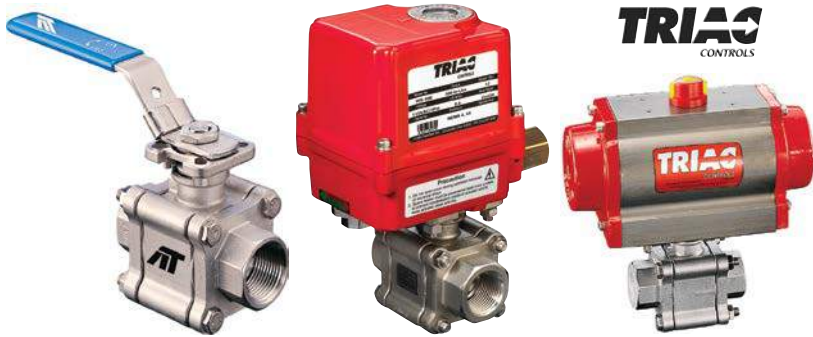
Actuators are sized based on clean/clear fluid.



Model Selection Guide: Series 22 Valve with Electric Actuator

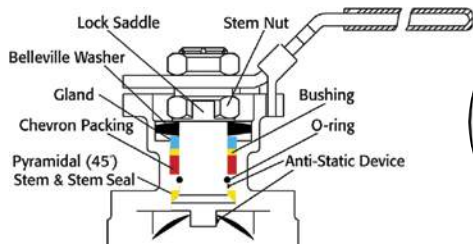
Valve Size	Valve Cv	Valve Dimensions				Electric Actuator Dimensions				Valve and Actuator Catalog Number	List Price	
		AA	L	AB	AE	A	B	C	D			
0.25"	7	0.45	2.56	1.28	0.55	5.24	6.77	4.94	4.08	22-TX-025/WEA1-	\$532.00	
0.375"	8	0.49	2.56	1.28	0.53	5.24	6.77	4.94	4.08	22-TX-038/WEA1-	532.00	
0.5"	15	0.59	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

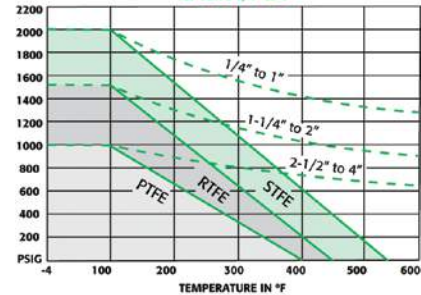


A-T Controls' Pyramidal stem seal system protects your valve against wear and leakage. Valves with the TA-Luft certification meet the permissible limit standard for the emission of vapors or gases during processing or transfer of liquids or gaseous materials.

Pressure vs. Temp. Chart

for Valves 1/4" to 4"

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

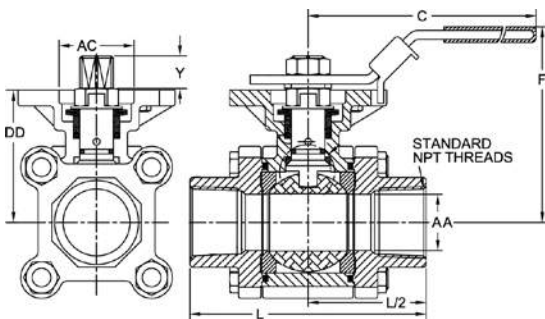


Dimensions

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



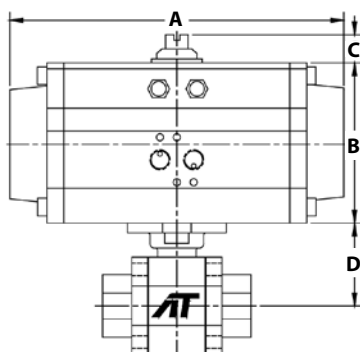
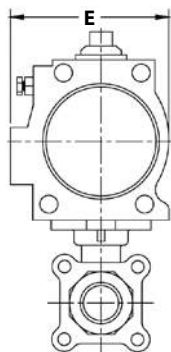
Model Selection Guide: Series 88 Valve with Lever Handle

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

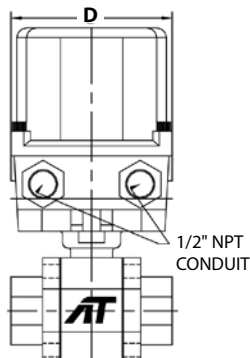
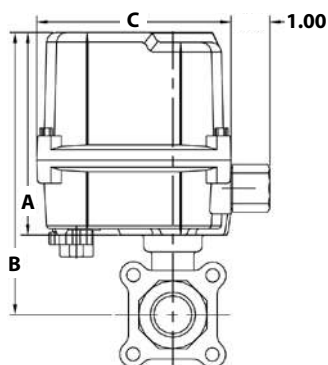


Dimensions: Pneumatic Actuators

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

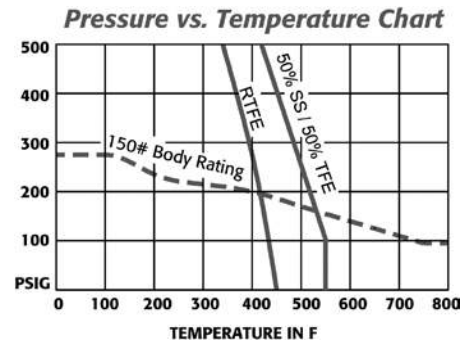
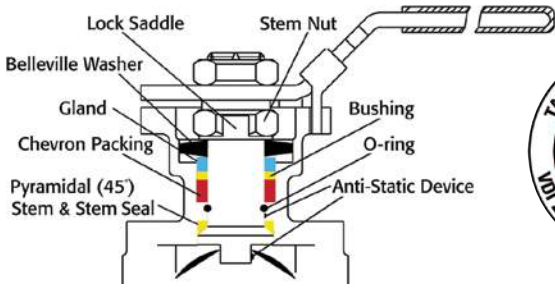
Valve Size	Valve Cv	Actuator Dimensions				Carbon Steel Valve Catalog Number	Price	Stainless Steel Valve Catalog Number	Price
		A	B	C	D				

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

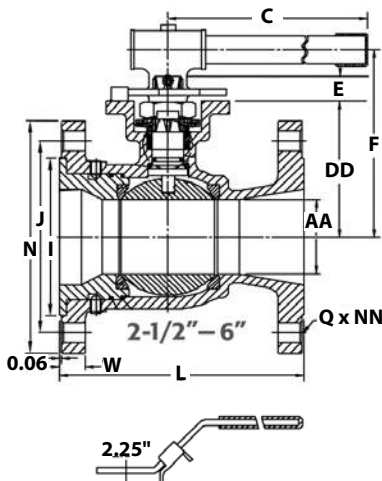
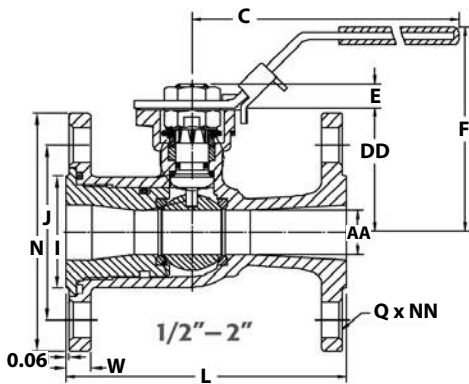
Voltage	120/60 VAC	-X	0.00
	24 VAC/24 VDC/ 220 VAC	-V	Call
Feedback Signals	None	-X	0.00
	Feedback Potentiometer	-F	Call

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

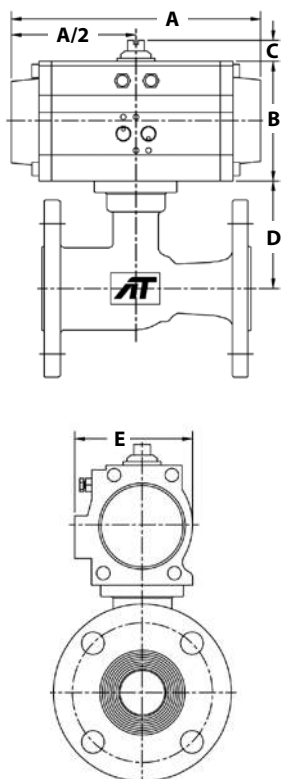
Model Selection Guide: Series F91 with Lever/Handle

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.



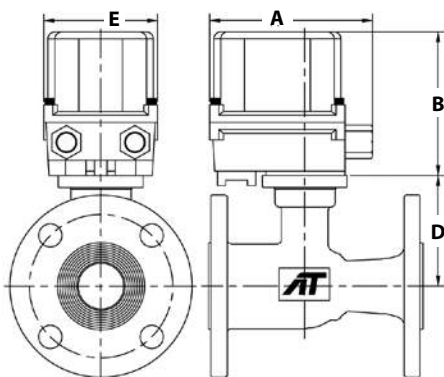
Model Selection Guide: Series F91 with Pneumatic Actuator

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

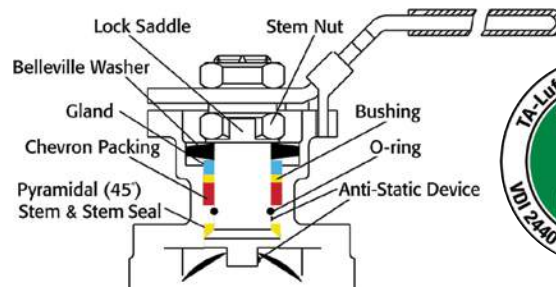
Valve Size	Valve Cv	Actuator Dimensions (in)				Carbon Steel Valve		Stainless Steel Valve	
		A	B	D	E	Catalog Number	Price	Catalog Number	Price
0.5"	9	5.94	5.24	1.8	4.15	F91C-F1-050/WEA1	\$702.00	F91-F1-050/WEA1-	\$751.00
0.75"	15	5.94	5.24	2.02	4.15	F91C-F1-075/WEA1-	714.00	F91-F1-075/WEA1-	769.00
1"	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

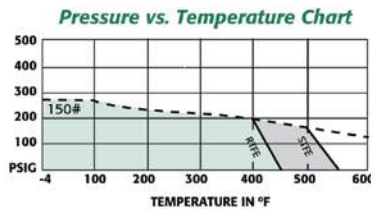
Series FD9 Firesafe Direct Mount Split Body Flanged Ball Valves

Key Specifications

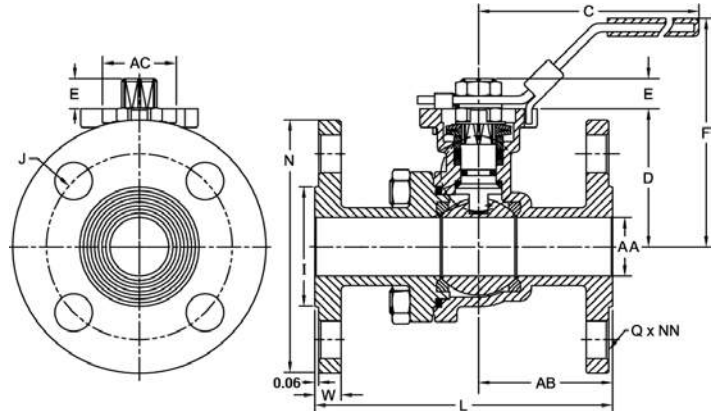
- Available in 1/2" to 6" sizes
- Full port valve with direct actuator mount
- Carbon steel or 316 stainless steel construction
- Pyramidal stem packing system
- ANSI Class 150# flange and ISO 5211 mount
- Anti-static and firesafe



Get full specs and learn more at bit.ly/series-fd9



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

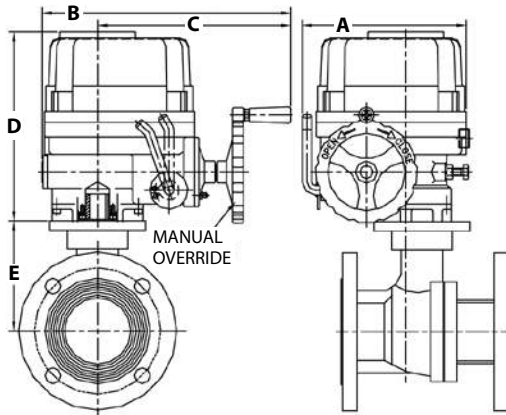
Valve Size	Valve CV	Valve Dimensions (in)									Actuator Dimensions (in)*					Carbon Steel Valve		Stainless Steel Valve	
		AA	AB	L	W	I	N	J	Q	A	B	C	D	E	Catalog Number	Price	Catalog Number	Price	
0.5"	15	0.59	1.84	4.26	0.44	1.38	3.5	2.38	0.63	5.94	4.09	-	5.24	1.84	FD9C-F1-050/WEA1-	\$761.00	FD9-F1-050/WEA1-	\$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 24 VAC/24 VDC/ 220 VAC														-X _	0.00		
																-V _	Call		
Feedback Signals		None Feedback Potentiometer														- _ X	0.00		
																- _ F	Call		

*See next page for actuator dimensional drawing.



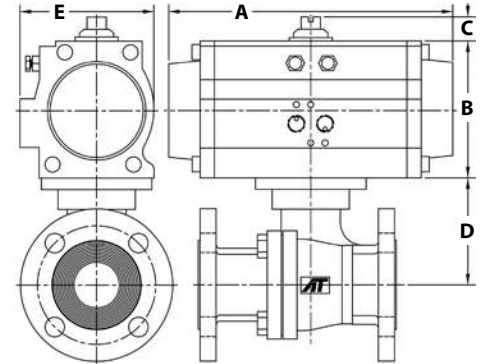
**Dimensions:
Electric On/Off
Actuator**

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-F1-600/2R9D-	6986.00
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.

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																-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 38 General Purpose Multi-Port Ball Valves

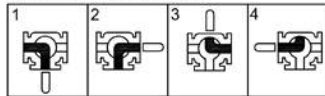
- Available in 1/4" to 2" sizes
- Threaded ends only
- Reduced port design with L and T port options
- 316 stainless steel construction
- Locking handle standard
- Direct actuator mount; ISO 5211 mounting pad
- Blowout-proof stem
- Four-seat design



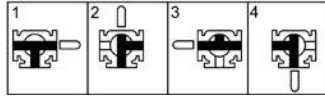
Also available with pneumatic and electric actuators. Call for pricing.

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

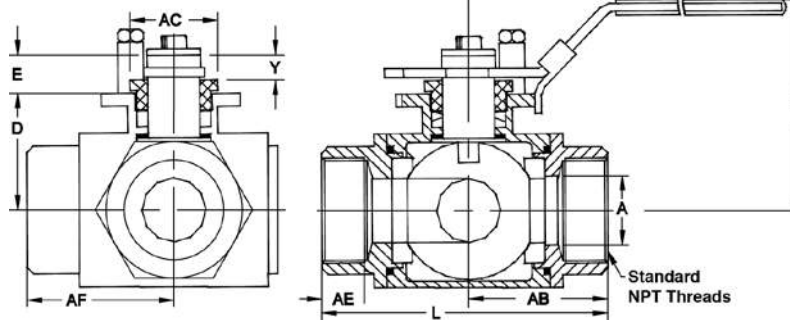
Flow Patterns for L-Port



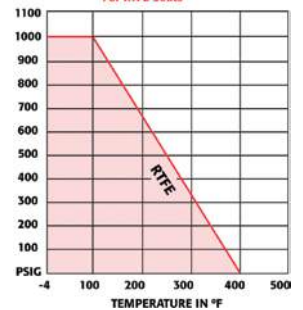
Flow Patterns for T-Port



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

PFW Four Way Plug Valves



- For throttling and diverting of clean, dirty, viscous and corrosive liquids, sludge, abrasive and fibrous slurries, clean and dirty corrosive gases
- Commonly used in water and wastewater applications
- Heavy-duty stainless steel bearings, long-life stem seal, resilient plug facings for dead-tight shutoff and metal plugs for high temperature applications
- Single and double plug styles can be arranged in a variety of flow applications
- High flow capacity, low head loss (wide open) and low torque/thrust



Specifications

- Available sizes:** 3" to 16"
- Flow Cv:** 240 to 6250, depending on valve size and trim
- Temperature range:** up to 400°F
- Pressure rating:** 125 PSI CWP
- Body material:** Cast iron, aluminum, carbon steel, 316 stainless steel
- Seat:** Metal or resilient
- End Connections:** Flanged
- Actuator types:** handwheel, chainwheel, lever, cylinder, electric motor

Call for pricing and availability.

Learn more and get full specs at bit.ly/dezurik-pfw



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

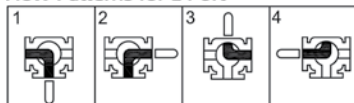
Port configurations: L, T, X, I, vertical L, vertical T, TT, and LL

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



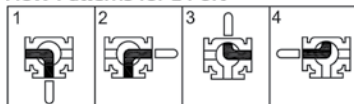
Model Selection Guide: Series 33 (L-Port) with Pneumatic Actuator

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)

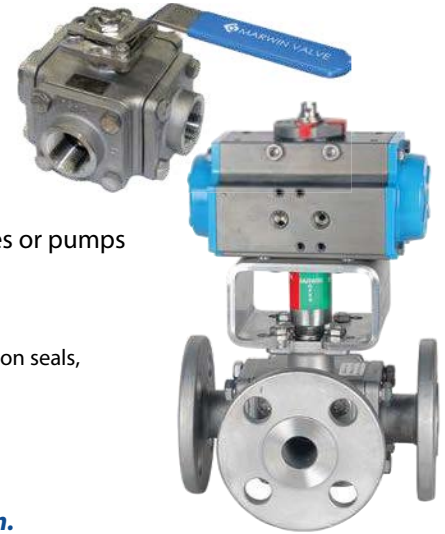
1/4"	91	4	33-TX-025/WEA1-XX-L	\$856.00	33-TX-025/WEA2-XX-L	\$1932.00
3/8"	91	5	33-TX-038/WEA1-XX-L	856.00	33-TX-038/WEA2-XX-L	1932.00
1/2"	91	6	33-TX-050/WEA1-XX-L	856.00	33-TX-050/WEA2-XX-L	1932.00
3/4"	195	16	33-TX-075/WEA1-XX-L	957.00	33-TX-075/WEA2-XX-L	2033.00
1"	414	31	33-TX-100/WEA1-XX-L	1246.00	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



Finding the Right Control Valve for Your Application

Series	Valve Sizes	Flow Cv	Type	Key Feature	Page
 Lowflow 708	1/4" to 3/4"	0.00001 to 4.0	Globe style Fractional flow control valve	Ideal for pilot plant installations; ANSI Class IV Shutoff	37
 Lowflow 709	1/2" to 3/4"	1.0 to 4.0	Globe style Fractional flow control valve	Mixing valve in low flow process applications.	38
 Lowflow 8000	1/2" to 2"	0.05 to 25.0	Globe style Pneumatic fractional flow control valve	Pressures to 6000 PSIG ANSI Class III or Class IV Shutoff	36
 Jordan Valve Mark 70	1/2" to 2"	0.21 to 30	Sliding gate Pneumatic diaphragm control valve	For general service. Cryogenic bonnet available for temperatures to -425°F; ANSI Class IV Shutoff	34
 Dwyer Hi-Flow	1/2" to 2"	6.45 to 50.30	Globe style Pneumatic diaphragm controls valve	Ideal for steam, water or compatible glycol solutions	39
 Steriflow Mark 978	1/2" and 3"	0.05 to 125	Globe style Sanitary low flow control valve; O-ring stem seal; Jorlon diaphragm	For sterile liquid media; ASME BPE 2009 guidelines, FDA, and USP compliant sanitary valves; ANSI Class III or Class VI Shutoff	61
 Marwin Valve CV3000	1/2" to 4"	2.6 to 380	V-Ball Ball-type automated control valve	High capacity; ANSI Class VI Shutoff	40
 PEC/PEF	1/2" to 72"	10 to 150000	Eccentric plug valves	For on/off, throttling, and control operation in clean, dirty, viscous and corrosive liquids, sludge, fibrous slurries and clean, dirty and corrosive gases	57
 Jordan Valve Mark 75	1" to 8"	9.5 to 600	Sliding gate Wafer-style pneumatic control valve	Light weight, easy maintenance; ANSI Class IV Shutoff	35
 CVS E Series	1" to 8"	—	Cage-guided Balanced trim control valve	Differential pressures up to 1480 PSIG	39
 DeZURIK RCV	1" to 12"	2.60 to 2600	Eccentric rotary control valve	High control accuracy; fast repairs and trim changes; four flow capacity ranges	32
 DeZURIK VPB	1" to 20"	36 to 12430	V-Ball Ball-type automated control valve	For control of fibrous suspension applications; clean dirty, viscous and corrosive liquids and gases	33

Find more control valves at bit.ly/process-valves

DeZURIK RCV Eccentric Rotary Control Valves

APCO | HILTON



- Precise throttling accuracy and control in liquid, gas and slurry applications
- Flow Cv: 2.60 to 2600, depending on valve size and trim
- Temperature range: up to 1000° F
- Pressure rating: 285 to 740 PSI
- Erosion resistant; high flow capacity and low head loss; bidirectional flow; self-aligning seat and plug
- Flanged or flangeless designs meet ASME or ISA face-to-face dimensions
- Actuators: handwheel, chainwheel, PowerRac® double-acting and spring-return cylinder, and spring-return diaphragm

Specifications

Valve Size: 1" to 12"

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

Body Material: 316SS, 317SS, Carbon Steel, Hastelloy C, Titanium

Packing Material: PTFE Chevron, braided carbon graphite

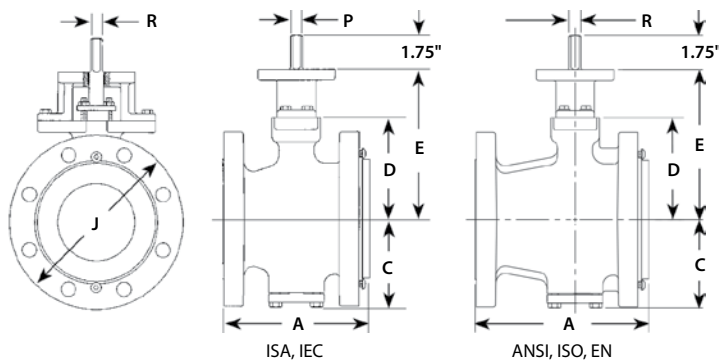
Trim Combination: *Plug and Seat:* 317SS, Hastelloy C anodized Titanium; *Shaft:* 2205 duplex SS, 17-p pH SS, Titanium, and Hastelloy C; *Bearings:* 440C SS, solid Cobalt-Chromium alloy, Hastelloy C, and Titanium



Trim Sizes: High, full, five reduced, and two reduced capacity. Trims can be easily interchanged in the field.

High flow allows for use of smaller valves and smaller, more economical actuators.

Get full specs and learn more at bit.ly/dezurik-rcv



Valve Dimensions and Specifications (for Stainless Steel, Carbon Steel, or Hastelloy bodies)

Valve Size	Flow-to-Open Cv with Valve 100% Open				Dimensions (inches)									
					A		C	D	E	J			R Diameter	P Square
	High Trim	Full Trim	0.5 Trim	0.2 Trim	ISA IEC	ANSI ISO EN				Flangeless Class 150	Flanged Class 150	Flanged Class 300		
1"	17	147	3	2.60	4.00	5.00	2.75	3.25	5.62	2.44	4.25	4.88	0.62	0.50
1.5"	45	32	16	6	4.50	6.50	2.94	3.47	5.84	3.06	5.00	6.12	0.62	0.50
2"	85	50	25	10	4.88	7.00	3.22	3.75	6.12	3.81	6.00	6.50	0.62	0.50
2.5"	125	90	45	18	5.50	7.50	3.75	4.44	6.94	4.38	7.00	7.50	0.75	0.62
3"	185	150	75	30	6.50	8.00	4.00	4.69	7.19	5.19	7.50	8.25	0.75	0.62
4"	370	250	125	50	7.62	9.00	4.56	5.25	7.75	6.38	9.00	10.00	0.75	0.62
6"	800	525	260	105	9.00	10.50	5.72	6.50	9.50	8.50	11.00	12.50	1.25	0.94
8"	1400	875	435	175	9.56	11.50	7.28	8.12	11.12	10.62	13.50	15.00	1.50	1.19
10"	2050	1300	600	260	11.69	13.00	8.91	9.50	13.38	13.12	16.00	17.50	2.00	1.62
12"	2600	1750.10	825	350	13.31	14.00	9.91	10.50	14.38	15.38	19.00	20.50	2.00	1.62



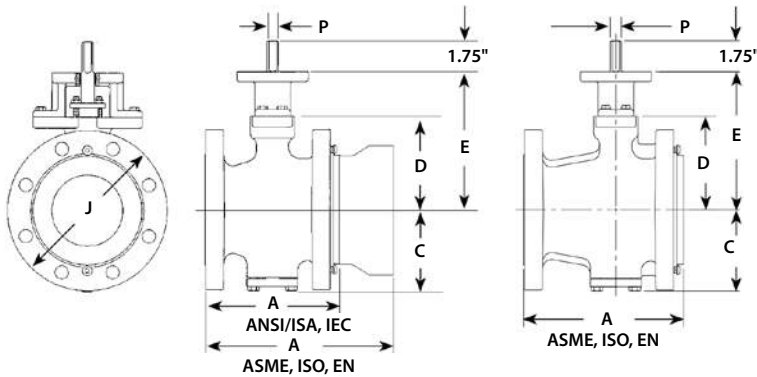
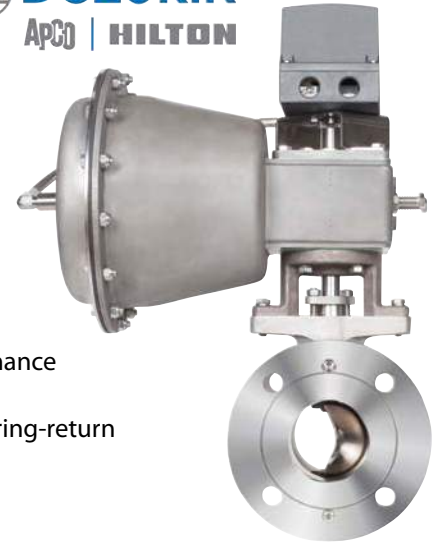
Learn more about DeZURIK RCV valves.
Watch Globe Control vs. Rotary Control Valves
Webinar at bit.ly/rcv-webinar

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



VPB V-Port Ball Control Valves

- Available valve sizes: 1" to 20" ASME Class 150; 1" to 12" ASME Class 300
- For accurate throttling control of fibrous suspension applications; clean dirty, viscous and corrosive liquids and gases
- Flow Cv: 36 to 12430, depending on valve size and trim
- Temperature range: to 1000° F
- Shutoff pressure rating to 275 PSI; shell pressure rating to 275-740 PSI
- Body material: carbon steel, 316 and 317 stainless steel, Hastelloy C
- Seat options: flexible metal, rigid metal, reinforced PTFE, clearance
- End connections: flanged or flangeless; meet ASME or ISA face-to-face dimensions
- Blowout-proof shaft, high flow capacity, splined ball-to-shaft connection for easy maintenance and zero backlash
- Actuators: lever, manual gear (handwheel, chainwheel), PowerRac® double-acting and spring-return cylinder, or spring-return diaphragm actuators



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

Valve Dimensions and Specifications

Valve Size	Flow Cv 100% Open		Dimensions (inches)									
			A		C	D	E	J			P (Diam.)	P (Square)
	Flexible Metal & Rigid Metal Seats	Reinforced PTFE & Clearance Seats	ANSI/ISA, IEC	ASME, ISO, EN				Flangeless Class 150	Flanged Class 150	Flanged Class 300		
1"	36	40	4.00	5.00	2.75	3.25	5.62	2.44	4.25	4.88	0.62	0.50
1.5"	120	135	4.50	6.50	2.94	3.47	5.84	3.06	5.00	6.12	0.62	0.50
2"	210	235	4.88	7.00	3.22	3.75	6.12	3.81	6.00	6.50	0.62	0.50
2.5"	260	295	5.50	7.50	3.75	4.44	6.94	4.38	7.00	7.50	0.75	0.62
3"	360	420	6.50	8.00	4.00	4.69	7.19	5.19	7.50	8.25	0.75	0.62
4"	600	690	7.62	9.00	4.56	5.25	7.75	6.38	9.00	10.00	0.75	0.62
6"	1230	1290	9.00	10.50	5.72	6.50	9.50	8.50	11.00	12.50	1.25	0.94
8"	2015	2190	9.56	11.50	7.28	8.12	11.12	10.62	13.50	15.00	1.50	1.19
10"	3000	3180	11.69	13.00	8.91	9.50	13.38	13.12	16.00	17.50	2.00	1.62
12"	4225	4390	13.31	14.00	9.91	10.50	14.38	15.38	19.00	20.50	2.00	1.62
14"	5830	6060	15.75	—	10.86	11.47	15.34	—	21.00	—	2.00	1.62
16"	7500	7770	15.75	—	13.25	14.06	18.56	—	23.50	—	2.50	1.81
18"	9500	9840	18.00	—	14.44	15.25	19.75	—	25.00	—	2.50	1.81
20"	12000	12430	20.00	—	15.56	16.38	20.38	—	27.50	—	2.50	1.81

Learn more and get full specs at bit.ly/dezurik-vpb

What makes Jordan Valve and Steriflow valves unique?

- **Rugged field-tested Jorlon™ diaphragms!**
- Chemically-resistant physically modified Teflon, designed to withstand vacuum, very low creep, and cold flow
- FDA/USP Class VI
- Excellent on continuous steam service, CPI, process, and aggressive buffers and acids
- Reduced regulator droop over stainless steel diaphragms
- Extremely long life cycle — Valves and diaphragms tested to more than a million stroke cycles on continuous steam service and 100 vacuum/steam cycles with no reports of diaphragm failures any time in the last six years!
- Jorlon diaphragm warranty — For a lifetime of use on all clean steam, water for injection (WFI), clean utility, or process applications at continuous operating pressures and temperatures no greater than 75 PSIG @ 340° F, including intermittent exposure to negative pressure not greater than 25" Hg



Compare a Steriflow Jorlon™ diaphragm to a competitor's comparable design. The difference, even after a clean steam test, is clear.

Mark 70 Sliding Gate Pneumatic Diaphragm Control Valves



- Linear pneumatic control valve with sliding gate seats and multi-spring actuators
- Sliding gate design for tighter control and metering accuracy
- Totally enclosed multi-spring actuator minimizes deadband — field-reversible with no need for special tools
- Stem packing four times deeper than stem travel for greater protection against leakage

Specifications

Service: Steam, water, oil, gas, air, and chemicals

Body Material: Ductile iron standard. Also available in carbon steel, stainless steel, and bronze

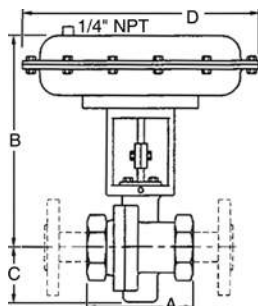
Stem Packing: Spring-loaded Teflon, good to 450° F

Trim Material: 303 stainless steel standard

Shutoff: ANSI Class IV

Diaphragm: Buna-N, standard to 200° F

Valve Size	Dimensions			
	A	B	C	D
1/2"	3.62"	9.38"	2.18"	9.50"
3/4"	3.62"	9.38"	2.18"	9.50"
1"	4.12"	9.62"	2.62"	9.50"
1-1/4"	4.12"	9.87"	2.62"	9.50"
1-1/2"	4.50"	9.87"	2.62"	9.50"
2"	4.50"	10.00"	2.62"	9.50"



Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **70100DI/PTT3V7N3Q3N3ARD00**

Description	Size	Flow Cv *	Catalog Number	Price	
Sliding Gate Pneumatic Control Valve, NPT Threaded End Connections, 303 Stainless Steel Trim, 316SS/Jorcote Seat, Teflon Packing, 35M Actuator and Air Regulator	1/2"	2.5	70050DI/PTT3V5	\$1904.28	
		4.4	70050DI/PTT3V6		
	3/4"	2.5	70075DI/PTT3V5	1995.00	
		4.4	70075DI/PTT3V6		
	Ductile Iron Body	1"	6.4	70100DI/PTT3V7	2144.52
			9.5	70100DI/PTT3V8	
		1-1/4"	6.4	70125DI/PTT3V7	2160.48
			9.5	70125DI/PTT3V8	
		1-1/2"	15	70150DI/PTT3V9	2321.76
			25	70200DI/PTT3VA	
		2"	30	70200DI/PTT3VB	2399.04
Range	3-15 PSI Direct Acting		N3Q3N3	0.00	
	3-15 PSI Reverse Acting		Q3Q3N3	0.00	
Action	Air to Close		ARD00	185.64	
	Air to Open		ARR00	185.64	

1/4" and 3/8" valves also available — call for pricing and availability.

* Low flow trim available. Call us for pricing and availability of reduced Cvs.

Need flow rates to 70 Cv? Call for the Mark 701/702 series.
Want to add a HART®-compatible positioner? Call for pricing.

Get full specs and learn more at bit.ly/mark-70

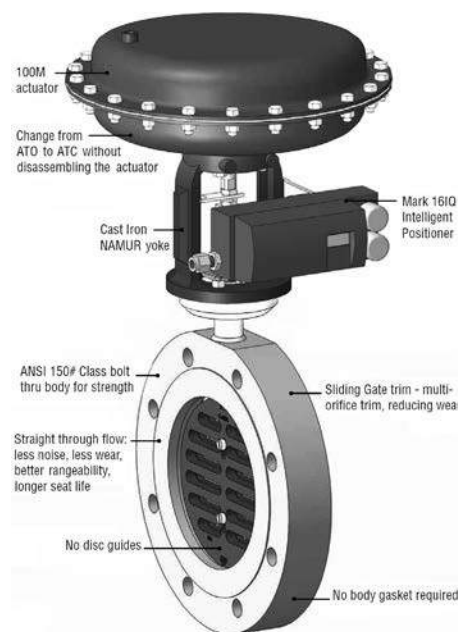


Mark 75 Sliding Gate Wafer-Style Pneumatic Control Valves



- Sliding gate design for tighter control and metering accuracy
- Wafer design virtually eliminates body wear issues caused by steam, flashing, and cavitation
- Light weight, compact body
- High capacities — up to 600 Cv linear on 8" valves
- T-slot design connection makes it easy to reverse function — just turn the seat 180°
- Sliding gate offers shorter stroke length than globe or cage designs for faster response to input signal changes
- Turndown ratio capability 100:1
- Straight-through flow reduces turbulence, noise, and erosion
- Side-mount HART® positioner

[Learn more and get full specs at bit.ly/mark-75](http://bit.ly/mark-75)



Specifications

Sizes: 1" to 6" ANSI 150#/300# class wafer-style bolt-around and 8" ANSI 150# class wafer-style bolt-through

Body and Bonnet Connection Material: Carbon steel (ASME SA-105) or 316 stainless steel (ASME SA-479)

Seats: Jorcote/316 Stainless Steel

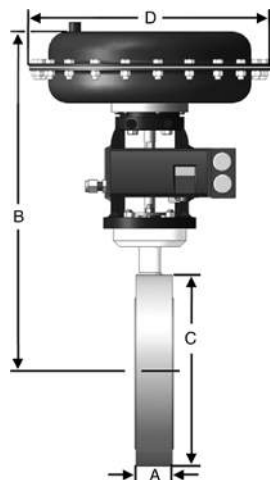
Yoke: Ductile iron (1" to 2" valves), NAMUR cast stainless steel (2-1/2" to 8" valves)

Actuator Case: Epoxy-coated steel

Packing Material: Spring-loaded Teflon V-ring (to 500° F), Grafoil above 500° F

Shutoff: ANSI Class IV

Valve Size	Dimensions			
	A	B	C	D
1"	1.24"	10.54"	2.76"	9.50"
1-1/2"	1.36"	10.82"	3.24"	9.50"
2"	1.76"	11.17"	3.98"	9.50"
2-1/2"	1.81"	14.08"	4.36"	12.50"
3"	1.81"	14.86"	5.25"	12.50"
4"	2.06"	17.98"	6.46"	15.00"
6"	2.23"	19.30"	8.62"	15.00"
8"	2.38"	21.91"	13.75"	15.00"



Valve Size	Standard Actuator Size	Linear Cv	Max Differential Pressure (PSI)	
			Teflon	Jorcote
1"	35M	9.5	175	200
1-1/2"	35M	31	175	200
2"	35M	72	175	200
2-1/2"	55M	76	250	275
3"	55M	103	250	275
4"	85M	180	300	325
6"	85M	400	200	225
8"	100M	600	220	250

25 PSI air supplied for Air-to-Close, 45 PSI air supplied for Air-to-Open.

Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **75SP100CS/I3T6W8A3B3A3ARD00G**

Description	Size	Flow Linear Cv*	Catalog Number	Price
-------------	------	-----------------	----------------	-------

Sliding Gate Pneumatic Wafer-Style Control Valve, Side-Mounted HART® Positioner, ANSI 150#/300# Connections, 316SS Trim, 316SS/Jorcote Seats, Teflon Packing, Actuator and Air Regulator

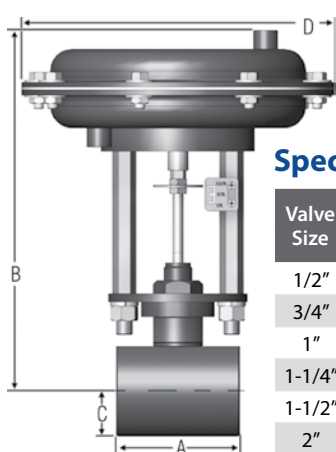
Carbon Steel Cast Body	1"	9.5	75SP100CS/I3T6W8	\$ 5209.68
	1-1/2"	33	75SP150CS/I3T6WA	5308.80
	2"	38	75SP200CS/I3T6WB	5767.44
		72	75SP200CS/I3T6WE	5767.44
	2-1/2"	76	75SP250CS/I3T6WF	5817.84
	3"	103	75SP300CS/I3T6WH	6045.48
	4"	180	75SP400CS/I3T6WI	7750.68
	6"	400	75SP600CS/I3T6WJ	9430.68
Stainless Steel Cast Body	8"	600	75SP800CS/I3T6WK	12861.24
	1"	9.5	75SP100S6/I3T6W8	5317.20
	1-1/2"	33	75SP150S6/I3T6WA	5332.32
	2"	38	75SP200S6/I3T6WB	6226.92
		72	75SP200S6/I3T6WE	5775.00
	2-1/2"	76	75SP250S6/I3T6WF	6578.88
	3"	103	75SP300S6/I3T6WH	7573.44
	4"	180	75SP400S6/I3T6WI	8920.80
6"	400	75SP600S6/I3T6WJ	10287.48	
8"	600	75SP800S6/I3T6WK	16863.84	
Range	3-15 PSI Direct Acting 3-15 PSI Reverse Acting		A B	0.00 0.00
Diaphragm and Air Regulator	For 1" to 2" Valves For 2-1/2" to 3" Valves For 4" to 6" Valves For 8" Valves		3B3A3AR 5B5A5AR 8B8A8AR 9B9A9AR	185.64 185.64 185.64 185.64
Action	Air-to-Close Air-to-Open		D00G R00G	0.00 0.00

* Low flow trim available. Call us for pricing and availability of reduced Cv's.

8000 Series Two-Way Globe-Style Pneumatic Control Valve



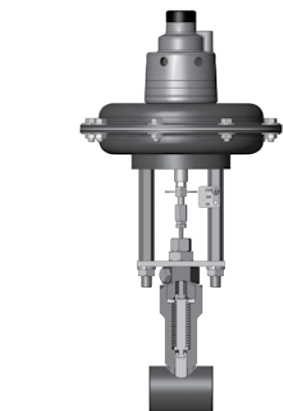
- Heavy duty control valves for processes that require full or fractional flow control
- For high pressure chemicals, steam, air, gas, oil, and water
- Fully enclosed multi-spring actuator to minimize deadband; field-reversible without the use of special tools or extra parts
- Heavy duty barstock construction for pressures to 6000 PSI
- Alloy body with Teflon V-ring standard, 316SS seat and stem, 17-4 pH SS plug, epoxy-coated steel actuator, and Buna-N diaphragm
- In-line maintainable for easy trim repairs
- ANSI shutoff: Class III for Cv <3.5, Class IV for Cv 3.5 or higher
- Temperature range: -20° to 400° F with standard packing



Also available with side-mount or top-mount positioner

Specifications

Valve Size	PSIG @ 100° F	Dimensions			
		A	B	C	D
1/2"	6000	3.00"	11.62"	1.25"	9.50"
3/4"	6000	3.00"	11.62"	1.25"	9.50"
1"	6000	3.75"	11.62"	1.50"	9.50"
1-1/4"	4000	5.00"	12.00"	1.65"	9.50"
1-1/2"	4000	4.75"	13.62"	2.00"	9.50"
2"	2500	5.75"	13.87"	2.20"	9.50"



Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **8000G050CB/PTSTAEA30000AD00**

Description		Catalog Number	Price	
Fractional Flow Control Valve, Threaded Ends, Teflon Packing, with Air Regulator				
Model	Two-Way Globe Valve	8000G		
Size and Material	Carbon Steel Body	1/2"	050CB/PTST \$ 1947.96	
		3/4"	075CB/PTST 2052.96	
		1"	100CB/PTST 2331.00	
	Stainless Steel Body	1-1/4"	125CB/PTST 3785.04	
		1-1/2"	150CB/PTST 4344.48	
		2"	200CB/PTST 5015.64	
Plug and Seat	Standard: Linear Hard	A	0.00	
		B	0.00	
	Standard: Equal Percentage Hard	0.05 (Std. on 1/2" valves)	A	0.00
		0.1 (Std. on 1/2" valves)	B	0.00
		0.2 (Std. on 1/2" valves)	C	0.00
		0.5 (Std. on 1/2" valves)	D	0.00
1.0 (Std. on 1/2" & 3/4" valves)		E	0.00	
1.5 (Std. on 1/2" to 1" valves)		M	0.00	
Flow Coefficient Cv	1.8 (Std. on 1/2" valves)	N	0.00	
	2.0 (Std. on 3/4" & 1" valves)	F	0.00	
	3.0 (Std. on 3/4" & 1" valves)	P	0.00	
	3.5 (Std. on 1" & 1-1/4" valves)	Q	0.00	
	4.0 (Std. on 1" & 1-1/4" valves)	G	0.00	
	4.3 (Std. on 1" valves)	R	0.00	
	6.5 (Std. on 1-1/4" & 1-1/2" valves)	H	0.00	
	7.1 (Std. on 1-1/4" valves)	S	0.00	
	9.0 (Std. on 1-1/2" & 2" valves)	I	0.00	
	12.5 (Std. on 1-1/2")	T	0.00	
	16.0 (Std. on 2")	J	0.00	
	17.0 (Std. on 2")	U	0.00	
25.0 (Std. on 2")	K	0.00		
Actuator	Air-to-Close (1/2" to 1-1/4" valves)	D3	0.00	
	Air-to-Close (1-1/2" to 2" valves)	D5	0.00	
	Air-to-Open (1/2" to 1-1/4" valves)	R3	0.00	
	Air-to-Open (1-1/2" to 2" valves)	R5	0.00	
Range	3-15 Direct Acting (Valves <1.5")	A30000A	187.32	
	3-15 Direct Acting (Valves 1.5" or 2")	A50000A	187.32	
	3-15 Reverse Acting (Valves <1.5")	B30000A	187.32	
	3-15 Reverse Acting (Valves 1.5" or 2")	B50000A	187.32	
Action	Direct Air-to-Close	D00	0.00	
	Reverse Air-to-Open	R00	0.00	

Cryogenic bonnet available for temperatures to -425° F

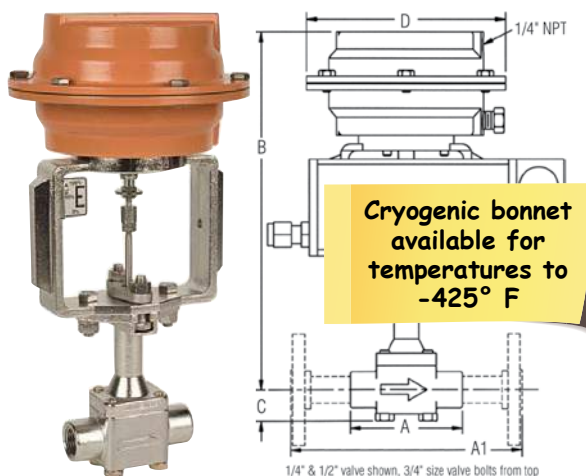
Learn more and get full specs at bit.ly/lowflow-8000

More options

- Bellows stem seal (far left) for fugitive emissions containment. 316Ti, triple-ply bellows, back-up packing, leak detection port. Requires positioner.
- High pressure three-way body (near left), 1/2" and 1", for mixing, diverting, or bypass applications
- 1/2" or 1" angle body for 90° installations. Flow into bottom standard, flow out into side for lower pressure
- Cryogenic bonnet option extends packing to prevent ice build-up, protects packing from damage caused by ice. Good to -425° F
- Models and materials for applications in chemical injection, cryogenics, corrosives, toxics, ammonia, and chlorine



708 Series Fractional Flow Control Valve with Side-Mounted Positioner



Cryogenic bonnet available for temperatures to -425° F

1/4\" & 1/2\" valve shown. 3/4\" size valve bolts from top

- For steam, air, gas, oil, water, and chemical service
- Accurate control for fractional flow services in pilot plant installations, test stands, R&D facilities, or dosing, injection, and venting applications
- Rolling diaphragm design ensures that the effective diaphragm area remains relatively constant, regardless of valve stem position
- Bolted body/bonnet connection simplifies maintenance — Remove and replace trim to change flow rates without removing valve from line
- Spring-loaded Teflon packing maintains a proper compression while minimizing excessive friction, reducing the need for field adjustments
- Extended orifice, plug guiding standard for improved shutoff and accuracy
- Carbon steel or stainless steel body and bonnet, 14M rolling Nylon diaphragm, spring-loaded TFE/ Chevron stem packing (good to 450° F)



Pressure Ratings (PSI)

Temp ° F	1/4\" and 1/2\"		3/4\"	
	SST	CS	SST	CS
100	5000	5000	4000	4000
200	4299	4555	3439	3644
300	3882	4426	3106	3541
400	3569	4278	2855	3422
500	3319	4042	2655	3234
600	3132	3691	2506	2953
650	3083	3623	2466	2898
700	3000	3596	2400	2877
750	2931	3401	2345	2721
800	2882	2780	2306	2224
850	2819	—	2255	—
900	2736	—	2189	—
950	2681	—	2145	—
1000	2528	—	2022	—

Valve Body Rating

Pressure rating at maximum temperature based on ASTM 193 Gr. B6 bolting material.

Size	Temperature	Stainless Steel	Carbon Steel
1/4\"	200° F Max.	2995 PSI	2995 PSI
1/2\"	800° F Max.	2736 PSI	2780 PSI
3/4\"	800° F Max.	2917 PSI	2224 PSI



See How to Change the Trim and Packing on a LowFlow Mark 708 Control Valve at: bit.ly/lowflow-708

Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **708SP025CS/PTT6ALA4T4S4A7**

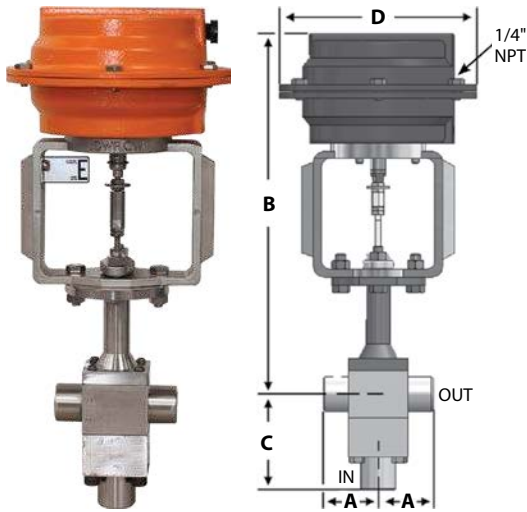
Description		Catalog Number	Price		
<i>Fractional Flow Control Valve with Side Mount HART® Positioner, Threaded Ends, 316SS Trim and Teflon Packing, Nylon/Nitrile Diaphragm, and Air Regulator for 14M Actuator</i>					
Dimensions (Inches)		A	B		
Carbon Steel Body	1/4\" Carbon Steel	11.6	0.9		
	1/2\" Carbon Steel	7.25	11.7		
	3/4\" Carbon Steel	13.5	1.2		
SS Body (For Temps >800° F)	1/4\" Stainless Steel	11.6	0.9		
	1/2\" Stainless Steel	7.25	11.7		
	3/4\" Stainless Steel	13.5	1.2		
Plug Seat	Standard: Linear Hard	A	0.00		
	Standard: Equal Percentage Hard	B	0.00		
Max Allowable DP Rating	A-T-O w/Pos @40 PSI	A-T-C 3-15 @ 20 PSI			
	0.00001	5000	5000	A	701.40
	0.00002	5000	5000	B	701.40
	0.00005	5000	5000	C	701.40
	0.0001	5000	5000	D	701.40
	0.0002	5000	5000	E	701.40
	0.0005	5000	5000	F	701.40
	0.001	5000	5000	G	598.92
	0.002	5000	5000	H	598.92
	0.005	5000	5000	I	598.92
	0.01	5000	5000	J	421.68
	0.02	5000	5000	K	421.68
	0.05	5000	5000	L	0.00
	0.1	5000	5000	M	0.00
0.2	5000	5000	N	0.00	
0.5	2350	2065	P	0.00	
1.0	2350	2065	Q	0.00	
2.0 *	800	650	R	0.00	
3.0	666	541	T	0.00	
4.0 **	532	432	S	0.00	
Range and Action	3-15 Direct	A4T4S4	0.00		
	3-15 Reverse	B4T4S4	0.00		
Regulator	None	00	0.00		
	Air Regulator for 14M Actuator	A7	187.32		
Action	Air-to-Close	DOG	0.00		
	Air-to-Open	ROG	0.00		

* Available in 1/2\" and 3/4\" sizes only

** Available in 3/4\" size only



Mark 709 Series Three-Way Control Valve



The Mark 709 three way valve is a lightweight control valve for use as a mixing valve in low flow process applications. Featuring a three-way body design, it is constructed with two inlets to blend two separate flow streams into a common outlet, creating a third fluid.

- For low flow process applications requiring a three way body for mixing two separate flow sources into one common line
- Compact, lightweight design for precise control in pilot plants, R&D facilities, and low flow process applications
- For air, gas, chemicals, oil, and water

Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **709SP050CB/PTT6AAA4T4S4ARD0G**

Description		Catalog Number	Price
<i>Fractional Flow Control Valve with Side Mount HART® Positioner, Threaded Ends, 316SS Trim and Teflon Packing, Nylon/Nitrile Diaphragm, and Air Regulator for 14M Actuator</i>			
Dimensions (Inches)		A	B
Carbon Steel Body	1/2" Carbon Steel	1.8	11.6
	3/4" Carbon Steel	2.2	12.0
SS Body (For Temps >800° F)	1/2" Stainless Steel	1.8	11.6
	3/4" Stainless Steel	2.2	12.0
Plug Seat	Standard: Linear Hard	A	0.00
	Standard: Equal Percentage Hard	B	0.00
Max Allowable DP Rating	A-T-O 3-15	A-T-C 3-15 @ 20 PSI	
Flow Coefficient Cv*	1.0	400	650
	1.25	400	650
	1.5	400	650
	2.0	400	650
	2.5	264	432
	3.0	264	432
	3.5	264	432
	4.0	264	432
Range and Action	3-15 Direct	A4T4S4	0.00
	3-15 Reverse	B4T4S4	0.00
Regulator	None	00	0.00
	Air Regulator for 14M Actuator	AR	187.32
Action	Air-to-Close	D0G	0.00
	Air-to-Open	R0G	0.00

Specifications

Valve sizes: 1/2" and 3/4"

Body Material: Carbon steel or stainless steel

Trim Material: 316 SS stem, plug, and seat

Stem Packing: PTFE

Actuator: Aluminum body; Nylon/Nitrile diaphragm (14M actuator); Buna-N fabric reinforced optional (35M)

Flow Characteristics: Linear/linear; equal percentage/ equal percentage

Pressure Ratings (PSI)

Temp	1/2"		3/4"	
	CS	SS	CS	SS
100	5000	5000	4000	4000
200	4299	4555	3439	3644
300	3882	4426	3106	3541
400	3569	4278	2855	3422
500	3319	4042	2655	3234

*1/2" valve is available with 1.0 to 2.0 Cv options only; choose any Cv option for 3/4" valve

Call for actuator with higher differential pressure ratings.

Control Valves vs. Regulators
for Pressure and temperature Control (NOT flow control)

Learn when to use a control valve vs. a regulator in pressure and temperature control applications.

Watch When to use a Control Valve vs a Regulator Webinar at bit.ly/valve-vs-regulator



CVS Controls Series E Globe Control Valves

The CVS Series E single port globe control valves feature composition or metal seat and a balanced valve plug with push down to close action.

- Valve sizes: ED and ET Series: 1"–8"; EZ Series: 1"–2"
- Flow characteristics: linear, quick opening, or equal percent
- Body material: LCC, WCB, WCC, WC9, C5, Monel, and CF8M SST
- 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.

Call for pricing and availability.

CVS
Controls Ltd.



Dwyer® Series 2000VA/3000WA 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 V-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

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

Our Manufacturer Partners

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MARWIN VALVE

SIEMENS

STERIFLOW

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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 page 41–45)

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	\$ 540.96	UT-0-DA	\$ 397.44
CV3000R-075	UT-2-SR	540.96	UT-0-DA	397.44
CV3000R-100	UT-2.5-SR	596.16	UT-1-DA	441.60
CV3000R-125	UT-3-SR	713.92	UT-2-DA	512.44
CV3000R-150	UT-3-SR	713.92	UT-2-DA	512.44
CV3000R-200	UT-3.5-SR	882.28	UT-2.5-DA	542.80
CV3000R-250	UT-4-SR	1141.72	UT-3-DA	806.84
CV3000R-300*	UT-6-SR	2918.24	UT-4-DA	1036.84
CV3000R-400*	UT-6-SR	2918.24	UT-4.5-DA	1302.72

* Maximum 700 PSI differential pressure across valve.



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.



Model Selection Guide

Models	Pneumatic		Electropneumatic					
	V200P	V200P-EHT Extra High Temp	V200E	V200E-IS	V200E-EX Explosion-Proof	V200E-0/10 VDC	V200E-FF Fail Freeze	V200E-GA Gas Approved
Input Range	3–15 PSI or 6–30 PSI	3–15 PSI or 6–30 PSI	4–20 mA	4–20 mA	4–20 mA	0–10 VDC	4–20 mA (load presents 6 volts constant voltage drop to the current source)	4–20 mA
Supply Pressure	20–145 PSI	20–145 PSI	20–145 PSI	20–145 PSI	20–145 PSI	20–120 PSI	20–100 PSI	20–100 PSI
Temp. Range	-40° to 185° F	-40° to 325° F	-40° to 185° F	-40° to 185° F	-40° to 160° F	-40° to 160° F	-40° to 158° F	-40° to 160° F
Low Temp. Option	-58° to 185° F	—	—	—	—	—	—	—
Air Connections	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Gauge Port	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT
Cable Entry	—	—	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT
Ingress and Corrosion Protection	NEMA 4X and IP 66	NEMA 4X and IP 66	NEMA 4X and IP 66	NEMA 4X and IP 66	NEMA 4X and IP 65	NEMA 4X and IP 66	NEMA 4X and IP 66	NEMA 4X and IP 66
Coating	Powder Polyester	Nickel Plated Aluminum	Powder Polyester	Powder Polyester	Powder Polyester	Powder Polyester Positioner Epoxy-IP Transducer	Powder Polyester	Powder Polyester
Approvals	—	—	—	FM, CSA Intrinsically Safe	FM, CSA Intrinsically Safe Explosion Proof	—	—	FM, CSA Intrinsically Safe Explosion Proof Dust Ignition Proof
High Phosphor Nickel Coating	✓	—	✓	✓	—	—	—	—
Tufram® Coating	✓	—	✓	✓	—	—	—	—

Call 800-953-7626 for pricing and help choosing the right model for your application.

Get full specifications and learn more at bit.ly/vac-v200

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
Enclosure Type [Note B]	1/4 turn, 1/2" square shaft, three 60° cams	7	14.00
	1/4 turn, NAMUR shaft, three 60° cams	S	0.00
	No indicator, 3/4" NPT conduit connection	A	0.00
	No indicator, M25 conduit connection	E	86.00
	90° beacon indicator, 3/4" NPT conduit conn	B	76.00
Flow Capacity	90° beacon indicator, M25 conduit conn	F	158.00
	60° flat indicator, 3/4" NPT conduit conn	J	76.00
	90° flat indicator, 3/4" NPT conduit conn	K	76.00
Temp Option	Standard capacity spool valve assembly Cv=0.3	A	0.00
	High flow capacity spool valve assembly Cv-0.6	B	36.00
Gauges	Standard temperature (-40° to 185°F)	A	0.00
	High temperature (-20° to 300°F) [Note B]	C	129.00
Limit Switches/Feed Back Devices	None	N	0.00
	4-20 mA feedback	NN	0.00
	Set of three gauges	G	82.00
	4-20 mA feedback, stainless steel feedback gear	N2	469.00
Approval	Two SPDT mechanical switches	N4	484.00
	Two SPDT mechanical switches, 4-20 mA feedback	1N	300.00
	Two SPDT mechanical switches, 4-20 mA feedback, stainless steel feedback gear	12	598.00
	None	14	630.00
	FM/CSA/CE/ATEX	DN	0.00
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 44.**

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

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



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

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

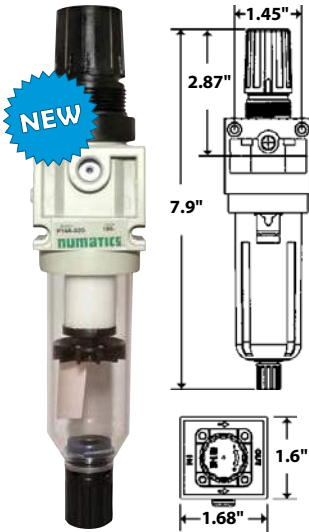
Notes

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.

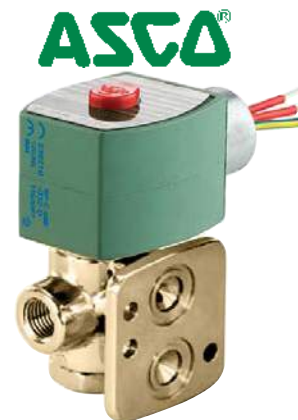
Standard Enclosures: *Red-Hat II:* Types 1–4, 3S and 4X Combination General Purpose and Watertight

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.

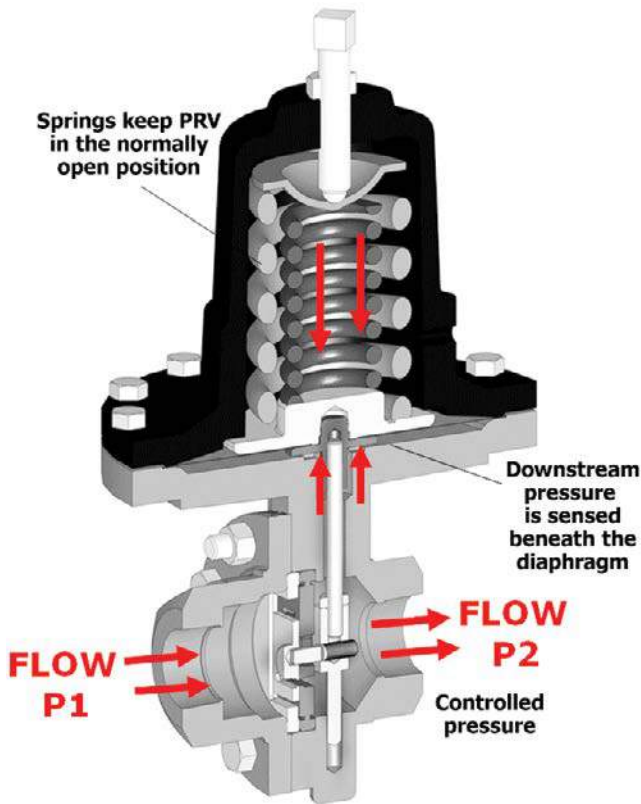
Kits: Include all internal parts that may require replacement in normal service: solenoid base subassembly, cores, resilient discs, seats, springs and all gaskets. Installation/maintenance sheets are included. Replacement coils must be ordered separately.



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



Properly utilized, regulators could replace control valves in at least 25% of all control loops.

– H.D. Baumann, *Control Valve Primer, 2nd Edition*

Need help finding a regulator for your application? Call Lesman inside sales at 800-953-7626. Our factory-trained team can walk you through the steps.

Introduction to Process Regulators

Frequently asked questions about process regulators

Q What is a regulator?

A A regulator is a stand-alone self-actuating controller that provides low initial cost, minimal maintenance, fast response, tight shutoff, low noise, and accurate regulation of the process

Q Why would I use a regulator?

- A** There are several reasons:
- No external power is needed to position the valve
 - No separate measuring elements or feedback controllers needed
 - Designs tend to be simple, providing low cost, high reliability, and easy maintenance
 - Absence of stem packing eliminates external leakage and a source of high friction
 - Regulators are in direct contact with the controlled variable, and offer very fast response

Q What do I need to know to select a regulator?

- A** A correctly sized regulator is essential for accurate control. You'll need to know the following details about your process:
- Required inlet pressure and outlet pressure
 - Required flow rate
 - Your process medium, and its viscosity and specific gravity
 - Desired minimum, normal, and maximum flow capacity
 - Process temperature

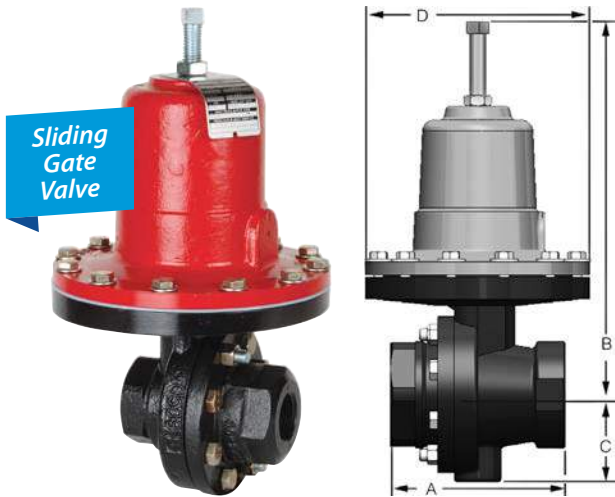
Q How do I compare regulator specifications?

- A** Three elements determine the accuracy of a regulator:
- The shorter the stroke length, the better.
 - The larger the diaphragm area, the more accurate
 - The lighter the spring, the more sensitive the regulator will be. But accuracy comes with a trade-off:
 - Pilot-operated regulators have a better accuracy (2–10% droop) and higher rangeability (35:1 or 50:1), but are slower to respond and cost more.
 - Self-operated regulators are less accurate (10–30% droop) and 10:1 rangeability, but respond faster and cost less.

Operation	Size Range	Setpoints	Flow Cv	Shutoff Class	Control Mechanism	Type	Key Feature	Series	See Page
Pressure Reducing	1/4" to 1/2"	5 to 750 PSI	0.012 to 0.2	ANSI Class IV		Self-Operating	High pressure, low flow requirements	JR	52
	1/4" to 4"	2 to 290 PSI	0.21 to 19	ANSI Class IV	Globe Style	Self-Operating		68G	50
	1/4" to 4"	1 to 450 PSI	0.21 to 30	ANSI Class IV	Sliding Gate	Self-Operating	All-around service	60	49
	1/2" to 6"	10 to 200 PSI	2.5 to 50	ANSI Class IV	Sliding Gate	Piloted	1–5% Offset	67	51
Back Pressure Reducing	1/2" to 6"	1 to 500 PSI	0.21 to 395	ANSI Class IV	Sliding Gate	Air-Loaded	Connects to DCS	66	51
	1/2" to 4"	0.5 to 450 PSI	0.84 to 200	ANSI Class IV	Sliding Gate	Self-Operating	For high viscosity	50	58
Temperature	1/4" to 2"	-20° to 450° F	0.0008 to 30	ANSI Class IV	Sliding Gate	Self-Operating	Accuracy to ±3° F	80	54



JORDAN VALVE Mark 60 Series Self-Operated Pressure Regulator



Sliding Gate Valve

- Regulates downstream pressure to a predetermined setpoint
- For steam, water, oil, gas, air, and chemical service
- Sliding gate trim for excellent trim life and accuracy
- Straight-through flow eliminates turbulence and won't unbalance seats
- Designed for quiet operation: With disc and plate in constant contact, there's no chatter
- Minimal maintenance: No special tools needed to disassemble sliding gate seats

Specifications

Available Sizes (Dependent on Model): 1/4" to 4"

End Connections: Threaded (shown), ANSI flange, or DIN flange

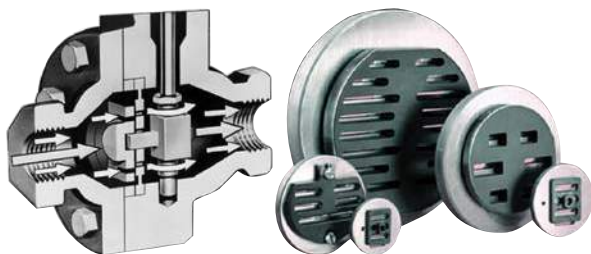
Body Construction: Ductile iron, carbon steel. Also available in bronze or stainless steel

Shutoff: ANSI Class IV

Other Models Available: High flow (for Cv to 70), quick change (quick-change dome for easy range spring replacement)

- **MK60:** available in 1/4" to 4" sizes (1/4" to 2" shown here); self-operating pressure regulators designed with Jordan Valve's sliding gate seats
- **MK61:** available in 1/4" to 3/4" sizes; features a larger diaphragm than a standard MK60 for greater sensitivity and minimum offset from a required setpoint

Get full specs and learn more at bit.ly/mark-60



Sliding gate valve design

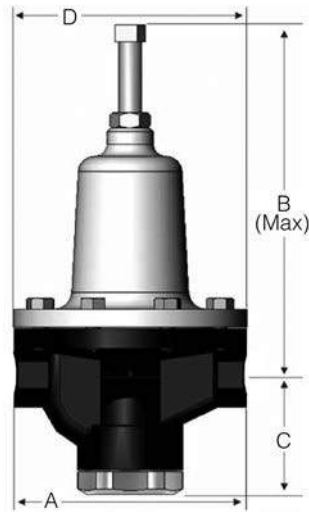
Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **60025DI/PTS3V315S6MD**

Description	Size	Flow Cv *	Disensions				Catalog Number	Price	
			A	B	C	D			
MK60, NPT End Connections, 303SS Trim and 303SS/Jorcote Seat									
Ductile Iron Body	1/4"	0.84	4.12"	8.50"	1.69"	5.12"	60025DI/PTS3V3	\$1177.68	
	3/8"	1.6	4.12"	8.50"	1.69"	5.12"	60038DI/PTS3V4	1177.68	
	1/2"	2.5	3.62"	8.50"	1.69"	5.12"	60050DI/PTS3V5	1177.68	
		4.4	3.62"	8.50"	1.69"	5.12"	60050DI/PTS3V6	1177.68	
	3/4"	2.5	3.62"	8.50"	1.69"	5.12"	60075DI/PTS3V5	1177.68	
		4.4	3.62"	8.50"	1.69"	5.12"	60075DI/PTS3V6	1177.68	
	1"	6.4	4.12"	10.00"	2.62"	7.09"	60100DI/PTS3V7	1470.84	
		9.5	4.12"	10.00"	2.62"	7.09"	60100DI/PTS3V8	1470.84	
	1-1/4"	6.4	4.12"	10.00"	2.62"	7.09"	60125DI/PTS3V7	1558.20	
		9.5	4.12"	10.00"	2.62"	7.09"	60125DI/PTS3V8	1558.20	
	1-1/2"	15	4.50"	10.25"	2.31"	7.09"	60150DI/PTS3V9	1710.24	
		2"	25	4.50"	10.25"	2.75"	7.09"	60200DI/PTS3VA	1784.16
	30		4.50"	10.25"	2.75"	7.09"	60200DI/PTS3VB	1784.16	
	MK61, NPT End Connections, 303SS Trim and 303SS/Jorcote Seat								
Ductile Iron Body	1/4"	0.84	4.12	10.25"	2.25"	7.12"	61025DI/PTS3V3	\$1663.20	
	3/8"	1.6	4.12				61038DI/PTS3V4	1663.20	
	1/2"	2.5	3.62				61050DI/PTS3V5	1663.20	
		4.4	3.62				61050DI/PTS3V6	1663.20	
	3/4"	2.5	3.62				61075DI/PTS3V5	1663.20	
		4.4	3.62				61075DI/PTS3V6	1663.20	
	Carbon Steel Body	1/4"	0.84	4.12	10.25"	2.25"	7.12"	61025CS/PTS3V3	2894.64
		3/8"	1.6	4.12				61038CS/PTS3V4	2894.64
1/2"		2.5	3.62				61050CS/PTS3V5	2894.64	
		4.4	3.62				61050CS/PTS3V6	2894.64	
3/4"	2.5	3.62				61075CS/PTS3V5	2894.64		
	4.4	3.62				61075CS/PTS3V6	2894.64		
MK60 Spring Range (1/4" to 3/4" Valves)	2-20 PSI						15	0.00	
	2-23 PSI						16	0.00	
	10-38 PSI						37	0.00	
	20-55 PSI						56	0.00	
	30-85 PSI						D8	0.00	
	35-160 PSI						81	0.00	
MK60 Spring Range (1" to 2" Valves)	95-220 PSI						A6	0.00	
	1-5 PSI						05	0.00	
	3-8 PSI						20	0.00	
	5-20 PSI						28	0.00	
	10-30 PSI						34	0.00	
	20-45 PSI						53	0.00	
MK61 Spring Range	30-95 PSI						75	0.00	
	60-160 PSI						97	0.00	
	1-5 PSI						05	0.00	
	2-12 PSI						10	0.00	
	2-25 PSI						17	0.00	
	10-35 PSI						36	0.00	
MK61 Spring Range	20-55 PSI						56	0.00	
	20-80 PSI						63	0.00	
	40-115 PSI						87	0.00	
	25-160 PSI						70	0.00	
	30-180 PSI						80	0.00	
	Diaphragm Material	316 Stainless Steel (Temperatures to 650° F)						S6MD	0.00
	Jorlon (Temperatures to 450° F)						JLMD	0.00	

* Call us for configurations with lower Cv values.

JORDAN VALVE Mark 68G Pressure Regulator



Specifications

Available Sizes: 1/4" to 2"

End Connections: Threaded (shown), ANSI flange, or DIN flange

Body Construction: Ductile iron. Also available in carbon steel, bronze or stainless steel

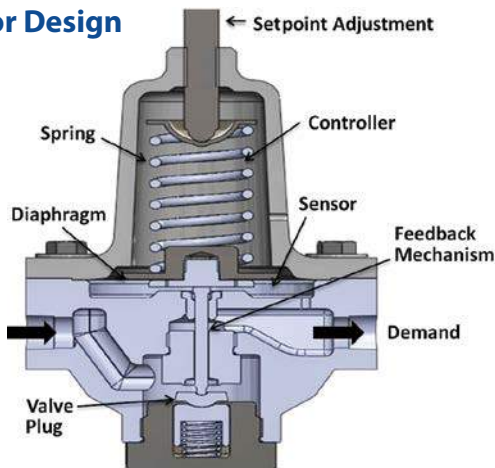
Shutoff: ANSI Class IV (hard seat), Class VI (soft seat) for bubble-tight shutoff

Inlet Pressure: 300 PSI max

Temperature Range:

Material	Minimum	Maximum
Buna-N Plug and Diaphragm	-20° F	200° F
Viton Plug, SST Diaphragm	-15° F	425° F
Viton Plug and Diaphragm	0° F	425° F
Metal Seat, SST Diaphragm	-20° F	500° F

Regulator Design



- The spring's downward force holds the plug normally open.
- As downstream pressure increases — with the decrease in flow demand — it forces the diaphragm up, closing the valve.
- As the valve closes, the inlet pressure is reduced to the selected setpoint.
- The controlled downstream pressure setpoint can be increased or decreased via the setpoint adjustment screw.

- Globe-style pressure reducing valve
- For water, air, oil, gas, steam, and chemical service
- Applications with differential pressures to 300 PSI
- Easy in-line maintenance: Bottom entry to expose plug, stem, and seat, top entry to access diaphragm
- Choice of ANSI Class IV (hard seat) or Class VI bubble-tight (soft seat) shutoff

Valve Size	Flow Cv *	Dimensions			
		A	B	C	D
1/4"	2.2	5.00"	7.56"	2.56"	5.00"
3/8"	2.6	5.00"	7.56"	2.56"	5.00"
1/2"	2.9	5.00"	7.56"	2.56"	5.00"
3/4"	7.0	5.00"	9.37"	2.62"	6.87"
1"	7.7	5.00"	9.37"	2.62"	6.87"
1-1/4"	15.5	7.50"	16.75"	3.87"	9.37"
1-1/2"	16.5	7.50"	16.75"	3.87"	9.37"
2"	19.0	7.50"	16.75"	3.87"	9.37"

* Standard Cv values. Contact us for configurations with lower Cv's.

Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **68G025DI/PT5C4JLMD0000**

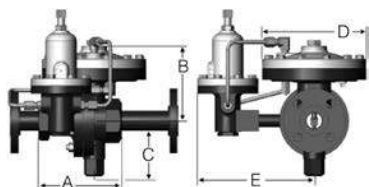
	Valve Size	Catalog Number	Price
Self-Operated Pressure Regulator, NPT End Connection, 303SST Trim, Seat			
Ductile Iron Body	1/4"	68G025DI/PT5	\$ 1060.92
	3/8"	68G038DI/PT6	1060.92
	1/2"	68G050DI/PT7	1060.92
	3/4"	68G075DI/PTF	1301.16
	1"	68G100DI/PTG	1301.16
	1-1/4"	68G125DI/PTP	2550.24
	1-1/2"	68G150DI/PTQ	2634.24
	2"	68G200DI/PTW	2634.24
Spring Range (1/4" to 1/2" Valves)	2-7 PSI	C4	0.00
	5-15 PSI	27	0.00
	10-55 PSI	CA	0.00
	50-160 PSI	CL	0.00
	150-200 PSI	CV	0.00
Spring Range (3/4" to 1" Valves)	3-10 PSI	C6	0.00
	5-20 PSI	28	0.00
	15-45 PSI	CB	0.00
	35-70 PSI	CF	0.00
	60-105 PSI	CN	0.00
	95-140 PSI	CQ	0.00
	130-180 PSI	CT	0.00
Spring Range (1-1/4" to 2" Valves)	2-16 PSI	12	0.00
	10-25 PSI	32	0.00
	20-65 PSI	60	0.00
	55-100 PSI	CM	0.00
	90-160 PSI	CP	0.00
Diaphragm Material	Buna N	BNMD0000	0.00
	Jorlon	JLMD0000	0.00
	316 Stainless Steel	S6MD0000	0.00
	Viton (for 1/4" to 1/2" Valves)	VIMD0000	253.68
	Viton (for 3/4" to 1" Valves)	VIMD0000	294.84
Viton (for 1-1/4" to 2" Valves)	VIMD0000	336.00	

Get full specs and learn more at bit.ly/mark-68g



Mark 67 Pilot-Operated Pressure Regulator

- For controlling pressure of gaseous oxygen to steel mill furnaces, sealing oil in turbines, and steam mains and distribution lines
- Greater accuracy and low offset in critical pressure-reducing applications
- Combines a sliding gate's short stroke with the action of a pilot valve
- Sliding gate seats for straight-through flow, reduced turbulence, quiet operation, fast response, and tight shutoff
- Standard model features plug-style pilot valve for pressure settings ranging from 10 to 200 PSI



Specifications

Line Sizes: 1/2" to 6" (for sizes >2", call Lesman)

End Connections: Threaded (shown), ANSI flange, or DIN flange

Body Construction: Ductile iron. Also available in cast iron, carbon steel, and stainless steel

Shutoff: ANSI Class IV

Gas Specifications: Meets requirement of GSA Standard Heating Specification PB54-1530 (AM.1), Paragraph 27.4

Model Selection Guide

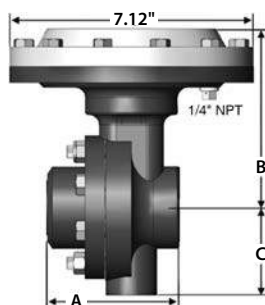
Make one selection from each section of the chart. A finished model number will look like this: **6769H050DI/PTM1VK40S6MDS3**

Description	Size	Flow Cv	Dimensions						Catalog Number	Price
			A	B	C	D	E	Length		
<i>MK67, 25-150 PSI Pressure Drop, NPT End Connections, Ductile Iron Body, 303SS Trim and Pilot, 303SS/Jorcote Seat, 316SS Diaphragm/Actuator</i>										
Ductile Iron Body	1/2"	5.0	5.31"	5.06"	3.50"	7.12"	8.00"	11.50"	6769H050DI/PTM1VK	\$2452.80
	3/4"	9.5	5.31"	5.06"	3.50"	7.12"	8.00"	11.50"	6769H075DI/PTM1V8	2616.60
	1"	15	5.69"	5.25"	3.62"	7.12"	8.00"	11.50"	6769H100DI/PTM1V9	2860.20
	1-1/4"	25	5.88"	5.43"	3.75"	7.12"	8.00"	11.50"	6769H125DI/PTM1VA	2909.76
	1-1/2"	45	8.18"	7.00"	5.00"	10.62"	9.50"	13.00"	6769H150DI/PTM1VW	3390.24
	2"	50	8.18"	7.00"	5.00"	10.62"	9.50"	13.00"	6769H200DI/PTM1VC	4193.28
Pressure Range	10-30 PSI								40S6MDS3	0.00
	25-75 PSI								65S6MDS3	0.00
	70-150 PSI								99S6MDS3	0.00
	120-200 PSI								A8S6MDS3	0.00

Call Lesman for 15-25PSI pressure drop, larger sizes, lower Cv values and other body materials.

Mark 66 Air-Loaded Pressure Regulator

- High accuracy pressure regulator for use at local or remote stations
- Rangeability of approximately 40:1
- Static air signal determines setpoint, no control spring or pilot needed
- No minimum differential pressure requirement
- Not susceptible to dirty service problems
- All metal-to-metal contacts, no gaskets or O-rings to wear out
- Sliding gate seat and straight-through flow



Specifications

Service: Steam, air, gas, liquids, or chemicals

Line Sizes: 1/2" to 6"

Body Material: Ductile iron

Trim Material: 303 or 316 stainless steel

Shutoff: ANSI Class IV

Model Selection Guide

Size	Flow Cv	Dimensions			Catalog Number	Price
		A	B	C		
1/2"	2.5	3.62"	4.11"	1.69"	66050DI/PTS3V500JLMD000	\$1782.48
	4.4				66050DI/PTS3V600JLMD000	
3/4"	2.5	3.62"	4.11"	1.69"	66075DI/PTS3V500JLMD000	1782.48
	4.4				66075DI/PTS3V600JLMD000	
1"	6.4	4.12"	4.31"	2.62"	66100DI/PTS3V700JLMD000	1929.48
	9.5				66100DI/PTS3V800JLMD000	
1-1/4"	6.4	4.12"	4.31"	2.62"	66125DI/PTS3V700JLMD000	2557.80
	9.5				66125DI/PTS3V800JLMD000	
1-1/2"	15	4.50"	4.27"	2.31"	66150DI/PTS3V900JLMD000	2628.36
	25				66200DI/PTS3VA00JLMD000	
2"	25	4.50"	4.49"	2.75"	66200DI/PTS3VA00JLMD000	3250.80
	30				66200DI/PTS3VB00JLMD000	

Call Lesman for larger sizes, lower Cv values and other body materials.



LOWFLOW
A Division of Jordan Valve

JR Series High Pressure Regulator

- Designed to handle very high pressures and very low flows
- For general, corrosive, and specialty gas service, and non-cavitating liquids
- Top entry design makes in-line cleaning and maintenance easy
- Barstock construction guarantees material integrity and surface finish
- High flow rate, high rangeability reduces the need for reduced trim sizes
- Fine thread pitch for precision setpoint adjustments

Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **JR-025-6L/AA1ST1E1JLSKNNN00**

Specifications

Soft Seat Material for ANSI Class VI Shutoff: Teflon to 225° F standard; Optional PEEK for temperatures to 350° F

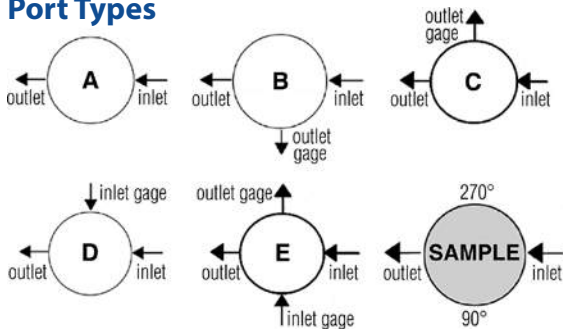
Inlet Pressure: 4000 PSIG max @ -20° F

Pressure at Maximum Temperature: 3600 PSI @ 150° F with Teflon seat

Pressure Drop: 3000 PSI max

Inlet and Outlet Gauge Ports: 1/4" NPTF standard

Port Types



Get full specs and learn more at bit.ly/lowflow-jr

Looking for 3A Sanitary or Hygienic Service regulators?
See pages 61 and 63

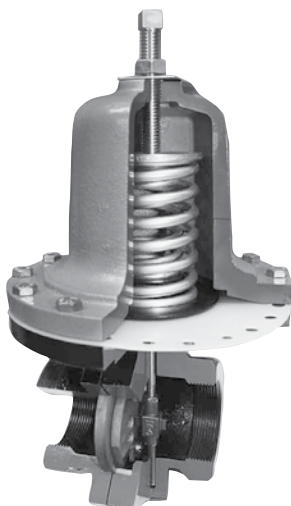


Description		Catalog Number	Price		
<i>Stainless Steel Pressure-Reducing Valve, Jorlon Diaphragm, Standard Actuator</i>					
	Size	Connection	Dim. A		
Valve	1/4"	NPTF Ends	2.00"	JR-025-6L/A	\$ 493.08
	3/8"	NPTF Ends	2.00"	JR-038-6L/B	\$ 554.40
	1/2"	NPTF Ends	2.75"	JR-050-6L/C	\$ 619.08
Port Type	A		A	0.00	0.00 0.00
	B		B	15.96	93.24 99.96
	C		C	15.96	93.24 99.96
	D		D	15.96	93.24 99.96
	E		E	30.24	147.84 162.96
Trim and Seat Material	Teflon Seat, 0.012 Cv		1ST1	0.00	0.00 0.00
	Teflon Seat, 0.08 Cv		2ST2	0.00	0.00 0.00
	Teflon Seat, 0.2 Cv		3ST3	0.00	0.00 0.00
Range Spring/Outlet Pressure	5-50 PSI		E1JLSK	0.00	0.00 0.00
	25-100 PSI		E2JLSK	0.00	0.00 0.00
	50-150 PSI		E3JLSK	0.00	0.00 0.00
	75-250 PSI		E4JLSK	0.00	0.00 0.00
	100-475 PSI		E5JLSK	0.00	0.00 0.00
	200-750 PSI		E6JLSK	63.00	63.00 63.00
Inlet Gauge (For Port Types D and E)	None		NN	0.00	0.00 0.00
	0-30 PSIG		AA	122.64	152.04 152.04
	0-60 PSIG/Bar (Dual)		BB	122.64	152.04 152.04
	0-100 PSIG/Bar (Dual)		CC	122.64	152.04 152.04
	0-160 PSIG/Bar (Dual)		DD	122.64	152.04 152.04
	0-200 PSIG/Bar (Dual)		EE	122.64	152.04 152.04
	0-300 PSIG/Bar (Dual)		FF	122.64	152.04 152.04
	0-400 PSIG/Bar (Dual)		GG	122.64	152.04 152.04
	0-600 PSIG/Bar (Dual)		HH	122.64	152.04 152.04
	0-1000 PSIG/Bar (Dual)		JJ	122.64	152.04 152.04
	0-2000 PSIG/Bar (Dual)		KK	122.64	152.04 152.04
	0-3000 PSIG/Bar (Dual)		LL	122.64	152.04 152.04
	0-5000 PSIG/Bar (Dual)		MM	122.64	152.04 152.04
Outlet Gauge (For Port Types B, C, and E)	None		N00	122.64	152.04 152.04
	0-30 PSIG		A00	122.64	152.04 152.04
	0-60 PSIG/Bar (Dual)		B00	122.64	152.04 152.04
	0-100 PSIG/Bar (Dual)		C00	122.64	152.04 152.04
	0-160 PSIG/Bar (Dual)		D00	122.64	152.04 152.04
	0-200 PSIG/Bar (Dual)		E00	122.64	152.04 152.04
	0-300 PSIG/Bar (Dual)		F00	122.64	152.04 152.04
	0-400 PSIG/Bar (Dual)		G00	122.64	152.04 152.04
	0-600 PSIG/Bar (Dual)		H00	122.64	152.04 152.04
	0-1000 PSIG/Bar (Dual)		J00	122.64	152.04 152.04

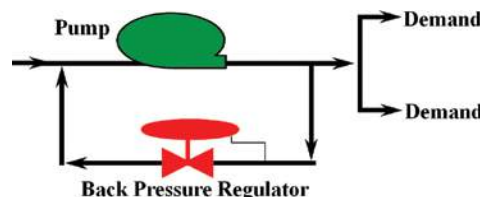


JORDAN VALVE Mark 50 Self-Operating Back Pressure Regulator

- Self-operating back pressure regulators with sliding gate seats for unsurpassed trim life and accuracy
- Designed to modulate to hold a specific back pressure (NOT a relief valve)
- Monitors and regulates upstream pressure
- Also known as a reverse-acting regulator
- Jorlon diaphragms, good to 450° F and 316 stainless steel diaphragms, good to 650° F, tested without failure to over a million full stroke cycles
- Quiet operation — typically 5–10 dB less than globe-style regulators — no chattering from disc and plate contact
- Straight-through flow cuts turbulence
- No special tools needed for maintenance



A typical back pressure regulator application.



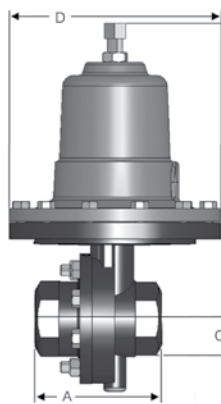
Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **50025CS/PTS3A414JLMD**

Description	Size	Flow Cv	Catalog Number	Price
<i>Self-Operating Back Pressure Regulator, Carbon Steel Body, NPT Threaded End Connections, 303SS Trim, 303SS/Jorcote Seat</i>				
Regulator Size and Cv Value	1/4"	0.84	50025CS/PTS3V3	\$ 1783.32
	3/8"	1.6	50038CS/PTS3V4	1783.32
	1/2"	2.5	50050CS/PTS3V5	1783.32
		4.4	50050CS/PTS3V6	1783.32
	3/4"	6.4	50075CS/PTS3V7	1783.32
		9.5	50075CS/PTS3V8	1783.32
		6.4	50100CS/PTS3V7	2583.84
	1"	9.5	50100CS/PTS3V8	2583.84
	1-1/2"	15	50150CS/PTS3V9	3281.04
		25	50200CS/PTS3VA	3627.96
2"	30	50200CS/PTS3VB	3627.96	
Spring Range (1/4" to 3/4" Valves)	2-20 PSI		14	0.00
	10-30 PSI		34	0.00
	20-45 PSI		53	0.00
	30-135 PSI		76	0.00
	80-185 PSI		A4	0.00
Spring Range (1" to 2" Valves)	0.5 to 4 PSI		03	0.00
	2-6 PSI		06	0.00
	4-13 PSI		21	0.00
	8-20 PSI		31	0.00
	15-80 PSI		50	0.00
	45-150 PSI		95	0.00
Diaphragm	316 Stainless Steel		S6MD	0.00
	Jorlon		JLMD	0.00

* Cv at capacity for a given regulator size provided at no charge.

Get full spec and learn more at bit.ly/mark-50



Specifications

Service: Steam, water, oil, gas, air, and chemicals

Shutoff: ANSI Class IV

Line Sizes: 1/2" to 2"

Body Material: Carbon steel (others available)

Trim Material: 303 stainless steel standard

Valve Size	Dimensions			
	A	B	C	D
1/2"	3.62"	8.50"	1.69"	5.12"
3/4"	3.62"	8.50"	1.69"	5.12"
1"	4.18"	10.75"	2.63"	7.09"
1-1/2"	4.81"	11.00"	2.25"	7.09"
2"	5.50"	11.00"	2.75"	7.09"

Need regulators in ductile iron, bronze, or stainless steel? We can deliver. Talk to Lesman inside sales.

Other Mark 50 models available for higher sensitivity, high pressures, grain processing applications, cryogenic service, and high capacities. Call for pricing.



More Than 90,000 views on YouTube!

Learn more about process regulators

Watch *Regulators 101: Basics of Pressure and Temperature Regulators* at bit.ly/regulators-101

JORDAN VALVE Mark 80 Self-Operating Temperature Regulator



- For tank heating, heat exchangers, steam tracing, air drying products, steam drain cooling and regulating cooling fluids
- 10° F span of control, accurate to ±2%
- Sliding gate seats for reduced turbulence, quiet operation, short stroke, fast response, accurate temperature control
- Easy to change Cv as needed
- Requires no external power source
- Standard with Jordan's sliding gate regulator design
- Sealed actuator with stainless steel diaphragm — no bellows needed

Specifications

Service: Steam, water, oil, gas, air, and chemicals

Shutoff: ANSI Class IV

Body Material: Ductile iron or bronze. Carbon steel and stainless steel also available. Call for pricing.

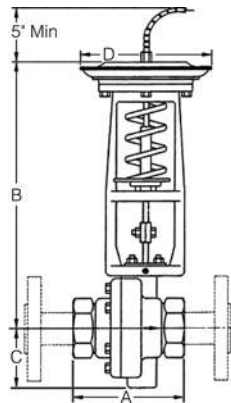
Body Ratings	Material	100° F	450° F
	Ductile Iron	988 PSI	988 PSI
Bronze	500 PSI	350 PSI	
Carbon Steel	1480 PSI	1235 PSI	
Stainless Steel	1480 PSI	990 PSI	

Trim Material: 303 stainless steel std.

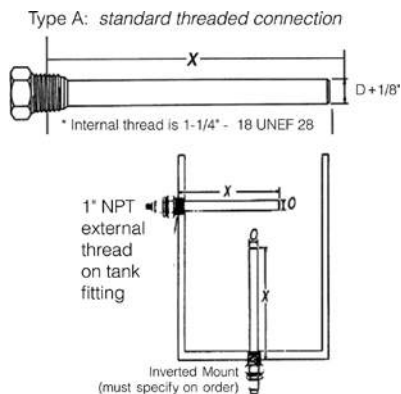
Overheat Protection: 100° F above top of control range

Action: Direct (temperature increase closes valve) or reverse (temperature increase opens valve)

Valve Size	Dimensions			
	A	B	C	D
1/2"	3.62"	12.00"	2.18"	7.00"
3/4"	3.62"	12.00"	2.18"	7.00"
1"	4.12"	12.25"	2.62"	7.00"
1-1/4"	4.12"	12.25"	2.62"	7.00"
1-1/2"	4.50"	12.75"	2.75"	7.00"
2"	4.50"	12.81"	3.00"	7.00"



Thermal System: Type SWA actuator, copper capillary (8' standard length, available up to 100'), stainless steel armor with copper bulb, 1" NPT threaded connection standard



Model Selection Guide

Make one selection from each section of the chart. A finished model number will look like this: **80-050-DI/PTT3V549AAAN1N1QD**

Description	Size	Flow Cv	Catalog Number	Price
<i>Self-Operating Temperature Regulator, NPT Threaded End Connections, 303SS Trim, 303SS/Jorcote Seat, Teflon Packing, and Copper Bulb with 1" NPT Fitting, 8' Standard Copper Capillary and SWA Actuator</i>				
Ductile Iron Body	1/4"	0.84	80-025-DI/PTT3V3	\$ 1898.40
	3/8"	1.6	80-038-DI/PTT3V4	1898.40
	1/2"	2.5	80-050-DI/PTT3V5	1898.40
		4.4	80-050-DI/PTT3V6	1898.40
	3/4"	2.5	80-075-DI/PTT3V5	1942.92
		4.4	80-075-DI/PTT3V6	1942.92
	1"	6.4	80-100-DI/PTT3V7	2165.52
		9.5	80-100-DI/PTT3V8	2165.52
	1-1/4"	6.4	80-125-DI/PTT3V7	2215.08
		9.5	80-125-DI/PTT3V8	2215.08
	1-1/2"	15	80-150-DI/PTT3V9	2372.16
	Bronze Body	2"	25	80-200-DI/PTT3VA
30			80-200-DI/PTT3VB	2732.52
1/4"		0.84	80-025-BR/PTT3V3	2662.80
3/8"		1.6	80-038-BR/PTT3V4	2662.80
1/2"		2.5	80-050-BR/PTT3V5	2662.80
		4.4	80-050-BR/PTT3V6	2662.80
3/4"		2.5	80-075-BR/PTT3V5	2678.76
		4.4	80-075-BR/PTT3V6	2678.76
1"		6.4	80-100-BR/PTT3V7	2929.92
		9.5	80-100-BR/PTT3V8	2929.92
1-1/4"		6.4	80-125-BR/PTT3V7	2948.40
9.5		80-125-BR/PTT3V8	2948.40	
1-1/2"	15	80-150-BR/PTT3V9	3055.92	
2"	25	80-200-BR/PTT3VA	3304.56	
	30	80-200-BR/PTT3VB	3304.56	
Standard Spring Range [1] (Call for °C Ranges)	-20° to 20° F [2]		06	0.00
	10° to 55° F [3]		12	0.00
	35° to 90° F [3]		19	0.00
	55° to 115° F [3]		27	0.00
	80° to 140° F [3]		35	0.00
	110° to 165° F		42	0.00
	120° to 185° F		49	0.00
	160° to 225° F		58	0.00
	205° to 260° F		66	0.00
	230° to 290° F		72	0.00
265° to 325° F		81	0.00	
315° to 400° F		88	0.00	
380° to 450° F		93	0.00	
Thermowell (Diam x Len)	1" x 12" Thermowell Bulb		AAAN1N1Q	274.68
	1" x 14" Thermowell Bulb		ABN2N1Q	274.68
Action	Direct		D	0.00
	Reverse		R	0.00

- [1] Light spring ranges also available. Call for availability.
- [2] Requires a reinforced actuator. Call Lesman for pricing and availability.
- [3] Requires a 14" bulb.

Get full specs and learn more at bit.ly/mark-80



APCO CVS-6000/6000A Cushioned Swing Check Valves

- For use in water sewage, water treatment, water distribution and wastewater applications
- Sizes from 2" to 66"
- Pressure rating: up to 640 PSI CWP
- Temperature range: up to 250° F
- Cast iron or ductile iron body; metal or resilient seat
- ASME Class 125/150 or Class 250/300 flanges
- Horizontal or vertical (flow up) installation is standard, reverse flow optional
- Disc position indicator, cushion closing, control close, outside lever, field convertible controls
- Full waterway flow-through area and low head loss
- Replaceable seat ring without the need for special tools
- Closure control devices: air cushioned cylinder, oil controlled cylinder, bottom mounted buffer, lever and spring, lever and wight

DeZURIK
APCO | HILTON



Get full specifications and learn more at bit.ly/apco-6000

DeZURIK
APCO | HILTON

APCO CDD Double Door Check Valves



- For automatic prevention of back-flow in clean liquids and gases; Popular in refineries, petrochemical, gas liquefaction, other process industries and HVAC applications
- Sizes from 3" to 36" (larger sizes available)
- Flow Cv: 62 to 55000, depending on valve size and trim
- Pressure ratings ASME Class 150 for lugged valves; ASME Class 150/300 for wafer valves; ASME Class 150 for 8" and larger wafer valves
- Body materials: ductile iron, carbon steel, stainless steel standard
- Cost-efficient design non-slam properties

Get full specifications and learn more at bit.ly/apco-cdd

APCO CRF Rubber Flapper Check Valves

- For use in raw sewage, water systems, industrial wastes, chemical lines, erosive service, ash service, acid lines, tailings systems, light slurries, corrosive services, leaching lines, scrubbers and brine and salt water systems
- Sizes from 2" to 48"
- Pressure rating: up to 250 PSI CWP
- Temperature range: up to 250° F
- Cast iron, ductile iron or bronze body
- ASME Class 125/150 flanges
- Molded, steel-reinforced rubber flapper provides bubble-tight seating
- Meets AWWA C508 standard for complete valve assemblies
- Horizontal or vertical (flow up) installation standard; reverse flow optional
- Control close standard; disc position indicator optional
- Spring return or spring assist closure configurations help eliminate or minimize slam even in vertical applications
- Simple three-part construction (body, flapper and cover) requires very little maintenance
- Clear flow passage allows all foreign matter to be flushed away by the flowing medium



DeZURIK
APCO | HILTON

Get full specs and learn more at bit.ly/apco-crf

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

APCO ARV Air Release Valves for Clean Water



- Available valve sizes: 1/2" to 6"
- Body materials: cast iron or ductile iron
- All APCO Air Release Valves are 100% Hydrostatically factory tested to ANSI/AWWA C512 standards

APCO Air Release Valves (ARV) for clean water release air pockets that collect at each high point of a pipeline. Air buildup increases resistance by 10 to 15%, which makes the pump work harder and use more power. Installing an ARV valve each high point of the pipeline prevents excessive power consumption and associated costs.

Get full specifications and learn more at bit.ly/apco-arv
Call 800-953-7626 for pricing and delivery.

APCO AVV Air/Vacuum Valves

- Available valve sizes: 1/2" to 24"
- Body materials: ductile iron standard, carbon steel, stainless steel and other materials available on request
- Eliminates risk of collapsing the line due to vacuum
- Exhausts air when the line is filled
- Every valve hydrostatically factory tested

APCO AVV air/vacuum valves are designed to let the air in or out of the pipeline through a large venting orifice. They are used to exhaust large quantities of air from a pipeline when it is being filled and remain closed until the pipeline needs to be drained. The AVV valve opens immediately when the liquid begins to drain to prevent vacuum from occurring and damaging the pipeline.



Get full specifications and learn more at bit.ly/apco-avv. Call 800-953-7626 for pricing and delivery.



Safety Shutoff and Vent Valves Available From Stock

5000 Series Electromechanical Valves for Oil and Gas



5

Available to Ship in
5 Business Days
or Less!

- 3/4" to 3" line sizes with threaded NPT process connection; Line pressures up to 125 PSIG
- Field-rotatable top assemblies in 90° increments to fit your application
- Actuators available with manual reset or automatic reset operators
- Visual position indication standard
- Overtravel position switches for open and closed position
- Electrically actuated valves with powerful closing spring provide closure in less than one second
- FM, CSA, UL, and CE approved; Available for non-incendive Class I, Div 2 areas; Full assessment to IEC 61508 as SIL 3 capable; Designed to meet Fluid Control Institute (FCI) 70-2 control valve standard for Class VI seat leakage

Model Selection Guide

Connection	Valve Size	Timing	Catalog Number	Price
Maxon 5000 Series Gas Shutoff Valve: Normally closed automatic gas shutoff valve, cast iron body, one proof of open switch, one proof of closure switch, Buna N O-rings and bumper, 115 VAC, 60 Hz voltage, NEMA 4 enclosure				
NPT Threaded	0.75" (DN20)	6 sec.	075SMA11-AA11-BB21A0	\$1,724.60
	1" (DN25)		100SMA11-AA11-BB21A0	1,754.30
	1.25" (DN32)		125SMA11-AA11-BB21A0	1,765.00
	1.5" (DN40)		150SMA11-AA11-BB21A0	1,816.80
	2" (DN50)		200SMA11-AA11-BB21A0	2,146.00
	2.5" (DN65)		250SMA11-AA11-BB21A0	2,410.20
ANSI Flanged	3" (DN80)	6 sec.	300SMA11-AA11-BB21A0	2,579.20
	2.5" (DN65)		250CMA11-BA11-BB21A0	3,451.20
	3" (DN80)		300CMA11-BA11-BB21A0	3,585.50
ANSI Flanged	4" (DN100)	12 sec.	400CMA11-BA11-BB21A0	3,315.00
	<i>Larger valves with high flow capacity, 12 second motor timing.</i>			
ANSI Flanged	4" (DN100)	12 sec.	400HMA11-BA11-BB31A0	8,205.70
	6" (DN150)		600HMA11-BA11-BB31A0	10,359.90



Eccentric Plug Valves

See multi-port plug valves on page 28

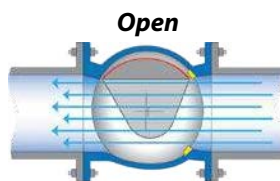
Rectangular Port Provides Improved Shutoff

The rectangular area port of the DeZURIK eccentric plug valve avoids the wear and other problems associated with point-to-point seating in valves utilizing a segmented ball design.

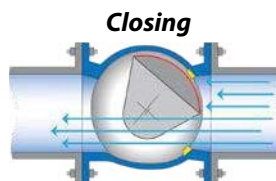
With the cylindrical plug and rectangular port of the DeZURIK eccentric plug valve, exact plug-to-seat alignment is not required. Axial alignment is not an issue, as it does not affect seat contact. Rotational alignment is provided by the eccentric action of the plug as it moves into the seat making uniform, full contact. Without the need for exact alignment, the plug shutoff position has much wider tolerances and provides more reliable shutoff.

Eccentric Action

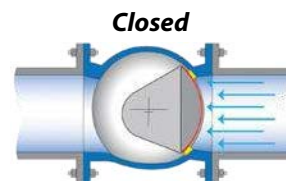
Quarter turn eccentric action and resilient plug facings ensure lasting bubble-tight shutoff. As the eccentric plug rotates from open to closed, it moves into a raised eccentric seat



Open
In the open position, the plug is out of the flow path.



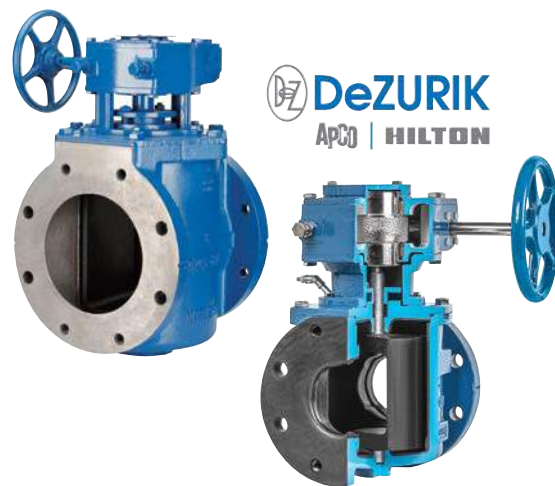
Closing
As the plug closes, it moves eccentrically toward the seat without scraping the seat or body walls, so there is no plug binding or wear.



Closed
The resilient plug face makes full, uniform, firm contact with the seat for bubble-tight shutoff.

PEF Full Port Eccentric Plug Valves

- For on/off, throttling, and control operation in clean, dirty, viscous and corrosive liquids, sludge, fibrous slurries and clean, dirty and corrosive gases
- Sizes from 3" to 36"
- Flow Cv: 880 to 95100, depending on valve size and trim
- Pressure ratings: 3" to 12" to 175 PSI; 14" to 36" to 150 PSI
- Good for temperatures up to 250° F
- Cast iron body with ductile iron plug (meets AWWA C517 requirements); Corrosion-resistance bearings, welded nickel seat, grit excluders, adjustable packing; Flanged or mechanical joint end connections
- Resilient plug face: bubble-tight shutoff rating to 175 PSI bidirectional
- 100% port and straight through body design with flushing port
- Soft rubber lined option for on/off service in corrosive and/or abrasive slurries
- Lever, handwheel, chainwheel, square nut, G-Series cylinder or electric motor actuators



Get full specifications and learn more at bit.ly/dezurik-pef



PEC Eccentric Plug Valves

- For on/off, throttling, and control operation in clean, dirty, viscous and corrosive liquids, sludge, and clean, dirty and corrosive gases
- Sizes from 1/2" to 72"
- Flow Cv: 10 to 150000, depending on valve size
- Pressure rating: 125 – 450 PSI CWP
- Good for temperatures up to 450° F
- Resilient plug face: bidirectional bubble-tight shutoff to 175 PSI
- Body materials: cast iron (meets AWWA C517 requirements, aluminum, carbon steel, 316SS, Alloy 20, Monel, ductile iron, acid resistant bronze; Flanged or mechanical joint, grooved or threaded end connections
- Heavy-duty stainless steel bearings, welded nickel seat, grit excluders, adjustable packing
- Soft rubber lined option for on/off service in corrosive and/or abrasive slurries
- Lever, handwheel, chainwheel, square nut, G-Series cylinder or electric motor actuators

Get full specifications and learn more at bit.ly/dezurik-pec



Call our factory-trained team at 800-953-7626 for help choosing the right plug valve for your application!

Low Cycle



KGN-RSB Bidirectional Cast Stainless Steel

- For on/off operation in low cycle corrosive, abrasive liquid applications like paper stock to 3%, and municipal pump/equipment isolation

Sizes: 2" to 24"

Flow Cv: 264 to 39300, depending on valve size and trim

Temperature range: To 400° F

Pressure rating: 150 PSI CWP

Body: Cast 304 and 316 SS

Seat: Resilient

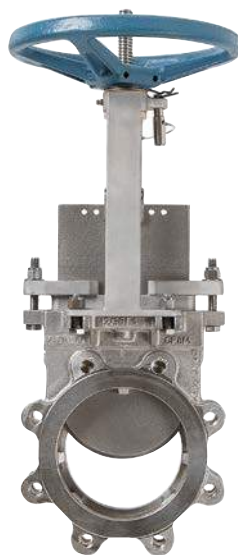
Face-to-face: MSS SP-81

Shutoff: Bidirectional, bubble-tight, even under lowest pressure

Actuator: Handwheel or cylinder

Get full specs and learn more at bit.ly/kgn-rsb

High Cycle



KGC-HD Heavy Duty Cast Stainless Steel

- For raw and treated water, clean or dirty liquids, viscous fluids, water-conveyed solids, dry materials; paper stock to 3% or 6%, liquor service, slurries to 15% solids; pellets, process chemicals, and petroleum products; municipal pump/equipment isolation or dewatered sludge; fly ash, bottom ash, FGD scrubbers; and raw foods material handling

Sizes: 2" to 48"; 2" to 24" valves conform to AWWA C520 design and production testing requirements

Flow Cv: 89 to 165000, depending on valve size and trim

Temperature range: to 1000° F

Pressure rating: 150 PSI CWP; 100 PSI CWP on 30" and 36" valves

Body: Cast 304, 316, and 317 SS

Seat: Metal or resilient

Face-to-face: MSS SP-81

Shutoff: MSS SP-81 or driptight

Actuator: Lever, handwheel, chainwheel, bevel gear, cylinder, or electric motor

Get full specs and learn more at bit.ly/kgc-hd



KGC-ES Extended Service Cast Stainless Steel

- For same applications as KGC-HD plus recycle trash
- Designed specifically for use in tough applications: dirty liquids, viscous fluids, water-conveyed solids; paper stock to 6%, liquor service; pellets, dry materials, process chemicals, and petroleum

Features premium packing system for extended seal life.

Sizes: 2" to 48"; 2" to 24" valves conform to AWWA C520 design and production testing requirements

Flow Cv: 89 to 165000, depending on valve size and trim

Temperature range: to 1000° F

Pressure rating: 150 PSI CWP; 100 PSI CWP available for 30" and 36" valves

Body: Cast 304, 316, 317, 254-SMP, 2205 duplex SS, Hastelloy C 276

Seat: Metal or resilient

Face-to-face: MSS SP-81

Shutoff: MSS SP-81 or driptight

Actuator: Lever, handwheel, chainwheel, bevel gear, cylinder, or electric motor

Get full specs and learn more at bit.ly/kgc-es

Special Service



KLS Sensor Isolation

- Specifically designed for mount between the stock chest and the level sensor

Size: 3"

Temperature range: to 450° F

Pressure rating: 150 PSI CWP

Body: 316 and 317 SS, Hastelloy C, and 254 SMO SS

Seat: PTFE composite, chloro-sulfonyl-polyethylene, and fluoro-rubber

Actuator: Ratchet or socket drive allows for close mounting to the tank

Get full specs and learn more at bit.ly/dezurik-cls



Abrasion-Resistant



KSL-LA Slurry

- For on/off operation in high cycle, abrasive, high solids content, wet or dry materials applications, such as raw and treated water, clean liquids, slurries with 15 to 30% solids; chemical process fluids or petroleum products; FGD scrubbers
- Specifically designed for use in dirty liquids, viscous fluids, water-conveyed solids, dry materials, slurries to 15% solids; bottom ash; and raw materials handling

Sizes: 2" to 24"

Flow Cv: 193 to 33600, depending on valve size and trim

Temperature range: to 300° F with high-temperature seat materials

Pressure rating: 100 PSI CWP

Body: Ductile iron, carbon steel, 316SS, 2205 duplex SS

Seat: Resilient

Face-to-face: MSS SP-81

Shutoff: Bidirectional, driptight

Actuator: Handwheel, chainwheel, bevel gear, pneumatic or hydraulic cylinder, and electric motor

Get full specs and learn more at bit.ly/ksl-la



KUL Urethane Lined

- For high cycle applications, raw and treated water, clean liquids, slurries with 15 to 30% solids; chemical process fluids or petroleum products; FGD scrubbers; Specifically designed for use in dirty liquids, viscous fluids, water-conveyed solids, dry materials, slurries to 15% solids; bottom ash; and raw materials handling

Urethane compounds suitable for water, oil, food, phosphoric acid, petroleum and high temperature service to 265° F.

Sizes: 2" to 48"; 2" to 24" valves conform to AWWA C520 design and production testing requirements

Flow Cv: 89 to 165000, depending on valve size and trim

Temperature range: 40° to 180° F standard; to 265° F on application

Pressure rating: 150 or 250 CWP

Body: Urethane lined ductile iron

Seat: Metal or resilient

Shutoff: Bidirectional, driptight; good for dead-end service

Actuator: Handwheel, chainwheel, bevel gear, pneumatic or hydraulic cylinder, and electric motor

Get full specs and learn more at bit.ly/dezurik-kul

O-Port



KGO O-Port

- For on/off applications with abrasive slurry and dry abrasives such as raw and treated water, clean liquids, dirty liquids, viscous fluids, water conveyed solids, scaling and dry materials
- Specifically designed for use in 6%+ paper stock and slurries 30%+ solids

Capable of closing through a standing column of dry material

Sizes: 2" to 24"

Flow Cv: 378 to 51100, depending on valve size and trim

Temperature range: to 1000° F

Pressure rating: 150 PSI CWP

Body: Cast 304, 316, 317, 254-SMP, 2205 duplex SS, Hastelloy C 276

Seat: Metal or resilient

Face-to-face: MSS SP-81

Shutoff: Unidirectional, MSS SP-81

Actuator: Lever, handwheel, chainwheel, bevel gear, cylinder, or electric motor

Get full specs and learn more at bit.ly/dezurik-kgo

Fabricated



HILTON H-200-B Fabricated Custom Design

- For on/off operation in water, wastewater, mining, paper stock 6%+, slurry to 15% solids, hydraulic flow control, and hydro power and dams
- Specifically designed for use in raw and treated water, clean liquids, dirty liquids, viscous fluids, water-conveyed solids, chemical pellets and dry material, municipal and hydro pump/equipment isolation and dewatered sludge

Size: 2" to 98"

Flow Cv: 250 to 725000, depending on valve size and trim

Temperature range: -40° to 2000° F

Pressure rating: 2" to 24": 150 PSI CWP; 30" to 96": 50 PSI CWP; custom designs to 400 PSI

Construction materials: Carbon steel or 304SS standard; custom designs available with solid or wetted parts in any weldable alloy

Shutoff: MSS SP-81 or driptight

Get full specs and learn more at bit.ly/h-200-b



SHC Sanitary Check Valve

- Meet ASME BPE 2009 standards
- For gas or liquids, and CIP/SIP use
- Available in 1/2" to 2" sizes
Vertical flow models 1/2" to 3" sizes
- 316L stainless steel body and metallic disc, Ra20 polished
- No spring, hinge, or mechanical return mechanism or stem, so they're crevice-free with no areas for particle entrapment — minimizes particulate shedding



Get full specs and learn more at bit.ly/steriflow-shc

MK9020 Sanitary Ball Valve

- Meet ASME BPE 2007 standards
- Available in 1/2" to 4" sizes, and pressure ratings to 1000 PSIG
- For clean steam, condensate, CIP, clean air or gas, or any viscous media or application where inline valve cleaning or remove-for-cleaning access is desired
- Industry-grade high density 316L stainless steel body, ball, stem, and end caps with <3% ferrite standard
- Certified TFM 1600 body seal, seat, thrust washer and packing material meet FDA and USP in-vivo and in-vitro testing requirements



Call Lesman for model selection and pricing.

MK93 Thermostatic Steam Trap

- 1/2", 3/4", and 1" sizes
- For fermenters, sterilizers, SIP/CIP systems, autoclaves, bioreactors, process piping, and steam barriers
- All 316L stainless steel housing and internals; 20 Ra finish polished
- FDA, USP Class VI TFE-VIT gasket standard
- For differential pressures up to 65 PSID (high pressure model good to 90 PSID); Maximum operating pressures to 90 PSIG
- Self-draining when installed vertically (outlet side down)
- Excellent flow rates, even at subcooling levels less than 3° F



Get full specs and learn more at bit.ly/steriflow-mk93

CSDT Thermostatic Disc Trap

- For fluctuating loads and pressures in clean steam applications and quick response applications where subcooling problems exist
- AISI 316L stainless steel body, disc, and disc trap with 20Ra mechanical finish
- Available in 1/2" and 3/4" sizes with Tri-Clamp® ends
- For pressures to 227 PSIG, and temperatures to 842° F
- Immediate full discharge when open. No output modulation



Call Lesman for model selection and pricing.

SG In-Line Sight Glasses

- For ASME BPE applications in high purity tubing systems in the pharmaceutical and biopharmaceutical industries
- Double-window design ensures optimum viewing area, eliminates the need for a back light
- Bore and end fittings match that of corresponding tube size, preventing the possibility of fluid retention, even when units are installed horizontally
- Suitable for CIP and SIP applications
- Available in 1/2" to 4" sizes with Tri-Clamp® connections
- 316L stainless steel body, end fitting, borosilicate glass, EPDM seal standard
- Good to 145 PSIG and 302° F



Get full specs and learn more at bit.ly/steriflow-sg



Sample coolers, left to right: SC60, SC50, and portable SC30

SC Series Sample Coolers

- Take clean steam and high purity water samples quickly and easily, while maintaining a sterile testing environment
- Use the SC60 for permanent mounting — designed to be sterilized in place. Ideal for obtaining samples at both the point of generation (clean steam generator or WFI still) or any permanent sampling point in the distribution system
- Use the SC50 for environments where the water supply may cause fouling of the coil — can be disassembled for cleaning. Suitable for continuous inline cooling applications, like monitoring conductivity in high purity water
- Use the HSC30 portable model to take samples quickly and safety at any accessible location within a clean steam, high purity water, or WFI distribution system
- 316L stainless steel construction with 1/2" Tri-Clamp® sample connections at inlet and outlet
- Steam capacity 10 l/hr condensate at 86° F from steam at 43.5 PSIG; Water capacity 30 l/hr water from 185° to 86° F

Get full specs and learn more at bit.ly/steriflow-sc



Call Lesman for model selection and delivery.



MK978 Sanitary Control Valves

Not sure of your flow rate requirements? Call Lesman inside sales for help sizing your valve.

- Meets ASME BPE 2009 guidelines
- FDA and USP Class VI compliance standard on all process seal and seat materials
- For use in biopharmaceutical, parenteral, cosmetic, dairy, and food and beverage industries — ideal for sterile process, buffer, WFI and acid metering, and clean gas and steam services
- Available in Jorlon diaphragm, O-ring, and low flow models
- Wetted parts made of 100% ASTM A479 316L stainless steel barstock, 20Ra mechanically polished internals
- High rangeability, true characterized trim, high capacity, superior temperature and pressure ratings
- Easy maintenance with simple disassembly and reassembly
- Valve sizes from 1/2" to 3" (angle body), or 1" to 2" (inline)
- ANSI Class III shutoff standard with metal seat, ANSI Class VI optional with soft seat (3/4" to 3" valves only)
- Available flow ranges: 3-15 PSI, 6-30 PSI, 3-9* PSI, or 9-15* PSI (* positioner required)
- Maximum pressure/temperature rating: 100 psi @ 340° F

Get full specs and learn more at bit.ly/steriflow-979jd

JSR Gas Pressure Reducing Valve

- First high purity gas pressure regulator specifically for hygienic, ASME BPE gas applications — can be used on continuous clean steam and non-cavitating fluids
- Clean-in-Place, Steam-in-Place capability
- Compliant to FDA and USP Class VI
- Available in 1/2" and 3/4" sizes
- Maximum inlet pressure: 150 PSIG
- Spring ranges 5-70 PSI or 50-125 PSI
- High Flow: Trim Cv 0.8, Relief valve Cv 1.9
Low Flow: Trim Cv 0.5, Relief valve Cv 0.6
- 316L stainless steel body, 20Ra polished, Jorlon diaphragm, Teflon soft seat
- In-line removable trim set for quick trim changeout and cleaning without the need for disassembly



Get full specs and learn more at bit.ly/steriflow-jsr

MK95 Back Pressure Regulator

- 316L stainless steel barstock body and trim
- Clean-in-Place, Steam-in-Place dome with spring arrangement
- Self-draining, with no threads to disassemble for cleaning
- No guiding surfaces in the fluid — prevents particulate generation
- ANSI Class III hard seat or Class VI soft seat for shutoff
- Compliant to FDA and USP Class VI
- 200 PSID max pressure differential



Size	Setpoint Spring Range (PSI)	Cv (Metal Diaphragm)	Temperature Rating @100° F	Temperature Rating @ 450° F
1/2"				
3/4"	5-30, 15-50, or 35-90	0.5 or 1.5	350 PSIG	250 PSIG
1"		1.5, 3.5, or 4.5		
1-1/2"	10-25, 15-40, or 35-85	4.5 or 10.0		
2"	15-25, 10-25, or 15-60	10.0 or 19.0	200 PSIG	200 PSIG
3"	15-25 or 15-60	10.0 or 23.0		

Get full specs and learn more at bit.ly/steriflow-mk95

MK96 Sanitary Pressure Regulator

- All 316L stainless steel barstock body — no wetted parts made from forgings or casting
- Clean-in-Place, Steam-in-Place dome lock pin
- No threads in contact with service media, prevents accumulation of contaminants
- ANSI Class III hard seat or Class VI soft seat for shutoff
- Compliant to FDA and USP Class VI

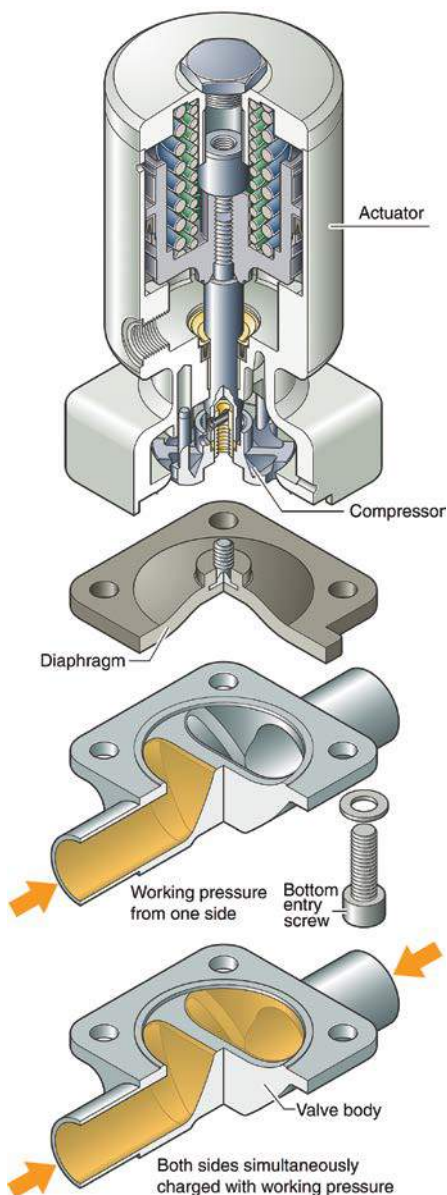


Size	Setpoint Spring Range (PSI)	Cv (Metal Diaphragm)	Temperature Rating @100° F	Temperature Rating @ 450° F
3/4"	5-25, 15-50,	1.5		
1"	40-90, or 75-135	1.5, 2.5, or 4.5	350 PSIG	250 PSIG
1-1/2"	10-25, 15-50, or 35-100	4.5 or 10.0		
2"		10.0 or 19.0	200 PSIG	200 PSIG
3"	15-25, or 15-60	10.0 or 23.0		

Get full specs and learn more at bit.ly/steriflow-mk96

Steriflow Unicert & Design Standards

- Certificate of compliance for materials, including MTRs, surface finish, FDA/USP Class VI
- Documentation and traceability: All valves are directly traceable to individual serial numbers, heat numbers, and MTRs
- Provided at NO COST with every order.



Why use diaphragm valves for aseptic service applications?

- The resilient diaphragm bead in contact with the metal weir ensures positive closure.
- Clean-in-place and steam-in-place operations can be performed in-line without valve disassembly.
- Top entry designed for in-line maintenance
- Diaphragm isolates the working parts of the valve from the process media.
- Minimal process contact surfaces enhance the ease of cleaning and sterilization.
- A smooth contoured body, streamlined flow path, and high quality interior surface prevent the accumulation of process fluids or contaminants.
- One centerline for inlet and outlet simplifies installation and plant design work.



Call Lesman for pricing and options.

KMD 289 Manually Operated Aseptic Valve

- 3/8" to 3/4" sizes
- 87 PSI max. working pressure
- 176° F max. working temperature, dependent on application. Units available for temps to 300° F
- **Materials:** *Diaphragm:* EPDM or Teflon; *Body:* Forged 1.4435/316L ASME/BPE, Investment cast 1.4435/316L stainless steel
- Sealed thermoplastic bonnet with optical indicator
- Rising hand wheel, adjustable internal travel stop
- Circumferential-defined sealing angle between process diaphragm and valve body
- Encapsulated diaphragm with flexible suspension
- Choice of butt-weld ends, clamps, or flanges



Get full specs and learn more at bit.ly/kmd-385

KMD 385 Pneumatically Actuated Aseptic Valve

- 3/4" to 3" sizes
- 87 PSI to 145 PSI max. working pressure, depending on size and diaphragm material
- 176° F max. working temperature
- **Materials:** *Diaphragm:* EPDM or Teflon; *Body:* Forged 1.4435/316L ASME/BPE, Investment cast 1.4435/316L stainless steel
- Actuator highly resistant to heat transfer
- Smooth exterior design ideal for washdown areas
- Control air connection 90° to flow direction
- Encapsulated diaphragm with flexible suspension
- Choice of butt-weld ends, clamps, or flanges



SA Sterile Access Welded Valve Configurations

- Can be used for applications including sampling, steam, condensate, or divert port
- Sizes available up to 4" for both the main valve and access valve or tube port
- Uses two standard 2/2-way valve bodies welded together per the required orientation
- For horizontal piping system where the main valve is set at the self-draining angle and the access port is at the lowest drainable point of the waterway
- Available with either a tube port or a vertical or horizontal valve port

Get full specs and learn more at bit.ly/sed-sa

Advantages of welded valve configurations:

- Totally self-draining
- Minimized dead legs
- Reduces media surface contact and hold-up volume
- Reduces number of welds
- Ready-made assembly for easier installation

Welded valve configurations are designed to improve the process in aseptic production facilities by reducing the dead legs in accordance to cGMP. Welded valve configurations can be as simple as a valve-by-tube configuration or as complex as multiple valve bodies of different sizes welded into a valve cluster.



You can request a **Unicert certificate of compliance for material, surface finish, FDA food and beverage, and 3A sanitary approvals for products shown on this page. 3A certificate can't be supplied for FB7904 butterfly valve.**

Call Lesman for model selection and pricing.

Learn more about Steriflow products and get full specifications at bit.ly/steriflow

3 Sanitary Back Pressure and Pressure Regulators

The Steriflow **FB5C sanitary back pressure and FB6C pressure regulators** are designed to regulate pressure in systems requiring the maintenance of sanitary conditions. Suitable for CIP and SIP applications, centrifuges, autoclaves, culinary equipment, sterilizers, and process tanks.

Stem guiding above the diaphragm, instead of in the flow path, eliminates any metal-to-metal particulate generation. They also features low setpoint offset (FB5C creep and FB6C droop) with minimal stroke and optimized springs.

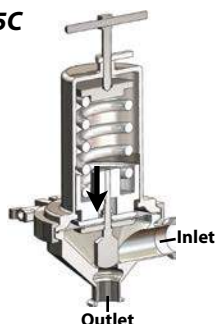
- Available in sizes from 3/4" to 3"
- Setpoint spring ranges from 3 to 105 PSI; Cv from 1.5 to 67.1, rated for pressures from 75 PSI to 200 PSI (depending on valve size)
- 150 PSI maximum allowable differential pressure
- ANSI Class III hard seat shutoff
- 316L stainless steel body and trim; Self-draining design with 32 Ra finish on all wetted parts
- EPDM diaphragm for excellent chemical resistance



Size	Setpoint Spring Range (PSI)		Available Cv		Cv for Relief Valve	
	FB5C	FB6C	FB5C	FB6C	FB5C	FB6C
3/4"	3-8, 5-30, 15-50, 35-90, or 50-105	3-8 [2], 5-25, 15-50, 40-90, or 75-135	1.5	1.5	4.5	3.8
1"			3.0 or 5.5	2.5 or 5.5	10.7	10.7
1-1/2"	3-25 [1], 10-25, 15-40, or 35-85	10-25, 15-50, or 35-100	10.0	10.0	26.3	26.3
2"	5-25, 10-25, or 15-60	10-25 or 15-60	19.0	19.0	56.5	56.5
3"		15-25 or 15-60	28.0	23.0	67.1	67.1

1 Cv available with EPDM diaphragm only
2 Maximum pressure drop 40 PSI

FB5C



FB6C



3 FB6903 Check Valves

Use the Steriflow FB6903 when it's critical to prevent your process liquid from flowing in the wrong direction in sanitary applications.

- Available in sizes from 1/2" to 4"
- Three-piece stainless steel body with ASME sanitary tri-clamp end connections, EPDM or Viton seats
- 32Ra or better metallic surface finish on wetted parts
- Rated pressures at room temperature to 140 PSI
- Cracking pressure <10 PSI for 1/2" and 3/4" models, <5 PSI for 1" to 4" models
- 3A-sanitary approved under standard 58-01, and can be disassembled easily for cleaning or repairs



3 FB8905 Three-Piece Ball Valves

- Available in sizes from 1/2" to 4"
- Setpoint spring ranges from 3 to 105 PSI
- Cv from 9 to 1986 with operating torque from 80 to 1300 in-lb
- Pressure ratings to 800 or 1000 PSI, depending on valve size
- Stainless steel body, end caps, ball, and stem; PTFE ball seats, stem packing, and seals; sanitary clamps and a 32 Ra or better internal finish
- Cavity filled to minimize media collection
- Tube bore design provides unobstructed media flow and improved drainage
- Manual locking lever and ISO 5211 actuator mounting flange
- Available with solenoid, valve positioner, limit switch, or air pressure regulator
- For clean utility applications in the Food & Beverage and Consumer Health & Beauty industries



FB7904 Sanitary Stainless Steel Butterfly Valves

- Available in sizes from 1/2" to 4"
- 304 stainless steel body, end caps, disc, and stem; EPDM (standard) or Viton seats, FDA-Approved stem packing and seals
- Clamp end connection with butt-weld option
- Ideal for use in the Food & Beverage, Biopharmaceutical, and Consumer Health & Beauty industries
- Available with 12-position stainless steel locking handle or pneumatic actuator with digital positioner

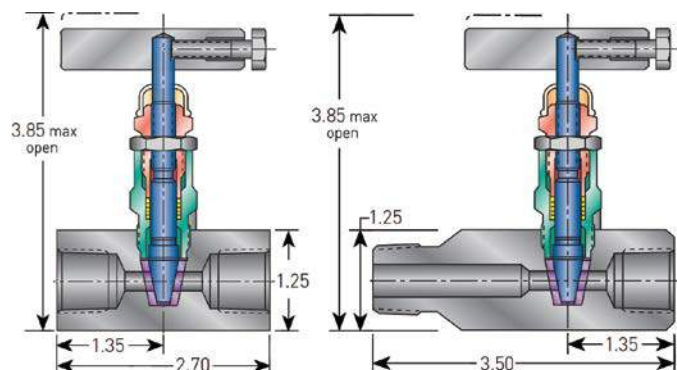




H1 Soft-Seated Hand Valves

Designed for maximum system reliability, Anderson Greenwood H1 hand valves are built for reliable, bubble-tight service, even in dirty media applications.

Their straight flow-through path means high flow capacity, bi-directional flow, and rodding capabilities. The easily adjustable PTFE packing decreases replacement downtime and increases valve life.



Specifications

Valve Cv: 1.40 max.

Pressure: 10000 PSIG (689 barg) max.

Temperature: 500°F (260°C) max.

Materials: Body: Stainless steel, carbon steel, Monel or Hastelloy;
Seat: Delrin; Bonnet Packing: PTFE

Model Selection Guide

Inlet	Outlet	Body	Seat	Bonnet Packing	SKU	Price
1/2" NPTF	1/2" NPTM	316 SS	Delrin	PTFE	H1VDS-44Q	\$112.96
1/2" NPTF	1/2" NPTF	316 SS	Delrin	PTFE	H1VDS-4Q	112.96

Also available in 1/4" NPT connection sizes.



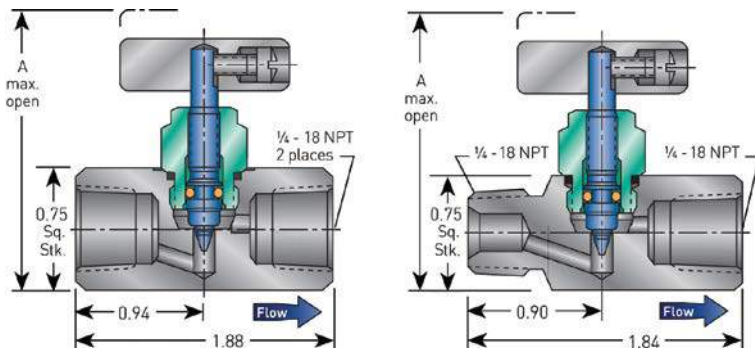
Look for the for in stock models normally available for same day shipping.



H5 Miniature Hand Valves for Straight Isolation Applications



Bonnet Packing	Dimension A
O-Ring	2.00"
PTFE	2.60"
Grafoil®	3.07"



Specifications

Valve Cv.: 0.27 max for soft seat; 0.31 max. for hard seat

Temperature: up to 1000° F

Pressure: up to 6000 PSIG

Materials: Body: Stainless steel, carbon steel, brass or Hastelloy; Seat: Integral, Delrin, PCTFE; Bonnet Packing: PTFE, FKM O-Ring or Grafoil

Model Selection Guide

Inlet	Outlet	Body	Seat	Bonnet Packing	Catalog Number	Price
1/4" NPTM	1/4" NPTF	316 SS	Integral	O-Ring	H5RIS-22	\$72.23
1/4" NPTM	1/4" NPTF	316 SS	Delrin	PTFE	H5VDS-22	78.65
1/4" NPTM	1/4" NPTF	316 SS	Delrin	PTFE	H5VDS-2	75.43
1/4" NPTM	1/4" NPTF	316 SS	PCTFE	PTFE	H5VKS-2	78.65
1/4" NPTM	1/4" NPTF	316 SS	PCTFE	PTFE	H5VKS-22	78.65
1/4" NPTF	1/4" NPTF	316 SS	Integral	PTFE	H5VIS-2	75.43

Don't see the Anderson Greenwood instrument valve or manifold you need?



Anderson Greenwood hand valves are ideal for instrument isolation duties, giving you bubble-tight shutoff. With metal or soft seats for gas, vapor or liquid applications, rated to 10000 PSIG, and available in a range of materials, there's a hand valve for even the most severe service

Anderson Greenwood gauge valves include multiport and block-and-bleed styles for gauge isolation, calibration, and venting, with a choice of either globe pattern or straight-through bore design.

Looking for a differential pressure, flow, or level manifold? Anderson Greenwood has models in carbon steel, Monel, Hastelloy, and other exotic materials, in pressures to 6000 PSIG and temperatures to 1000°F. AG pressure manifolds fit all types of static pressure instruments for direct or remote mounting.

Call Lesman at 800-953-7626 for assistance.

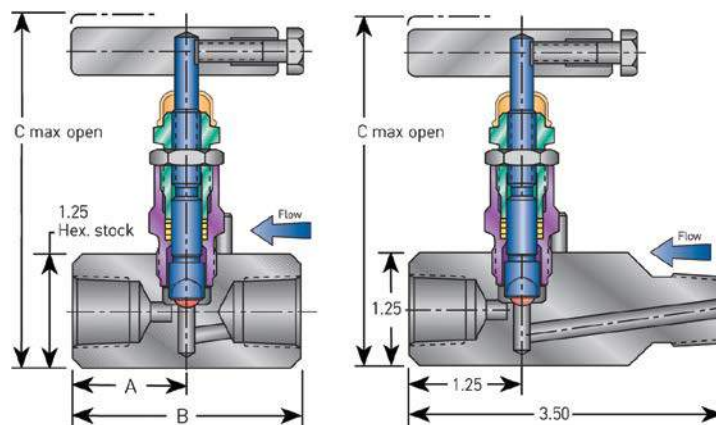
Get full specs and learn more at bit.ly/Lesman-Manifolds



H7/H71 Hand Valves

The Anderson Greenwood H7 hand valve is designed for safe, repetitive, bubble-tight closure, simple maintenance, and a long, trouble-free life.

The H71 model is designed for increasing pressures in oil and gas production, providing bubble-tight shutoff in severe operating conditions.



Model Selection Guide

Inlet	Outlet	Body/Seat	Bonnet Packing	Max Cv.	Max. Pressure	Max. Temperature	Dimensions (in)			Catalog Number	Price
							A	B	C		
1/2" NPTM	1/4" NPTF	316 SS	PTFE	0.52	6000 PSIG	1000° F	1.25	3.50	3.85	H7VIS-24	\$95.72
1/2" NPTM	1/2" NPTF	316 SS	Grafoil	0.52	6000 PSIG	1000° F	1.25	3.50	4.50	H7HIS-44Q	148.54
1/2" NPTM	1/2" NPTF	316 SS	PTFE	0.52	6000 PSIG	1000° F	1.25	3.50	3.85	H7VIS-44Q	105.63
1/2" NPTF	1/2" NPTF	316 SS	Grafoil	0.52	6000 PSIG	1000° F	1.50	3.00	4.57	H7HIS-4Q	148.54
1/2" NPTM	1/4" NPTF	316 SS	PTFE	0.52	10000 PSIG	500° F	1.25	3.50	3.85	H71VIS-24	107.29
1/2" NPTF	1/2" NPTF	CS	PTFE	0.52	10000 PSIG	500° F	1.50	3.00	3.92	H71VIC-44Q	48.85

Other sizes and materials also available. Call for price and availability.

M5 Multi-Port Gauge Valves



M5 valves lets you install gauges or pressure switches in various positions without additional penetration of the main piping.

Specifications

Valve Cv.: Metal seat: 0.523 max.; Soft seat: 0.83 max.

Pressure Rating: 6000 PSIG

Temperature Range: to 1000° F

Materials: Body: CS, SS, Monel; Seat: Integral metal, Delrin, PCTFE; Bonnet Packing: GRAFOIL, PTFE

Connections: 1/2" to 3/4" NPT



V6 Bleeder Valve

Bleeder valve that vents to atmosphere and has bubble-tight shutoff.



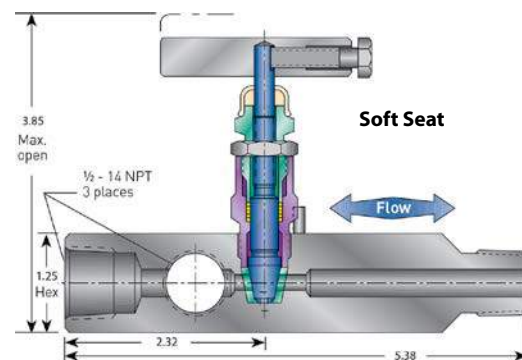
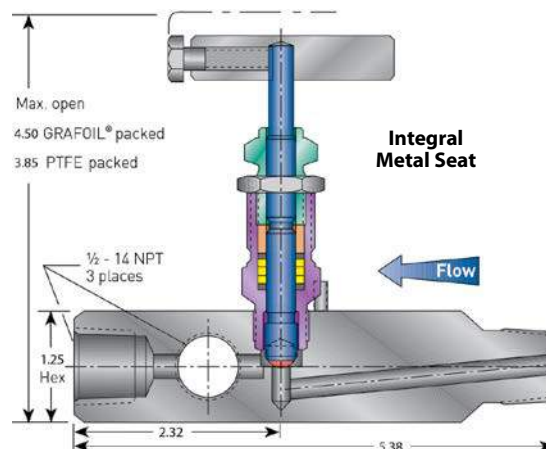
VA Bleed Plug

Provides an economic means to bleed process pressure trapped between the M5 and the instrument.

Model Selection Guide

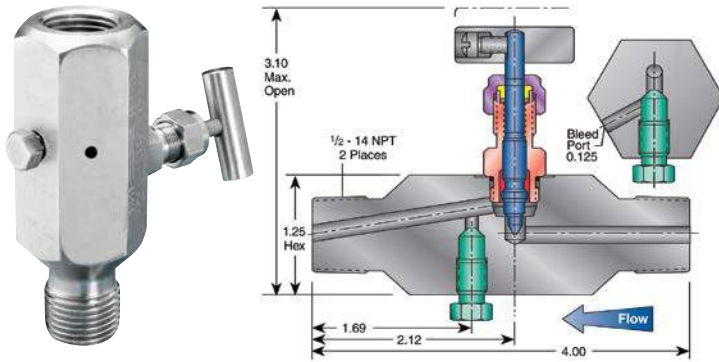
Description	Inlet (Qty = 1)	Outlet (Qty = 3)	Body	Seat	Bonnet Packing	Catalog Number	Price
Anderson Greenwood M5 Gauge Valves	1/2" NPTM	1/2" NPTF	316 SS	Integral	Grafoil	M5HIS-44	\$237.52
	1/2" NPTM	1/2" NPTF	316 SS	Delrin	Teflon	M5VDS-44	192.58
	1/2" NPTM	1/2" NPTF	316 SS	Integral	Teflon	M5VIS-44	192.58
	3/4" NPTM	1/2" NPTF	316 SS	Integral	Grafoil	M5HIS-46	237.52
VA & V6 Bleeder Accessories	1/2" NPTM	—	316 SS	Integral	Teflon	V6VIS-4	65.42
	1/2" NPTM	—	316 SS	Integral	—	VAS-4	55.35

Order online at bit.ly/buy-ag-valves



Get full specs and learn more at bit.ly/Lesman-Manifolds

M9 Block and Bleed Gauge Valves



M9 valves are designed to facilitate safe, compact, and economical installation and operation of static pressure gauges.

Specifications

Valve Cv: Hard seat: 0.25 max.; Soft seat: 0.24 max.

Materials: Body: Stainless steel, carbon steel, Monel or Hastelloy; Seats: Metal, Delrin or PCTFE; Bonnet Packing: PTFE, O-Ring or Grafoil®

Pressure and Temperature Ratings

Design	Teflon® or GRAFOIL® Packed Bonnet	
Hard Seat	6000 PSIG @ 200°F	414 barg @ 93°C
	4000 PSIG @ 500°F	276 barg @ 260°C
Delrin or PCTFE	3000 PSIG @ 200°F	207 barg @ 93°C

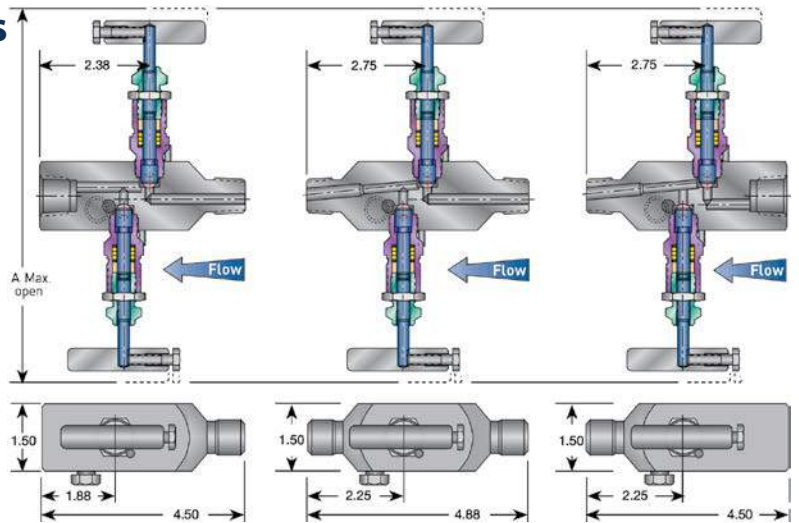
Model Selection Guide

Inlet	Outlet	Body	Seat	Bonnet Packing	Catalog Number	Price
1/2" NPTF	1/2" NPTF	316 SS	Integral	PTFE	M9VIS-4	\$166.12
1/2" NPTM	1/2" NPTF	316 SS	Integral	PTFE	M9VIS-44	166.12
3/4" NPTM	1/2" NPTF	316 SS	Delrin	PTFE	M9VDS-46	169.34

Inlet	Outlet	Body/Seat	Bonnet Packing	Catalog Number	Price
1/2" NPTM	1/2" NPTM	316 SS	PTFE	M9VIS-4M	\$185.46
3/4" NPTM	1/2" NPTF	316 SS	PTFE	M9VIS-46	166.12

Other sizes and materials also available. Call for price and availability.

M25 Block and Bleed Gauge Valves



M25 valves reduce potential leak points and let you reliably install and service gauges, transmitters, or switches. A threaded and plugged vent port enables safe installation of exhaust piping/tubing in hazardous service areas.

Specifications

Valve Cv: 0.52 max.

Materials: CS, SS, Monel, duplex

Connections: 1/2" to 1" NPT; welded optional

Pressure and Temperature Ratings

Design	Teflon® or GRAFOIL® Packed Bonnet	
Integral	6000 PSIG @ 200°F	414 barg @ 93°C
Hard Seat	4000 PSIG @ 500°F	276 barg @ 260°C

Soft seat also available. Call for pricing.

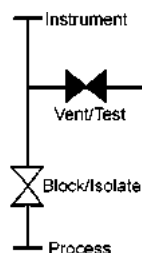
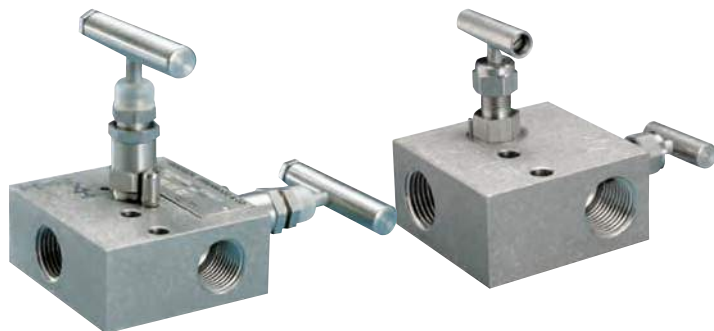
Model Selection Guide

Inlet	Outlet	Vent	Body/Seat	Bonnet Packing	Catalog Number	Price
1/2" NPTF	1/2" NPTF	1/4" NPT	316 SS	PTFE	M251VIS-4	\$320.66
1/2" NPTF	1/2" NPTM	1/4" NPT	316 SS	Graphite	M25EIS-44F	382.25
1/2" NPTF	1/2" NPTM	1/4" NPT	CS	PTFE	M25VIC-44F	150.51
1/2" NPTF	1/2" NPTM	1/4" NPT	316 SS	PTFE	M25VIS-44F	303.03
1/2" NPTM	1/2" NPTM	1/4" NPT	316 SS	Grafoil	M25HIS-4M	341.51
1/2" NPTM	1/2" NPTM	1/4" NPT	316 SS	PTFE	M25VIS-4M	303.03
1/2" NPTM	1/2" NPTF	1/4" NPT	CS	PTFE	M25VIC-44	150.51
1/2" NPTM	1/2" NPTF	1/4" NPT	316 SS	PTFE	M25VIS-44	303.03
1/2" NPTM	1/2" NPTF	1/4" NPT	316 SS	Graphite	M25EIS-44	382.25
3/4" NPTM	1/2" NPTF	1/4" NPT	316 SS	PTFE	M25VIS-46	303.03

 = Normally available from stock.



PTM and PT7 2-Valve Static Pressure Manifolds



PTM/PT7 two valve calibration manifolds are used on static pressure transmitters, switches, or gauges.

Specifications

Valve Cv: Hard seat: 0.25 max.; Soft seat: 0.24 max.
 Pressure and Temperature Ratings: PTM with integral seat: 6000 PSIG @ 200°F; PT7 with PTFE packing: 6000 PSIG @ 200°F, 4000 PSIG @ 500°F; PT7 with GRAFOIL or Graphite packing: 6000 PSIG @ 200° F, 1500 PSIG @ 860° F

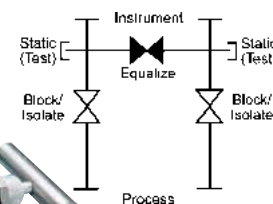
Model Selection Guide

Inlet/Outlet	Vent	Body/Seat	Bonnet Packing	Catalog Number	Price
1/2" NPTF	1/2" NPT	316 SS	PTFE	PTMVIS-4	\$241.71
1/2" NPTF	1/2" NPTF	316 SS	Grafoil	PT7HIS-4	364.99

Other sizes and materials also available. Call for price and availability.

Get full specifications and dimensional drawings at bit.ly/Lesman-Manifolds
 Order online at bit.ly/buy-ag-valves

M1 3-Valve Differential Pressure Manifolds



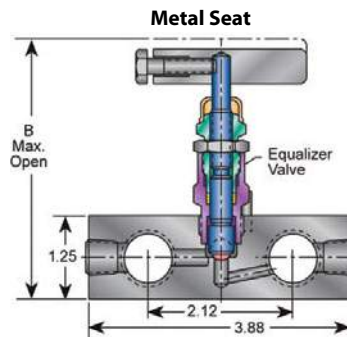
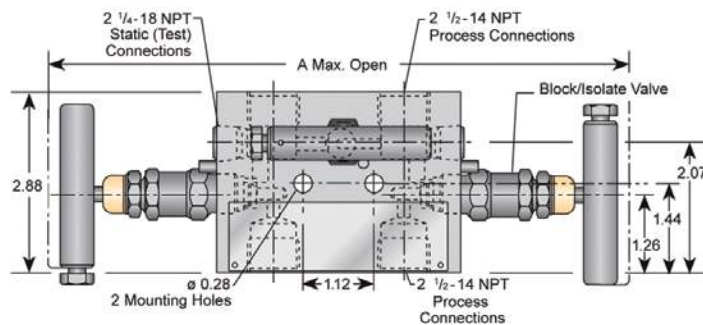
The M1 three-valve differential pressure manifold is designed to mount to signal lines and an instrument, like a recording orifice meter, differential pressure indicator, or differential pressure switch. By using a manifold and eliminating parts used in conventional "piping up" methods, you can see cost savings of up to 30 percent

Specifications

Valve Cv: Hard seat: 0.52 max.; Soft seat: 0.83 max.

Pressure and Temperature Ratings

Carbon Steel or Stainless Steel Hard Seat Manifolds	
Teflon or O-Ring Bonnet Packing	6000 PSIG @ 200°F; 4000 PSIG @ 500°F
GRAFOIL or Graphite Bonnet Packing	6000 PSIG @ 200°F; 1500 PSIG @ 850°F
Integral Seat	6000 PSIG @ 200°F



Bonnet Packing	Dimension A	Dimension B
Grafoil®	10.38"	4.50"
PTFE	9.08"	3.85"

Model Selection Guide

Instrument Connection	Process Connection	Body/Seat	Bonnet Packing	Catalog Number	Price
1/2" NPTF	1/2" NPTF	SS	Grafoil	M1HIS-4	\$490.42
1/2" NPTF	1/2" NPTF	SS	PTFE	M1VIS-4	433.21

Other sizes and materials also available.
 Call for price and availability.

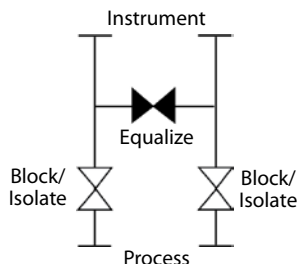
Looking for pressure transmitters, pressure gauges, or pressure switches?



Popular models in stock. Learn more and order online at Lesman.com or call us at 800-953-7626 for assistance.

MB3 3-Valve Differential Pressure Manifolds

MB series integral manifolds are connect to bottom inlet of low-profile pressure transmitters.



Specifications

Valve Cv.: 0.36 max.

Pressure Rating: to 6000 PSIG

Temperature Range: 1000° F

Model Selection Guide

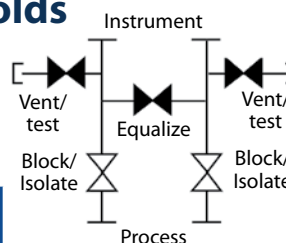
Instrument Connection	Process Connection	Body/Seat	Bonnet Packing	Catalog Number	Price
Flange	1/2" NPTF	316 SS	Grafoil	MB3HIS-4-AM	\$642.39

M24 5-Valve Differential Pressure Manifolds

M24 is designed for direct mounting to differential pressure transmitters. Lightweight and with compact dimensions, M24 enable instrument operation, isolation, zeroing and venting in a single unit.

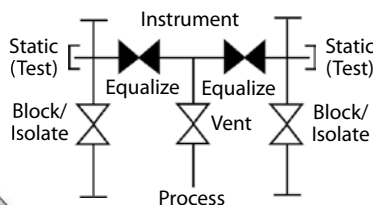
Model Selection Guide

Instrument Connection	Process Connection	Vent	Body/Seat	Bonnet Packing	Catalog Number	Price
Flange	1/2" NPTF	1/4" NPT	316 SS	Grafoil	M24THIS-4	\$821.68



Get full specifications, including dimensional drawings, and learn more about Anderson Greenwood valves and manifolds at bit.ly/Lesman-Manifolds

M6A Natural Gas Manifolds



M6A five-valve manifold is the standard for use with recording orifice meters. The M6A is easily installed in the vertical meter tubing from the orifice flange union. Static pressure and calibration test connections are standard; models can be ordered with integral tube fittings as needed.

Model Selection Guide

Connections	Body	Seat	Bonnet Packing	Catalog Number	Price
1/2" NPTF (4)	316 SS	Delrin	PTFE	M6AVDS-4	\$531.29

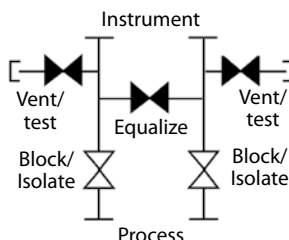
MDP 5-Valve Differential Pressure Manifolds

For direct mounting that enables instrument operation, isolation, zeroing, calibration and venting to close the system in a single unit suitable for liquid, steam or vapor services.

Model Selection Guide

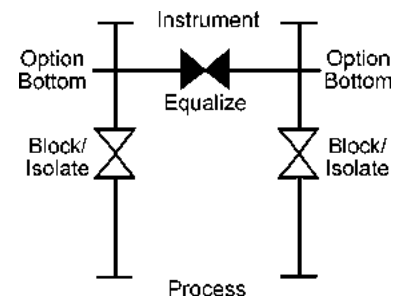
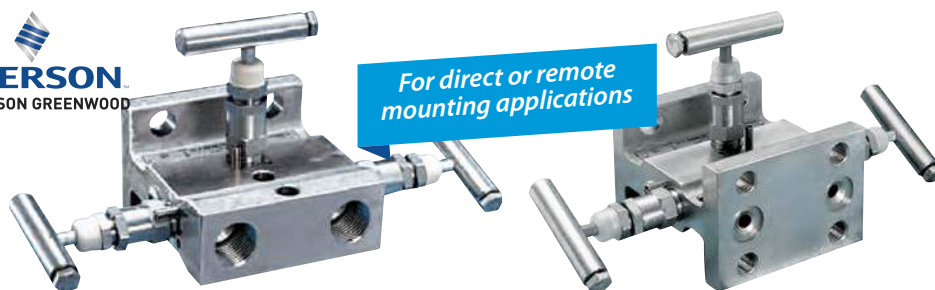
Connections	Body/Seat	Bonnet Packing	Catalog Number	Price
1/2" NPTF (4)	316 SS	PTFE	MDPVIS-4	\$693.19
1/2" NPTF (4)	316 SS	PTFE	MDPVIS-4-AMS	798.51

-AMS includes AGCO mounting bracket





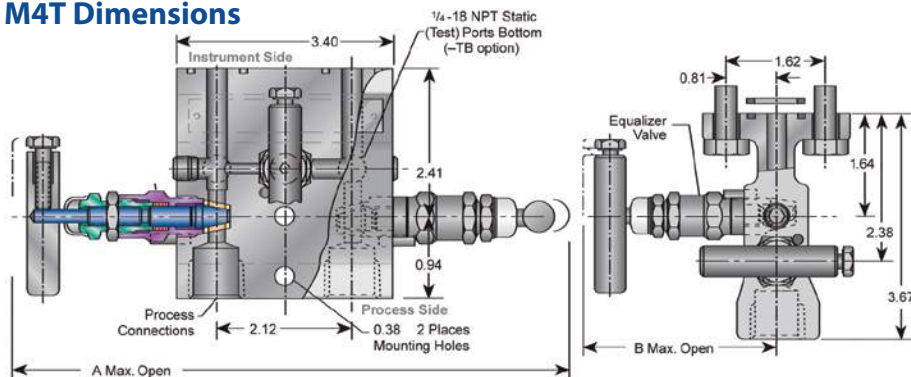
M4A and M4T 3-Valve Differential Pressure Manifolds



Features

- **Stem backout prevention** eliminates stem blowout or accidental removal during operation
- **Bonnet-to-body seal** is metal-to-metal in constant compression below the bonnet threads; this prevents bonnet thread corrosion, eliminates tensile breakage of bonnet, and creates a reliable seal point
- **Integral hard back seat** protects against stem blowout and forms a secondary seal
- **Protective bonnet cap** protects against contamination; contains stem lubricant to reduce possibility of thread galling

M4T Dimensions



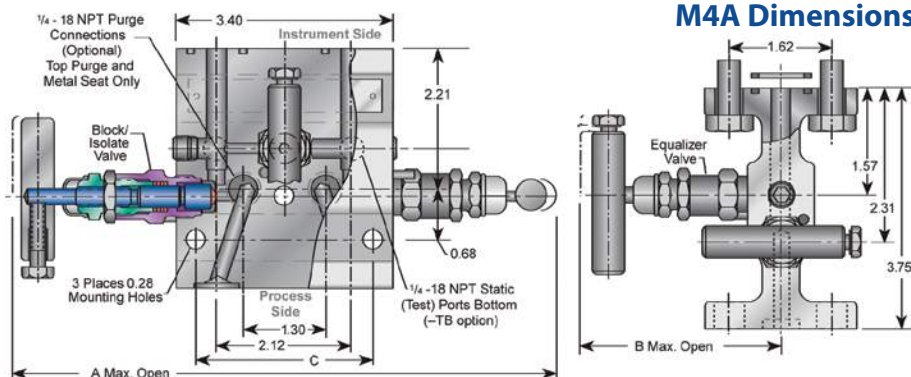
Specifications

Valve Cv: Metal seat: 0.36 max.; Soft seat: 0.83 max.

Construction	Rated Conditions
CS Body, Metal Seat, Teflon Packing	6000 PSIG @ 200°F
SS Body, Metal Seat, Teflon Packing	4000 PSIG @ 500°F
CS Body, Soft Seat, Teflon Packing	6000 PSIG @ 200°F
SS Body, Soft Seat, Viton O-Ring, Teflon Backup Ring	

Valve Type	A	B	C
Soft Seat, Teflon Packing	8.6"	3.2"	1.06"
Metal Seat, Teflon Packing	8.6"	3.2"	2.8"

M4A Dimensions



Order online at bit.ly/buy-ag-valves

AGCO Mount

- Lowers maintenance cost by simply removing four transmitter bolts, disconnecting signal leads, and performing needed transmitter maintenance.
- Reduces potential environmental contamination and the possibility of signal-line damage.



Model Selection Guide

Use With	Material	Catalog Number	Price
M4A	Carbon Steel	M4A-AM	\$96.27
	Stainless Steel	M4A-AMS	189.35
M4T	Carbon Steel	M4T-AM	47.34
	Stainless Steel	M4T-AMS	105.73

Model Selection Guide

Instrument Connection	Process Connection	Body/Seat	Bonnet Packing	Catalog Number	Price
Anderson Greenwood M4 Manifolds with Integral Seats					
Flange	Flange	CS	PTFE	M4AVIC	\$291.58
Flange	Flange	316 SS	PTFE	M4AVIS	479.35
Flange	1/2" NPTF	316 SS	Grafoil	M4THIS-4	528.23
Flange	1/2" NPTF	316 SS	PTFE	M4TLVIS-4	437.98
Flange	1/2" NPTF	316 SS	Grafoil	M4TPHIS-4	492.90
Flange	1/2" NPTF	CS	PTFE	M4TVIC-4	281.76
Flange	1/2" NPTF	316 SS	PTFE	M4TVIS-4	463.22



Look for the for in stock models normally available for same day shipping.

SIEMENS



SITRANS P320 and P420 SIL-Rated Smart Pressure Transmitters

- First pressure transmitters on the market to feature remote safety handling
- Designed for safety-critical applications
- Models for gauge pressure, differential pressure, absolute pressure, flow, and level
- Accuracy: $\pm 0.065\%$ (SITRANS P320) or $\pm 0.04\%$ (SITRANS P420); Long-Term Stability: $\leq 0.125\%$ over 5 years
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Honeywell

- Digital accuracy up to $\pm 0.08^\circ\text{C}$ for RTD; Standard reference output accuracy to $\pm 0.0005\%$ of span
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Integrated flame safety and programmable logic control system in a fully configurable, first-of-its-kind DIN-rail mountable platform

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Honeywell



SER V5 Single-Ended Radiant Tube Firing Burner

Fuel efficient burner with low NOx emissions

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Panametrics



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moisture.iQ Six-Channel Process Moisture Analyzer

- Datalogging multifunction aluminum oxide-based moisture analyzer
- Supports up to 36 inputs in a single analyzer: Six moisture sensors, each with process temperature and pressure, six non-depleting oxygen sensors, and up to 12 analog inputs from pressure or oxygen transmitters



oxy.iQ Digital Oxygen Transmitter

- Highly reliable and cost-effective two-wire loop-powered transmitter
- Linearized 4–20 mA output
- Measures oxygen in ten different selectable ppm ranges and seven selectable percentage ranges
- Can be mounted in hazardous locations when equipped with optional zener barriers

Get full specs and learn more at bit.ly/oxy-iq

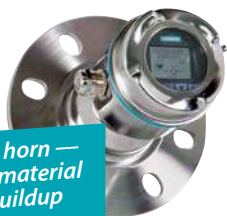
Paperless Recorders



Honeywell

Honeywell paperless recorders provide advanced electronic data recording to replace paper recorders, eliminating the hassles and costs associated with pens, paper, and mechanical parts. Data is stored in secure electronic format for easy, quick analysis and reporting. Display provides a local operator interface for monitoring the process.

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No horn —
no material
buildup

SIEMENS

LR560 Loop-Powered Radar Transmitter for Continuous Liquids and Solids Level Monitoring

- Exceptional narrow beam performance
- Ideal for continuous monitoring of solids in silos, pits, piles, bunkers
- Range: to 328 feet
- 2.5" antenna fits into almost any tank opening or nozzle
- Virtually unaffected by dust, vapor, pressure, or temperature
- Installs almost anywhere on top of a silo, and can even measure cone area
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A bubbler system is an inexpensive but accurate means of measuring the fluid level in open or vented containers, especially those in harsh environments such as cooling tower sumps, reservoirs, vented fuel tanks, drain sumps, or air washers.

A complete system consists of a source of compressed air, air flow restrictor, sensing tube, and pressure transmitter. The only component exposed to the elements is the sensing tube. All others can be remotely located in a protected area.

Assembled, wired, configured to your level range, tested, and ready for easy installation.

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G2 Industrial Grade Turbine Flowmeters

- Meter sizes from 1/2" to 2"
- Modular design for use with output modules, sensors, and remote transmitters
- Two totals (batch=resettable, cumulative=non-resettable); rate of flow; included non-volatile totals
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TransPort PT900 Clamp-On Flowmeter for Liquid Flow Measurement

NEW



- Portable datalogging flowmeter can be moved easily to different location for temporary or spot flow measurement or check metering
- TransPort® system includes clamping fixture with transducers, flow transmitter, carrying case and accessories
- Measurement accuracy improved to ±1% of reading
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Honeywell

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- Supports catalytic bead, electrochemical cell, and IR gas detection
- 4-20 mA with HART® standard; Options include up to 3 relays, MODBUS® and FOUNDATION® H1 Fieldbus; Optional local IS port for handheld HART configurator
- Large, backlit, easy-to-view LCD display offers visual icons, colored buttons, and text to display gas and sensor readings
- Self-test and fault indication features; Quick calibration
- Robust and reliable operation in harsh environments
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- Pay attention to your specific application details to ensure a successful implementation
- Work with you to improve your process and performance results

Plug Valves



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