FLOWSERVE

TECHNICAL BULLETIN

Valtek® MaxFlo 4™

Eccentric Rotary Plug Control Valve

Experience In Motion

Solutions to keep you flowing

Flowserve is one of the world's leading providers of control valves. Our engineers work with customers to understand even the most challenging applications. This way, we partner with customers to develop industry-leading technical solutions that help those customers keep their processes flowing.

Industry-leading flow rates

The MaxFlo 4 is a high-performance eccentric rotary plug control valve. The flow path is unobstructed by the shaft, allowing higher capacity for a given valve size. This non-crossover shaft design also eliminates shaft damage from erosive process fluids. The shaft is designed per ASME B16.34 to prevent the stem from being removed while the valve is under pressure for increased safety.

- Highest flow rates
- 160:1 rangeability
- Low breakout torque for smoother control and longer life
- Safest shaft blowout protection available
- Strong, precision, polygon stem-plug connection
- Tight bi-directional shut-off, Class IV or VI
- Fugitive emission stem packing available for ISO 15848
- Sealed bearings available

Table 1: Features and advantages

Features	Advantages
Non-crossover shaft	Unobstructed flow when fully open. Up to 70% greater capacity than other ERP control valves. Not eroded by process-borne particles. Pocketless flow-path tolerates slurries, even up to 3% paper stock.
Eccentric rotary plug	Plug does not rub seat ring. Less wear, less friction, more precision. Stable throttling, low dynamic torque. Stable throttling in either flow direction. Inherently linear characteristic. Flow direction assists movement to safety position on air failure. Robust, rigid seat and plug give increased durability. Tight shut-off, Class IV (metal seat), Class VI (soft seat), even after prolonged usage.
High rangeability	Rangeability 160:1. The valve throttles repeatably all the way to shutoff.
Separate bonnet and integral shaft collar	A positive anti-blowout as a standard feature, in full compliance with ASME B16.34 Section 6.5.1, ensures that the shaft cannot blow out, even if the actuator is removed.
Heavy-duty end post	Robust design for ultimate safety and reliability.
Multiple body options	Flanged, flangeless and globe face-to-face.
Trim choices	Full-area, 75%/70%, 40%. Flow capacity can be closely matched to the application. Economical and convenient when optimizing flow capacity or changing service conditions.
Rugged plug design	Hardened plug as a standard feature gives high performance and long service life.
Multiple packing options	Configurations/materials available for most applications. Fugitive emission options meet EPA, TA-Luft and ISO requirements.
Optional noise reduction plate	Noise reduction to 15 dB in compressible services.
Certifications	SIL 3 capable, NACE.

Table 2: Specifications

Options	DIN	ASME
Sizes	DN 25, 40, 50, 80, 100, 150, 200, 250 and 300	NPS 1, 1.5, 2, 3, 4, 6, 8, 10 and 12
Pressure classes	PN 10, 16, 25, 40 and 63	Class 150, 300 and 600
End connection	EN 1092-1 (Form B1, D, F, B2)—flanged and wafer	B16.5 (Raised Face, RTJ)—flanged and wafer
Body materials	Carbon steel: 1.0619	Carbon steel: A216-WCC
	Stainless steel: 1.4408	Stainless steel: A351-CF8M
Face to face	EN 558: 2012-03 Series 36 (short) EN 558: 2012-03 Series 1 (globe)	ISA 75.08.02 (short) ISA 75.08.01 (globe)
Packing	PTFE V-Ring, Braided PTFE, Graphite Braid, Sureguard XT, LATTYflon 3265 LM and LATTYgraf 6995 NG (meeting requirements for TA-Luft, ISO 15848-1 and EPA)	
Packing type	Single, twin, vacuum, live loaded, fire-safe and O-ring	
Temperature	-50°C to 400°C (-58°F to 750°F)	
Plug and seat	Standard, hardened and soft seat	
Shut-off	ANSI/FCI 70-2-2006: Class IV (metal seat) and VI (soft seat)	
Rangeability	To 160:1	
Trim	NPS 1 to 6 (DN 25 to 150): 100%, 70%, 40%; NPS 8 to 12 (DN 200 to 300): 100%, 75%	
Actuator	NR spring diaphragm actuator or VR double-acting cylinder actuator	
Positioner	Logix™ 3800 digital positioner	

Table 3: Materials of construction

Item	Part	Material	Temperature Range
1	Body	A216-WCC / 1.0619	-29°C to 400°C (-20°F to 750°F)
		A351-CF8M / 1.4408	-50°C to 400°C (-58°F to 750°F)
20	Seat ring	316L SS	-50°C to 315°C (-58°F to 600°F)
		316L with Alloy 6	-50°C to 400°C (-58°F to 750°F)
		416 SS HT	-29°C to 400°C (-20°F to 750°F)
		316L/PTFE	-50°C to 177°C (-58°F to 350°F)
30	Seat retainer	Stainless steel	-50°C to 400°C (-58°F to 750°F)
40	Bonnet	Carbon steel	-29°C to 400°C (-20°F to 750°F)
		Stainless steel	-50°C to 400°C (-58°F to 750°F)
50	Plug	1.4418	-29°C to 400°C (-20°F to 750°F)
		1.4405	-29°C to 400°C (-20°F to 750°F)
		316L with Alloy 6	-50°C to 400°C (-58°F to 750°F)
		CF3M with Alloy 6 (6 in/DN 150 and larger)	-50°C to 400°C (-58°F to 750°F)
51/122	Shaft/ end post	1.4418	-29°C to 400°C (-20°F to 750°F)
		17-4PH H1150M	-50°C to 400°C (-58°F to 750°F)
		17-4PH H1150D	-50°C to 400°C (-58°F to 750°F)
		A638 Gr. 660	-50°C to 400°C (-58°F to 750°F)
46/83/ 84	Bearings	MBT[1]	-50°C to 204°C (-58°F to 400°F)
		440C SS HT	-29°C to 400°C (-20°F to 750°F)
		Ultimet	-50°C to 315°C (-58°F to 600°F)
		UNS S31803	-50°C to 315°C (-58°F to 600°F)
		Alloy 6	-50°C to 400°C (-58°F to 750°F)
58/61	Gaskets	PTFE	-50°C to 204°C (-58°F to 400°F)
		Graphite	-50°C to 400°C (-58°F to 750°F)
80	Gland flange	Stainless steel	-50°C to 400°C (-58°F to 750°F)
87	Packing follower	Stainless steel	-50°C to 400°C (-58°F to 750°F)
88	Packing	PTFE V-ring	-50°C to 204°C (-58°F to 400°F)
		Braided PTFE	-50°C to 260°C (-58°F to 500°F)
		LATTYflon 3265 LM	-50°C to 204°C (-58°F to 400°F)
		LATTYgraf 6995 NG	-50°C to 400°C (-58°F to 750°F)
		Graphite braid	-50°C to 400°C (-58°F to 750°F)
93/99	Packing spacers and stops	Stainless steel	-50°C to 400°C (-58°F to 750°F)
108/ 114	Bonnet bolting	Carbon steel	-29°C to 400°C (-20°F to 750°F)
		Stainless steel	-50°C to 400°C (-58°F to 750°F)
109/ 117	Gland bolting	Stainless steel	-50°C to 400°C (-58°F to 750°F)
115/ 119	End post bolting	Carbon steel	-29°C to 400°C (-20°F to 750°F)
		Stainless steel	-50°C to 400°C (-58°F to 750°F)

[1] MBT, 10% carbon-filled TFE, lined metal shell

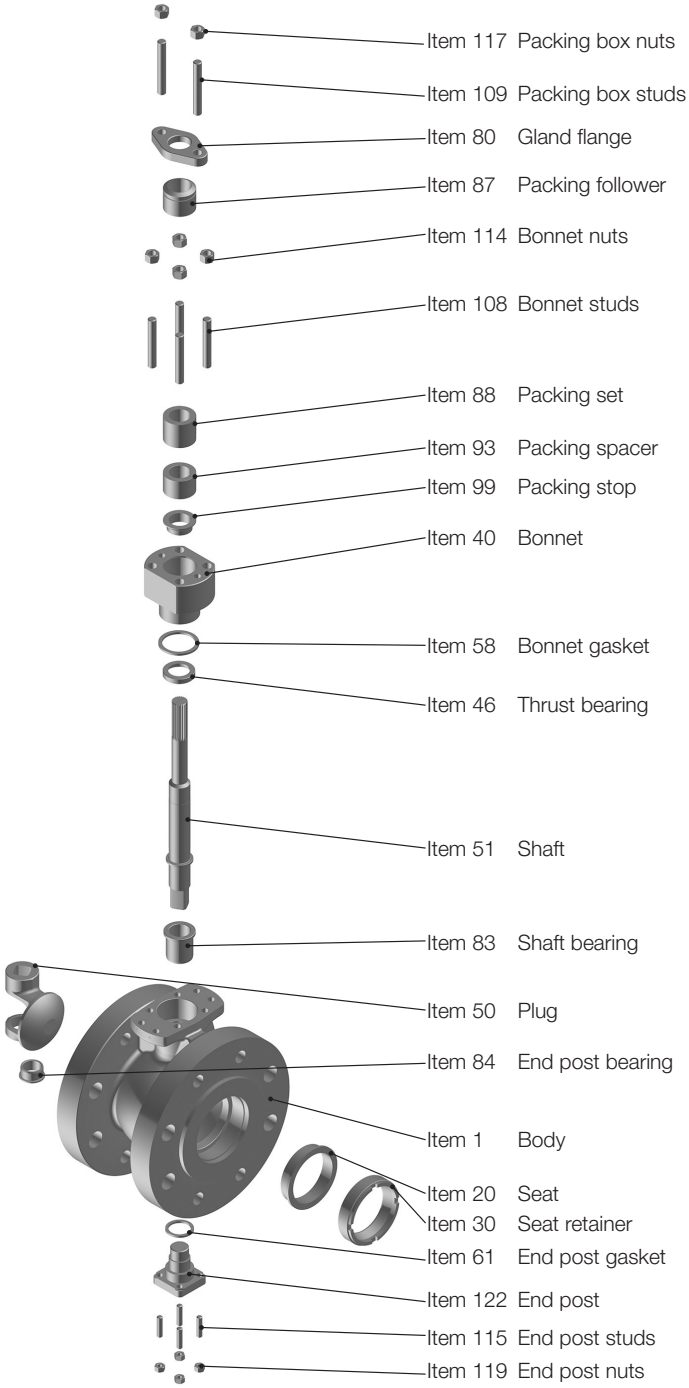


Figure 1: Exploded view

Table 4: Standard Cv – maximum rated flow coefficients [1]

Valve Size NPS/DN	Trim Size	Flow to Open (shaft downstream)				Flow to Close (shaft upstream)			
		60°		90°		60°		90°	
		Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv
1/25	40%	7.2	6.2	9.7	8.4	7.2	6.2	7.5	6.5
	70%	9.7	8.4	13	11	9.7	8.4	12	10
	100%	14	12	18	16	14	12	18	16
	Noise plate	8.5	7.4	9.4	8.1				
1.5/40	40%	16	14	22	19	16	14	17	15
	70%	23	20	31	27	23	20	28	24
	100%	32	28	43	37	32	28	43	37
	Noise plate	19	16	21	18				
2/50	40%	24	21	33	29	24	21	25	22
	70%	38	33	59	51	38	33	46	40
	100%	57	49	88	76	57	49	77	67
	Noise plate	30	26	33	29				
3/80	40%	72	62	97	84	72	62	75	65
	70%	109	94	172	149	109	94	132	114
	100%	143	124	227	196	143	124	192	166
	Noise plate	72	62	79	68				
4/100	40%	114	99	143	124	114	99	120	104
	70%	171	148	272	235	171	148	208	180
	100%	256	221	407	352	256	221	343	297
	Noise plate	122	106	131	113				
6/150	40%	228	197	253	219	228	197	239	207
	70%	406	351	644	557	406	351	492	426
	100%	543	470	905	783	543	470	728	630
	Noise plate	266	230	289	250				
8/200[2]	75%	605	523	1,009	873	605	523	734	635
	100%	914	791	1,523	1,317	914	791	1,227	1,061
	Noise plate	464	401	507	439				
10/250[2]	75%	971	840	1,618	1,400	971	840	1,282	1,109
	100%	1,428	1,235	2,462	2,130	1,428	1,235	1,917	1,658
	Noise plate	742	642	820	709				
12/300[2]	75%	1,280	1,107	2,132	1,844	1,280	1,107	1,789	1,548
	100%	2,056	1,779	3,426	2,964	2,056	1,779	2,760	2,388
	Noise plate	1,050	908	1,150	995				

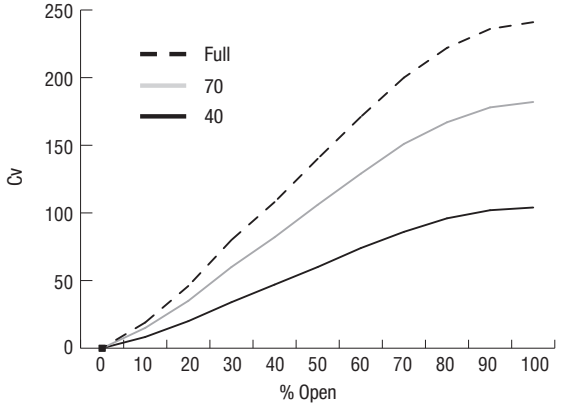
Table 5: Special Cv – maximum rated flow coefficients [1]

FTO/FTC	
60°	
Cv	Kv
6.0	5.2
9.0	7.8
15	13
15.6	13
23.4	20
33	29
21.2	18
31.8	28
53	46
58	50
87	75
145	125
92	80
138	119
230	199
200	173
300	260
500	433
510	441
850	735
780	675
1,300	1,125
1,050	908
1,750	1,514

[1] For complete Cv curves, refer to the Performance! sizing software.

[2] For ASME globe-style valve bodies (ISA 75.08.01), use the same Cv; for 8 and above, use the Cv of one valve smaller. For DIN globe-style valve bodies (EN558 1), use the same Cv as standard body for all sizes.

Figure 2: Sample Cv curve



Pressure drop tables

Table 6: Maximum allowable shutoff pressure drops (bar/psi)[1]

Valve Size NPS/DN	Component	Material	Flow Direction[2]	Temperature Range (°C/°F)							
				-50 to 38/ -58 to 100	93/200	149/300	204/400	260/500	316/600	371/700	400/750
1/25	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D or A638 Gr. 660	SU or SD	103/1500	103/1500	97/1406	94/1362	91/1318	88/1274	85/1230	82/1186
	Plug	1.4418 or 1.4405		103/1500	103/1500	97/1406	94/1362	91/1318	88/1274	85/1230	82/1186
		A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Bearings	A182 316 / PTFE or sealed bearings		103/1500	82/1189	65/943	52/754				
		440C SS HT or Ultimet or Alloy 6		103/1500	99/1438	98/1415	96/1391	95/1374	94/1357	91/1323	89/1289
		UNS S31803		103/1500	94/1356	87/1262	82/1186	87/1262	74/1073	70/1017	65/942
1.5/40	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D or A638 Gr. 660	SU or SD	103/1500	103/1500	97/1406	94/1362	91/1318	88/1274	85/1230	82/1186
	Plug	1.4418 or 1.4405		103/1500	103/1500	97/1406	94/1362	91/1318	88/1274	85/1230	82/1186
		A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Bearings	A182 316 / PTFE or sealed bearings		103/1500	82/1189	65/943	52/754				
		440C SS HT or Ultimet or Alloy 6		103/1500	99/1438	98/1415	96/1391	95/1374	94/1357	91/1323	89/1289
		UNS S31803		103/1500	94/1356	87/1262	82/1186	87/1262	74/1073	70/1017	65/942
2/50	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D or A638 Gr. 660	SU or SD	103/1500	103/1500	97/1406	94/1362	91/1318	88/1274	85/1230	82/1186
	Plug	1.4418 or 1.4405		103/1500	103/1500	97/1406	94/1362	91/1318	88/1274	85/1230	82/1186
		A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Bearings	A182 316 / PTFE or sealed bearings		80/1160		51/740	41/595				
		440C SS HT or Ultimet or Alloy 6		103/1500	99/1438	98/1415	96/1391	95/1374	94/1357	91/1323	89/1289
		UNS S31803		103/1500	94/1356	87/1262	82/1186	87/1262	74/1073	70/1017	65/942
3/80	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D or A638 Gr. 660	SU or SD	103/1500	103/1500	97/1406	94/1362	91/1318	88/1274	85/1230	82/1186
	Plug	1.4418 or 1.4405		103/1500	103/1500	97/1406	94/1362	91/1318	88/1274	85/1230	82/1186
		A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Bearings	A182 316 / PTFE or sealed bearings		80/1160	64/928	51/740	41/595				
		440C SS HT or Ultimet or Alloy 6		103/1500	99/1438	98/1415	96/1391	95/1374	94/1357	91/1323	89/1289
		UNS S31803		103/1500	94/1356	87/1262	82/1186	87/1262	74/1073	70/1017	65/942
4/100	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D or A638 Gr. 660	SU or SD	90/1305	90/1305	87/1265	85/1226	82/1186	79/1147	76/1107	74/1068
	Plug	1.4418 or 1.4405		90/1305	90/1305	87/1265	85/1226	82/1186	79/1147	76/1107	74/1068
		A182 316L / Alloy 6		52/754	44/642	40/573	36/528	34/495	32/470	31/452	31/443
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A182 316L / Alloy 6		103/1500	85/1235	76/1102	70/1015	66/951	62/905	60/870	59/853
	Bearings	A182 316 / PTFE or sealed bearings		52/754	41/595	32/464	26/377				
		440C SS HT or Ultimet or Alloy 6		90/1305	89/1295	88/1273	86/1252	85/1237	84/1221	82/1191	80/1160
		UNS S31803		90/1305	84/1220	78/1136	74/1068	70/1017	67/966	63/915	58/847

Pressure drop tables (continued)

Valve Size NPS/DN	Component	Material	Flow Direction	Temperature Range (°C/°F)							
				-50 to 38/ -58 to 100	93/200	149/300	204/400	260/500	316/600	371/700	400/750
6/150	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D	SU	78/1131	78/1131	76/1097	73/1062	71/1028	69/994	66/960	64/925
			SD	78/1131	75/1088	73/1055	70/1022	68/989	66/956	64/923	61/890
		A638 Gr. 660	SU	69/1005	68/984	67/969	66/954	65/938	63/921	62/903	62/895
			SD	59/850	57/833	57/820	56/807	55/794	54/779	53/764	52/757
	Plug	1.4418 or 1.4405		78/1131	78/1131	76/1097	73/1062	71/1028	69/994	66/960	64/925
		A182 316L / Alloy 6		42/609	36/519	32/463	29/426	28/400	26/380	25/365	25/358
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A182 316L / Alloy 6		94/1363	80/1161	71/1036	66/954	62/894	59/851	56/818	55/801
	Bearings	A182 316 / PTFE or sealed bearings		52/754	41/595	32/464	26/377				
		440C SS HT or Ultimet or Alloy 6		78/1131	77/1122	76/1103	75/1085	74/1072	73/1058	71/1032	69/1006
		UNS S31803		69/1001	65/936	60/871	56/819	54/780	52/754	52/754	52/754
8/200	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D	SU	46/667	46/667	45/647	43/627	42/606	40/586	39/566	38/546
			SD	38/544	38/544	36/528	35/511	34/495	33/478	32/462	31/445
		A638 Gr. 660	SU	41/592	40/581	39/572	39/562	38/553	37/543	37/532	36/528
			SD	34/497	34/487	33/479	33/472	32/464	31/455	31/447	31/443
	Plug	1.4418 or 1.4405		46/667	46/667	45/647	43/627	42/606	40/586	39/566	38/546
		A182 316L / Alloy 6		24/348	20/296	18/264	17/244	16/228	15/217	14/209	14/205
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A182 316L / Alloy 6		86/1247	73/1062	65/948	60/873	56/818	54/778	52/748	51/733
	Bearings	A182 316 / PTFE or sealed bearings		32/464	25/363	25/363	16/232				
		440C SS HT or Ultimet or Alloy 6		52/754	52/754	52/754	52/754	52/754	52/754	52/754	52/754
		UNS S31803		52/754	52/754	52/754	52/754	52/754	52/754	52/754	52/754
10/250	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D	SU	31/450	31/450	30/436	29/422	28/409	27/395	26/381	25/368
			SD	23/337	23/337	23/327	22/317	21/306	20/296	20/286	19/276
		A638 Gr. 660	SU	28/399	27/391	27/385	26/379	26/373	25/366	25/359	25/356
			SD	23/333	22/326	22/321	22/316	21/311	21/305	21/299	20/296
	Plug	1.4418 or 1.4405		31/450	31/450	30/436	29/422	28/409	27/395	26/381	25/368
		A182 316L / Alloy 6		24/348	20/296	18/264	17/244	16/228	15/217	14/209	14/205
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A182 316L / Alloy 6		64/928	55/791	49/705	45/650	42/609	40/579	38/557	38/546
	Bearings	A182 316 / PTFE or sealed bearings		32/464	25/363	25/363	16/232				
		440C SS HT or Ultimet or Alloy 6		52/754	52/754	52/754	52/754	52/754	52/754	52/754	52/754
		UNS S31803		52/754	52/754	52/754	52/754	52/754	52/754	52/754	52/754
12/300	Shaft and post	1.4418 or 17-4PH or 17-4PH H1150D	SU	31/450	31/450	30/436	29/422	28/409	27/395	26/381	25/368
			SD	20/289	20/289	19/280	19/271	18/263	18/254	17/245	16/236
		A638 Gr. 660	SU	28/399	27/391	27/385	26/379	26/373	25/366	25/359	25/356
			SD	16/233	16/228	15/225	15/221	15/218	15/213	14/209	14/207
	Plug	1.4418 or 1.4405		31/450	31/450	30/436	29/422	28/409	27/395	26/381	25/368
		A182 316L / Alloy 6		19/276	16/235	14/209	13/193	12/181	12/172	11/165	11/162
	Seat	A182 316L / PTFE		52/754	31/450	17/247	10/145				
		A182 316L or 410/416 or A316L / Alloy 6		72/1044	61/889	93/755	50/731	47/685	45/651	43/626	42/614
	Bearings	A182 316 / PTFE or sealed bearings		32/464	25/363	25/363	16/232				
		440C SS HT or Ultimet or Alloy 6		52/754	52/754	52/754	52/754	52/754	52/754	52/754	52/754
		UNS S31803		52/754	52/754	52/754	52/754	52/754	52/754	52/754	52/754

(1) Values are for components shown only; pressures/temperatures may exceed limits per ANSI B16.34 for body materials. If higher pressure drops are required, contact your Flowserve sales office. Additional seat and bearing materials are available. Contact your Flowserve sales office for pressure drops.

(2) SU = shaft upstream; SD = shaft downstream

Dimensions and weights — with NR actuator

Table 7: NR actuator specifications

Type	Single-acting, spring diaphragm
Sizes	1S, 2S, 3S
Action	Air-to-open, air-to-close, fail-in-place
Max Supply Pressure	4.14 barg (60 psig)
Auxiliary	Side-mounted handwheel, push-type
Stroke	60°
Spring Ranges	0.2 to 1.0 bar (3 to 15 psi) 0.7 to 1.9 bar (10 to 28 psi) 1.4 to 2.8 bar (20 to 41 psi)

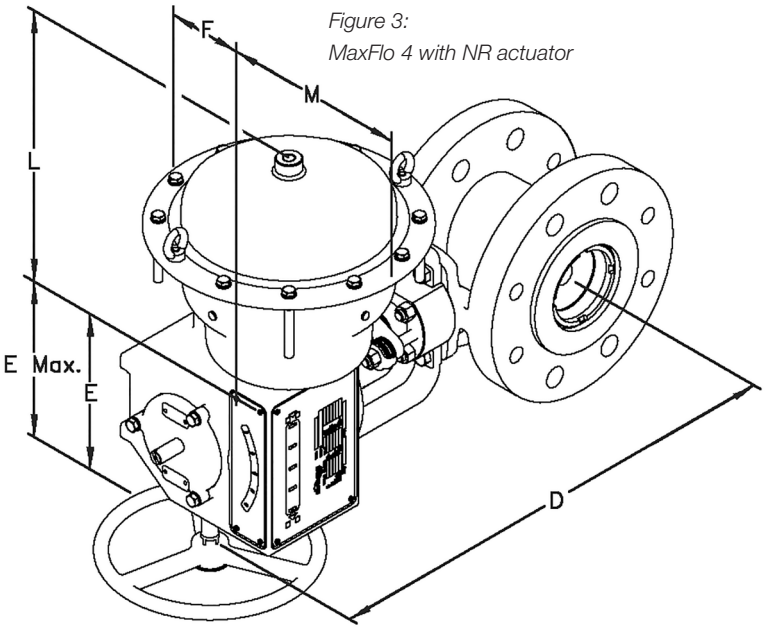


Figure 3: MaxFlo 4 with NR actuator

Table 8: NR actuator shipping weights

Size	kg	lb
1S	16	35
2S	38	85
3S	88	195

Table 9: Dimensions with NR actuator[1]

Valve Size NPS/DN	Actuator Size	D		E		E (Max)		F		L		M	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
1/25	1S	325	12.80	88	3.46	220	8.66	54	2.13	247	9.72	138	5.43
1.5/40	1S	350	13.78	88	3.46	220	8.66	54	2.13	249	9.80	138	5.43
2/50	1S	352	13.86	88	3.46	220	8.66	54	2.13	249	9.80	138	5.43
3/80	2S	516	20.31	125	4.92	310	12.20	90	3.54	358	14.09	218	8.58
4/100	2S	521	20.51	125	4.92	310	12.20	90	3.54	358	14.09	218	8.58
6/150	3S	653	25.71	163	6.42	450	17.72	108	4.25	496	19.53	312	12.28
8/200	3S	664	26.14	163	6.42	450	17.72	108	4.25	496	19.53	312	12.28
10/250	3S	733	28.86	163	6.42	450	17.72	108	4.25	501	19.72	312	12.28
12/300	3S	758	29.84	163	6.42	450	17.72	108	4.25	501	19.72	312	12.28

[1] All dimensions are to be used for estimation only. Certified drawings will be supplied upon request.

Dimensions and weights — with VR actuator

Table 10: VR actuator specifications

Type	Double-acting cylinder with spring
Sizes	25, 50, 100, 200
Action	Air-to-open, air-to-close, fail-in-place
Max Supply Pressure	10.3 barg (150 psig)
Auxiliary	Side-mounted handwheel, declutchable
Stroke	90°
Springs	Standard: all sizes; extended: sizes 25 and 50; dual: sizes 100 and 200

Table 11: VR actuator shipping weights

Size	kg	lb
25 STD	16	35
25 EXTD	18	39
50 STD	33	73
50 EXTD	39	86
100 STD	73	161
100 DUAL	80	176
200 STD	120	265
200 DUAL	127	280

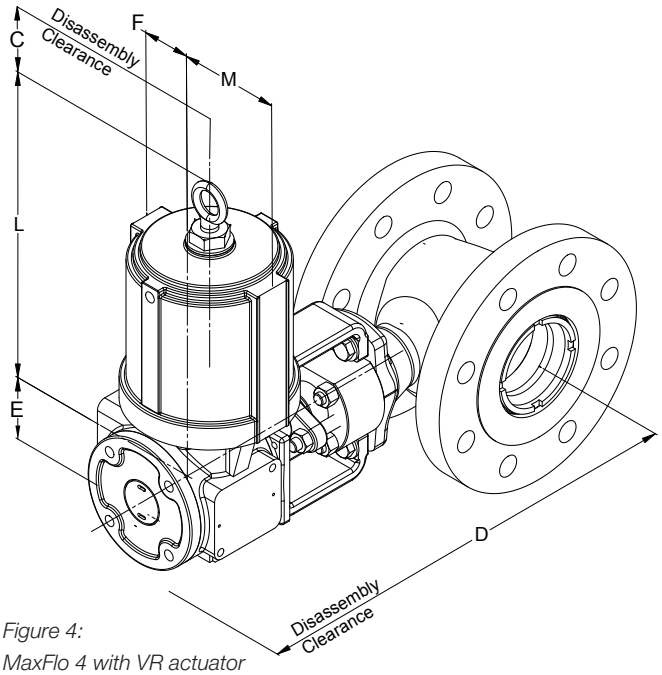


Figure 4:
MaxFlo 4 with VR actuator

Table 12: Dimensions with VR actuator[1]

Valve Size NPS/DN	Actuator Size	C		D		E		F		L		M	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
1/25	25 STD	135	5.3	508	20.0	114	4.5	56	2.2	338	13.3	109	4.3
	25 EXTD	135	5.3	508	20.0	114	4.5	56	2.2	439	17.3	109	4.3
1.5/40	25 STD	135	5.3	533	21.0	114	4.5	56	2.2	338	13.3	109	4.3
	25 EXTD	135	5.3	533	21.0	114	4.5	56	2.2	439	17.3	109	4.3
2/50	25 STD	135	5.3	533	21.0	114	4.5	56	2.2	338	13.3	109	4.3
	25 EXTD	135	5.3	533	21.0	114	4.5	56	2.2	439	17.3	109	4.3
3/80	25 STD	135	5.3	635	25.0	114	4.5	56	2.2	338	13.3	109	4.3
	25 EXTD	135	5.3	635	25.0	114	4.5	56	2.2	439	17.3	109	4.3
	50 STD	191	7.5	635	25.0	147	5.8	64	2.5	465	18.3	168	6.6
	50 EXTD	191	7.5	635	25.0	147	5.8	64	2.5	605	23.8	168	6.6
4/100	25 STD	135	5.3	660	26.0	114	4.5	56	2.2	338	13.3	109	4.3
	25 EXTD	135	5.3	660	26.0	114	4.5	56	2.2	439	17.3	109	4.3
	50 STD	191	7.5	660	26.0	147	5.8	64	2.5	465	18.3	168	6.6
	50 EXTD	191	7.5	660	26.0	147	5.8	64	2.5	605	23.8	168	6.6
6/150	50 STD	191	7.5	686	27.0	147	5.8	64	2.5	465	18.3	168	6.6
	50 EXTD	191	7.5	686	27.0	147	5.8	64	2.5	605	23.8	168	6.6
	100 STD or DUAL	216	8.5	737	29.0	191	7.5	99	3.9	582	22.9	221	8.7
	200 STD or DUAL	216	8.5	737	29.0	208	8.2	160	6.3	610	24.0	282	11.1
8/200	50 STD	191	7.5	686	27.0	147	5.8	64	2.5	465	18.3	168	6.6
	50 EXTD	191	7.5	686	27.0	147	5.8	64	2.5	605	23.8	168	6.6
	100 STD or DUAL	216	8.5	737	29.0	191	7.5	99	3.9	582	22.9	221	8.7
	200 STD or DUAL	216	8.5	737	29.0	208	8.2	160	6.3	610	24.0	282	11.1
10/250	50 STD	191	7.5	762	30.0	147	5.8	64	2.5	465	18.3	168	6.6
	50 EXTD	191	7.5	762	30.0	147	5.8	64	2.5	605	23.8	168	6.6
	100 STD or DUAL	216	8.5	813	32.0	191	7.5	99	3.9	582	22.9	221	8.7
	200 STD or DUAL	216	8.5	813	32.0	208	8.2	160	6.3	610	24.0	282	11.1
12/300	100 STD or DUAL	216	8.5	838	33.0	191	7.5	99	3.9	582	22.9	221	8.7
	200 STD or DUAL	216	8.5	813	32.0	208	8.2	160	6.3	610	24.0	282	11.1

[1] All dimensions are to be used for estimation only. Certified drawings will be supplied upon request.

Dimensions and weights — without actuator

Table 13: Face-to-face dimensions

Valve Size NPS/ DN	ANSI/ISA 75.08.02, EN 558 Series 36				ANSI/ISA 75.08.01, EN 558 Series 37–38				ANSI/ISA 75.08.01, EN 558 Series 37–38				DIN 3202 F1, EN 558 Series 1			
	CL 150–600/PN 10–63				CL 150				CL 300				PN 10-40			
	A		B		A		B		A		B		A		B	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
1/25	4.02	102	2.01	51	7.25	184	4.76	121	7.75	197	5.16	131	6.30	160	3.74	95
1.5/40	4.49	114	2.24	57	8.75	222	5.83	148	9.25	235	6.22	158	7.87	200	4.96	126
2/50	4.88	124	2.44	62	10.00	254	6.89	175	10.50	267	7.28	185	9.06	230	5.98	152
3/80	6.50	165	3.25	83	11.75	298	7.48	190	12.50	318	8.11	206	12.21	310	8.03	204
4/100	7.64	194	3.82	97	13.88	353	9.17	233	14.50	368	9.49	241	13.78	350	9.17	233
6/150	9.02	229	4.65	118	17.75	451	11.57	294	18.62	473	12.01	305	18.90	480	12.64	321
8/200	9.57	243	5.35	136	21.38	543	15.28	388	22.38	568	15.75	400	23.62	600	16.61	422
10/250	11.69	297	6.22	158	26.50	673	19.88	505	27.88	708	20.55	522	28.74	730	20.98	533
12/300	13.31	338	6.77	172	29.00	737	21.57	548	30.50	775	22.32	567	33.47	850	25.12	638

Figure 5: Face-to-face options

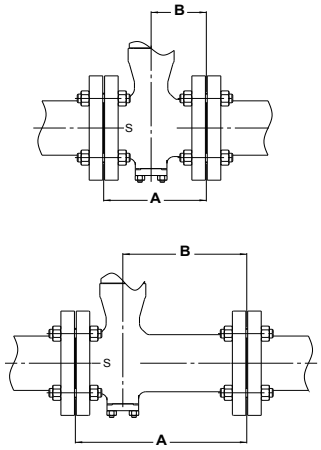


Table 14: Shipping weights for body sub-assembly (weights for all class ratings)

Valve Size NPS/ DN	ANSI/ISA 75.08.02, EN 558 Series 36												ANSI/ISA 75.08.01, EN 558 Series 37–38			
	Flanged						Flangeless						Flanged			
	CL 150/PN 10 Thru PN 40		CL 300		CL 600/PN 63		CL 150/PN 10 Thru PN 40		CL 300/PN 40		CL 600/PN 63		CL 150		CL 300	
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
1/25	5	12	6	14	7	16	5	10	5	10	5	10	6	14	8	17
1.5/40	7	16	10	21	11	24	6	13	6	14	6	13	9	19	11	24
2/50	9	19	11	23	12	27	7	15	8	17	9	21	11	24	12	27
3/80	17	38	21	45	23	51	12	27	15	33	19	41	20	45	24	53
4/100	19	42	26	58	37	82	14	31	17	37	24	54	24	53	32	71
6/150	36	79	50	110	74	163	28	62	39	86	50	110	48	106	65	142
8/200	52	115	71	157	109	240	37	82	52	115	68	151	70	155	92	204
10/250	105	231	134	295	206	454	86	191	107	235	139	306	136	300	172	380
12/300	151	333	187	411	252	555	119	262	142	314	177	389	195	429	243	537

This page intentionally left blank

Table 15: Pipe mounting orientation codes

3 - Air action		4 - Pipe configuration		5 - Actuator orientation		6 - Shaft direction	
O	Air-to-open - ATO	**L**	Left hand mounting	**T**	Top (default)	**D**	Shaft downstream (default)
C	Air-to-close - ATC	**R**	Right hand mounting	**R**	Right	**U**	Shaft upstream
		D	Flow down	**L**	Left		
		U	Flow up	**B**	Bottom[1]		
				P	Supernova: Parallel		
				X	Supernova: Cross-pipe		

AT [ ] [ ] [ ] [ ]

3 4 5 6

[1] Not available on diaphragm actuators

Table 16: Mounting orientations—air-to-close, fail open configuration

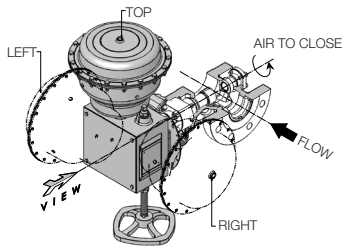
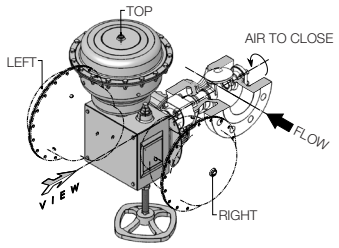
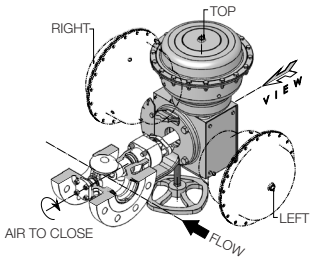
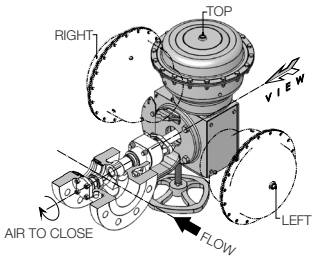
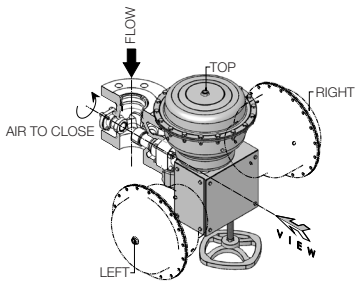
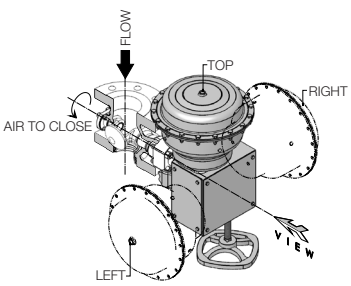
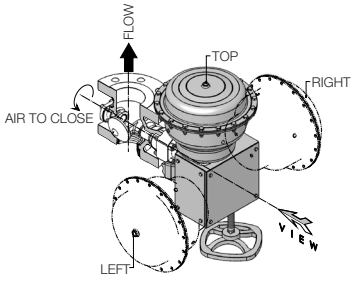
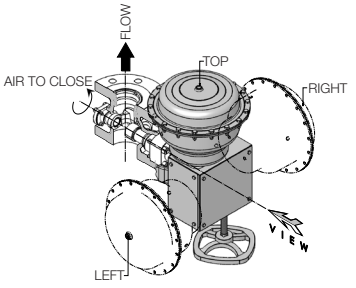
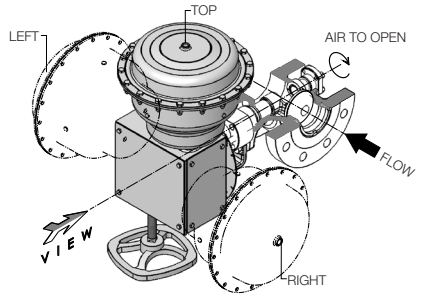
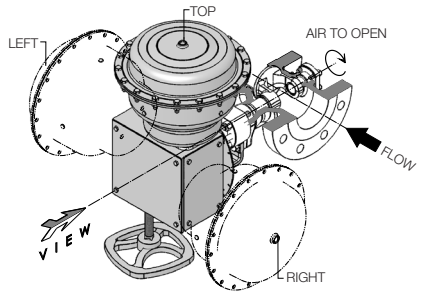
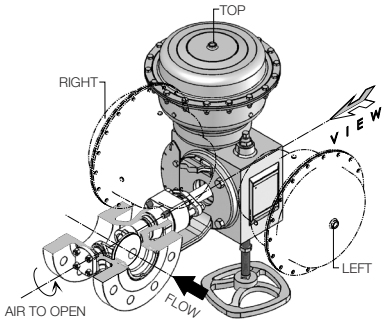
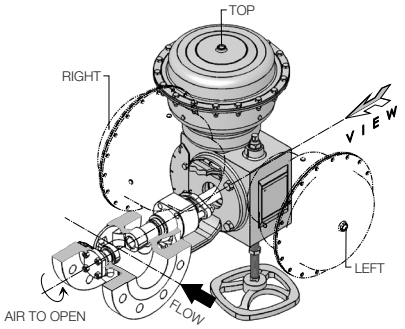
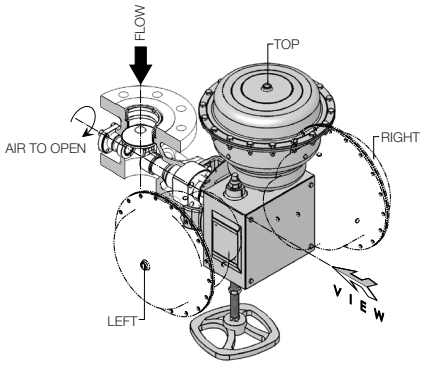
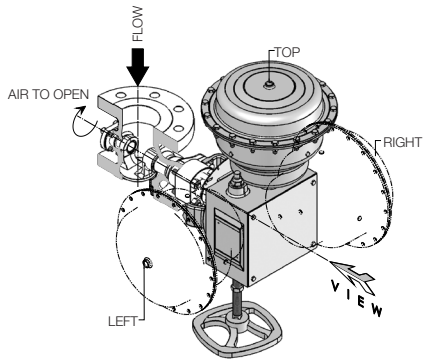
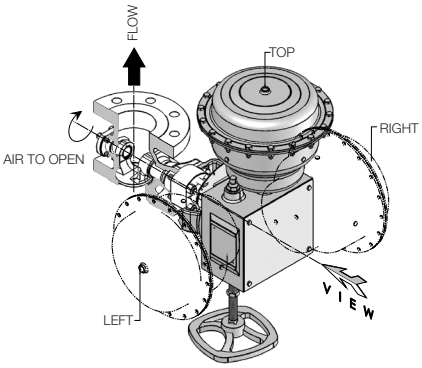
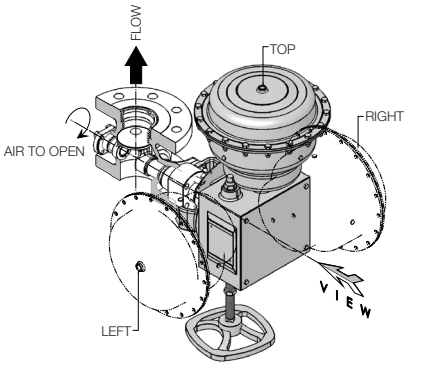
	Flow-to-open (shaft downstream)	Flow-to-close (shaft upstream)	
Horizontal flow			**Left hand pipe mounting**
			**Right hand pipe mounting**
Vertical flow			**Flow down**
			**Flow up**

Table 17: Mounting orientations—air-to-open, fail close configuration

	Flow-to-open (shaft downstream)	Flow-to-close (shaft upstream)	
Horizontal flow			Left hand pipe mounting
			Right hand pipe mounting
Vertical flow			Flow down
			Flow up

The Logix 3800 positioner features powerful diagnostics that identify field problems and expedite corrective actions to ensure reduced return-to-operation times.

You can have it all: simple configuration and calibration, powerful diagnostics and reliable performance

The Logix 3800 digital positioner from Flowserve helps plant owners and operators maximize production while minimizing operating costs. It's the oil and gas and chemical industries' choice for applications that require a balance between technological sophistication and long-lasting reliability in tough environments.

This high-precision positioner simplifies installation through easy configuration and calibration. It also facilitates improvements in process uptime, reliability and process throughput. Advanced diagnostics not only identify developing problems in the control valve, but also help guide corrective actions to ensure reduced return-to-operation times.

Compatible with linear and rotary valves and actuators, the Logix 3800 digital positioner offers embedded measurement, data reduction and diagnostic functionalities. Its control system-independent user interface facilitates easy configuration, operation and system diagnostics with a single view.

Predictive diagnostics

With five pressure sensors, the Logix 3800 digital positioner enables operators to identify and assess the severity of developing problems in valves and actuators so action can be taken before a critical event.

Supply pressure warning — Monitors the instrument air supply pressure

Friction high/low warnings — Monitors the adjustment of the packing and seals

Pneumatic leak warning — Monitors excessive air consumption indicating leaks in actuator or tubing

Fail-Safe position error — Detects problems with the fail-safe actuator spring

Backlash warning — Monitors the linkage of the actuator to the valve and detects loose connections

Service when and where you need it most

Flowserve Quick Response Centers (QRCs) are strategically located around the world to ensure rapid response to your time-critical repair needs, routine maintenance and product upgrades.

Single point of contact

Our QRCs serve as a local, single point of contact for the full inventory of Flowserve products and services, including the machinery to manufacture custom-built units. We offer better than 95% on-time performance for all repairs, and can turn around new and custom-built units within 72 hours.

Time-critical repairs

To meet your time-critical repair needs, Flowserve offers 24-hour emergency repair, free pick-up and delivery within QRC service areas, and mobile and on-site repair. When a service technician is needed on-site, we can have one there within 24 hours anywhere in North America, and 48 hours outside of North America.

To locate a Flowserve representative near you, visit www.flowserve.com

Flowserve Corporation
5215 North O'Connor Blvd.
Suite 700
Irving, Texas 75039-5421 USA

VATB001456-05 (EN/A4) March 2024
(Formerly VLENTB0064)

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any one of its worldwide operations or offices.

©2024 Flowserve Corporation. All rights reserved. This document contains registered and unregistered trademarks of Flowserve Corporation. Other company, product, or service names may be trademarks or service marks of their respective companies.