

TECHNICAL BULLETIN

Valtek MaxFlo 4

Eccentric Rotary Plug Control Valve

FCD VLENTB0064-02-A4 – 11/15



Flowserve® – 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, Flowserve partners with customers to develop industry leading technical solutions that help customers keep their process flowing.

Flowserve Valtek MaxFlo 4

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 also 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.



Figure 1: MaxFlo 4

MaxFlo 4 Features & Advantages

Features	Advantages
Non-Crossover Shaft	<ol style="list-style-type: none"> 1. Unobstructed flow when fully open. 2. Up to 70% greater capacity than other ERP control valves. 3. Not eroded by process-borne particles. 4. Pocketless flow-path tolerates slurries, even up to 3% paper stock.
Eccentric Rotary Plug	<ol style="list-style-type: none"> 1. Plug does not rub seat ring. Less wear, less friction, more precision. 2. Stable throttling, low dynamic torque. 3. Stable throttling in either flow direction. 4. Inherently Linear characteristic. =% by positioner. 5. Flow direction assists movement to safety position on air-failure. 6. Robust, rigid seat and plug give increased durability. 7. 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%, 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.
Shimless Seat	Offers simplified assembly and easy maintenance
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 of up to 15dB in compressible services.
Certifications	SIL 3 capable, NACE

Table 1: Specifications

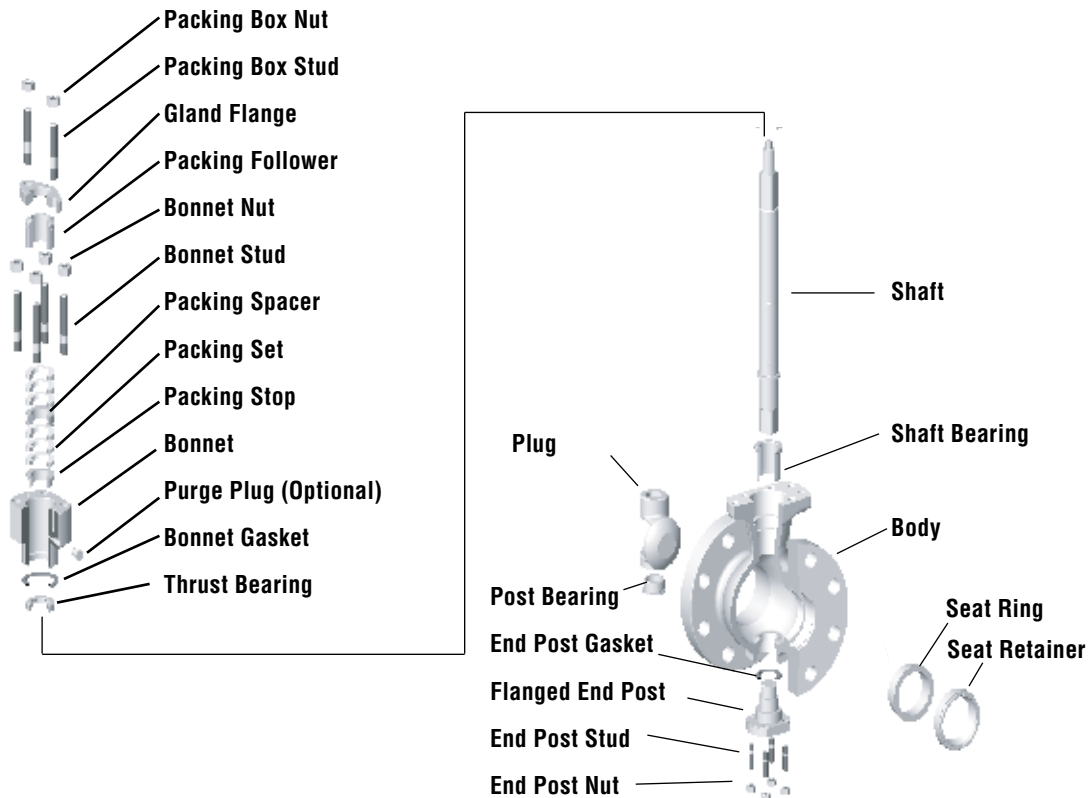
OPTIONS	DIN	ASME
Sizes	DN 25, 40, 50, 80, 100, 150, 200, 250 and 300	NPS 1, 1.5, 2, 3, 4, 6, 8, 10 and 12
Pressure Classes	PN 10, 16, 25, 40 and 63	Class 150, 300 and 600
End Connection	EN 1092-1 (Form B1, D, F, B2)—Flanged & Wafer	B16.5 (Raised Face, RTJ)—Flanged & Wafer
Body Materials	Carbon steel: 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, Sureguard XT, Garlock SVS, 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	-100°C to 400 °C (-148°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	Up to 160:1	
Trim	100%, 40% (NPS sizes 1 – 6, DN 25 – 150), 75% (NPS sizes 8 - 12, DN 200 – 300)	
Actuator	NR Diaphragm, VR Piston and SuperNova Rack & Pinion (optional: manual, electric)	
Positioner	Logix 420 (optional: Logix 3000, Logix 500, XL-90)	

Table 2: Materials of Construction

Temperature Range	-20°F to +750°F (-29°C to +400°C)	-148°F to -29°F (-100°C to -20°C)
Body	Carbon Steel (A216 WCC / 1.0619) Stainless Steel (A351 CF8M / 1.4408)	Stainless Steel (A351 CF8M / 1.4408)
Plug	Stainless Steel (DIN 1.4418 up to 4", DIN 1.4405 for 6" and larger) 316L w/ Alloy 6 overlay	316L Stainless Steel with Alloy 6 overlay.
Shaft & End Post	DIN 1.4418/17-4 PH	Nitronic 50 / Inconel 718
Bearings	MBT ¹ , 440C, UNS S31803, Ultimet, Alloy 6	MBT ¹ , UNS S31803, Ultimet, Alloy 6
Bonnet	Carbon Steel (A105 WCC / 1.0619), Stainless Steel (A182 F316 / 1.4571)	Stainless Steel (A182 F316 / 1.4571)
Seat Retainer	Stainless Steel (SS316 for sizes up to 8", SS 410/416 for Sizes 10" & 12")	Stainless steel (SS 316)
Seat Ring	316L Stainless steel 316L w/ Alloy 6 overlay 410/416 HT	316L Stainless steel 316L w/ Alloy 6 overlay
Soft Seat Insert	PTFE, PEEK for high temperature.	
Packing Options	PTFE V-ring, Graphite Ribbon, Graphite Braided, Environmental or Fire-Safe packings for service and Regulatory Agency requirements.	
Packing Spacers & Stops	Stainless Steel	
Gland Bolting	Stainless Steel	
Gaskets	PTFE/Graphite	

Note 1: MBT, 10% carbon filled TFE, lined metal shell.

Figure 2: Exploded View



Cv (Flow Capacity) Tables

Table 3: NR Actuator (60 degree travel)

Valve Size	Flow-to-Close (shaft up)			Flow-to-Open (shaft down)			With Noise Reduction Plate Flow-to-Open (shaft down)		
	Percent of Full Area			Percent of Full Area			Percent of Full Area		
	40%	75%	100%	40%	75%	100%	40%	75%	100%
1 (25)	7.2	-	13.5	7.2	-	13.5	6.0	-	8.5
1.5 (40)	16.0	-	32.0	16.0	-	32.0	13	-	19
2 (50)	24.2	-	57	24.2	-	57	20	-	30
3 (80)	72	-	143	72	-	143	55	-	72
4 (100)	114	-	256	114	-	256	88	-	122
6 (150)	228	-	543	228	-	543	183	-	266
8 (200)	-	605	914	-	605	914	-	402	464
10 (250)	-	971	1428	-	971	1428	-	648	742
12 (300)	-	1280	2056	-	1280	2056	-	883	1050

Table 4: VR Actuator / Supernova (90 degree travel)

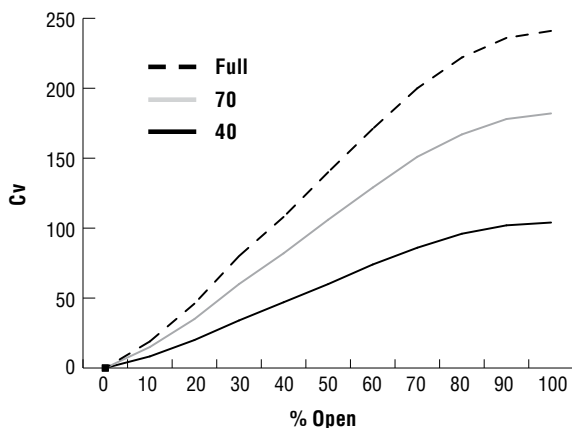
Valve Size	Flow-to-Close (shaft up)			Flow-to-Open (shaft down)			With Noise Reduction Plate Flow-to-Open (shaft down)		
	Percent of Full Area			Percent of Full Area			Percent of Full Area		
	40%	75%	100%	40%	75%	100%	40%	75%	100%
1 (25)	7.5	-	18.1	9.7	-	18.1	7.3	-	9.4
1.5 (40)	16.7	-	42.9	21.5	-	42.9	16	-	21
2 (50)	25.3	-	77	32.5	-	88	24	-	33
3 (80)	75	-	192	97	-	227	64	-	79
4 (100)	120	-	343	143	-	407	99	-	131
6 (150)	239	-	728	253	-	905	195	-	289
8 (200)	-	734	1227	-	1009	1523	-	475	507
10 (250)	-	1282	1917	-	1618	2462	-	766	820
12 (300)	-	1789	2760	-	2132	3426	-	1059	1150

Note 1: For complete Cv curves refer to the Performance! sizing software.

Note 2: For ASME globe style valve bodies (ISA 75.08.01, EN 558 37-38) use the same Cv, except for the 8 and above use the Cv of one valve smaller.

Note 3: $K_v = C_v / 1.156$

Figure 3: Sample Cv Curve



Pressure Drop Tables

Table 5: MaxFlo 3 Maximum Allowable Shutoff Pressure Drops (psi/bar)¹

Valve Size	Component	Material ²	Flow Direction ³	Temperature Range (°F/°C)							
				-100/-73 to 100/38	200/93	300/149	400/204	500/260	600/316	700/371	750/400
1/25	Shaft and Post	1.4418 or A-638 Gr. 660	SU or SD	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Plug	1.4418		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-182 316L / Alloy 6		710/49	670/46	630/43	580/40	530/37	480/33	420/29	
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10				
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52		
A-182 316 / PTFE		750/52	750/52	650/45	470/32						
1.5/40	Shaft and Post	1.4418 or A-638 Gr. 660	SU or SD	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Plug	1.4418		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-182 316L / Alloy 6		710/49	670/46	630/43	580/40	530/37	480/33	420/29	
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10				
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52		
A-182 316 / PTFE		750/52	660/46	450/31	300/21						
2/50	Shaft and Post	1.4418 or A-638 Gr. 660	SU or SD	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Plug	1.4418		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-182 316L / Alloy 6		750/52	720/50	680/47	630/43	560/39	510/35	450/31	
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10				
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52		
A-182 316 / PTFE		750/52	750/52	540/37	360/25						
3/80	Shaft and Post	1.4418 or A-638 Gr. 660	SU or SD	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Plug	1.4418		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-182 316L / Alloy 6		660/46	620/43	590/41	550/38	500/34	450/31	400/28	
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10				
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52		
A-182 316 / PTFE		720/50	430/30	290/20	200/14						
4/100	Shaft and Post	1.4418 or A-638 Gr. 660	SU or SD	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Plug	1.4418		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-182 316L / Alloy 6		710/49	670/46	630/43	580/40	530/37	480/33	420/29	
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10				
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52		
A-182 316 / PTFE		720/50	430/30	290/20	200/14						

Pressure Drop Tables (continued)

Valve Size	Component	Material ²	Flow Direction ³	Temperature Range (°F/°C)								
				-100/-73 to 100/38	200/93	300/149	400/204	500/260	600/316	700/371	750/400	
6/150	Shaft and Post	1.4418	SU	750/52	750/52	750/52	750/52	750/52	750/52	720/50	700/48	
			SD	750/52	730/50	710/49	690/48	660/46	640/44	600/41	580/40	
		A-638 Gr. 660	SU	750/52	740/51	730/50	720/50	700/48	690/48	680/47		
			SD	640/44	630/43	620/43	600/41	590/41	580/40	560/39		
	Plug	1.4418		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-182 316L / Alloy 6		290/20	270/19	250/17	230/16	210/14	190/13	170/12		
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10					
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-182 316 / PTFE		440/30	260/18	180/12	120/8							
8/200	Shaft and Post	1.4418	SU	550/38	530/37	510/35	500/34	480/33	450/31	430/30	410/28	
			SD	450/31	440/30	420/29	410/28	390/27	370/26	350/24	330/23	
		A-638 Gr. 660	SU	450/31	440/30	430/30	430/30	420/29	410/28	400/28		
			SD	370/26	360/25	360/25	350/24	340/23	330/23	320/22		
	Plug	1.4418		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	620/43
		A-182 316L / Alloy 6		210/14	200/14	200/14	170/12	160/11	140/10	120/8		
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10					
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-182 316 / PTFE		440/30	260/18	180/12	120/8							
10/250	Shaft and Post	1.4418	SU	230/16	220/15	220/15	210/14	210/14	200/14	200/14	190/13	
			SD	180/12	170/12	170/12	160/11	150/10	140/10	140/10	130/9	
		A-638 Gr. 660	SU	190/12	180/12	180/12	180/12	170/12	170/12	170/12		
			SD	140/10	140/10	140/10	140/10	130/9	130/9	130/9		
	Plug	1.4418		750/52	750/52	750/52	730/50	710/49	680/47	650/45	620/43	
		A-182 316L / Alloy 6		210/14	200/14	190/13	170/12	160/11	140/10	120/8		
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10					
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-182 316 / PTFE		460/32	270/19	190/13	120/8							
12/300	Shaft and Post	1.4418	SU	210/14	200/14	200/14	190/11	180/10	170/10	160/10	160/10	
			SD	130/9	120/8	120/8	110/8	110/8	100/7	100/7	90/6	
		A-638 Gr. 660	SU	170/12	170/12	170/12	160/11	160/11	160/11	150/10		
			SD	100/7	100/7	100/7	90/6	90/6	90/6	90/6		
	Plug	1.4418		600/41	580/40	560/39	540/37	520/36	500/34	470/32	450/31	
		A-182 316L / Alloy 6		149/10	142/10	133/9	123/8	112/8	101/7	90/6		
	Seat	A-182 316L / PTFE		750/52	450/31	250/17	150/10					
		A-182 316L		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
	Bearings	A-276-440C		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
		A-276-S31803 (Coated)		750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52	750/52
A-182 316 / PTFE		460/32	270/19	190/13	120/8							

1. If higher pressure drops are required, contact your Flowserve sales office.

2. Additional seat and bearing materials are available. Contact your Flowserve sales office for pressure drops.

3. SU = Shaft Upstream; SD = Shaft Downstream

Note: Values are for components shown only. Pressures/temperatures may exceed limits per ANSI B16.34 for body materials.

Dimensions and Weights

Table 6: MaxFlo 4 Face-to-face Dimensions

Figure 3: MaxFlo 4 Face-to-face Options

Valve Size	(ANSI/ISA-75.08.02, EN 558-1/2 Series 36, IEC 60534-3-2)				(ANSI/ISA-75.08.01, Class 150, EN 558-1/2 Series 37-38, IEC 60534-3-1)				(ANSI/ISA-75.08.01 Class 300, EN 558-1/2 Series 37-38, IEC 60534-3-1)				(DIN 3202 F1, EN 558-1/2 Series 1)			
	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

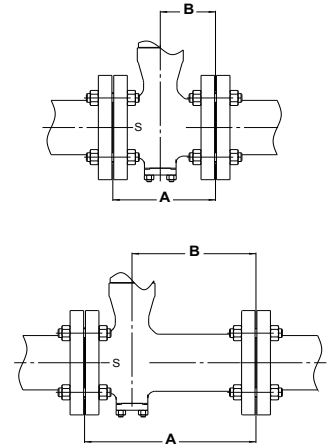


Table 7: Shipping Weights for Body Sub-Assembly (Weights for all class ratings)

Valve Size	ISA 75.08.01 FF				ISA 75.08.02 FF											
	Flanged				Flanged						Flangeless					
	CL 150		CL 300		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	
	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs
1"	6	14	8	17	5	12	6	14	7	16	5	10	5	10	5	10
1.50"	9	19	11	24	7	16	10	21	11	24	6	13	6	14	6	13
2"	11	24	12	27	9	19	11	23	12	27	7	15	8	17	9	21
3"	20	45	24	53	17	38	21	45	23	51	12	27	15	33	19	41
4"	24	53	32	71	19	42	26	58	37	82	14	31	17	37	24	54
6"	48	106	65	142	36	79	50	110	74	163	28	62	39	86	50	110
8"	70	155	92	204	52	115	71	157	109	240	37	82	52	115	68	151
10"	136	300	172	380	105	231	134	295	206	454	86	191	107	235	139	306
12"	195	429	243	537	151	333	187	411	252	555	119	262	142	314	177	389

Dimensions and Weights (continued)

Table 8: Diaphragm Actuator Specifications

Type	Single-acting, high-performance
Sizes	1S, 2S, 3S
Action	Air-to-open, Air-to-close, Fail-in-place
Supply Pressure	80 psig/6 barg*(maximum)
Auxiliary	Push-type handwheel
Stroke	60°
Spring Ranges	0.2 to 1, 0.7 to 1.9, 1.4 to 2.8 bar, and 1.9 to 3.8 bar

Table 10: NR Diaphragm Actuator Shipping Weights

Size	Kg	Lbs
1S	16	35
2S	38	85
3S	88	195

Table 9: Valve Size / NR Diaphragm Actuator Compatibility

Actuator Size	Valve Size								
	1/25	1.5/40	2/50	3/80	4/100	6/150	8/200	10/250	12/300
1S	X	X	X						
2S				X	X				
3S						X	X	X	X

Table 10: MaxFlo 4 Dimensions with Diaphragm Actuator

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

For face-to-face dimensions, see Table 14.

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

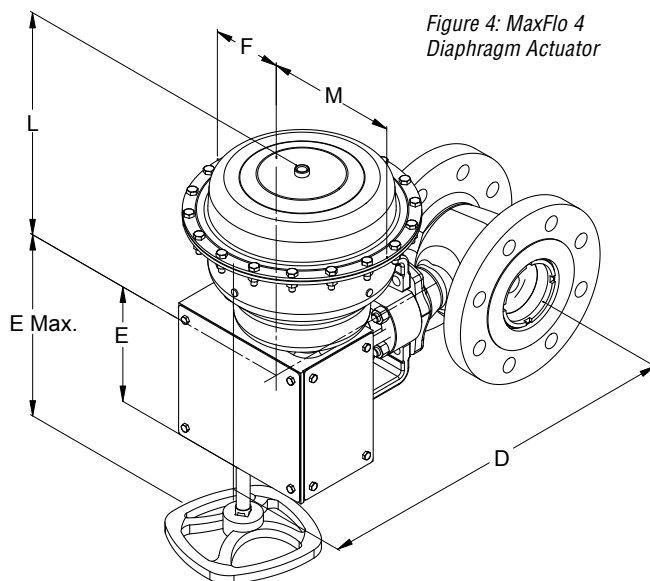


Figure 4: MaxFlo 4 Diaphragm Actuator

Dimensions and Weights (continued)

Table 11: Cylinder Actuator Specifications

Type	Double-acting, cylinder with fail-safe spring action
Sizes	25, 50, 100, 200
Action	Air-to-open, Air-to-close, Fail-in-place
Supply Pressure	150 psig/10.3 barg* (maximum)
Auxiliary	Declutchable side-mounted; manual gear operated; handlever
Stroke	90°
Springs	Standard, extended (sizes 25 & 50), dual sizes (100 & 200)
* Some restrictions may apply to certain applications	

Table 12: VR Cylinder Actuator Shipping Weights

Size	Kg	Lbs
25	16	35
50	33	73
100	73	161
200	120	265

Table 13: Valve Size / VR Cylinder Actuator Compatibility

Actuator Size	Spring Type	Valve Size								
		1/25	1.5/40	2/50	3/80	4/100	6/150	8/200	10/250	12/300
25	STD	X	X	X	X	X				
25	EXTD	X	X	X	X	X				
50	STD				X	X	X	X	X	
50	EXTD				X	X	X	X	X	
100	STD						X	X	X	
100	DUAL						X	X	X	X
200	STD						X	X	X	X
200	DUAL						X	X	X	X

Figure 5: MaxFlo 4 Spring Cylinder Actuator

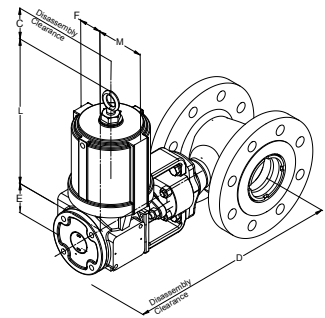


Table 14: MaxFlo 4 Dimensions (Spring Cylinder Actuator)

Valve Size	Actuator Size	Shaft Size		C		D		E		F		L		M	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
1/25	25	0.4	11	6.0	152	20.0	510	5.6	142	2.2	56	13.1	332	4.3	109
1.5/40	25	0.6	16	6.0	152	21.0	535	5.6	142	2.2	56	13.1	332	4.3	109
2/50	25	0.6	16	6.0	152	21.0	535	5.6	142	2.2	56	13.1	332	4.3	109
2/50	50	0.6	16	8.0	203	21.0	535	6.7	170	2.5	64	18.0	457	6.6	168
3/80	25	0.9	23	6.0	152	25.0	635	5.6	142	2.2	56	13.1	332	4.3	109
3/80	50	0.9	23	8.0	203	25.0	635	6.7	170	2.5	64	18.0	457	6.6	168
4/100	25	0.9	23	6.0	152	26.0	661	5.6	142	3.9	99	13.1	332	8.7	221
4/100	50	0.9	23	8.0	203	26.0	661	6.7	170	2.5	64	18.0	457	6.6	168
6/150	50	1.0	26	8.0	203	27.0	680	6.7	170	2.5	64	18.0	457	6.6	168
6/150	100	1.5	38	11.0	279	29.0	722	9.1	231	3.9	99	22.6	574	8.7	221
8/200	50	1.0	26	8.0	203	27.0	685	6.7	170	2.5	64	18.0	457	6.6	168
8/200	100	1.5	38	11.0	279	29.0	733	9.1	231	3.9	99	22.6	574	8.7	221
10/250	50	1.0	26	8.0	203	30.0	751	6.7	170	2.5	64	18.0	457	6.6	168
10/250	100	1.5	38	11.0	279	32.0	802	9.1	231	3.9	99	22.6	576	8.7	221
12/300	100	1.5	38	11.0	279	33.0	827	9.1	231	3.9	99	22.6	576	8.7	221

For face-to-face dimensions, see Table 14.

All dimensions are to be used for estimation only. Certified drawings will be supplied up request.

Dimensions and Weights (continued)

Table 15: SuperNova Actuator Specifications

Type	Single-acting spring-return, double-acting
Sizes	B063, B085, B100, B115, B125, B150, B175, B200, SNA 250, SNA 300
Action	Air-to-open, air-to-close, fail-in-place
Supply Pressure	100 psig/6.9 barg* (maximum) single-acting
	150 psig/10.34 barg (maximum) double-acting
Auxiliary	Declutchable handwheel
Stroke	90°
Springs	5 to 12 springs available

* Some restrictions may apply to certain applications

Table 16: Valve Size / SuperNova Actuator Compatibility

Actuator Size	Valve Size								
	1/25	1.5/40	2/50	3/80	4/100	6/150	8/200	10/250	12/300
B063	X	X	X	X					
B085	X	X	X	X					
B100	X	X	X	X	X	X			
B115	X	X	X	X	X	X			
B125	X	X	X	X	X	X	X	X	X
B150	X	X	X	X	X	X	X	X	X
B175				X	X	X	X	X	X
B200					X	X	X	X	X

Table 17: SuperNova Actuator Shipping Weights

Actuator Size	Valve Size																	
	1 /25		1.50/40		2/50		3/80		4/100		6/150		8/200		10/250		12/300	
	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs
B063	5	10	5	10	5	10												
B085	8	17	8	17	8	17	8	19	8	19								
B100	10	22	10	22	10	22	11	24	11	24								
B115	17	37	17	37	17	37	17	38	17	38	19	41	19	41				
B125	21	45	21	45	21	45	21	45	21	45	22	49	22	49	26	57	26	57
B150	30	67	30	67	30	67	30	67	30	67	29	64	30	66	32	71	32	71
B175							43	94	43	94	48	106	48	106	50	110	50	110
B200							61	135	61	135	67	147	67	147	69	152	69	152

Dimensions and Weights (continued)

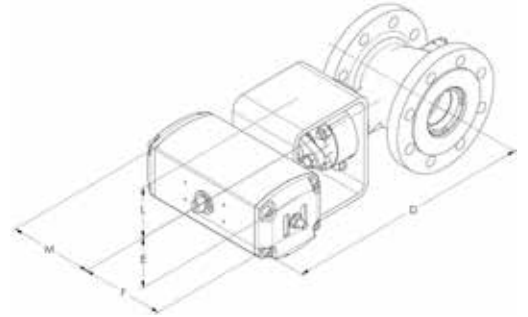


Table 18: MaxFlo 4 Dimensions (Supernova Actuator)

Actuator Size	Valve Size	D		E		F		L		M	
		in.	mm	in.	mm	in.	mm.	in.	mm.	in.	mm
B063	1/ 25	12.0	304	3.5	89	4.0	101	3.5	89	4.0	101
	1.5/40	12.6	320	3.5	89	4.0	101	3.5	89	4.0	101
	2/50	12.7	322	3.5	89	4.0	101	3.5	89	4.0	101
B085	1/ 25	12.9	328	3.5	89	4.9	125	3.5	89	4.9	125
	1.5/40	13.6	344	3.5	89	4.9	125	3.5	89	4.9	125
	2/50	13.6	346	3.5	89	4.9	125	3.5	89	4.9	125
	3/80	16.6	423	4	102	4.9	125	4	102	4.9	125
	4/100	16.8	428	4	102	4.9	125	4	102	4.9	125
B100	1/ 25	13.6	345	3.5	89	11.7	296	3.5	89	11.7	296
	1.5/40	14.5	361	3.5	89	11.7	296	3.5	89	11.7	296
	2/50	14.3	363	3.5	89	11.7	296	3.5	89	11.7	296
	3/80	17.3	439	4	102	11.7	296	4	102	11.7	296
	4/100	17.5	444	4	102	11.7	296	4	102	11.7	296
	6/150	23.5	597	5	127	11.7	296	5	127	11.7	296
B115	1/ 25	14.5	368	3.5	89	6.7	171	3.5	89	6.7	171
	1.5/40	15.1	384	3.5	89	6.7	171	3.5	89	6.7	171
	2/50	15.2	386	3.5	89	6.7	171	3.5	89	6.7	171
	3/80	20.2	513	4	102	6.7	171	4	102	6.7	171
	4/100	20.4	518	4	102	6.7	171	4	102	6.7	171
	6/150	24.4	620	5	127	6.7	171	5	127	6.7	171
B125	1/ 25	15.0	380	3.5	89	7.9	201	3.5	89	7.9	201
	1.5/40	15.6	396	3.5	89	7.9	201	3.5	89	7.9	201
	2/50	15.7	398	3.5	89	7.9	201	3.5	89	7.9	201
	3/80	20.7	525	4	102	7.9	201	4	102	7.9	201
	4/100	20.9	530	4	102	7.9	201	4	102	7.9	201
	6/150	24.9	632	5	127	7.9	201	5	127	7.9	201
	8/200	25.3	643	5	127	7.9	201	5	127	7.9	201
	10/250	27.2	690	5	127	7.9	201	5	127	7.9	201
	12/300	28.2	715	5	127	7.9	201	5	127	7.9	201
B150	1/ 25	16.0	407	3.5	89	9.6	243	3.5	89	9.6	243
	1.5/40	16.7	423	3.5	89	9.6	243	3.5	89	9.6	243
	2/50	16.7	425	3.5	89	9.6	243	3.5	89	9.6	243
	3/80	21.7	552	4	102	9.6	243	4	102	9.6	243
	4/100	21.9	557	4	102	9.6	243	4	102	9.6	243
	6/150	24.6	626	4.3	110	9.6	243	4.3	110	9.6	243
	8/200	26.4	670	5	127	9.6	243	5	127	9.6	243
	10/250	28.2	717	5	127	9.6	243	5	127	9.6	243
	12/300	29.2	742	5	127	9.6	243	5	127	9.6	243
B175	3/80	23.1	587	4.2	106	10.7	271	4	102	10.7	271
	4/100	23.3	592	4.2	106	10.7	271	4	102	10.7	271
	6/150	27.3	694	5	127	10.7	271	5	127	10.7	271
	8/200	27.7	705	5	127	10.7	271	5	127	10.7	271
	10/250	29.6	752	5	127	10.7	271	5	127	10.7	271
	12/300	30.6	777	5	127	10.7	271	5	127	10.7	271
B200	4/100	24.5	622	4.7	120	12.2	310	4.3	108	12.2	310
	6/150	28.5	723	5	127	12.2	310	5	127	12.2	310
	8/200	28.9	734	5	127	12.2	310	5	127	12.2	310
	10/250	30.8	781	5	127	12.2	310	5	127	12.2	310
	12/300	31.8	806	5	127	12.2	310	5	127	12.2	310

Table 19: MaxFlo 4 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*		
				P	Supernova: Parallel		
				X	Supernova: Cross-Pipe		

AT

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* Not available on diaphragm actuators

Table 20: MaxFlo 4 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 21: MaxFlo 4 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

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