



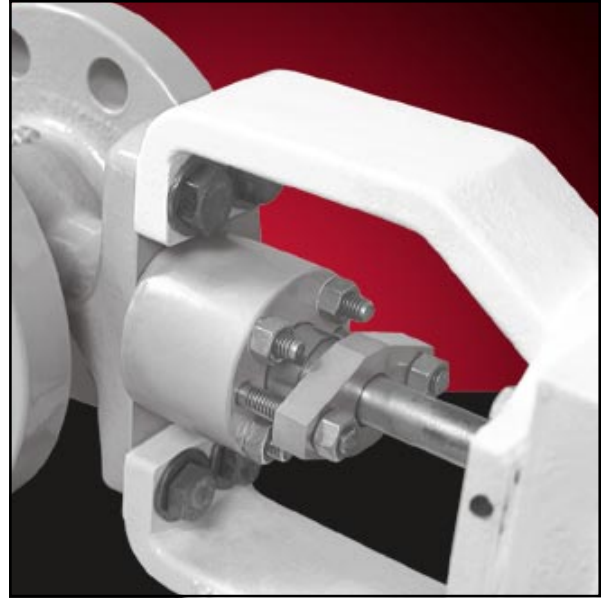
**FLowsERVE**<sup>®</sup>

**VALTEK**<sup>®</sup>  
*MaxFlo 3 Control Valves*

## Valtek MaxFlo 3 Control Valves



**Figure 1: MaxFlo 3 Control Valve with Valtek High-Performance Diaphragm Actuator and Logix 500 Digital Positioner (HART compatible)**



**Figure 2: Safe, Reliable, Anti-Blowout Shaft Design**



**Figure 3: MaxFlo 3 Control Valve with Valtek High-Performance Spring Cylinder Rotary Actuator and XL90 Positioner**



**Figure 4: Robust, Reliable Flanged End Plug Design**

# Valtek MaxFlo 3 Control Valves

## Introduction

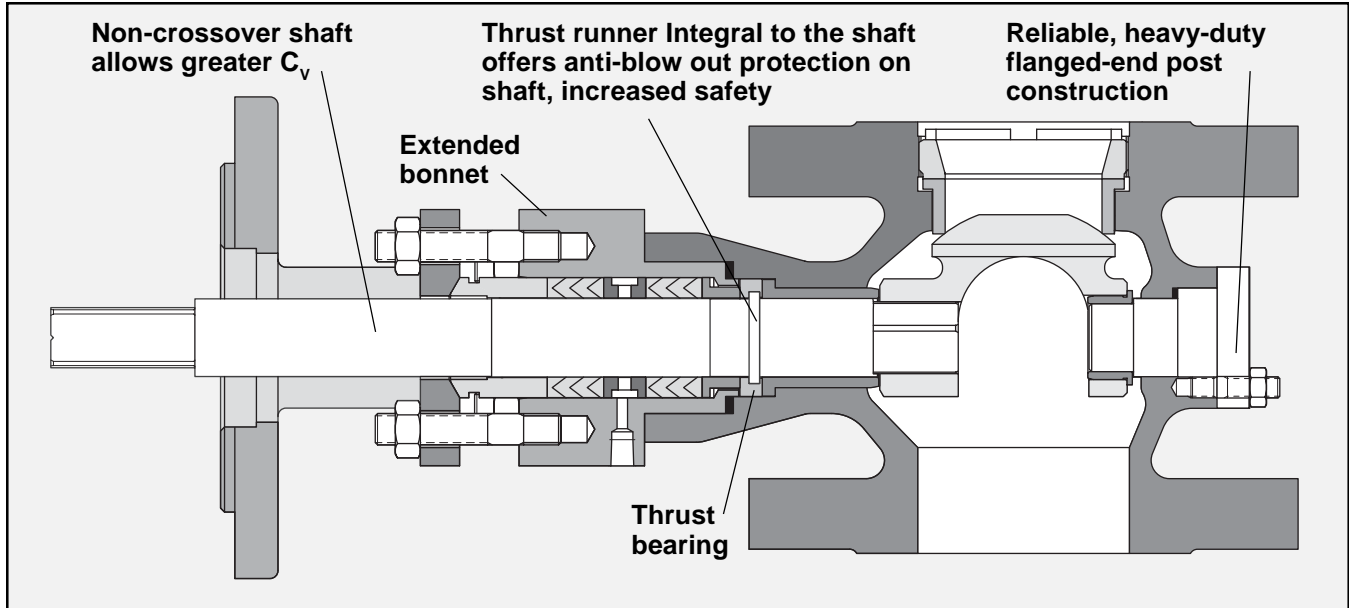


Figure 5: MaxFlo 3 Rotary Eccentric Plug Control Valve, Body Subassembly

## MaxFlo 3 raises the bar to the highest standards of reliability

### High Performance

The Valtek® MaxFlo™ 3 control valve is a high-performance, eccentric rotary plug design, which is used in low-pressure, high  $C_v$  applications. The MaxFlo 3 valve is capable of operating temperatures between  $-150^{\circ}$  to  $752^{\circ}$  F /  $-100^{\circ}$  to  $400^{\circ}$  C.

The MaxFlo 3 eccentric plug offers rangeability up to 160:1 – compared to 50:1 for typical globe valves and 20:1 for most butterfly valves.

A heavy-duty, non-crossover shaft is out of the valve's flow path. This superior design allows higher flow capacity for a given valve size. It also eliminates shaft damage from erosive process fluids. Many other manufacturers' designs allow the shaft to crossover the flow path, resulting in lower flow capacity and shaft wear.

The MaxFlo 3 control valve is available in 1- through 12-inches in a flanged body style (ANSI Classes 150 and 300 / PN 16 to 40). Multiple reduced trims for each valve size are available. These trim reductions allow a wide range of  $C_v$  values in each valve size, providing accurate, precise control across the capacity of the valve with extremely fine resolution.

The positioners offered on the MaxFlo 3 allow the control valve to respond to small signal changes without overshoot. The XL, XL90, Logix 500 and Logix 1000 positioners can respond precisely to 0.1 percent signal changes. This accuracy allows the MaxFlo 3 control valve to precisely control the process fluid.

As the valve opens and the plug rotates smoothly out of the seat (Figure 6), the chances of water hammer are significantly reduced. And, since the plug and non-crossover shaft do not obstruct the flow, the MaxFlo 3 valve obtains a higher flow coefficient ( $C_v$ ) rating than other traditional rotary valves. This is why Maxflo 3 can obtain a rangeability of 160:1. In addition, the MaxFlo 3 design has a zero breakout torque requirement, which allows smaller actuators to be used — reducing costs and maintenance time.

All these features make the MaxFlo 3 control valve the most accurate, precise, eccentric rotary plug valve on the market. High performance is the first key point in the core design principles behind the MaxFlo 3 control valve.

# Valtek MaxFlo 3 Control Valves

## Introduction

### Increased Safety

An additional point in the core design principles behind the MaxFlo 3 control valve was increased safety. ANSI B16.34 section 6.5.1 states valves should be designed to prevent the stem from being removed while the valve is under pressure. Flowserve has taken this safety issue one step further. The unique MaxFlo 3 stem, with the integral thrust runner on the shaft, cannot be removed unless the bonnet nuts are removed (See Figure 5). Many other rotary control valves do not include anti-blow out protection on shaft; designs offering anti-blow out protection lack the robust character MaxFlo 3 control valves provide (See Figure Nos. 2 and 5). Accidents, safety incidents and failures have been attributed to other valves lacking the unique features of the MaxFlo 3 control valve.

The MaxFlo 3 control valve's durable flanged endpost design eliminates all possibility of any parts coming loose and traveling downstream. The flanged end post is held in place by four bolts. It can't come loose like other manufacturers' designs; thus eliminating any leak path. The MaxFlo 3 plug design will either fail-open (shaft downstream) or closed (shaft upstream) in the event of air or instrument signal loss.

### Long Life

Longer life is also a key principle behind the MaxFlo 3 control valve. Its oversized shaft eliminates shaft failures

and provides a large shaft bearing surface, reducing bearing wear, improving reliability and increasing the life of the valve. The plug is produced from hardened 17-7PH material to increase plug life, provide tight shutoff and increase reliability in a wide range of difficult-to-handle applications (including flashing, erosive, mild cavitation and steam services). The rugged plug design reduces valve failure caused by water hammer.

The non-crossover shaft allows for uninterrupted flow. When the valve is in the open position, the fluid flow is not deflected into the seat or retainer, providing greater reliability — even after years of service. The durable flanged endpost design provides a robust bearing surface. Since the endpost is held in place by four bolts, it can't come loose in service like other manufacturers' designs (see Figure 4).

The typical maintenance cycle for the MaxFlo 3 valve exceeds five years and more than 20 years for total valve cycle expectancy. Most MaxFlo 3 actuators have a cycle life exceeding one million cycles, making the MaxFlo 3 design one of the most reliable control valves on the market.

NACE certification is available with the MaxFlo 3 design. Special Valtek packing sets, such as SureGuard™ packing, are available to control fugitive emissions and to meet Environmental Protection Agency (EPA) requirements.

The MaxFlo 3 double-offset eccentric plug rotates into the seat at an angle that eliminates sliding over the seat surface (Figure 7). The design reduces seat wear, and thereby decreases maintenance requirements and costs. At the same time, a tight ANSI Class VI shutoff is easily obtainable using the soft seat design.

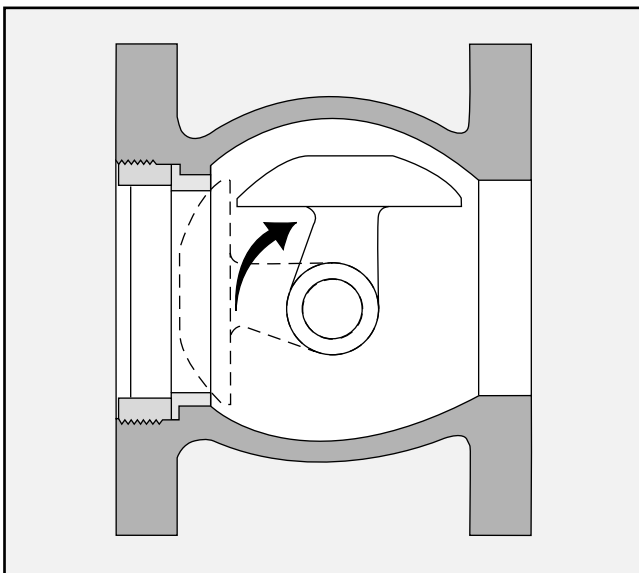


Figure 6: MaxFlo 3 Plug – Open

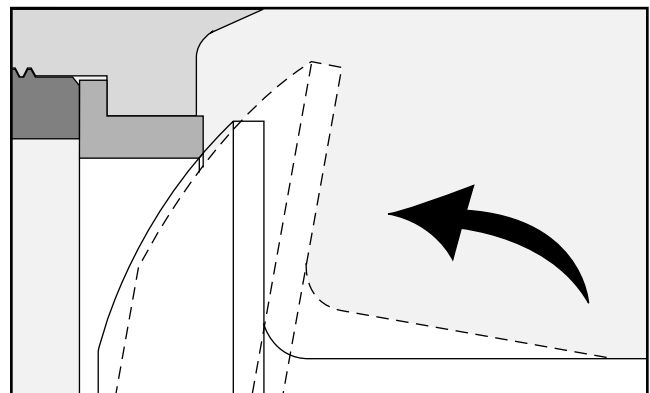


Figure 7: MaxFlo 3 Plug – Closing

# Valtek MaxFlo 3 Control Valves

## Features and Advantages

### High Performance

Features	Advantages
High flow coefficients	Up to 70 percent more flow than other manufacturers' rotary eccentric plug designs (reduced trims also available).
Non-crossover shaft	Shaft is out of flow path for higher flow capacities and less erosion damage. Valve may be used in paper pulp concentrations to 3 percent
High rangeability	For high rangeability up to 160:1. Rangeability due to non-crossover shaft design. Allows accurate throttling ability over a very wide range.
Accurate throttling	Plug throttles without contacting seat.
High-performance positioners	XL, XL90, Logix 500 and Logix 1000 positioners provide precise, accurate process control by responding to signal changes of 0.1 percent without overshoot.
High control	Rangeability up to 160:1.
Bidirectional shutoff	Allows valve to be mounted with shaft upstream or downstream
Flanged	ANSI Classes 150-300 (PN 16-40)
Reduced trims	Available in 100, 75/70 and 40 percent
Operating temperatures	-150° F to 750° F (-100° C to 400° C)
Sizes	1, 1.5, 2, 3, 4, 6, 8, 10, 12 (inches)
Shutoff rating (ANSI)	Metal seat: Class IV / Soft seat: Class VI

### Increased Safety

Superior quality	Standard shaft and trim materials allow higher pressure drops than other manufacturers' rotary eccentric plug designs, especially in NACE applications. Rugged and lightweight for easy handling and maintenance.
Safe, anti-blowout shaft	While conventional rotary control valves do not offer anti-blow out shafts, the unique MaxFlo 3 shaft design alleviates this problem. This feature also minimizes the risk of personal injury, fire and severe process leakage due to shaft blow out. During disassembly, removal of the valve shaft requires the removal of the bonnet nuts.
Reliable, flanged heavy-	The heavy-duty flanged end post construction ensures no parts of the valve can duty end post construction come loose and enter process line. Also, because of the robust flange, the gasket is uniformly compressed, thus eliminating leakage from the end post bore.
Fluid-assisted fail action	Fluid assists the plug to fail-open or fail-closed upon air failure.

### Long Life

Robust post design	Post or other parts cannot come loose in service and travel downstream.
Eccentric rotary plug	No breakout torque. Plug lifts off seat immediately, reducing seat wear.
Rugged plug design	17-7PH plug is standard material.
Non-selective plug and shaft	Easier maintenance. Reduced cost – replace only the part needed, not entire assembly.
NACE certification	Allows valve's use in petrochemical applications.
Multiple packing options	Configurations/materials available for most applications. Fugitive emission options meet EPA requirements.
Certifications	NACE, Certified material test report
External Bonnet	The external bonnet increases packing life and allows easier maintenance

# Valtek MaxFlo 3 Control Valves

## Specifications

**Table I: Body Specifications**

<b>Sizes (inches)</b>	1, 1.5, 2, 3, 4, 6,8,10,12
<b>End Connection</b>	Flanged, Flangless (1-8 inch)
<b>Body rating</b>	ANSI Class 150-300 / <b>PN 16-40</b>
<b>Trim Area</b>	100% (full), 75/70% reduction, 40% reduction 25/15 percent
<b>Shutoff rating</b>	ANSI Class IV, ANSI Class VI with soft seat
<b>Operating temperature</b>	-150° to 752° F / <b>-100° to 400° C</b>
<b>Pneumatic Actuator</b>	Diaphragm: NR1, NR2, NR3 Cylinder: 25, 50, 100, 200 manual
<b>Positioner signals</b>	Pneumatic: 3 - 15, 6 - 30 psi / <b>0.2 - 1.0, 0.4 - 2.0 bar</b> ; Electro-pneumatic: 4-20, 10-50 mA
<b>Characteristics</b>	Linear, equal percent
<b>Fail Mode</b>	Air-to-close, air-to-open, lock-in-place

**Table II: Materials of Construction**

<b>Body</b>	Carbon steel (A216 WCC) Stainless Steel (A351 CF8M)
<b>Plug</b>	DIN 1.4418, 316L w/Alloy 6 overlay
<b>Shaft</b>	17-7PH, A453 Gr 660
<b>End Post</b>	A564 Gr 631 (17-7PH), A453 Gr 660
<b>Bearings</b>	440C, UNSS31803 (Duplex 2205)
<b>Sealed Bearings</b>	440C, UNSS31803 (Duplex 2205)
<b>Seat Retainer</b>	Stainless steel (A351 CF8M), 8-inch and smaller (A182 G F6 400 series SS for 10/12-inch valves.
<b>Seat Ring</b>	316L Stainless steel, 316L w/Alloy 6 overlay, 416 HT
<b>Soft Seat</b>	PTFE
<b>Packing</b>	PTFE V-ring, Graphite rib/braid, SureGuard, SafeGuard (XT and Firesafe)

### MaxFlo 3 Sizing Procedure and Data

Procedures and data to size MaxFlo 3 valves – including determining actuator size – are contained in the Valtek *Performance!* valve sizing program.

**Table III: Maximum Allowable  $\Delta P^*$** 

Valve Size (inches)	Maximum Allowable Differential Pressure	
	psi	bar
1 – 8	725	<b>50</b>
10	450	<b>31</b>
12	320	<b>22</b>

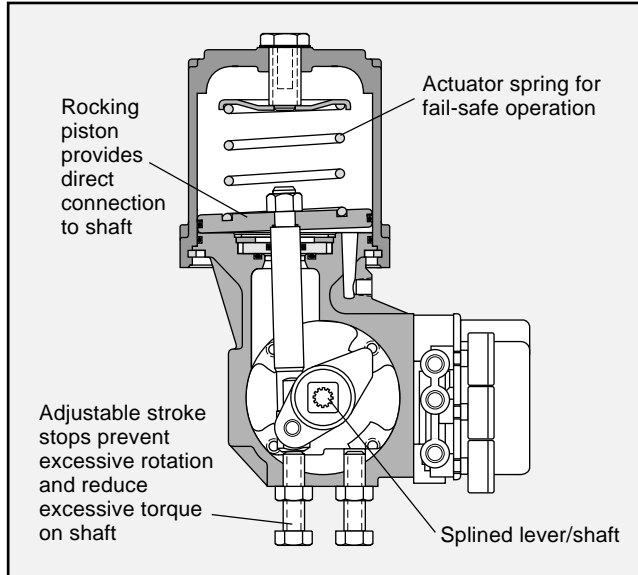
\* Actual data dependent on trim size and material, actuator size, and shaft orientation. Allowable drop should be determined after detailed sizing is complete in *Performance* valve sizing software.

**Table IV: Maximum Flow Capacity ( $C_v$ )**

Body Size (inches)	Trim Size											
	100				75/70				40			
	Shaft Direction											
	Up		Down		Up		Down		Up		Down	
	Metal	Soft	Metal	Soft	Metal	Soft	Metal	Soft	Metal	Soft	Metal	Soft
1	21	12	18	10	15	8	13	7	8	6	7	6
1½	50	42	47	39	35	35	33	33	20	20	19	19
2	78	69	80	71	43	43	52	52	24	24	32	32
3	214	214	241	241	167	167	182	182	95	95	104	104
4	302	302	405	405	220	220	267	267	150	150	170	170
6	730	730	955	955	567	567	669	669	324	324	382	382
8	847	1130	1700	1700	847	847	1275	1275	<b>Not Available</b>			
10	1785	1785	2505	2505	1339	1339	1879	1879				
12	2560	2560	3600	3600	1920	1920	2700	2700				

# Valtek MaxFlo 3 Control Valves

## Spring Cylinder Rotary Actuators



**Figure 8: Spring Cylinder Rotary Actuator**

**Table V: Spring Cylinder Rotary Actuator Specifications**

<b>Types</b>	Double-acting cylinder with fail-safe spring action
<b>Sizes</b>	Cylinder sizes: 25, 50, 100, 200
<b>Action</b>	Air-to-open, air-to-close; Fail-in-place
<b>Supply Pressure</b>	150 psig* (maximum) 10.3 barg* (maximum)
<b>Auxiliary Handwheels</b>	Declutchable side-mounted; manual gear-operated; handlever
<b>Analog Positioners</b>	Beta pneumatic and I/P XL90 pneumatic and I/P XL pneumatic and I/P
<b>Digital Positioner</b>	Logix 1000 Series

\* Some restriction may apply to certain applications

### Spring Cylinder Rotary Actuator

The Valtek spring cylinder rotary actuator combines high torque and pneumatic stiffness with excellent throttling capabilities. These characteristics are designed into a lightweight, rugged and compact assembly, making the Valtek rotary actuator an excellent choice for quarter-turn applications. Valtek analog and digital positioners are available for throttling applications. The Valtek cylinder actuator and positioner are designed for supply pressures up to 150 psi\* (10.3 bar), making very high torques attainable. The actuator uses a rocking piston for direct conversion of linear motion to rotary motion. The rocking piston assembly combined with a splined shaft and lever eliminates lost motion.

**Table VI: Piston / Cylinder Valve / Actuator Compatibility**

Actuator Size (sq. inches)	Spring Type	Valve Size (inches)									
		1	1½	2	3	4	6	8	10	12	
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	

**Table VII: Spring Cylinder Rotary Actuator Selection Guidelines**

<i>A cylinder actuator should be applied when the process requires the following:</i>
1. Double acting
2. Field reversible
3. Lightweight, compact design
4. High stiffness (for throttling near seat)
5. Actuation speed $\leq$ 1 sec
6. High supply pressure ( 50 - 150 psi / 3-10 bar)
7. Interchangeability with Valtek rotary products (Valdisk, Valdisk 150 and ShearStream)
8. Aluminum cylinder/piston, cast iron yoke
9. 90° shaft rotation

# Valtek MaxFlo 3 Control Valves

## Diaphragm Actuators

### Diaphragm Actuator

The Valtek diaphragm rotary actuator is a rugged single-acting actuator designed to provide high performance, long life and reliability. It operates with air supply pressures from 20 to 60 psi (1.4 to 4.0 bar) and is field-reversible. High performance is assured with ball bearing internal action, which avoids the friction associated with O-rings. The diaphragm actuator is very sensitive to small changes in air supply, which allows it to precisely move the valve plug with out over shoot. This is also enhanced by the direct coupling between the valve shaft and actuator stem. Long life is assured with the high-cycle diaphragm and a durable steel diaphragm housing and cast iron yoke transfer case. Other features include a convenient push-type jackscrew handwheel, an easily viewed external plug position indicator, and an adjustable stroke stop that prevents excessive rotation.

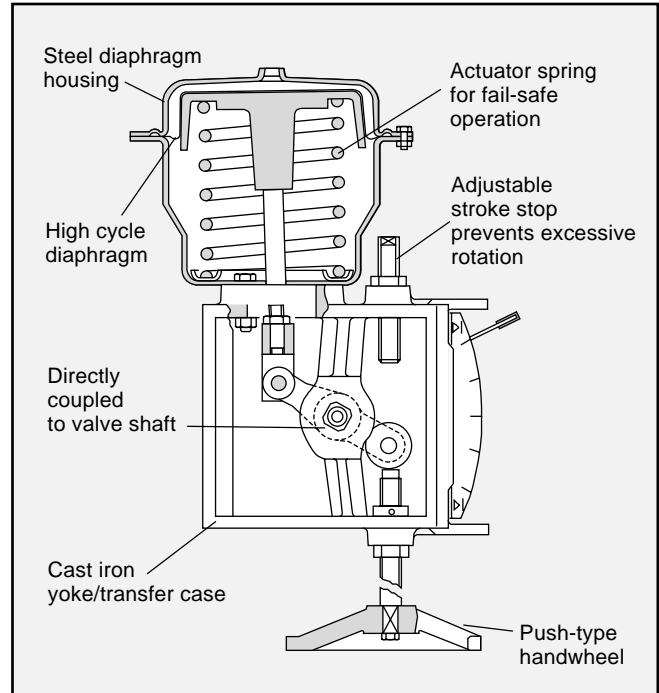


Figure 9: Diaphragm Actuator

Table VIII: Diaphragm Actuator Specifications

<b>Types</b>	Single-acting, high-performance diaphragm actuator
<b>Sizes</b>	NR1, NR2, NR3
<b>Action</b>	Air-to-open, air-to-close; fail-in-place
<b>Supply Pressure</b>	60 psig* (maximum) 4 barg* (maximum)
<b>Auxiliary</b>	Push-type handwheel
<b>Analog Positioners</b>	Beta pneumatic & I/P XL90 pneumatic & I/P XL pneumatic & I/P
<b>Digital Positioners</b>	Logix 500 Series Logix 1000 Series

\* Some restriction may apply to certain applications

Table IX: Diaphragm Valve / Actuator Compatibility

Actuator Size	Valve Size (inches)								
	1	1.5	2	3	4	6	8	10	12
NR 1	X	X	X						
NR 2				X	X				
NR 3						X	X	X	X

Table X: Diaphragm Actuator Selection Guidelines

<i>A diaphragm actuator should be applied when the process requires the following:</i>
1. Single-acting action
2. Field-reversible design
3. Low supply pressure (20 - 60 psi / 1.4 - 4.0 bar)
4. High controllability (ball bearing, no O-ring friction)
5. Handwheel (push-only jackscrew)
6. Materials must include steel diaphragm casing, cast iron yoke
7. 60° or 80° shaft rotation, depending on trim size



## Valtek MaxFlo 3 Control Valves

### Analog Positioners

#### XL90 Positioner

The XL90 positioner is a high-performance analog positioner designed specifically for rotary-type feedback. It can be used on applications with 60, 90 and up to 180 degrees rotation. By using the same internal positioning parts as its linear-motion counterpart (XL positioner), interchangeability between the XL and XL90 is significant, allowing for a lower spare part inventory. In addition to its high-performance positioning functions, the XL90 uses internal position feedback potentiometers, as well as limit switches. The position indicator allows for easy viewing of valve/actuator position and the optional Ultra-dome™ provides increased visibility of position. The UltraSwitch™ option provides explosion-proof or intrinsically safe switches and/or position feedback. Mounting is accomplished using NAMUR, F05, Westlock or standard Valtek mounting. Available in either pneumatic or I/P models, the XL90 is the premier choice for rotary positioning.

#### XL Positioner

The XL two-stage analog positioner offers fast and sensitive dynamic response characteristics to meet extremely demanding control requirements. The positioner is available with either an electro-pneumatic (I/P) transducer module for milliamp current control signals or a pneumatic module for air control signals. Designed for high performance, this positioner is field-reversible and ruggedly built for reliability in severe industrial environments. It is fully capable of handling air supply pressures up to 150 psi / 10.3 bar without a pressure regulator. Two and three-way split ranges are available without special feedback springs.

#### Beta Positioner

The Beta positioner is a single- or double-acting, force-balanced instrument that provides fast, sensitive and accurate positioning for most general services. It is available with either a pneumatic module for air control signals or an electro-pneumatic (I/P) module for milliamp current control signals. Designed for high performance, this positioner is compact, field-reversible and ruggedly built for reliability in severe industrial environments. Two and three-way split ranges are available without special feedback springs. Calibration is easy due to minimal interaction between the zero and span.



**Figure 10: XL90 positioner mounted on Diaphragm Actuator**



**Figure 11: XL positioner mounted on Spring Cylinder Rotary Actuator**



**Figure 12: Beta positioner mounted on Spring Cylinder Rotary Actuator**

## Valtek MaxFlo 3 Control Valves Digital Positioners

### Logix 1000 Series Positioners

For HART® and fieldbus applications, the Logix 1000 digital positioners offer unparalleled performance with a powerful 16-bit microprocessor and proprietary two-stage electronic relay (patent pending). For HART applications (Model 1200), the on-board *Quick-Cal™* button allows the user to complete setup and calibration in less than 30 seconds without the use of hand-held devices or additional software. For fieldbus applications (Model 1400), the positioner offers an on-board *Re-Cal™* button that allows the user to complete setup and calibration in less than 30 seconds. Local status LEDs provide an insight into valve status at a glance.

With the Logix 1200 positioner, data transfer with the ValTalk™ software is substantially faster than other current HART-compatible systems, resulting in a dramatic speed increase in configuration and diagnostic signature acquisition. When fieldbus communications are required, the Logix 1400 positioner is designed and registered as a FOUNDATION™ fieldbus device, and contains AO and PID function blocks. In addition to high performance, both the Logix 1200 and 1400 positioners offer in-process diagnostics for the valve as well as for the actuation system. They are designed to provide users with significant improvements in today's plant operations while offering simple and economical migration to fieldbus standards.

### Logix 500 Positioner

The Valtek Logix 500 series digital positioner is a single-acting digital positioner that is quickly and easily configured at the valve – which does not require a hand-held device or a host system. The Logix 500 digital positioner combines state-of-the-art piezo technology with inner-loop feedback that provides high-performance control with minimal air consumption. Highly visible LED status lights allow the user to diagnose the condition of the valve at a glance.

With its versatile mounting options, the Logix 500 positioner offers a cost-effective retrofit solution for applications requiring communication (HART protocol) and diagnostics for diaphragm-actuated valves from any manufacturer.



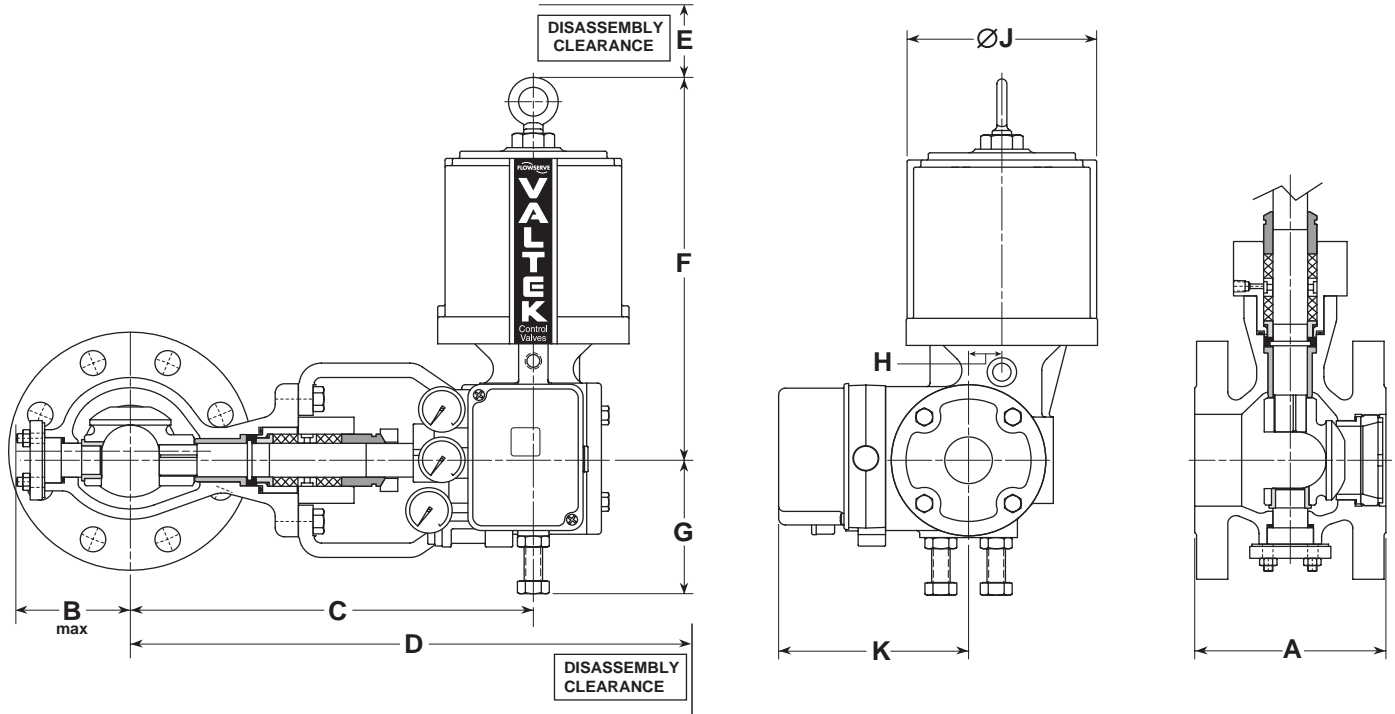
**Figure 13: Logix 1000 positioner mounted on Spring Cylinder Rotary Actuator**



**Figure 14: Logix 500 positioner mounted on Diaphragm Actuator**

# Valtek MaxFlo 3 Control Valves

## Dimensions



**Table XI: MaxFlo 3 Dimensions (inches / mm)**

Valve Size	Actuator Size	Shaft Size	A		B max		C		D		E		F		G		H		J		K*		
1/25	25	0.4	11	4.0	102	2.2	56	10.7	272	20.0	510	6.0	152	13.1	332	5.6	142	1.1	28	6.5	165	6.5	165
1.5/40	25	0.6	16	4.5	114	2.8	71	11.6	295	21.0	535	6.0	152	13.1	332	5.6	142	1.1	28	6.5	165	6.5	165
2/50	25	0.6	16	4.9	124	2.9	74	11.7	297	21.0	535	6.0	152	13.1	332	5.6	142	1.1	28	6.5	165	6.5	165
2/50	50	0.6	16	4.9	124	2.9	74	11.7	297	21.0	535	8.0	203	18.0	457	6.7	170	2.0	51	9.1	231	7.4	188
3/80	25	0.9	23	6.5	165	3.9	99	13.7	348	25.0	635	6.0	152	13.1	332	5.6	142	1.1	28	6.5	165	6.5	165
3/80	50	0.9	23	6.5	165	3.9	99	13.7	348	25.0	635	8.0	203	18.0	457	6.7	170	2.0	51	9.1	231	7.4	188
4/100	25	0.9	23	7.6	194	4.1	104	13.9	353	26.0	661	6.0	152	13.1	332	5.6	142	1.1	28	6.5	165	6.5	165
4/100	50	0.9	23	7.6	194	4.1	104	13.9	353	26.0	661	8.0	203	18.0	457	6.7	170	2.0	51	9.1	231	7.4	188
6/152	50	1.0	26	9.0	229	6.3	160	18.4	468	27.0	680	8.0	203	18.0	457	6.7	170	2.0	51	9.1	231	7.4	188
6/152	100	1.5	38	9.0	229	6.3	160	18.4	468	29.0	722	11.0	279	22.6	574	9.1	231	2.4	61	12.5	318	8.5	216
8/203	50	1.0	26	9.6	243	7.5	190	18.8	479	27.0	685	8.0	203	18.0	457	6.7	170	2.0	51	9.1	231	7.4	188
8/203	100	1.5	38	9.6	243	7.5	190	18.8	479	29.0	733	11.0	279	22.6	574	9.1	231	2.4	61	12.5	318	8.5	216
10/254	50	1.0	26	10.7	273	8.9	226	21.6	548	30.0	751	8.0	203	18.0	457	6.7	170	2.0	51	9.1	231	7.4	188
10/254	100	1.5	38	11.7	297	8.9	226	21.6	548	32.0	802	11.0	279	22.6	576	9.1	231	2.4	61	12.5	318	8.5	216
12/305	100	1.5	38	13.3	338	10.5	267	22.5	573	33.0	827	11.0	279	22.6	576	9.1	231	2.4	61	12.5	318	8.5	216

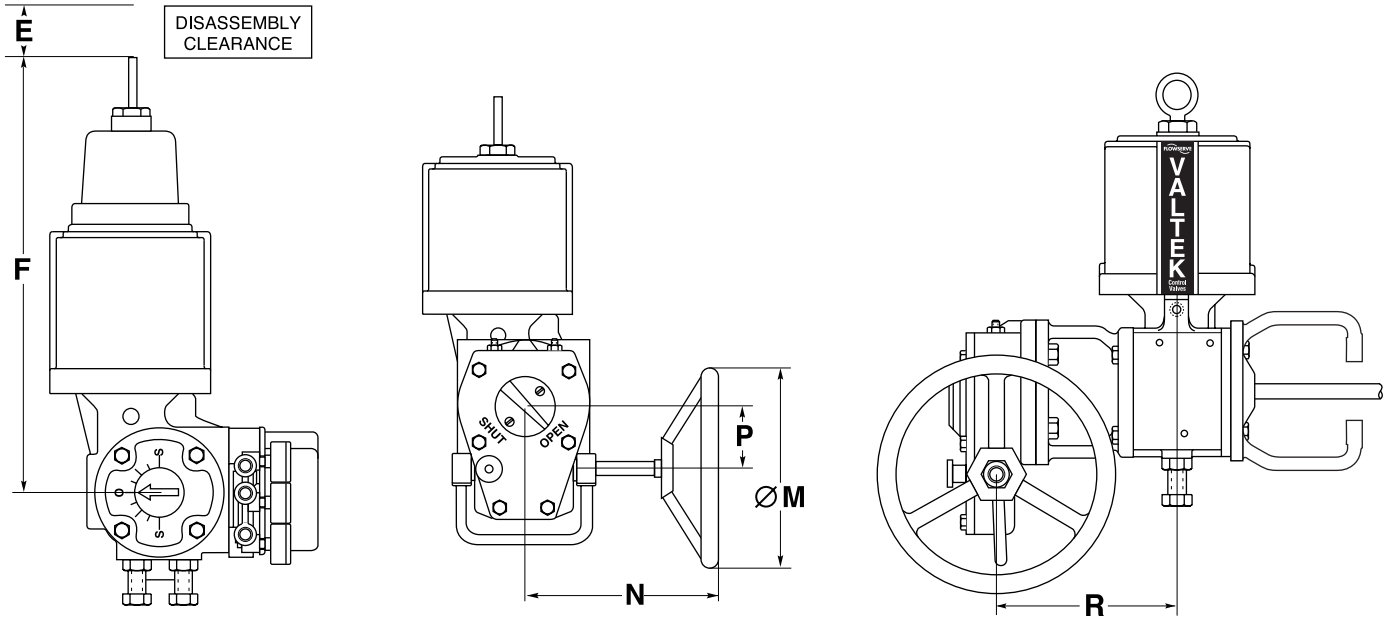
All dimensions are to be used for estimation only. Certified drawings will be supplied upon request.

Face-to-face dimensions according to ISA S75-04.

\* For standard Beta and XL positioners.

# Valtek MaxFlo 3 Control Valves

## Dimensions / Weights



**Table XII: MaxFlo 3 – Handwheel and Extended, Heavy-duty Spring Dimensions (inches / mm)**

Actuator Size (sq. inches)	E		FF		M		N		P		R	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
25	9.3	236	17.3	439	10.0	254	9.8	249	2.6	66	7.4	188
50	9.8	249	23.8	605	12.0	305	10.3	262	3.4	86	10.1	257
100	8.5	216	23.0	584	18.0	457	13.3	338	5.4	137	9.7	246
200	9.0	229	24.3	617	18.0	457	13.3	338	5.4	137	9.7	246

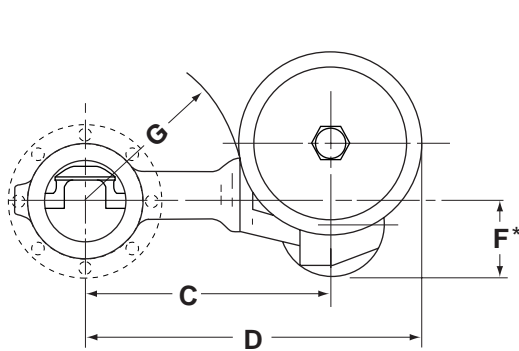
**Table XIII:  
Estimated Shipping Weight (lbs / kg)  
(with standard actuator and positioner)**

Valve Size	Flangeless Body		Flanged Body	
	lbs	kg	lbs	kg
1/25	53	24	56	25
1.5/40	57	26	64	29
2/50	68	31	75	34
3/80	82	37	99	45
4/100	92	42	126	57
6/152	183	83	236	107
8/203	218	99	294	133
10/254	283	128	398	181
12/305	395	179	595	270

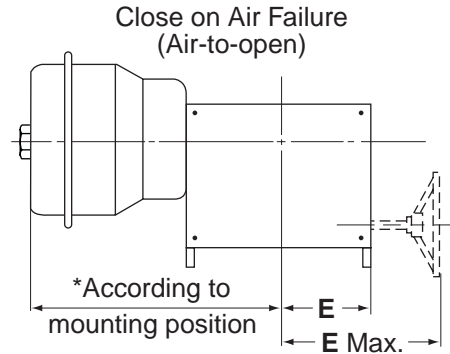
All dimensions are to be used for estimation only. Certified drawings will be supplied upon request. Face-to-face dimensions according to ISA S75-04.

# Valtek MaxFlo 3 Control Valves

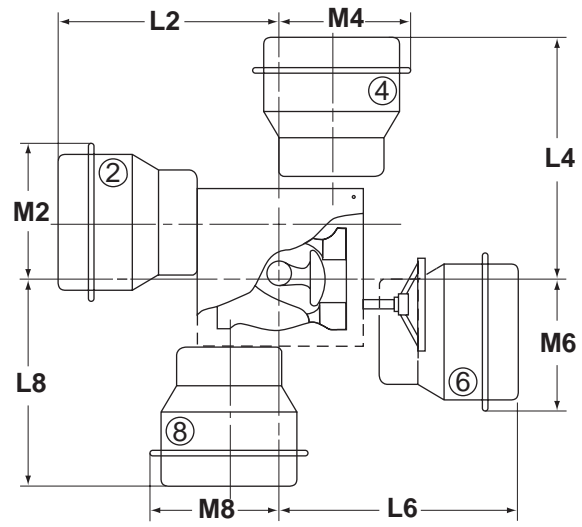
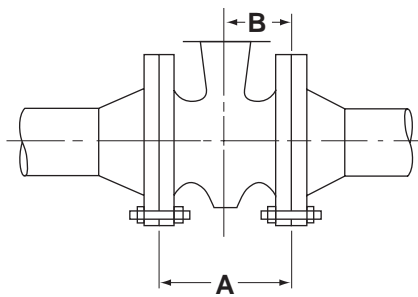
## Dimensions



\* Optional installation: vertical axis or horizontal axis



\*Optional installation



**Table XIV: MaxFlo 3, Flanged with NR Diaphragm Actuator (inches / mm)**

Dia. (inches / mm)	A		B		C		D		E		E max		F		G		L2, L6		L8		L4		M6		M2		M4, M8	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/25	4.02	102	2.01	51	9.02	229	12.80	325	3.46	88	8.66	220	4.37	111	5.31	135	9.57	243	9.41	239	9.72	247	5.28	134	5.59	142	5.43	138
1.5/40	4.49	114	2.24	57	10.00	254	13.78	350	3.46	88	8.66	220	4.45	113	6.30	160	9.57	243	9.33	237	9.80	249	5.20	132	5.67	144	5.43	138
2/50	4.88	124	2.44	62	10.08	256	13.86	352	3.46	88	8.66	220	4.45	113	6.38	162	9.57	243	9.33	237	9.80	249	5.20	132	5.67	144	5.43	138
3/80	6.50	165	3.25	83	14.25	362	20.31	516	4.92	125	12.20	310	6.54	166	8.27	210	13.78	350	13.46	342	14.09	358	8.27	210	8.90	226	8.58	218
4/100	7.64	194	3.82	97	14.45	367	20.51	521	4.92	125	12.20	310	6.54	166	8.46	215	13.78	350	13.46	342	14.09	358	8.27	210	8.90	226	8.58	218
6/152	9.02	229	4.65	118	17.44	443	25.71	653	6.42	163	17.72	450	11.54	293	9.37	238	19.13	486	18.74	476	19.53	496	11.89	302	12.68	322	12.28	312
8/203	9.57	243	5.35	136	17.87	454	26.14	664	6.42	163	17.72	450	11.54	293	9.96	253	19.13	486	18.74	476	19.53	496	11.89	302	12.68	322	12.28	312
10/254	11.69	297	6.22	158	20.59	523	28.86	733	6.42	163	17.72	450	11.73	298	12.60	320	19.13	486	18.54	471	19.72	501	11.69	297	12.87	327	12.28	312
12/305	13.31	338	6.77	172	21.57	548	29.84	758	6.42	163	17.72	450	11.73	298	13.58	345	19.13	486	18.54	471	19.72	501	11.69	297	12.87	327	12.28	312

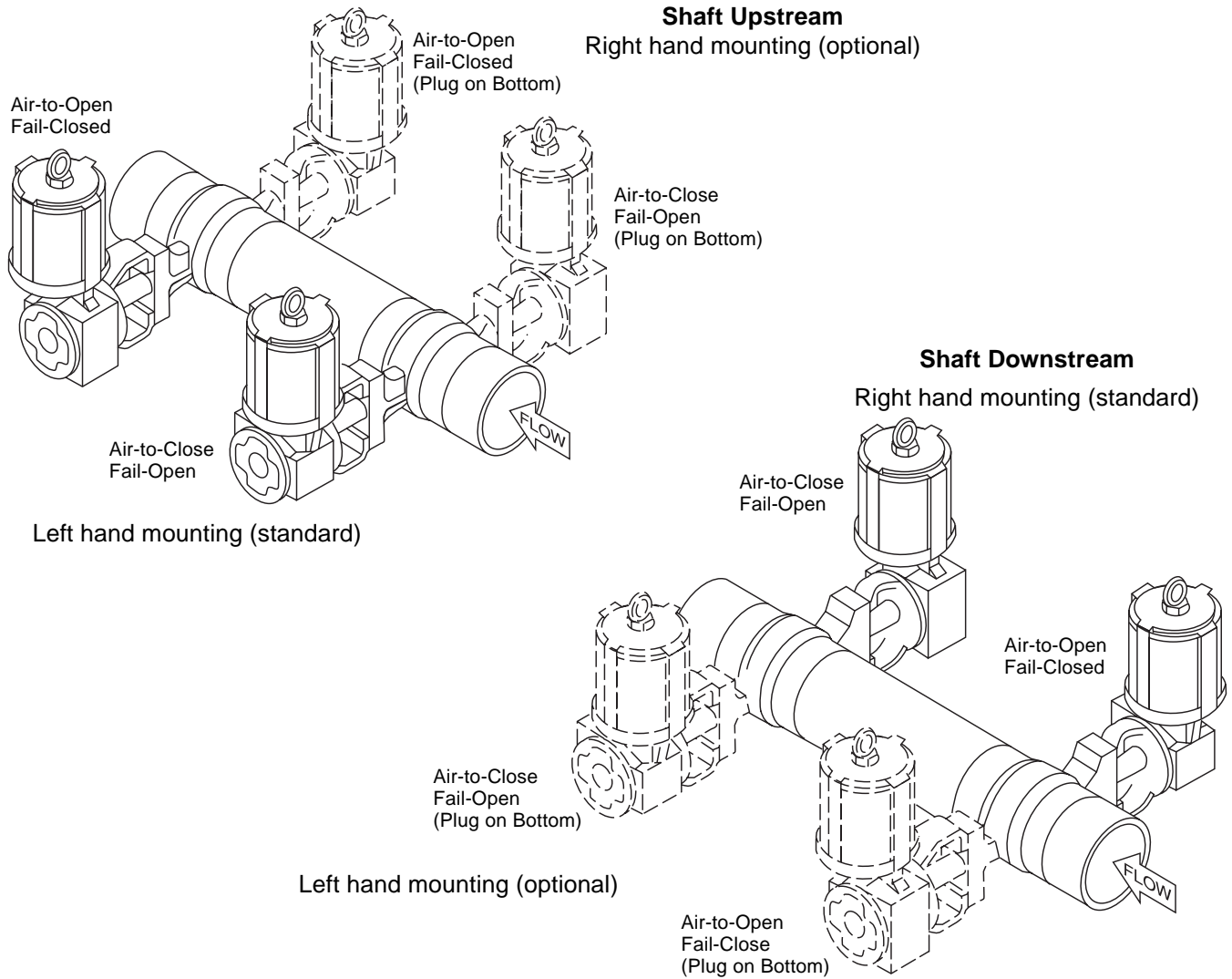
All dimensions are to be used for estimation only. Certified drawings will be supplied upon request. Face-to-face dimensions according to ISA S75-04.

**Table XV: Estimated Shipping Weight (Lbs. / kg.)**

Dia. (inches / mm)	1/25	1.5/40	2/50	3/80	4/100	6/152	8/203	10/254	12/305
Weight (lbs. / kg.)	37.5/17	44.1/20	48.5/22	116.8/53	141.1/64	330.7/150	403.4/183	511.5/232	632.7/287

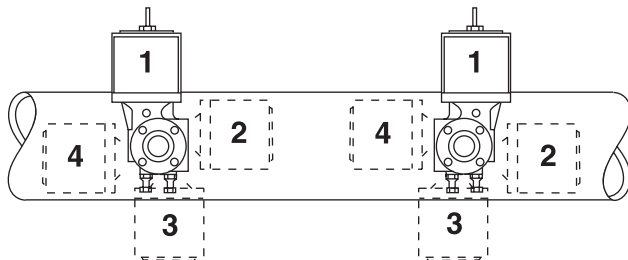
# Valtek MaxFlo 3 Control Valves

## Mounting Orientations



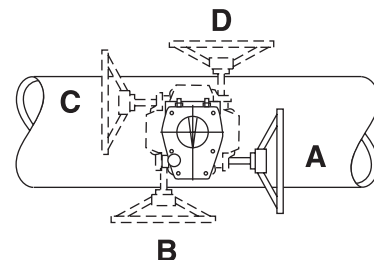
### Actuator Orientation

Note: Orientations 2 and 4 are not available on some actuator sizes.



### Handwheel Orientation

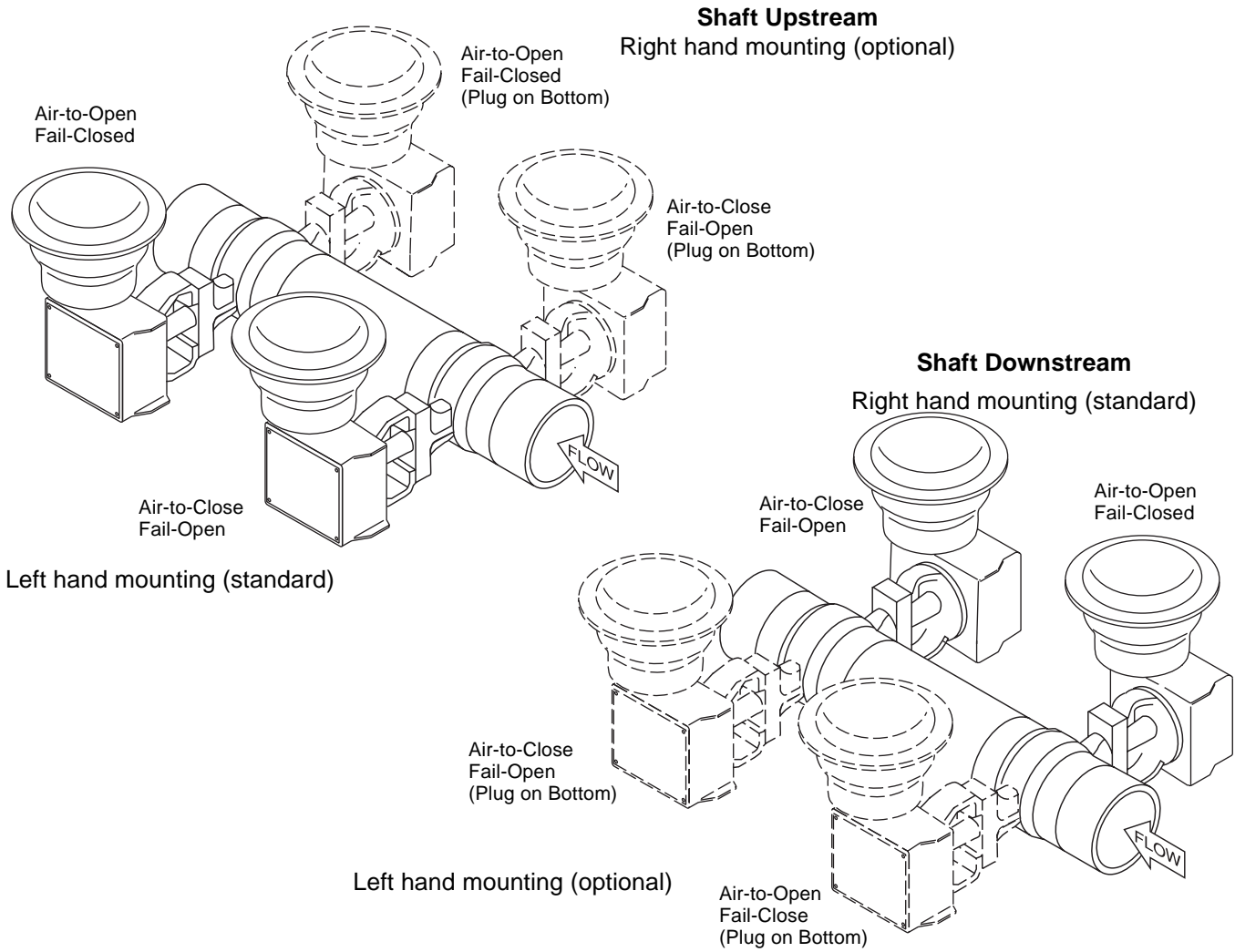
Note: These orientations are in relation to the pipeline.



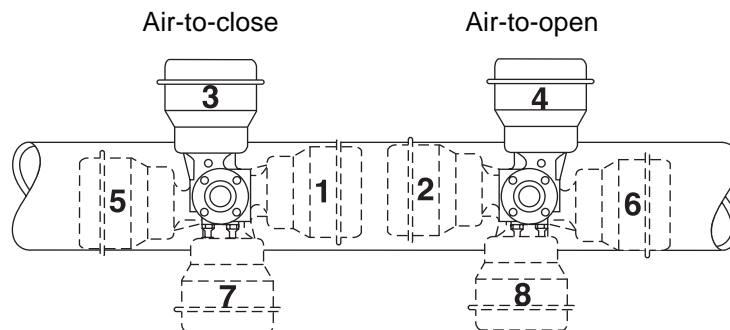
**Figure 15: Cylinder Actuator Orientations**

# Valtek MaxFlo 3 Control Valves

## Mounting Orientations



### Diaphragm Actuator Orientation



**Figure 16: Diaphragm Actuator Orientations**

## Valtek MaxFlo 3 Control Valves

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### Regional Headquarters

1350 N. Mt. Springs Prkwy.  
Springville, UT 84663  
Phone 801 489 8611  
Facsimile 801 489 3719

12 Tuas Avenue 20  
Republic of Signapore 638824  
Phone (65) 862 3332  
Facsimile (65) 862 4940

12, av. du Québec, B.P. 645  
91965, Courtaboeuf Cedex, France  
Phone (33 1) 60 92 32 51  
Facsimile (33 1) 60 92 32 99

### Quick Response Centers

5114 Railroad Street  
Deer Park, TX 77536 USA  
Phone 281 479 9500  
Facsimile 281 479 8511

104 Chelsea Parkway  
Boothwyn, PA 19061 USA  
Phone 610 497 8600  
Facsimile 610 497 6680

1300 Parkway View Drive  
Pittsburgh, PA 15205 USA  
Phone 412 787 8803  
Facsimile 412 787 1944

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