

APCO CVS-6000/6000A SWING CHECK VALVES

APCO CVS Swing Check Valves are recommended for clean and dirty services such as Water, Sewage or Industrial applications. CVS-6000/6000A Swing Check Valves are a heavily constructed, full waterway flow area, premium design with multiple features and options. The CVS-6000/6000A is designed to handle higher flow rates, pressures and withstand shock.

Available in sizes 2-66" (50-1700mm), the CVS-6000/6000A Swing Check Valves are available with Acrylonitrile-Butadiene (NBR), Terpolymer of Ethylene, Propylene and A Diene (EPDM) or Fluoro Rubber (FKM) resilient disc seats, or cast aluminum bronze or stainless steel metal seats for durability. The body seat is long-wearing centrifugally cast aluminum bronze or Type 316 stainless steel. Body seats are available with a NBR, EPDM or FKM resilient seal.

High Strength Shaft

One-piece shafts are constructed of Type 303 or 17-4 PH stainless steel for high strength. Through-shaft design, with an integral retainer, prevents axial shaft movement.

Full Waterway Flow Area

The valves feature a full waterway flow-through area and low head loss. The pivot point of the disc is located outside the port opening, allowing the entire disc to lift clear of the flow area. This is particularly important in sewage, slurries or other dirty service applications.

Double Clevis, Self-Aligning Disc

The double clevis design securely connects the disc to the disc arm in two places. The double



clevis hinge assures self-leveling and even load distribution upon closing, minimizing seat wear. The full open disc stop can be independently adjusted. The disc arm is ductile iron for high strength.



Internals Removable Without Removing Valve from the Line

Top entry design allows all internal parts, including the body seat, to be easily replaced in the field by removing the cover. The seat ring is field replaceable without the use of special tools.

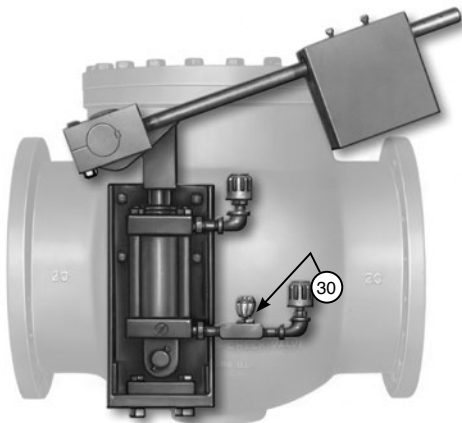
Closure Control Devices

Air Cushion Side Mounted Cylinder (AC)

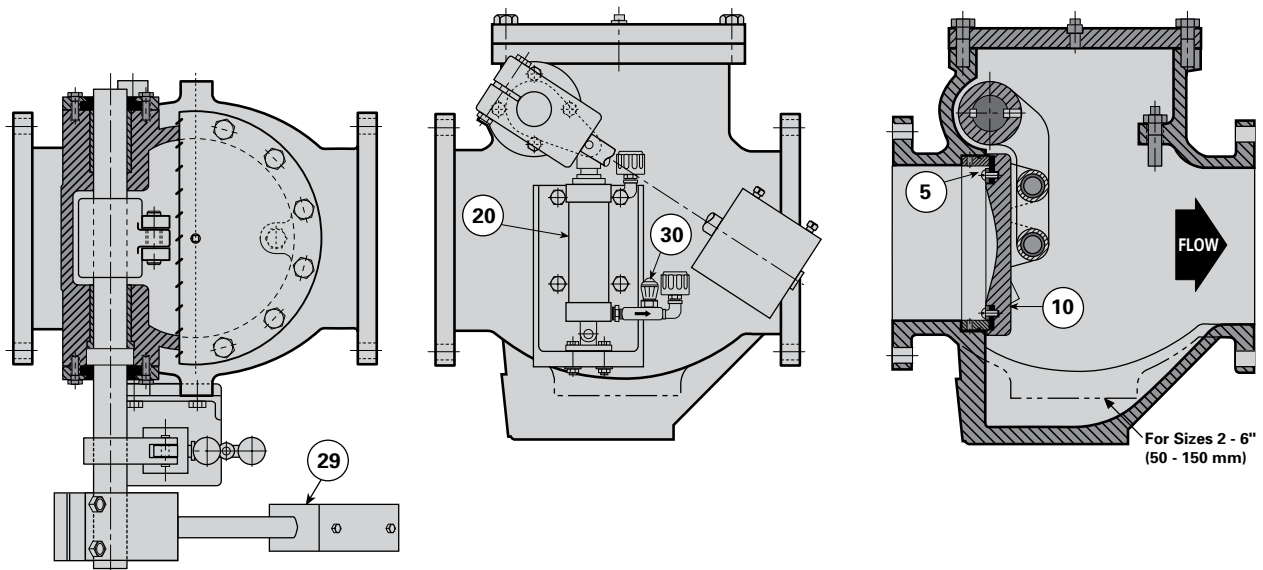
For Free Open, Fast Close applications, the air cushioned check valve utilizes a totally enclosed



cushion cylinder externally mounted to the side of the main valve body. A heavy outside lever, positively clamped to an extra-large diameter pivot shaft, forces the disc to close immediately upon pump shut down and before reverse flow takes place. The weighted lever drives the piston into the cushion chamber, compressing the trapped air and creating a cushion during valve closure.



Fast Closing With Cushion At Shut-Off



Principle of Operation

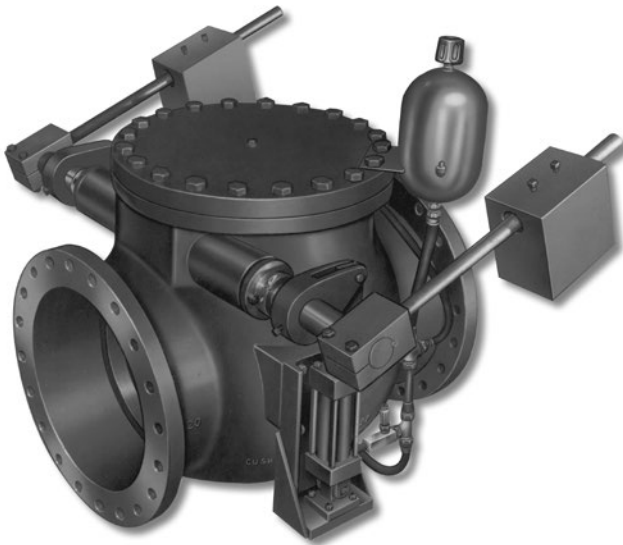
1. Discharge velocity head from the pump against the disc (10) opens the disc and raises the weighted lever (29) outside of the valve upward. At the same time, the piston inside the cushion cylinder (20) is pulled upward, drawing free air into the cushion cylinder through the one-way control check valve (30).
2. When reverse flow occurs against the backside of the disc (10), pressure forces the disc toward the shut-off position against the seat (5) at the same time forcing the cushion cylinder downward. Moving downward, the piston compresses the air in the cushion cylinder because the air cannot readily escape through the one-way control check valve. By restricting the air escape through the adjustable control check (30) air cushioned closing is accomplished.
3. Air cushioning is field adjustable by adjusting the flow control valve (30) for increased or decreased cushioning, or moving the weights on the pivot shaft for more or less rapid disc closure.

See pages 9 and 10 for lever and weight and lever and spring closure control devices.

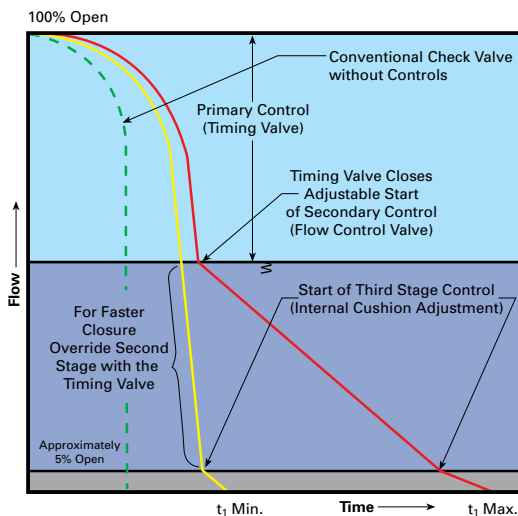
Closure Control Devices

Oil Controlled, Side Mounted Cylinder (OC)

For Free Open, Slow Close applications, CVS-6000 Swing Check Valves are available with an Oil Controlled, Side Mounted Cylinder closure control device. The totally enclosed oil cylinder is protected from the elements. Three-stage closure on valves 6-20" (150-500mm) minimizes damaging water hammer.



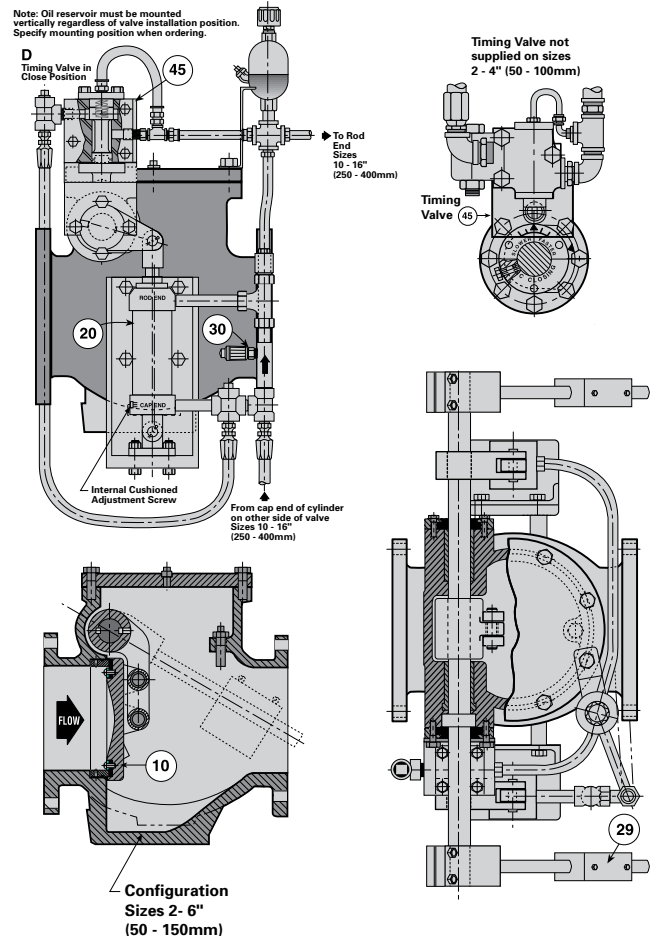
Three Stage Closing Characteristics



The graph shows flow rate as a function of closing time and illustrates the superiority of the APCO three stage Oil Controlled Side Mounted Cylinder over two stage closure devices.

Principle of Operation

1. Discharge velocity head from the pump causes the disc (10) to open and raises the outside weighted lever (29). Except for frictional resistance, the disc is free opening.
2. Three-stage closing is achieved by the oil dashpot/timing valve system which minimizes damaging water hammer. Each stage is independently adjustable.
 - a. The initial stage of closure is provided by the timing valve (45). The timing valve allows very fast closure of the disc from full open to any degree of closure. This feature greatly reduces the volume of backflow and flow reversal that occurs with on valves with only two stages of closure.
 - b. The second stage of closure is provided by the Flow Control Valve (30) that varies speed toward final closure.
 - c. The final stage of closure is provided by internal adjustment of the cylinder (20) that controls variable speed closure to shut-off.
 - d. Additional disc closing adjustments can be made by moving the weight on the pivot shaft.



Closure Control Devices

Oil Controlled, Bottom Mounted Buffer (BMB)

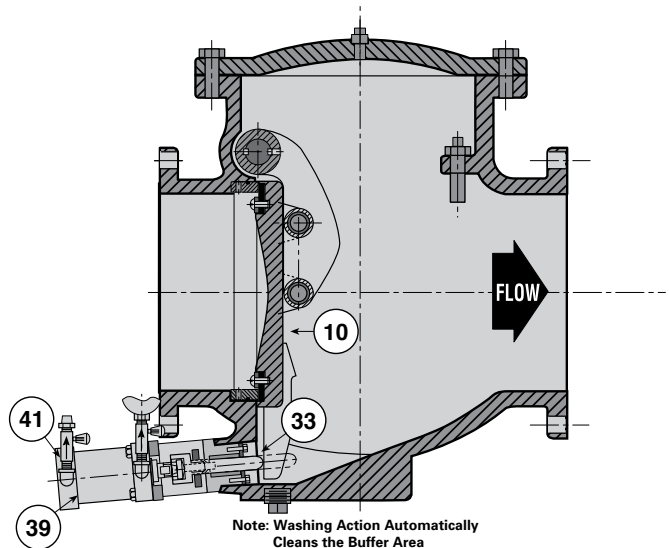
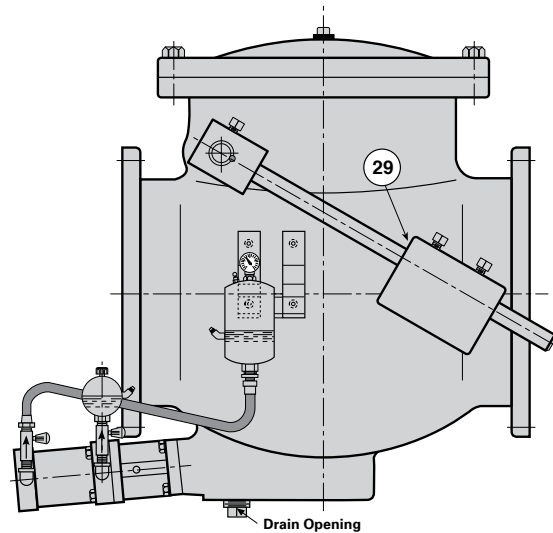
Bottom Mounted Buffers have been used successfully for decades to reduce slamming of the valve disc and resultant water hammer. For Free Open, Controlled Close applications, CVS-6000 Swing Check Valves sizes 8-66" (200-1700mm) are available with an Oil Controlled, Bottom Mounted Buffer closure control device.



Bottom Mounted Buffers are recommended for larger sized valves and for vertical upward flow installations. They are also recommended where instantaneous flow reversal caused by a hydro pneumatic surge tank or open line discharge is so fast that a free closing check valve cannot shut prior to reverse flow, and therefore slams.

Principle of Operation

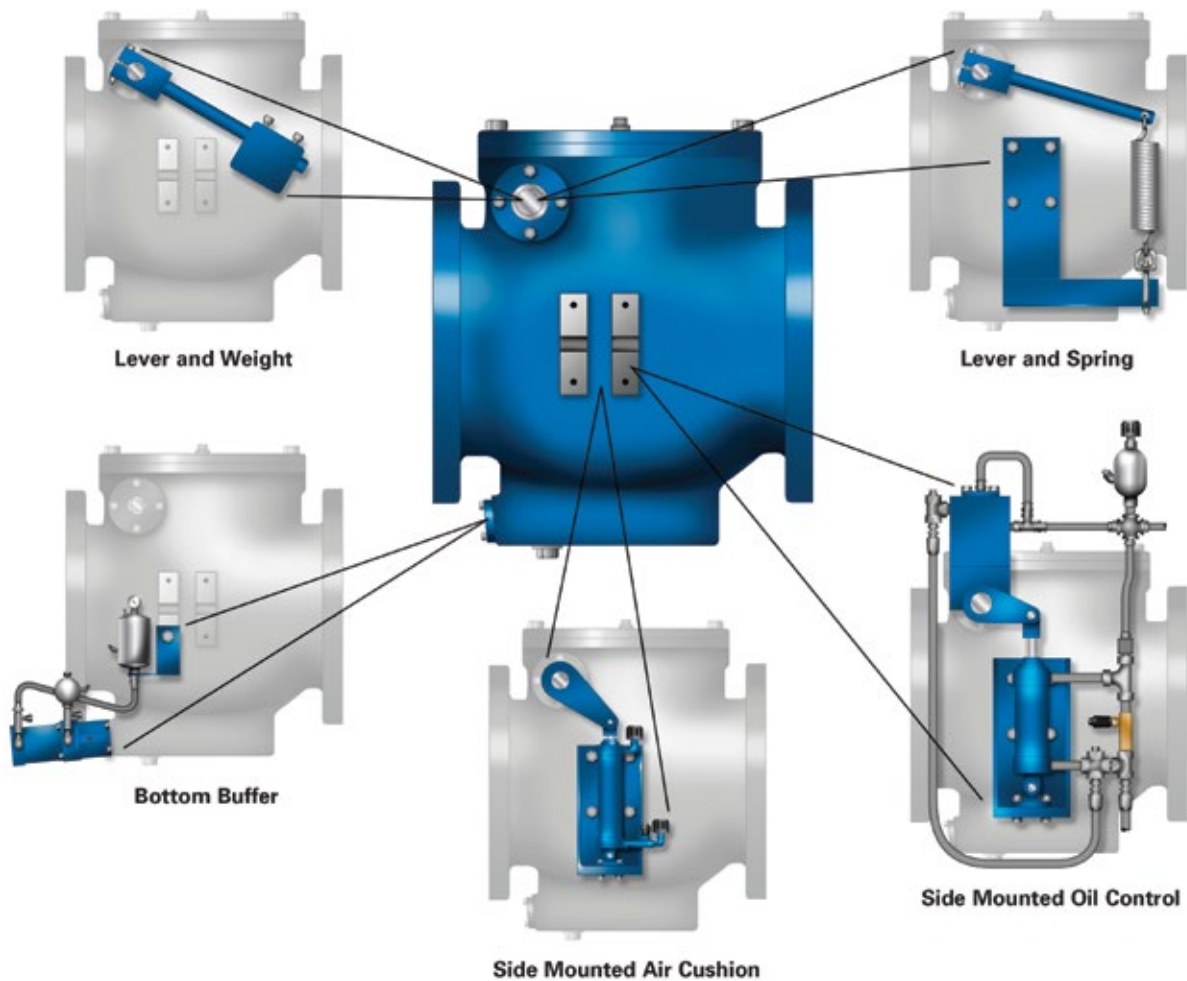
1. The unique buffer arrangement allows the valve disc (10) to open fully without interference and to close freely for approximately 90% of its stroke.
2. After the disc is 90% closed, the disc comes in contact with the buffer rod (33). The oil hydraulic buffer makes contact with the disc and controls closure during the final 10% of the stroke.
3. The flow control valve (41) on the cylinder (39) easily adjusts closing time to suit flow conditions reducing slam, water hammer and pressure surges. The color-coded micrometer type control valve adjusts the final closure, and has a locking set screw that is used to secure the final setting.



Closure Control Devices

Convertible Swing Check Valves (CLW & CLS)

If hydraulic conditions exceed those anticipated, CVS Convertible Swing Check Valves can be converted in the field to closure control devices that reduce moderate or severe slam. For moderate slam, CVS-Convertible Lever & Spring Valves (CLS) or CVS-CLW Convertible Lever & Weight Valves (CLW) can be converted to an Air Cushion Side Mounted Cylinder. For severe slam, CVS-Convertible valves can be retrofitted in the field to Oil Controlled Side Mounted Cylinder or Bottom Mounted Buffer closure control devices.



Materials of Construction

Item	Description	Material
A1	Body	Ductile Iron, ASTM A536
A2	Cover	Ductile Iron, ASTM A536
A5	Body Seat	Aluminum Bronze, ASTM B148 with Acrylonitrile - Butadiene (NBR)
		316 Stainless Steel, ASTM A276 with Acrylonitrile - Butadiene (NBR)
		Aluminum Bronze, ASTM B148 with Terpolymer of Ethylene, Propylene and A Diene (EPDM)
		316 Stainless Steel, ASTM A276 with Terpolymer of Ethylene, Propylene and A Diene (EPDM)
		Aluminum Bronze, ASTM B148 with Fluoro Rubber (FKM)
A6	Disc Seat	316 Stainless Steel, ASTM A276 with Fluoro Rubber (FKM)
		Acrylonitrile-Butadiene (NBR)
		Terpolymer of Ethylene, Propylene and A Diene (EPDM)
		Fluoro Rubber (FKM)
A9	Disc Arm	Aluminum Bronze, ASTM B148 316 Stainless Steel, ASTM A276
A10	Disc	Ductile Iron, ASTM A536
A13	Pivot Shaft	Stainless Steel, Type 303, ASTM A582
		17-4 PH Stainless Steel, ASTM 564 Type 630

Valve Selection Shut-Off Capabilities

Seat Type	Shut-Off
Acrylonitrile-Butadiene (NBR)	Drip-Tight
Terpolymer of Ethylene, Propylene and A Diene (EPDM)	
Fluoro Rubber (FKM)	

Pressure Ratings

Valve Size	Pressure
2-66" (50-1700mm)	F1 = 250 psi CWP (1720 kPa)
	F2 = 640 psi CWP (4140 kPa)

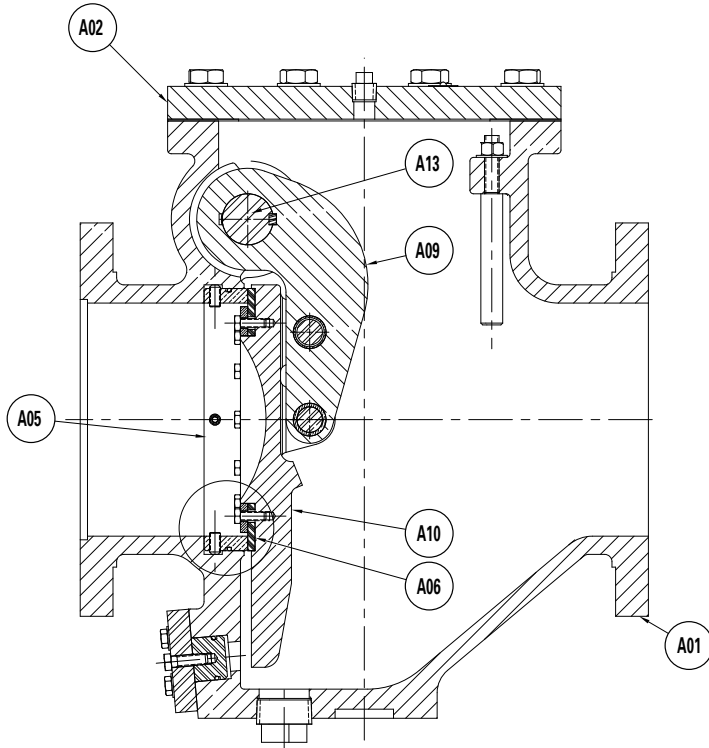
Temperature Ratings

All Seats	to 160° F (70° C)
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Contact application engineering if the valve is required to operate above this temperature.

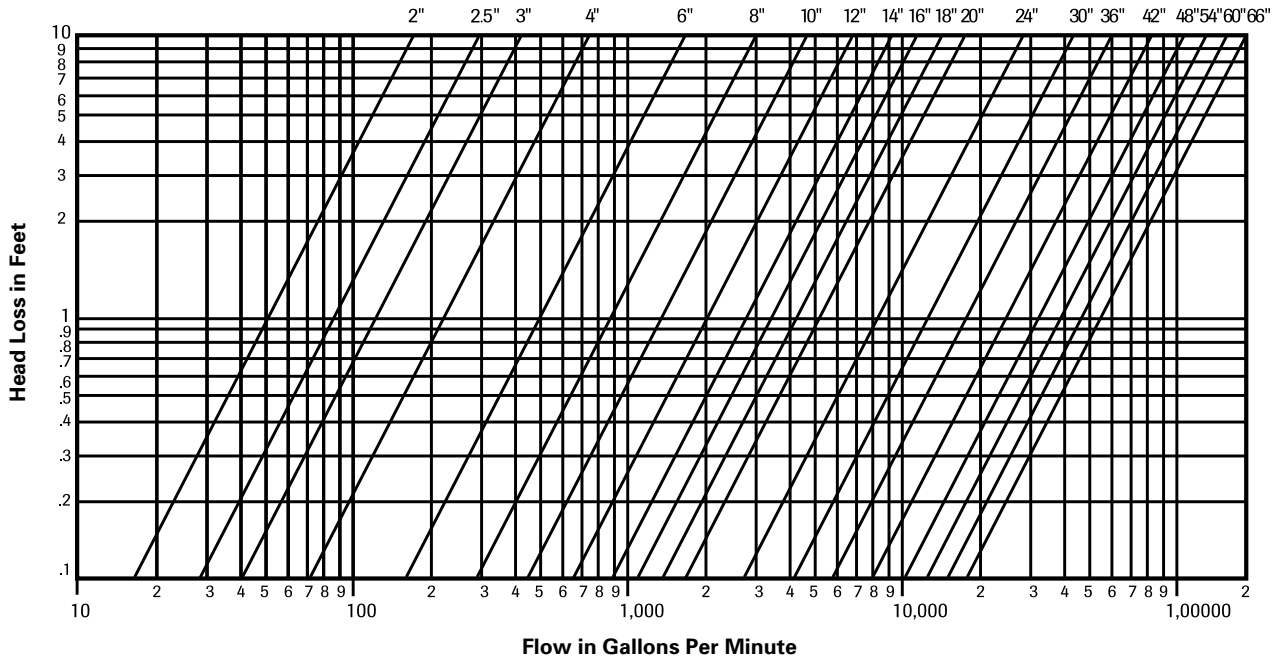
Applicable Standards

DeZURIK CVS-6000/6000A Swing Check Valves are designed and/or tested to meet the following standards:	
AWWA C508	AWWA C508-09 Swing-Check Valves for Waterworks Service 2-In Through 24-In (50-mm Through 600-mm) NPS
MSS SP-71	Testing Gray Iron Swing Check Valves
MSS SP-136	Testing Ductile Iron Swing Check Valves
ASME B16.1	Gray Iron Pipe Flanges and Flanged Fittings
ASME B16.5	Conforms to Bolt Pattern and Drilling



Valve Selection

Head Loss Characteristics for Swing Check Valves



Weights

Valve & Air Cushion Cylinder

Valve Size	Weight lbs/kg
2" 50mm	106 48
2.5" 65mm	138 63
3" 80mm	175 79
4" 100mm	238 108
6" 150mm	385 175
8" 200mm	475 216
10" 250mm	650 295
12" 300mm	1180 536
14" 350mm	1714 778
16" 400mm	2250 1021
18" 450mm	2721 1235
20" 500mm	3217 1460
24" 600mm	4197 1905
30" 750mm	6604 2997
36" 900mm	11830 5368
42" 1100mm	17050 7736
48" 1200mm	24980 11334

Valve & Bottom Mounted Buffer

Valve Size	Weight lbs/kg
8" 200mm	539 245
10" 250mm	795 361
12" 300mm	1150 522
14" 350mm	1803 819
16" 400mm	2500 1135
18" 450mm	3022 1372
20" 500mm	3600 1634
24" 600mm	5320 2414
30" 750mm	9000 4084
36" 900mm	11340 5146
42" 1100mm	17265 7834
48" 1200mm	25000 11344
54" 1400mm	34649 15721
60" 1500mm	44300 20100
66" 1700mm	53949 24478

Ordering

To order, simply complete the valve order code from information shown. An ordering example is shown for your reference.

Valve Style

Give valve style code as follows:

CVS = Swing Check Valves

Valve Size

Give valve size code as follows:

2 = 2" (50mm)	18 = 18" (450mm)
2.5 = 2.5" (65mm)	20 = 20" (500mm)
3 = 3" (80mm)	24 = 24" (600mm)
4 = 4" (100mm)	30 = 30" (750mm)
6 = 6" (150mm)	36 = 36" (900mm)
8 = 8" (200mm)	42 = 42" (1100mm)
10 = 10" (250mm)	48 = 48" (1200mm)
12 = 12" (300mm)	54 = 54" (1400mm)
14 = 14" (350mm)	60 = 60" (1500mm)
16 = 16" (400mm)	66 = 66" (1700mm)

Body Style

Give body style code as follows:

6000A = Series 6000A (2-14")
6000 = Series 6000 (16-66")

End Connection

Give end connection code as follows:

F1 = Flanged ASME 125/150
F2 = Flanged ASME 250/300

Body Material

Give body material code as follows:

DI = Ductile Iron

Trim Combination

Disc Material

Give disc material code as follows:

DI = Ductile Iron

Shaft Material

Give shaft material code as follows:

S11 = 303 Stainless Steel
(2-66" AC, LS or LW; 24-48" CLS or CLW; 8-48" BMB)
S5 = 17-4PH Stainless Steel
(2-20" OC, CLS or CLW; 54-66" BMB, CLS or CLW)

Body Seat Material

Give body seat material code as follows:

For NBR, EPDM or FKM Disc Seat

ALB = Aluminum Bronze (F1 only)
S2 = 316 Stainless Steel (F1 only)

For ALB or S2 Disc Seat

ALBNB = Aluminum Bronze with NBR Seal
S2NB = 316 Stainless Steel with NBR Seal
ALBEP = Aluminum Bronze with EPDM Seal
ALBFBK = Aluminum Bronze with FKM Seal
S2EP = 316 Stainless Steel with EPDM Seal
S2FK = 316 Stainless Steel with FKM Seal

Disc Seat Material

Give disc seat material code as follows:

NBR = Acrylonitrile-Butadiene
EPDM = Terpolymer of Ethylene Propylene & A Diene
FKM = Fluoro Rubber
ALB = Aluminum Bronze
S2 = 316 Stainless Steel

Options

Give options code as follows:

DTR = DeZURIK Standard Certified Production Hydrostatic
Shell & Seat Test Report
VP = Vertical Flow Up Position Installation
(Not required with LS Closure Control Device)
SB16 = 316 Stainless Steel Bolting

Closure Control Devices

Give closure control device code as follows:

AC = Air Cushion Side Mounted Cylinder (Lever & Weight)
BMB = Oil Controlled Bottom Mounted Buffer (8-66")
OC = Oil Controlled Side Mounted Cylinder
LS = Lever & Spring
LW = Lever & Weight
CLS = Convertible - Lever & Spring
CLW = Convertible - Lever & Weight

Accessories

Give accessory code as follows:

SEL22 = (1) Limit Switch - DPDT AB H802T-DTP
SEL30 = (1) Proximity Switch - SPDT GO 73-13526-B2
SEL32 = (1) Proximity Switch - DPDT GO 7G-23523-B2

Ordering Example:

CVS,8,6000A,F1,DI,DI-S5-ALB-NBR*CLW,SEL22

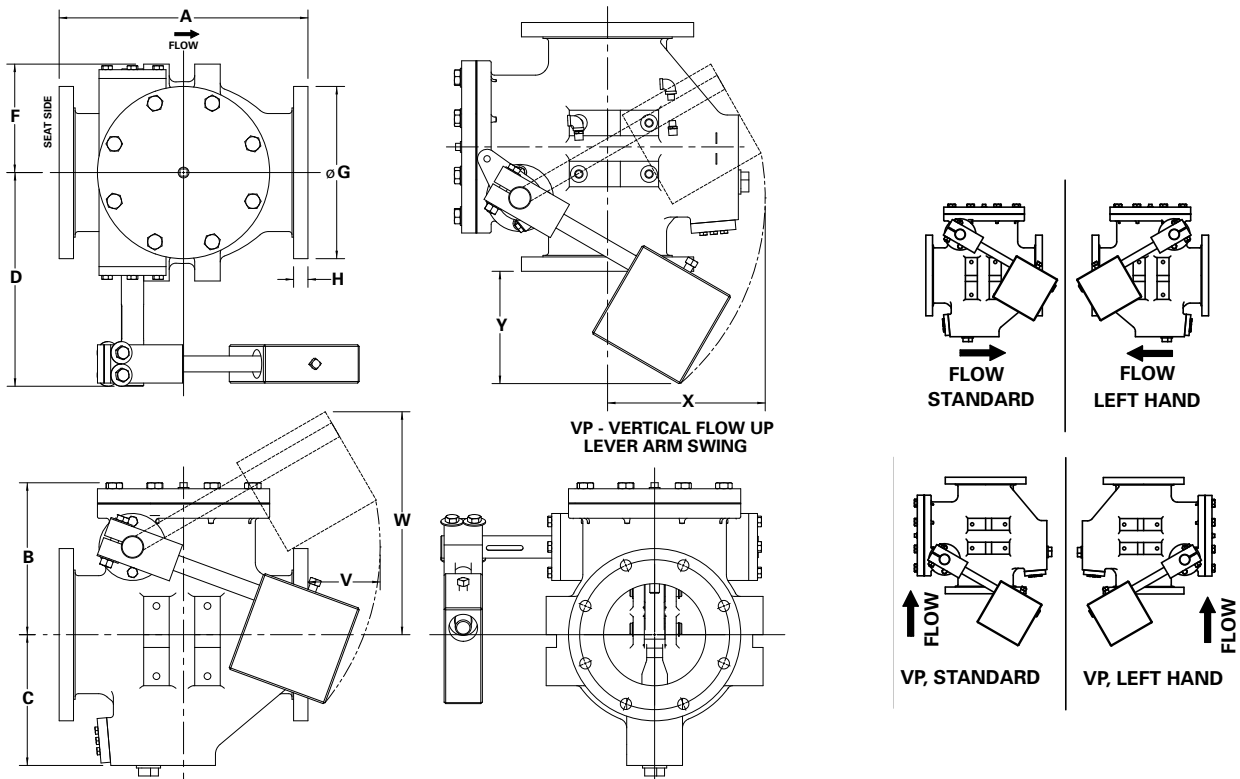
Dimensions

Lever and Weight (LW)

Valve Size	F1 & F2							F1		F2	
	A	B	C	D	F	X	Y	G	H	G	H
2" 50mm	8.00 203	6.00 152	3.50 89	13.25 337	5.00 127	9.50 241	6.25 159	6.00 152	0.63 16	6.50 165	0.88 22
2.5" 65mm	8.50 216	7.00 178	4.00 102	13.50 343	5.25 133	8.50 216	5.75 146	7.00 178	0.69 18	7.50 191	1.00 25
3" 80mm	9.50 241	7.00 178	4.13 105	13.75 349	5.50 140	8.50 216	5.13 130	7.50 191	0.75 19	8.25 210	1.13 29
4" 100mm	11.50 292	7.50 191	5.00 127	14.00 356	6.00 152	8.00 203	5.00 127	9.00 229	0.94 24	10.00 254	1.25 32
6" 150mm	14.00 356	10.00 254	6.50 165	17.00 432	8.38 213	14.25 362	11.63 295	11.00 279	1.00 25	12.50 318	1.44 37
8" 200mm	19.50 495	12.00 305	10.25 260	16.75 425	8.50 216	13.00 330	9.25 235	13.50 343	1.13 29	15.00 381	1.63 41
10" 250mm	24.50 622	14.25 362	12.63 321	21.00 533	10.00 254	13.50 343	8.50 216	16.00 406	1.19 30	17.50 445	1.88 48
12" 300mm	27.50 699	16.00 406	14.00 356	22.00 559	11.50 292	18.00 457	11.25 286	19.00 483	1.25 32	20.50 521	2.00 51
14" 350mm	31.00 787	19.63 499	15.75 400	26.00 660	13.75 349	20.00 508	14.50 368	21.00 533	1.38 35	23.00 584	2.13 54
16" 400mm	36.00 914	21.00 533	19.75 502	27.50 699	14.50 368	20.00 508	14.00 356	23.50 597	1.44 37	25.50 648	2.25 57
18" 450mm	40.00 1016	24.00 610	20.25 514	29.00 737	16.00 406	24.50 622	15.00 381	25.00 635	1.56 40	28.00 711	2.38 60
20" 500mm	40.00 1016	26.00 660	21.50 546	32.00 813	17.50 445	23.50 597	15.00 381	27.50 699	1.69 43	30.50 775	2.50 64
24" 600mm	48.00 1219	30.00 762	24.50 622	33.50 851	20.00 508	28.00 711	18.00 457	32.00 813	1.88 48	36.00 914	2.75 70
30" 750mm	56.00 1422	38.00 965	27.75 705	38.50 978	24.00 610	24.00 610	15.50 394	38.75 984	2.13 54	43.00 1092	3.00 76
36" 900mm	63.00 1600	40.38 1026	32.13 816	41.50 1054	27.00 686	21.00 533	15.00 381	46.00 1168	2.38 60	50.00 1270	3.38 86
42" 1100mm	70.00 1778	50.63 1286	36.00 914	49.00 1245	33.00 838	41.00 1041	26.00 660	53.00 1346	2.63 67	57.00 1448	3.69 94
48" 1200mm	78.00 1981	50.63 1286	41.00 1041	60.00 1524	38.00 965	47.50 1207	29.25 743	59.50 1511	2.75 70	65.00 1651	4.00 102
54" 1400mm	87.00 2210	62.13 1578	52.00 1321	65.00 1651	43.00 1092	50.50 1283	39.50 1003	66.25 1683	3.00 76	Contact DeZURIK	
60" 1500mm	97.00 2464	72.00 1829	58.00 1473	70.00 1778	46.00 1168	45.50 1156	35.50 902	73.00 1854	3.13 80		
66" 1700mm	108.00 2743	66.63 1692	64.00 1626	76.00 1930	50.50 1283	43.00 1092	33.50 851	80.00 2032	3.44 87		

Note: 36" (900mm) & larger have two lever arms, one on each side.

Inches
Millimeters

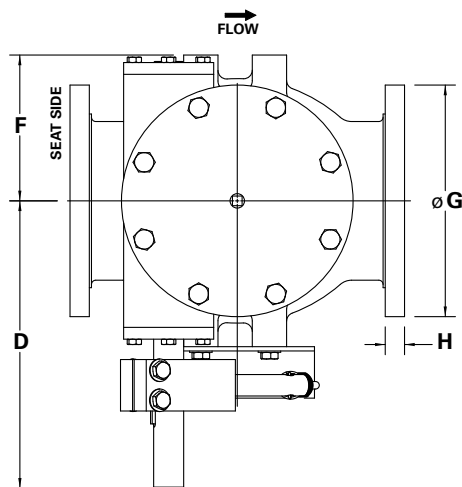


Dimensions

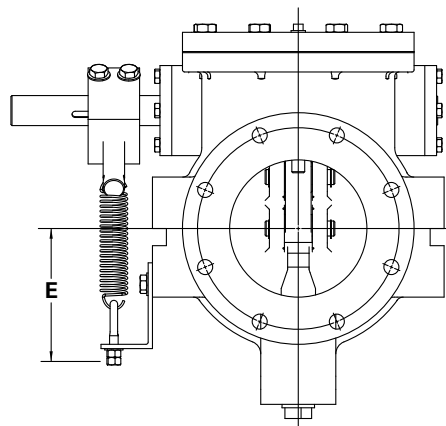
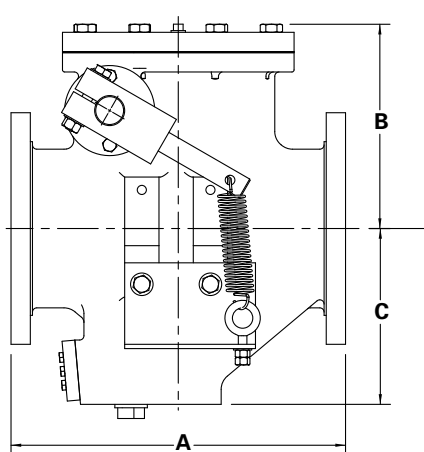
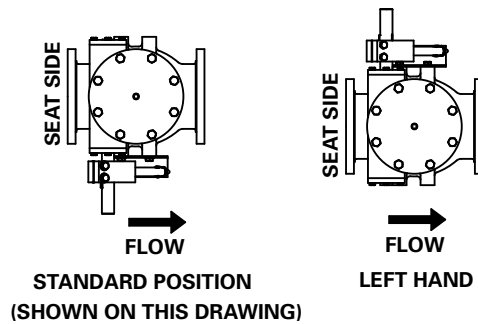
Lever and Spring (LS)

Valve Size	F1 & F2						F1		F2	
	A	B	C	D	E	F	G	H	G	H
2" 50mm	8.00 203	6.00 152	3.50 89	13.25 337	6.50 165	5.00 127	6.00 152	0.63 16	6.50 165	0.88 22
2.5" 65mm	8.50 216	7.00 178	4.00 102	13.50 343	10.50 267	5.25 133	7.00 178	0.69 18	7.50 191	1.00 25
3" 80mm	9.50 241	7.00 178	4.13 105	13.75 349	10.00 254	5.50 140	7.50 191	0.75 19	8.25 210	1.13 29
4" 100mm	11.50 292	7.50 191	5.00 127	14.00 356	5.38 137	6.00 152	9.00 229	0.94 24	10.00 254	1.25 32
6" 150mm	14.00 356	10.00 254	6.50 165	17.00 432	8.00 203	8.38 213	11.00 279	1.00 25	12.50 318	1.44 37
8" 200mm	19.50 495	12.00 305	10.25 260	16.75 425	8.00 203	8.50 216	13.50 343	1.13 29	15.00 381	1.63 41
10" 250mm	24.50 622	14.25 362	12.63 321	21.00 533	10.50 267	10.00 254	16.00 406	1.19 30	17.50 445	1.88 48
12" 300mm	27.50 699	16.00 406	14.00 356	22.00 559	10.75 273	11.50 292	19.00 483	1.25 32	20.50 521	2.00 51
14" 350mm	31.00 787	19.63 499	15.75 400	26.00 660	10.25 260	13.75 349	21.00 533	1.38 35	23.00 584	2.13 54
16" 400mm	36.00 914	21.00 533	19.75 502	27.50 699	13.00 330	14.50 368	23.50 597	1.44 37	25.50 648	2.25 57
18" 450mm	40.00 1016	24.00 610	20.25 514	29.00 737	11.50 292	16.00 406	25.00 635	1.56 40	28.00 711	2.38 60
20" 500mm	40.00 1016	26.00 660	21.50 546	32.00 813	10.00 254	17.50 445	27.50 699	1.69 43	30.50 775	2.50 64
24" 600mm	48.00 1219	30.00 762	24.50 622	33.50 851	7.38 187	20.00 508	32.00 813	1.88 48	36.00 914	2.75 70
30" 750mm	56.00 1422	38.00 965	27.75 705	38.50 978	-	24.00 610	38.75 984	2.13 54	43.00 1092	3.00 76
36" 900mm	63.00 1600	40.38 1026	32.13 816	41.50 1054	7.25 184	27.00 686	46.00 1168	2.38 60	50.00 1270	3.38 86
42" 1100mm	70.00 1778	50.63 1286	36.00 914	49.00 1245	2.75 70	33.00 838	53.00 1346	2.63 67	57.00 1448	3.69 94

Inches
Millimeters



CLOSURE CONTROL MOUNTING POSITIONS

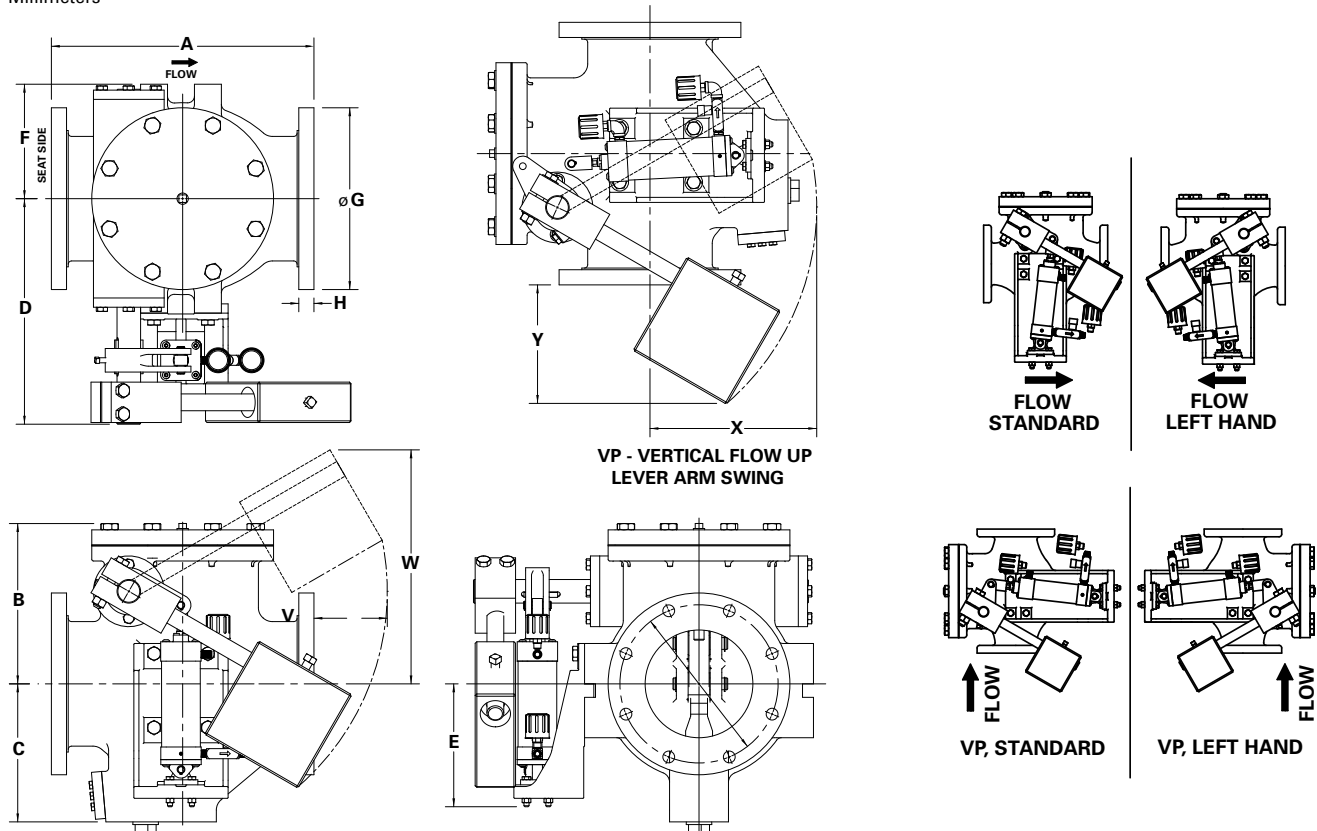


Dimensions

Valve & Air Cushioned Side Mounted Cylinder (AC)

Valve Size	F1 & F2									F1		F2	
	A	B	C	D	E	F	W	X	Y	G	H	G	H
2" 50mm	8.00 203	6.00 152	3.50 89	13.25 337	10.75 273	5.00 127	9.00 229	9.50 241	6.25 159	6.00 152	0.63 16	6.50 165	0.88 22
2.5" 65mm	8.50 216	7.00 178	4.00 102	13.50 343	10.25 260	5.25 133	9.50 241	8.50 216	5.75 146	7.00 178	0.69 18	7.50 191	1.00 25
3" 80mm	9.50 241	7.00 178	4.13 105	13.75 349	10.13 257	5.50 140	9.50 241	8.50 216	5.13 130	7.50 191	0.75 19	8.25 210	1.13 29
4" 100mm	11.50 292	7.50 191	5.00 127	14.00 356	9.13 232	6.00 152	10.75 273	8.00 203	5.00 127	9.00 229	0.94 24	10.00 254	1.25 32
6" 150mm	14.00 356	10.00 254	6.50 165	17.00 432	10.38 264	8.38 213	16.50 419	14.25 362	11.63 295	11.00 279	1.00 25	12.50 318	1.44 37
8" 200mm	19.50 495	12.00 305	10.25 260	16.75 425	9.25 235	8.50 216	18.00 457	13.00 330	9.25 235	13.50 343	1.13 29	15.00 381	1.63 41
10" 250mm	24.50 622	14.25 362	12.63 321	21.00 533	8.63 219	10.00 254	20.50 521	13.50 343	8.50 216	16.00 406	1.19 30	17.50 445	1.88 48
12" 300mm	27.50 699	16.00 406	14.00 356	22.00 559	8.88 226	11.50 292	25.00 635	18.00 457	11.25 286	19.00 483	1.25 32	20.50 521	2.00 51
14" 350mm	31.00 787	19.63 499	15.75 400	26.00 660	11.00 279	13.75 349	29.00 737	20.00 508	14.50 368	21.00 533	1.38 35	23.00 584	2.13 54
16" 400mm	36.00 914	21.00 533	19.75 502	27.50 699	9.75 248	14.50 368	30.75 781	20.00 508	14.00 356	23.50 597	1.44 37	25.50 648	2.25 57
18" 450mm	40.00 1016	24.00 610	20.25 514	29.00 737	8.25 210	16.00 406	35.00 889	24.50 622	15.00 381	25.00 635	1.56 40	28.00 711	2.38 60
20" 500mm	40.00 1016	26.00 660	21.50 546	32.00 813	8.88 226	17.50 445	36.00 914	23.50 597	15.00 381	27.50 699	1.69 43	30.50 775	2.50 64
24" 600mm	48.00 1219	30.00 762	24.50 622	33.50 851	6.00 152	20.00 508	43.75 1111	28.00 711	18.00 457	32.00 813	1.88 48	36.00 914	2.75 70
30" 750mm	56.00 1422	38.00 965	27.75 705	38.50 978	9.75 248	24.00 610	48.00 1219	24.00 610	15.50 394	38.75 984	2.13 54	43.00 1092	3.00 76
36" 900mm	63.00 1600	40.38 1026	32.13 816	41.50 1054	5.00 127	27.00 686	51.00 1295	21.00 533	15.00 381	46.00 1168	2.38 60	50.00 1270	3.38 86
42" 1100mm	70.00 1778	50.63 1286	36.00 914	49.00 1245	1.00 25	33.00 838	65.00 1651	41.00 1041	26.00 660	53.00 1346	2.63 67	57.00 1448	3.69 94
48" 1200mm	78.00 1981	50.63 1286	41.00 1041	60.00 1524	6.00 152	38.00 965	75.00 1905	47.50 1207	29.25 743	59.50 1511	2.75 70	65.00 1651	4.00 102
54" 1400mm	87.00 2210	62.13 1578	52.00 1321	65.00 1651	16.00 406	43.00 1092	84.00 2134	50.50 1283	39.50 1003	66.25 1683	3.00 76	Contact DeZURIK	
60" 1500mm	97.00 2464	72.00 1829	58.00 1473	70.00 1778	27.00 686	46.00 1168	88.50 2248	45.50 1156	35.50 902	73.00 1854	3.13 80		
66" 1700mm	108.00 2743	66.63 1692	64.00 1626	76.00 1930	39.00 991	50.50 1283	91.00 2311	43.00 1092	33.50 851	80.00 2032	3.44 87		

Inches
Millimeters



Dimensions

Oil Controlled Side Mounted Cylinder

Valve Size	F1											
	A	B	C	D	E	F	K	W	X	Y	G	H
2" 50mm	8.00 203	6.00 152	3.50 89	13.25 337	10.75 273	5.00 127	7.50 191	9.00 229	9.50 241	6.25 159	6.00 152	0.63 16
2.5" 65mm	8.50 216	7.00 178	4.00 102	13.50 343	10.25 260	5.25 133	8.00 203	9.50 241	8.50 216	5.75 146	7.00 178	0.69 18
3" 80mm	9.50 241	7.00 178	4.13 105	13.75 349	10.13 257	5.50 140	8.13 207	9.50 241	8.50 216	5.13 130	7.50 191	0.75 19
4" 100mm	11.50 292	7.50 191	5.00 127	14.00 356	9.13 232	6.00 152	8.94 227	10.75 273	8.00 203	5.00 127	9.00 229	0.94 24
6" 150mm	14.00 356	10.00 254	6.50 165	17.00 432	14.00 356	8.38 213	22.50 572	16.50 419	14.25 362	11.63 295	11.00 279	1.00 25
8" 200mm	19.50 495	12.00 305	10.25 260	16.75 425	12.50 318	8.50 216	24.00 610	18.00 457	13.00 330	9.25 235	13.50 343	1.13 29
10" 250mm	24.50 622	14.25 362	12.63 321	21.00 533	8.63 219	10.00 254	28.00 711	20.50 521	13.50 343	8.50 216	16.00 406	1.19 30
12" 300mm	27.50 699	16.00 406	14.00 356	22.00 559	8.88 226	11.50 292	29.50 749	25.00 635	18.00 457	11.25 286	19.00 483	1.25 32
14" 350mm	31.00 787	19.63 499	15.75 400	26.00 660	11.00 279	13.75 349	33.00 838	29.00 737	20.00 508	14.50 368	21.00 533	1.38 35
16" 400mm	36.00 914	21.00 533	19.75 502	27.50 699	9.75 248	14.50 368	35.50 902	30.75 781	20.00 508	14.00 356	23.50 597	1.44 37
18" 450mm	40.00 1016	24.00 610	20.25 514	29.00 737	8.25 210	16.00 406	37.50 953	35.00 889	24.50 622	15.00 381	25.00 635	1.56 40
20" 500mm	40.00 1016	26.00 660	21.50 546	32.00 813	8.88 226	17.50 445	39.00 991	36.00 914	23.50 597	15.00 381	27.50 699	1.69 43

Inches
Millimeters

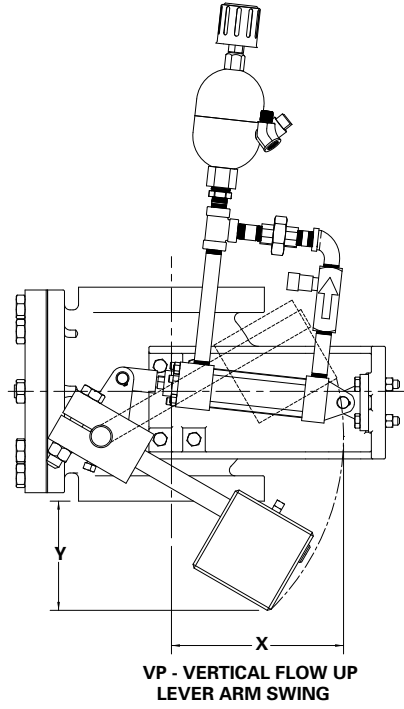
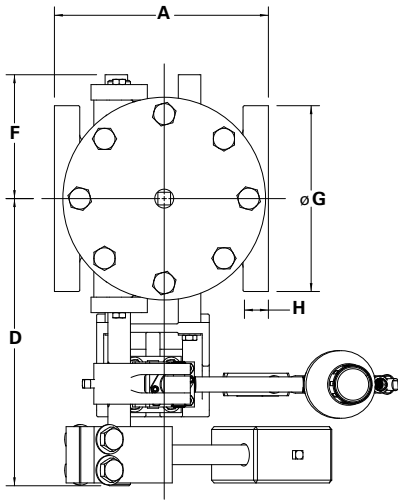
Valve Size	F2											
	A	B	C	D	E	F	K	W	X	Y	G	H
2" 50mm	8.00 203	6.00 152	3.50 89	13.25 337	10.75 273	5.00 127	7.50 191	9.00 229	9.50 241	6.25 159	6.50 165	0.88 22
2.5" 65mm	8.50 216	7.00 178	4.00 102	13.50 343	10.25 260	5.25 133	8.00 203	9.50 241	8.50 216	5.75 146	7.50 191	1.00 25
3" 80mm	9.50 241	7.00 178	4.13 105	13.75 349	10.13 257	5.50 140	8.13 207	9.50 241	8.50 216	5.13 130	8.25 210	1.13 29
4" 100mm	11.50 292	7.50 191	5.00 127	14.00 356	9.13 232	6.00 152	8.94 227	10.75 273	8.00 203	5.00 127	10.00 254	1.25 32
6" 150mm	14.00 356	10.00 254	6.50 165	17.00 432	14.00 356	8.38 213	22.50 572	16.50 419	14.25 362	11.63 295	12.50 318	1.44 37
8" 200mm	19.50 495	12.00 305	10.25 260	16.75 425	12.50 318	8.50 216	24.00 610	18.00 457	13.00 330	9.25 235	15.00 381	1.63 41
10" 250mm	24.50 622	14.25 362	14.13 359	21.00 533	12.00 305	10.00 254	28.00 711	20.50 521	13.50 343	8.50 216	17.50 445	1.88 48
12" 300mm	27.50 699	16.00 406	15.50 394	22.00 559	12.00 305	11.50 292	29.50 749	25.00 635	18.00 457	11.25 286	20.50 521	2.00 51
14" 350mm	31.00 787	19.63 499	17.25 438	26.00 660	14.25 362	13.75 349	33.00 838	29.00 737	20.00 508	14.50 368	23.00 584	2.13 54
16" 400mm	36.00 914	21.00 533	21.25 540	27.50 699	15.50 394	14.50 368	35.50 902	30.75 781	20.00 508	14.00 356	25.50 648	2.25 57
18" 450mm	40.00 1016	24.00 610	21.75 552	29.00 737	16.75 425	16.00 406	44.00 1118	35.00 889	24.50 622	15.00 381	28.00 711	2.38 60
20" 500mm	40.00 1016	26.00 660	23.00 584	32.00 813	19.25 489	17.50 445	46.00 1168	36.00 914	23.50 597	15.00 381	30.50 775	2.50 64

Inches
Millimeters

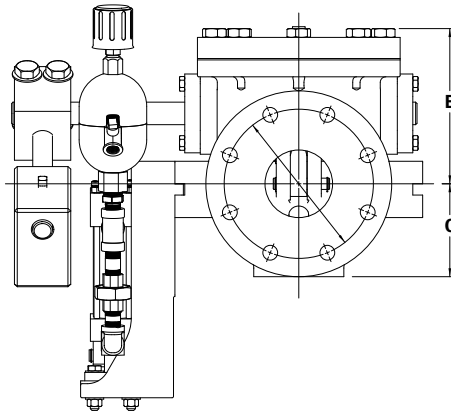
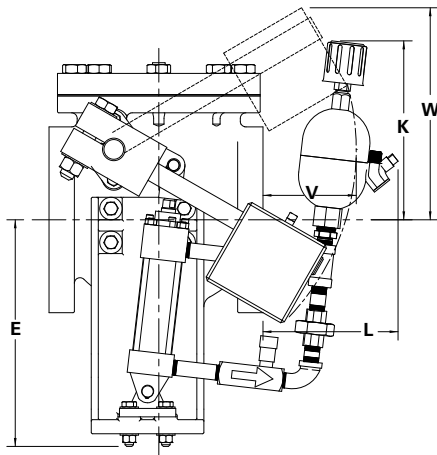
Dimensions

Oil Controlled Side Mounted Cylinder

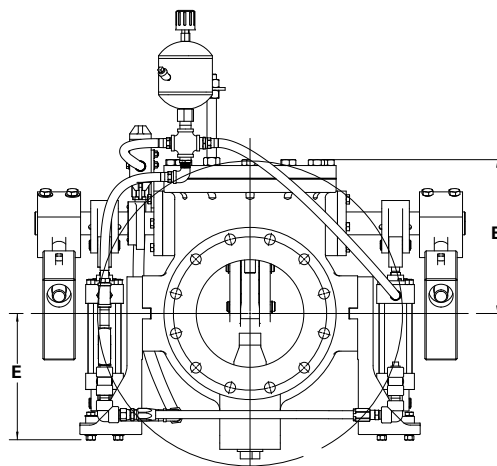
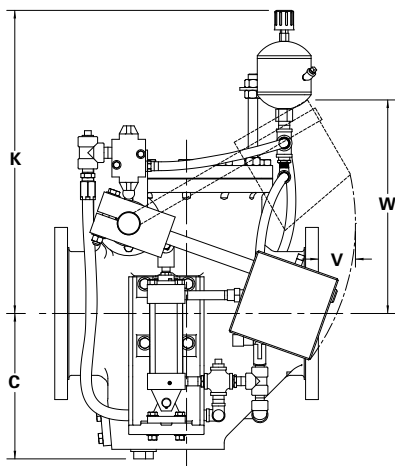
All Sizes



Size 2-8" (50-200mm)



Size 10-20" (250-500mm)

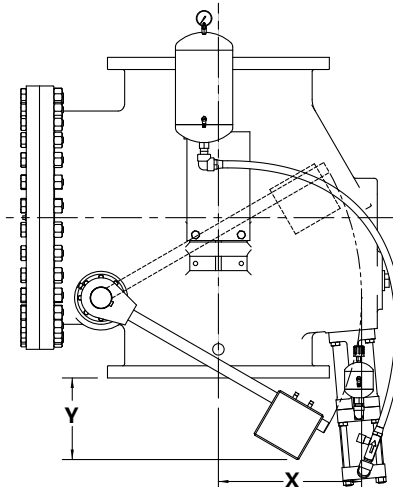
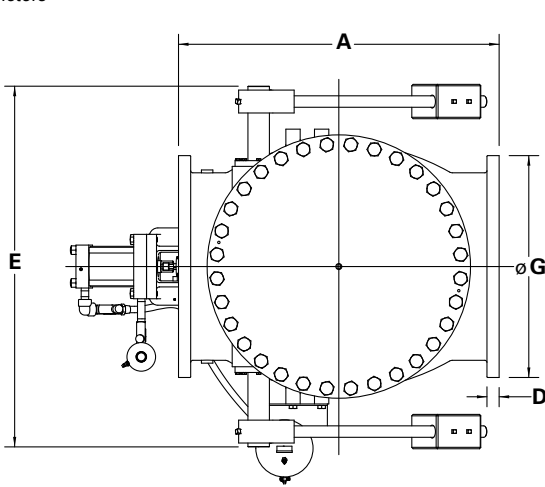


Dimensions

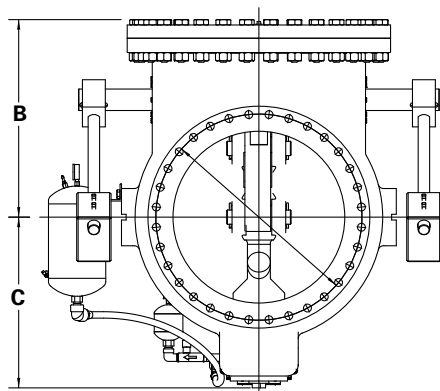
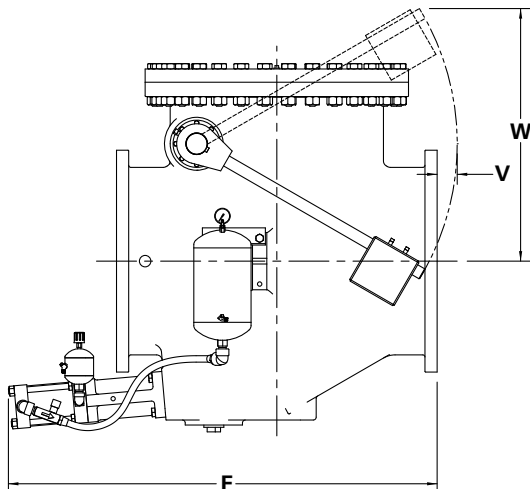
Valve & Oil Controlled Bottom Mounted Buffer (BMB)

Valve Size	F1 & F2							F1			F2		
	A	B	C	E	F	X	Y	D	G	H	D	G	H
8" 200mm	19.50 495	12.00 305	11.75 298	25.00 635	28.00 711	13.00 330	9.25 235	1.13 29	13.50 343	11.75 298	1.63 41	15.00 381	13.00 330
10" 250mm	24.50 622	14.25 362	14.13 359	30.00 762	33.50 851	13.50 343	8.50 216	1.19 30	16.00 406	14.25 362	1.88 48	17.50 445	15.25 387
12" 300mm	27.50 699	16.00 406	15.50 394	31.50 800	42.00 1067	18.00 457	11.25 286	1.25 32	19.00 483	17.00 432	2.00 51	20.50 521	17.75 451
14" 350mm	31.00 787	19.63 499	17.25 438	46.00 1168	48.00 1219	20.00 508	14.50 368	1.38 35	21.00 533	18.75 476	2.13 54	23.00 584	20.25 514
16" 400mm	36.00 914	21.00 533	21.25 540	46.00 1168	50.00 1270	20.00 508	14.00 356	1.44 37	23.50 597	21.25 540	2.25 57	25.50 648	22.50 572
18" 450mm	40.00 1016	24.00 610	21.75 552	58.00 1473	56.00 1422	24.50 622	15.00 381	1.56 40	25.00 635	22.75 578	2.38 60	28.00 711	24.75 629
20" 500mm	40.00 1016	26.00 660	23.00 584	64.00 1626	60.00 1524	23.50 597	15.00 381	1.69 43	27.50 699	25.00 635	2.50 64	30.50 775	27.00 686
24" 600mm	48.00 1219	30.00 762	26.00 660	67.00 1702	65.00 1651	28.00 711	18.00 457	1.88 48	32.00 813	29.50 749	2.75 70	36.00 914	32.00 813
30" 750mm	56.00 1422	38.00 965	29.25 743	77.00 1956	76.00 1930	24.00 610	15.50 394	2.13 54	38.75 984	36.00 914	3.00 76	43.00 1092	39.25 997
36" 900mm	63.00 1600	40.38 1026	33.79 858	83.00 2108	86.00 2184	21.00 533	15.00 381	2.38 60	46.00 1168	42.75 1086	3.38 86	50.00 1270	46.00 1168
42" 1100mm	70.00 1778	50.63 1286	37.91 963	98.00 2489	95.00 2413	41.00 1041	26.00 660	2.63 67	53.00 1346	49.50 1257	3.69 94	57.00 1448	52.75 1340
48" 1200mm	78.00 1981	50.63 1286	42.16 1071	115.00 2921	108.00 2743	47.50 1207	29.25 743	2.75 70	59.50 1511	56.00 1422	4.00 102	65.00 1651	60.75 1543
54" 1400mm	87.00 2210	62.13 1578	53.16 1350	130.00 3302	120.00 3048	50.50 1283	39.50 1003	3.00 76	66.25 1683	62.75 1594	Contact DeZURIK		
60" 1500mm	97.00 2464	72.00 1829	59.25 1505	140.00 3556	130.00 3302	45.50 1156	35.50 902	3.13 80	73.00 1854	69.25 1759			
66" 1700mm	108.00 2743	66.63 1692	65.16 1655	152.00 3861	140.00 3556	43.00 1092	33.50 851	3.44 87	80.00 2032	76.00 1930			

Inches
Millimeters



VP - VERTICAL FLOW UP
LEVER ARM SWING



Dimensions

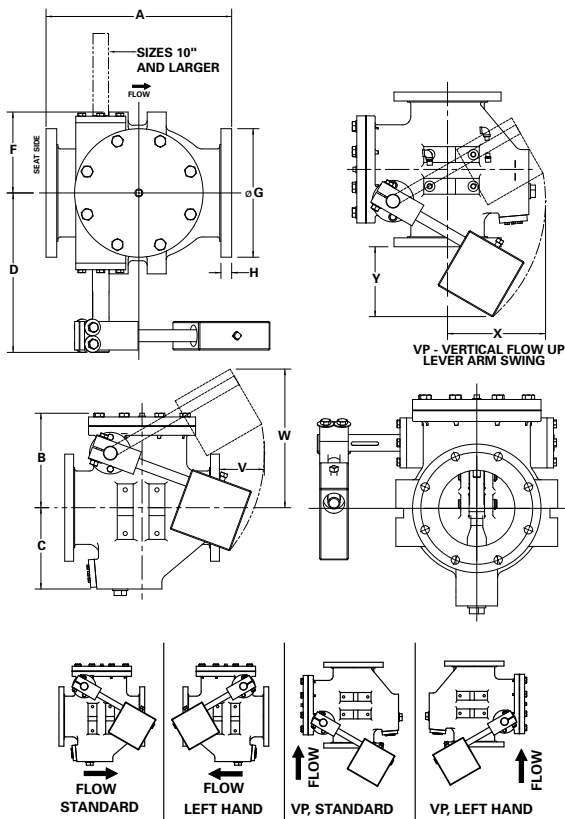
Convertible - Lever and Weight (CLW)

Convertible - Lever and Spring (CLS)

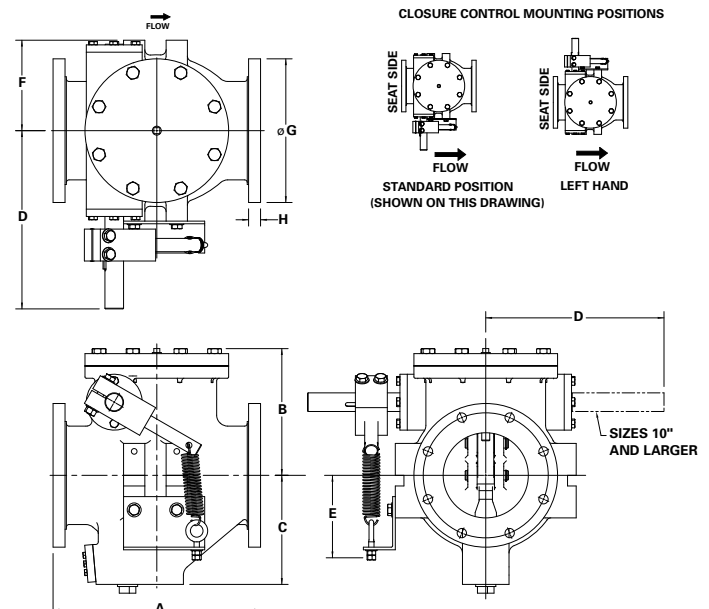
Valve Size	F1 & F2									F1		F2	
	A	B	C	D	E	F	W	X	Y	G	H	G	H
2" 50mm	8.00 203	6.00 152	3.50 89	13.25 337	6.50 165	5.00 127	9.00 229	9.50 241	6.25 159	6.00 152	0.63 16	6.50 165	0.88 22
2.5" 65mm	8.50 216	7.00 178	4.00 102	13.50 343	10.50 267	5.25 133	9.50 241	8.50 216	5.75 146	7.00 178	0.69 18	7.50 191	1.00 25
3" 80mm	9.50 241	7.00 178	4.13 105	13.75 349	10.00 254	5.50 140	9.50 241	8.50 216	5.13 130	7.50 191	0.75 19	8.25 210	1.13 29
4" 100mm	11.50 292	7.50 191	5.00 127	14.00 356	5.38 137	6.00 152	10.75 273	8.00 203	5.00 127	9.00 229	0.94 24	10.00 254	1.25 32
6" 150mm	14.00 356	10.00 254	6.50 165	17.00 432	8.00 203	8.38 213	16.50 419	14.25 362	11.63 295	11.00 279	1.00 25	12.50 318	1.44 37
8" 200mm	19.50 495	12.00 305	10.25 260	16.75 425	8.00 203	8.50 216	18.00 457	13.00 330	9.25 235	13.50 343	1.13 29	15.00 381	1.63 41
10" 250mm	24.50 622	14.25 362	12.63 321	21.00 533	10.50 267	10.00 254	20.50 521	13.50 343	8.50 216	16.00 406	1.19 30	17.50 445	1.88 48
12" 300mm	27.50 699	16.00 406	14.00 356	22.00 559	10.75 273	11.50 292	25.00 635	18.00 457	11.25 286	19.00 483	1.25 32	20.50 521	2.00 51
14" 350mm	31.00 787	19.63 499	15.75 400	26.00 660	10.25 260	13.75 349	29.00 737	20.00 508	14.50 368	21.00 533	1.38 35	23.00 584	2.13 54
16" 400mm	36.00 914	21.00 533	19.75 502	27.50 699	13.00 330	14.50 368	30.75 781	20.00 508	14.00 356	23.50 597	1.44 37	25.50 648	2.25 57
18" 450mm	40.00 1016	24.00 610	20.25 514	29.00 737	11.50 292	16.00 406	35.00 889	24.50 622	15.00 381	25.00 635	1.56 40	28.00 711	2.38 60
20" 500mm	40.00 1016	26.00 660	21.50 546	32.00 813	10.00 254	17.50 445	36.00 914	23.50 597	15.00 381	27.50 699	1.69 43	30.50 775	2.50 64
24" 600mm	48.00 1219	30.00 762	24.50 622	33.50 851	7.38 187	20.00 508	43.75 1111	28.00 711	18.00 457	32.00 813	1.88 48	36.00 914	2.75 70
30" 750mm	56.00 1422	38.00 965	27.75 705	38.50 978	—	24.00 610	48.00 1219	24.00 610	15.50 394	38.75 984	2.13 54	43.00 1092	3.00 76
36" 900mm	63.00 1600	40.38 1026	32.13 816	41.50 1054	7.25 184	27.00 686	51.00 1295	21.00 533	15.00 381	46.00 1168	2.38 60	50.00 1270	3.38 86
42" 1100mm	70.00 1778	50.63 1286	36.00 914	49.00 1245	2.75 70	33.00 838	65.00 1651	41.00 1041	26.00 660	53.00 1346	2.63 67	57.00 1448	3.69 94
48" 1200mm	78.00 1981	50.63 1286	41.00 1041	60.00 1524	—	38.00 965	75.00 1905	47.50 1207	29.25 743	59.50 1511	2.75 70	65.00 1651	4.00 102
54" 1400mm	87.00 2210	62.13 1578	52.00 1321	65.00 1651	—	43.00 1092	84.00 2134	50.50 1283	39.50 1003	66.25 1683	3.00 76	Contact DeZURIK	
60" 1500mm	97.00 2464	72.00 1829	58.00 1473	70.00 1778	—	46.00 1168	88.50 2248	45.50 1156	35.50 902	73.00 1854	3.13 80		
66" 1700mm	108.00 2743	66.63 1692	64.00 1626	76.00 1930	—	50.50 1283	91.00 2311	43.00 1092	33.50 851	80.00 2032	3.44 87		

Inches
Millimeters

LEVER AND WEIGHT



LEVER AND SPRING



Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web Site: www.dezurik.com E-Mail: info@dezurik.com



250 Riverside Ave. N. Sartell, Minnesota 56377 • Phone: 320-259-2000 • Fax: 320-259-2227

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