

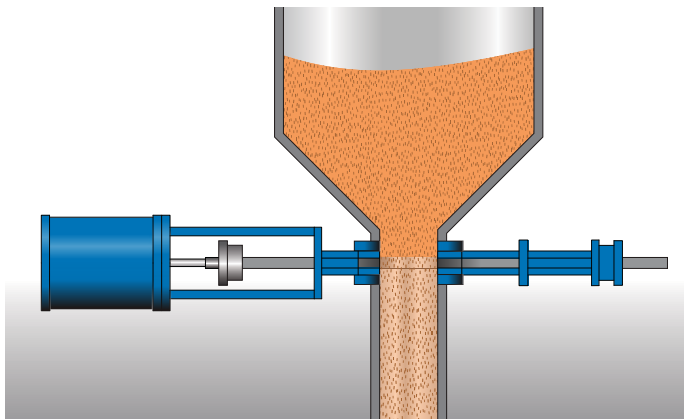
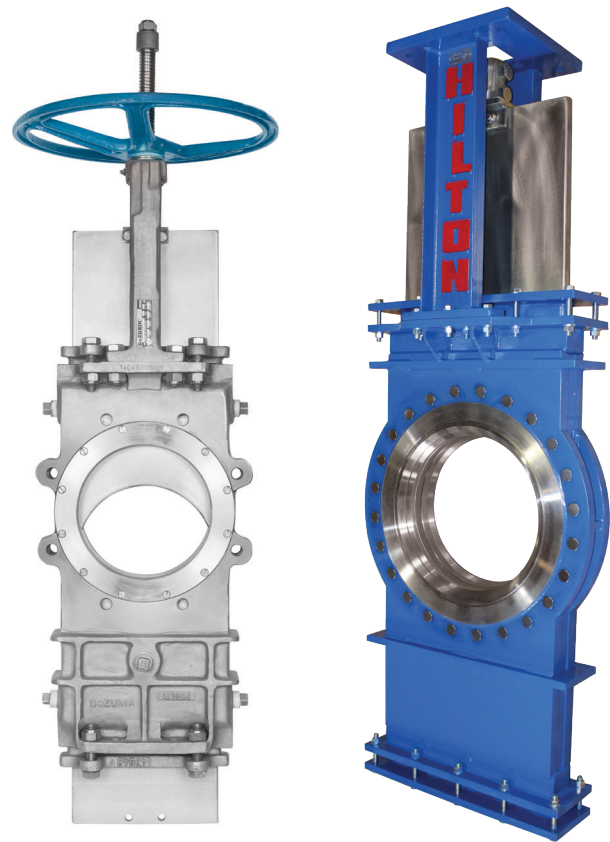
DeZURIK KGO O-PORT GATE VALVES

Design & Construction

DeZURIK KGO O-Port Gate Valves can be used on virtually all types of liquids, slurries and dry materials, but are specially designed to handle high-consistency paper stock, wood chips, fly ash, and slurries with high solids content and highly viscous fluids. KGO Valves are ideally suited for applications in the Pulp & Paper, Mining and Power industries.

DeZURIK KGO-CST Valves are available in sizes 2-24" (50-600mm) and feature a cast body rated to 150 psi CWP, and with uni-directional face sealing. Metal or resilient seats are available in 316 Stainless Steel, Terpolymer of Ethylene, Propylene and A Diene (EPDM), PTFE or Reinforced PTFE.

Hilton KGO-FAB Valves (H-1500 Thru Port) are available in sizes 2-66" (50-1700mm) with a wide variety of flange drillings, body materials, gate materials and hard facing options. They feature a fully fabricated body. Unidirectional seating is standard with bi-directional sealing available as an option. In addition, multiple packing options, seat options and seat facing options are available to meet the most rigorous applications.



Ideally Suited for Standing Column of Dry Material

DeZURIK KGO-CST O-Port and the KGO-FAB (Hilton H-1500 Thru-Port) Valves are capable of closing through a standing column of dry material. As the gate slides closed, it carries a slice of the media into the valve body. When the valve slides open, it pulls the slice of media from the body back into the flowing media stream. To view an animation of how these valves work, go to the DeZURIK KGO product page or the Hilton Thru-Port Gate Valve (H-1500) product page at DeZURIK.com.

Replaceable Seats

Seat faces are protected from the media in the full open and closed position. Metal and resilient seats are easily replaceable in the field on KGO-CST valves.

Purge Ports Facilitate Cleaning

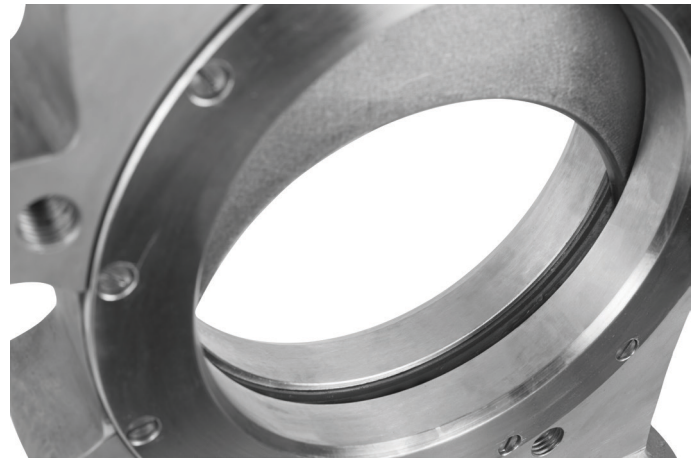
Purge Ports in the chest and lower body area allow periodic purging to prevent clogging.

Precision Ground Stainless Steel Gate

The 316 Stainless Steel gate is precision ground on all sides. Edges are beveled to maximize packing life.

Common Actuator Mounting

DeZURIK KGO-CST O-Port Valves are available with handwheel actuators or can be supplied with the same powered actuators as the popular DeZURIK KGC Cast Stainless Steel Knife Gate Valves.

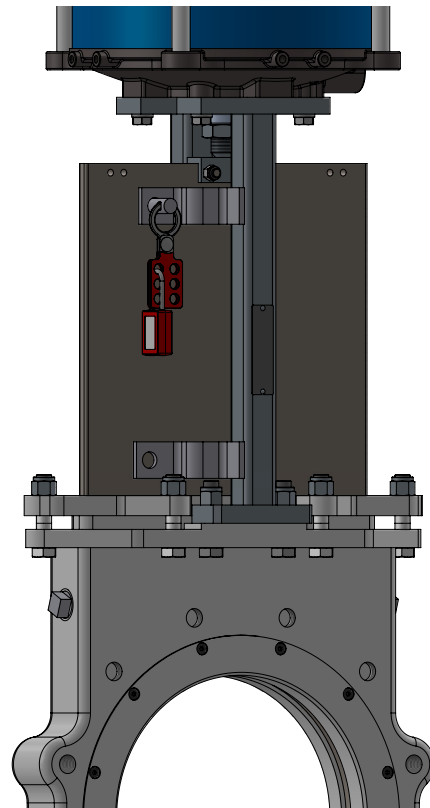
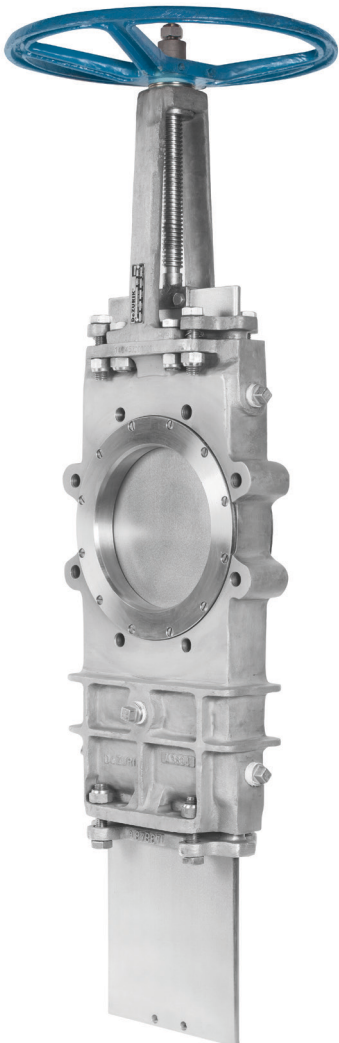


Lockout Device

Lockouts for open and closed position are available on all sizes of handwheel and cylinder actuated valves. Lockouts are designed to hold the full actuator force, plus a safety factor. To order, add a comma and the order code "LK" after the actuator code.

Ordering Example:

KGO,6,CST,F1,S2,SMP,S2-S2-NR,3*MN-HD14-S1,LK



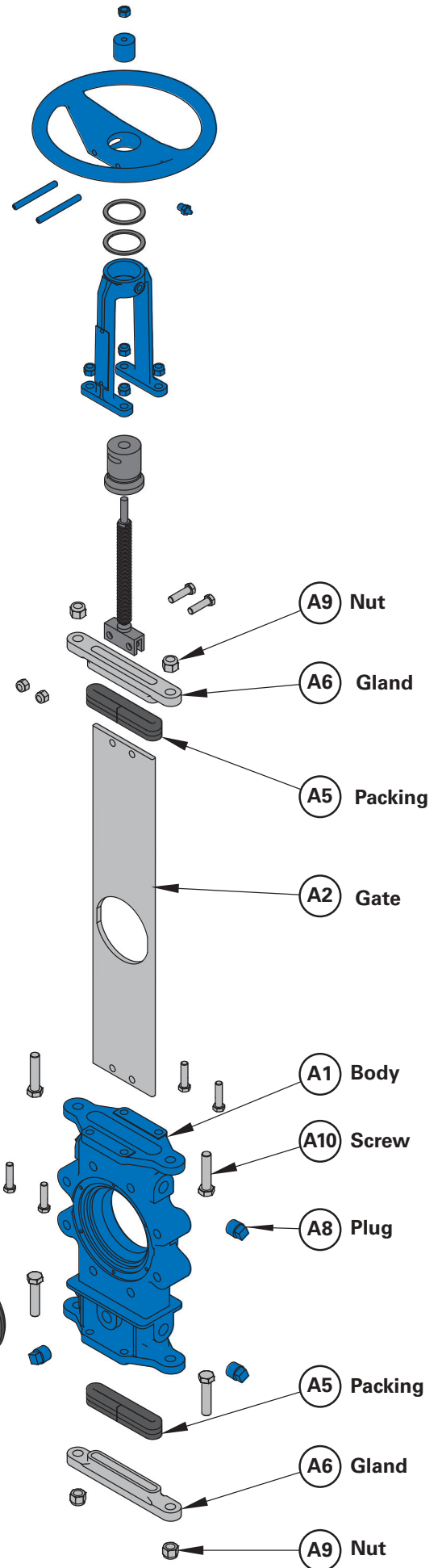
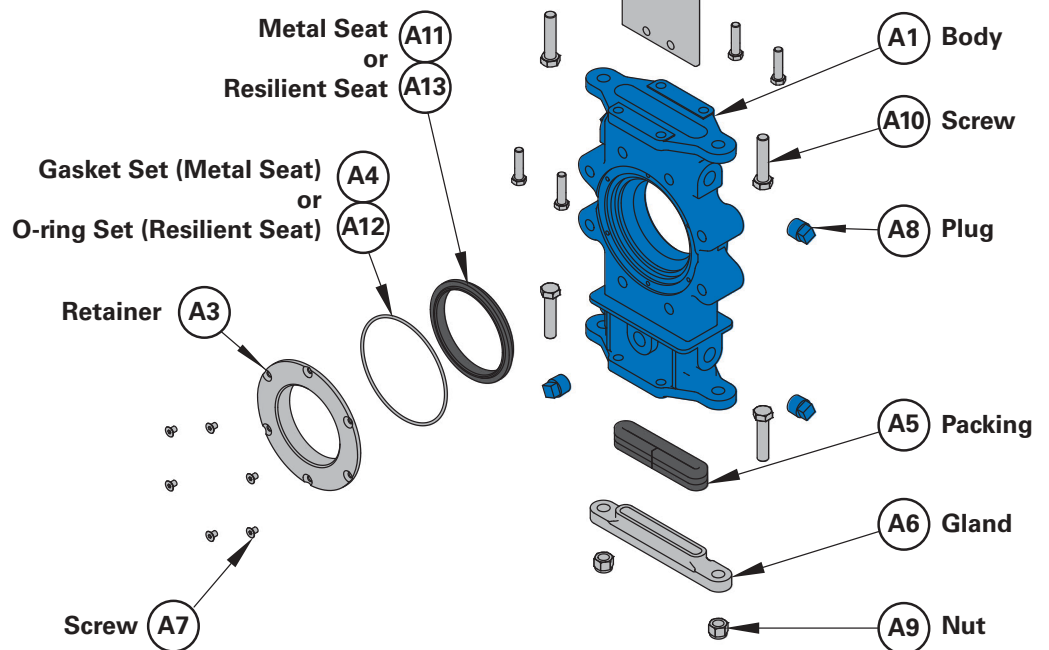
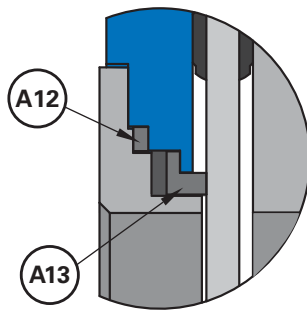
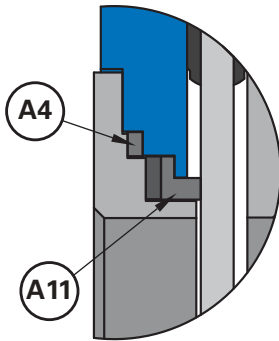
Materials of Construction

KGO Cast Design

Item	Description	Material
A1	Body	316 Stainless Steel, A351 CF8M
A2	Gate	316 Stainless Steel, A240
A3	Seat Retainer	316 Stainless Steel, A351 CF8M
A4	Gasket Set	Graphite
A5	Packing	Braided PTFE
A6	Packing Gland	316 Stainless Steel, A351 CF8M
A7	Screw	316 Stainless Steel
A8	Plug	316 Stainless Steel
A9	Nut	316 Stainless Steel with Nylon Insert
A10	Screw	304 Stainless Steel
A11	Metal Seat	316 Stainless Steel A276
A12	O-Ring Set	Terpolymer of Ethylene, Propylene and A Diene (EPDM)
A13	Resilient Seat	316 Stainless Steel, A351 CF8M
		Terpolymer of Ethylene, Propylene and A Diene (EPDM)
		PTFE Reinforced PTFE

Metal Seat

Resilient Seat



Valve Selection

Shut-Off Capabilities

Seat type	Shut-Off
Metal	MSS-SP81
Terpolymer of Ethylene, Propylene and A Diene (EPDM)	Drip-Tight
PTFE	
Reinforced PTFE	

Pressure Ratings

Valve Style	Maximum Pressure*
KGO-CST 2-24" (50-600)	150 psi CWP 1000 kPa CWP
KGO-FAB 2-66" (50-1700)	150 psi CWP 1000 kPa CWP
	285 psi CWP 1960 kPa CWP
	740 psi CWP 5100 kPa CWP

Temperature Ratings

Seat Material	Temperature Rating*
Terpolymer of Ethylene, Propylene and A Diene (EPDM)	To 250°F (122°C)
PTFE	to 450°F (230°C)
Reinforced PTFE	to 500°F (260°C)
Metal Seat	Temperature Limit of Packing

*Higher temperature ratings available on application.

Applicable Standards

DeZURIK KGO Valves are designed and/or tested to meet the following standards:	
ASME B16.5	Conforms to Pipe Flanges and Flanged Fittings NPS 1/2 Through NPS 24 Metric/Inch Standard
MSS SP-81	Face-to-face and testing meets Stainless-Steel or Stainless-Steel-Lined, Bonnetless, Knife Gate Valves with Flanged Ends
MSS SP-151	Pressure testing of knife gate valves

Flow Parameters

Valve Size	Cv* Kv* 100% Open	K** Resistance	Area of Opening (in ² /cm ²)
2" 50mm	378 326	0.10	2.7 17
	590 510		6.2 40
3" 80mm	850 730	0.10	11.6 75
	3400 2930		26.3 170
6" 150mm	6050 5200	0.10	47.3 305
	9450 8200		74.2 479
10" 250mm	13600 11700	0.10	107.7 695
	16600 14300		137.9 890
14" 350mm	22000 19000	0.10	182.7 1179
	28100 24200		233.7 1508
18" 450mm	35000 30200	0.10	291.0 1877
	51100 44000		424.6 2739

*Cv = Flow in GPM of water at 1 psi pressure drop.

Kv = Flow in m³/hr. of water at 100 kPa pressure drop.

** K = The resistance coefficient of the valve. The constant (K) can be used to determine the equivalent length of pipe.

$L = \frac{K \times D}{f}$ Where L = Equivalent length of pipe in feet
K = Resistance coefficient
D = Pipe diameter in feet
f = Friction factor, related to type of pipe

Weights (KGO-CST Body Style)

Valve Size	Basic Valve	With Handwheel	With Cylinder		
			Cylinder Size	Lbs.	Kg.
2" 50mm	16 7	27 12	CY-PC4	37	17
	27 12	37 17		44 28	20 28
3" 80mm	49 22	60 27	CY-PC4	78	35
	83 38	103 47		CY-PC6	96
6" 150mm	119 54	143 65	CY-PC6	136	62
	240 109	296 135		CY-PC8	144
8" 200mm	54 240	65 296	CY-PC8	198	90
	109 240	135 296		CY-PC10	223
10" 250mm	240 109	296 135	CY-PC10	383	174
	359 163	397 180		CY-PC12	404
12" 300mm	413 188	476 217	CY-PC12	526	239
	657 299	726 330		600	273
16" 400mm	657 299	726 330	CY-PC12	852	387
	727 330	812 197		CY-PC14	867
18" 450mm	727 330	812 197	CY-PC14	936	425
	1135 516	1225 557		1500	682
20" 500mm	516 240	557 240	CY-PC14	1800	818
	1557 708	1663 756		CY-PC16	1803
24" 600mm	1557 708	1663 756	CY-PC14	2249	1022

Pounds
Kilograms

Contact DeZURIK for weights of KGO-FAB Valves

Ordering

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

<p>Valve Style Give valve style code as follows:</p> <p>KGO = O-Port Gate Valves</p>

<p>Valve Size Give valve size code as follows:</p> <table> <tr> <td>2 = 2" (50mm)</td> <td>24 = 24" (600mm)</td> </tr> <tr> <td>3 = 3" (80mm)</td> <td>28 = 28" (700mm)</td> </tr> <tr> <td>4 = 4" (100mm)</td> <td>30 = 30" (750mm)</td> </tr> <tr> <td>6 = 6" (150mm)</td> <td>32 = 32" (800mm)</td> </tr> <tr> <td>8 = 8" (200mm)</td> <td>36 = 36" (900mm)</td> </tr> <tr> <td>10 = 10" (250mm)</td> <td>42 = 42" (1100mm)</td> </tr> <tr> <td>12 = 12" (300mm)</td> <td>48 = 48" (1200mm)</td> </tr> <tr> <td>14 = 14" (350mm)</td> <td>54 = 54" (1400mm)</td> </tr> <tr> <td>16 = 16" (400mm)</td> <td>60 = 60" (1500mm)</td> </tr> <tr> <td>18 = 18" (450mm)</td> <td>66 = 66" (1700mm)</td> </tr> <tr> <td>20 = 20" (500mm)</td> <td>72 = 72" (1800mm)</td> </tr> </table>	2 = 2" (50mm)	24 = 24" (600mm)	3 = 3" (80mm)	28 = 28" (700mm)	4 = 4" (100mm)	30 = 30" (750mm)	6 = 6" (150mm)	32 = 32" (800mm)	8 = 8" (200mm)	36 = 36" (900mm)	10 = 10" (250mm)	42 = 42" (1100mm)	12 = 12" (300mm)	48 = 48" (1200mm)	14 = 14" (350mm)	54 = 54" (1400mm)	16 = 16" (400mm)	60 = 60" (1500mm)	18 = 18" (450mm)	66 = 66" (1700mm)	20 = 20" (500mm)	72 = 72" (1800mm)
2 = 2" (50mm)	24 = 24" (600mm)																					
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18 = 18" (450mm)	66 = 66" (1700mm)																					
20 = 20" (500mm)	72 = 72" (1800mm)																					

<p>Body Style Give body style code as follows:</p> <p>CST = Cast Design 2-24" (50-600mm) FAB = Fabricated Design 2-72" (50-1800mm)</p>

<p>End Connection Give end connection code as follows:</p> <p>Body Style CST F1 = Flanged, ASME 150</p> <p>Body Style FAB F1 = Flanged, ASME 150 F110 = Flanged, ISO 7500-1 or DIN 10 or BS4504/10 F116 = Flanged, ISO 7500-1 or DIN 16 or BS4504/16 F1J1 = Flanged, JIS10 t F1DA = Flanged, AS2129 Table D F1EA = Flanged, AS2129 Table E F2 = Flanged, ASME 300</p>
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<p>Body Material Give body material code as follows:</p> <p>Body Style CST S2 = 316 Stainless Steel</p> <p>Body Style FAB S1 = 304 Stainless Steel S2 = 316 Stainless Steel S3 = 317 Stainless Steel CS = Carbon Steel AA = Alloy 20 TN = Titanium HC = Hastelloy C</p>
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<p>Packing Material Give packing material code as follows:</p> <p>Body Style CST SMP = PTFE Braided Packing to 500°F (260°C) (pH Range 0-14)</p> <p>Body Style FAB MSP = Square Braided PTFE Impregnated Synthetic Fiber to 500°F (260°C) (pH Range 4-10) SMP = PTFE Braided Packing to 500°F (260°C) (pH Range 0-14) CWP = Square Braided PTFE Impregnated Synthetic Fiber with one ring Copper Wire Braided Scraper to 500°F (260°C) (pH Range 4-10) Not for use on clear liquid service. HB = High Temperature Braided Packing to 1000°F (540°C) (pH Range 4-10) GLCW = Expanded PTFE fiber with graphite live loading with copper wiper, 450°F (232°C) ASP = Self Adjusting PTFE Braided Packing with AFLAS Fluoroelastomer Cord to 400°F (205°C) (pH Range 0-14) TDP = Dry Service, Dry PTFE Braided Packing with Solid PTFE Cord to 500°F (260°C) (pH Range 0-14)</p>
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Note: The limiting factor in valve selection is the lowest temperature limit of the packing or seat.

<p>Gate Material Give gate material code as follows:</p> <p>Body Style CST S2 = 316 Stainless Steel</p> <p>Body Style FAB S1 = 304 Stainless Steel S2 = 316 Stainless Steel S3 = 317 Stainless Steel S8 = 410 Stainless Steel HC = Hastelloy C CSH = Hardened Carbon Steel AA = Alloy 20 S5 = Hardened 17-4 PH Stainless Steel TN = Titanium</p>

<p>Seat Material Give seat material code as follows:</p> <p>Body Style CST S2 = 316 Stainless Steel EPDM = Terpolymer of Ethylene, Propylene and A Diene (EPDM) T = PTFE RT = Reinforced PTFE</p> <p>Body Style FAB CS = Carbon Steel S1 = 304 Stainless Steel S2 = 316 Stainless Steel S3 = 317 Stainless Steel S5 = Hardened 17-4 PH Stainless Steel AA = Alloy 20 TN = Titanium HC = Hastelloy C RT = Reinforced PTFE</p>

<p>Seat Facing Give seat facing code as follows:</p> <p>Body Style CST NR = No Coating, Replaceable</p> <p>Body Style FAB NR = No Coating, Replaceable TWR = Tungsten Carbide (Welded), Replaceable CCR = Chrome Carbide, Replaceable</p> <p>Available with CS, S1, S2 or S3 Seat Material only SR = Cobalt Chromium Alloy Overlay, Replaceable SNR = Cobalt Chromium Alloy Overlay, Non-Replaceable TR = Tungsten Carbide, Replaceable</p>

<p>CWP Rating Give CWP rating code as follows:</p> <p>Body Style CST 3 = 150 psi (1030 kPa)</p> <p>Body Style FAB 3 = 150 psi (1030 kPa) F1, F110, F116, F1J1, F1DA or F1EA CL150 bodies with MSP, HDP, CWP, SMP or TDP packing 5 = 0 - 285 psi (1960 kPa) F1, F110, F116, F1J1, F1DA or F1EA CL150 bodies with GLCW or ASP packing 6 = 0 - 740 psi (5090 kPa) F2 CL300 bodies with GLCW or ASP packing</p>
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Ordering Example:
KGO,16,CST,F1,S2,SMP,S2-S2-NR,3*Actuator

Actuator Sizing

To order handwheel or cylinder actuators, add the appropriate order code from the chart to the valve order code.

Handwheel Actuator

Valve Size	Order Code	Maximum Pressure Differential psi/kPa
	304 Stainless Steel Yoke	
2" 50mm	MN-HD8-S1	150 1035
3" 80mm	MN-HD10-S1	150 1035
4" 100mm	MN-HD10-S1	150 1035
6" 150mm	MN-HD14-S1	150 1035
8" 200mm	MN-HD16-S1	150 1035
10" 250mm	MN-HD20-S1	150 1035
12" 300mm	MN-HD20-S1	150 1035
14" 350mm	MN-HD20-S1	150 1035
16" 400mm	MN-HD20-S1	150 1035
18" 450mm	MN-HD25-S1	150 1035
20" 500mm	MN-HD25-S1	150 1035
24" 600mm	MN-HD30-S1	150 1035

Cylinder Actuator

60 psi (410 kPa) Air Supply

Valve Size	Order Code	Maximum Pressure Differential psi/kPa, Slurries/Paper Stock
	304 Stainless Steel Yoke	
2" 50mm	CY-PC4-S1	150 1035
3" 80mm	CY-PC4-S1	150 1035
4" 100mm	CY-PC4-S1	100 690
	CY-PC6-S1	150 1035
6" 150mm	CY-PC6-S1	100 690
	CY-PC8-S1	150 1035
8" 200mm	CY-PC8-S1	125 860
	CY-PC10-S1	150 1035
10" 250mm	CY-PC10-S1	125 860
	CY-PC12-S1	150 1035
12" 300mm	CY-PC12-S1	150 1035
14" 350mm	CY-PC12-S1	150 1035
16" 400mm	CY-PC12-S1	125 860
	CY-PC14-S1	150 1035
18" 450mm	CY-PC12-S1	100 690
	CY-PC14-S1	150 1035
20" 500mm	CY-PC14-S1	125 860
	CY-PC16-S1	150 1035
24" 600mm	CY-PC14-S1	100 690
	CY-PC16-S1	150 1035

80 psi (550 kPa) Air Supply

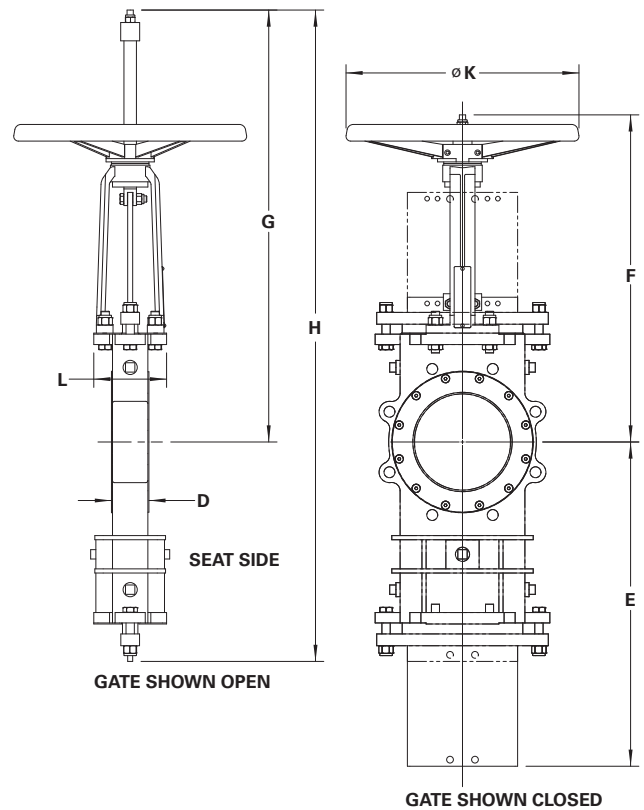
Valve Size	Order Code	Maximum Pressure Differential psi/kPa, Slurries/Paper Stock
	304 Stainless Steel Yoke	
2" 50mm	CY-PC4-S1	150 1035
3" 80mm	CY-PC4-S1	150 1035
4" 100mm	CY-PC4-S1	150 1035
6" 150mm	CY-PC6-S1	150 1035
8" 200mm	CY-PC8-S1	150 1035
10" 250mm	CY-PC10-S1	150 1035
12" 300mm	CY-PC12-S1	150 1035
14" 350mm	CY-PC12-S1	150 1035
16" 400mm	CY-PC12-S1	150 1035
18" 450mm	CY-PC12-S1	150 1035
20" 500mm	CY-PC14-S1	150 1035
24" 600mm	CY-PC14-S1	150 1035

Dimensions

KGO-CST Valve and Handwheel

Valve Size	Dimensions						
	D	E	F	G	H	K	L
2" 50mm	1.88 48	10.80 274	13.30 338	15.50 394	24.10 612	8.00 203	3.47 88
3" 80mm	2.00 51	12.42 315	15.00 381	22.00 559	27.50 699	10.00 254	3.47 88
4" 100mm	2.00 51	14.25 362	17.50 445	21.50 546	31.50 800	10.00 254	3.47 88
6" 150mm	2.25 57	19.40 493	19.60 498	25.90 658	39.10 993	14.00 356	4.38 111
8" 200mm	2.75 70	24.60 625	24.00 610	32.50 826	49.00 1245	16.00 406	4.75 121
10" 250mm	2.75 70	29.50 749	26.90 683	37.10 942	56.40 1433	21.00 533	5.25 133
12" 300mm	3.00 76	35.10 892	31.70 805	44.10 1120	66.80 1697	21.00 533	5.25 133
14" 350mm	3.00 76	38.60 980	37.10 942	50.80 1290	75.70 1923	20.00 508	6.00 152
16" 400mm	3.50 89	44.50 1130	41.50 1054	57.20 1453	86.10 2187	20.00 508	6.00 152
18" 450mm	3.50 89	49.70 1262	43.80 1113	61.80 1570	93.60 2377	25.00 635	8.00 203
20" 500mm	4.50 114	54.80 1392	47.80 1214	67.80 1722	102.70 2609	25.00 635	10.00 254
24" 600mm	4.50 114	65.10 1654	54.40 1382	78.40 1991	119.50 3035	30.00 762	13.25 337

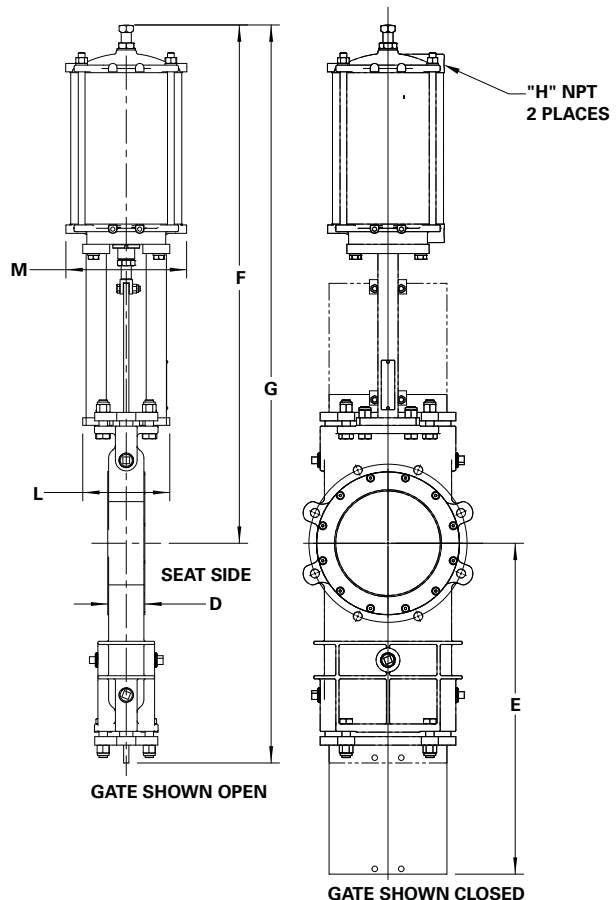
Inches
Millimeters



KGO-CST Valve and Cylinder

Valve Size	Dimensions				
	D	E	F	G	L
2" 50mm	1.88 48	10.80 274	25.00 635	33.60 853	4.64 118
3" 80mm	2.00 51	12.42 315	27.00 686	34.50 876	4.64 118
4" 100mm	2.00 51	14.25 362	27.00 686	37.00 940	4.64 118
6" 150mm	2.25 57	19.50 495	32.00 813	45.00 1143	5.50 140
8" 200mm	2.75 70	24.60 625	40.00 1016	56.50 1435	6.50 165
10" 250mm	2.75 70	29.65 753	48.50 1232	68.00 1727	6.75 171
12" 300mm	3.00 76	35.10 892	52.00 1321	74.50 1892	7.00 178
14" 350mm	3.00 76	38.69 983	60.00 1524	85.00 2159	6.00 152
16" 400mm	3.50 89	44.53 1131	64.50 1638	93.00 2362	6.00 152
18" 450mm	3.50 89	49.70 1262	71.50 1816	102.85 2612	8.00 203
20" 500mm	4.50 114	54.80 1392	77.80 1976	111.98 2844	10.00 254
24" 600mm	4.50 114	65.50 1664	86.50 2197	127.88 3248	13.25 337

Inches
Millimeters



Cylinder Size	Dimensions
	M
CY-PC4	5.00 127
CY-PC6	7.00 178
CY-PC8	9.00 229
CY-PC10	11.22 285
CY-PC12	13.22 336
CY-PC14	15.47 393
CY-PC16	17.00 432

Sales and Service

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

Web Site: DeZURIK.com **E-Mail:** info@DeZURIK.com



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DeZURIK, Inc. reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing by DeZURIK, Inc. Certified drawings are available upon request.