

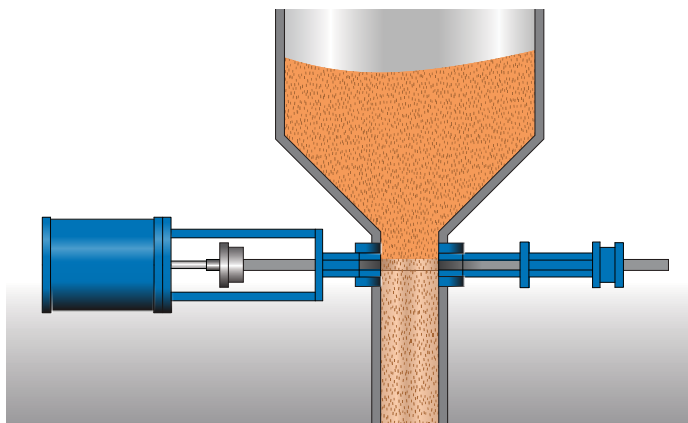
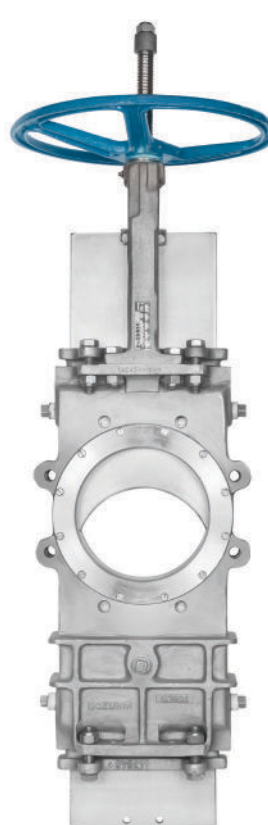
DeZURIK KGO O-PORT GATE VALVES

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

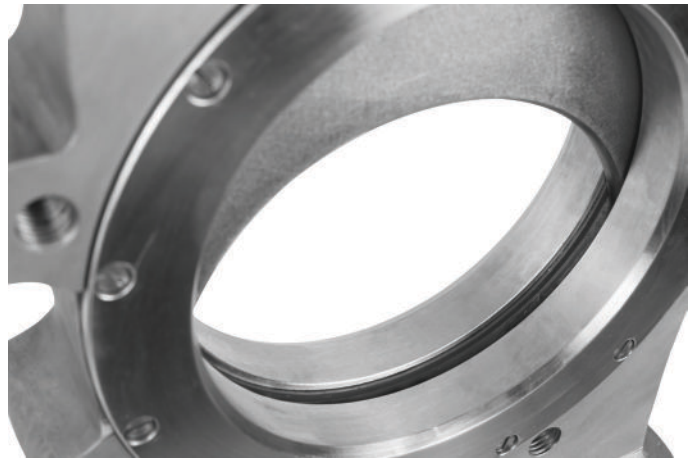
Purge Ports in the chest and lower body area allow periodic purging to prevent clogging.

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.

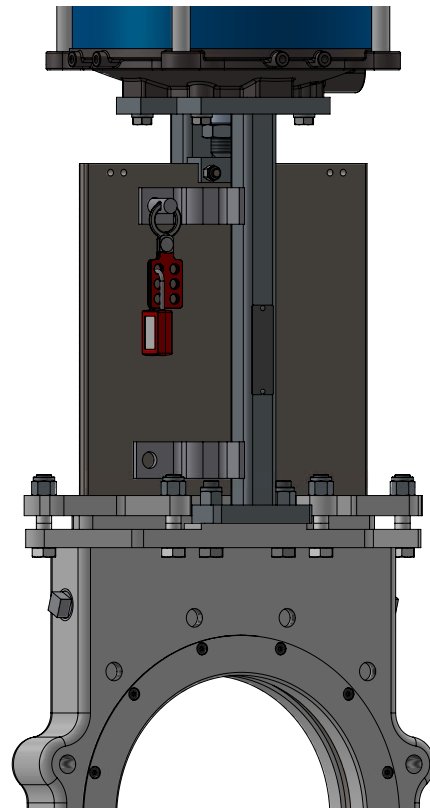
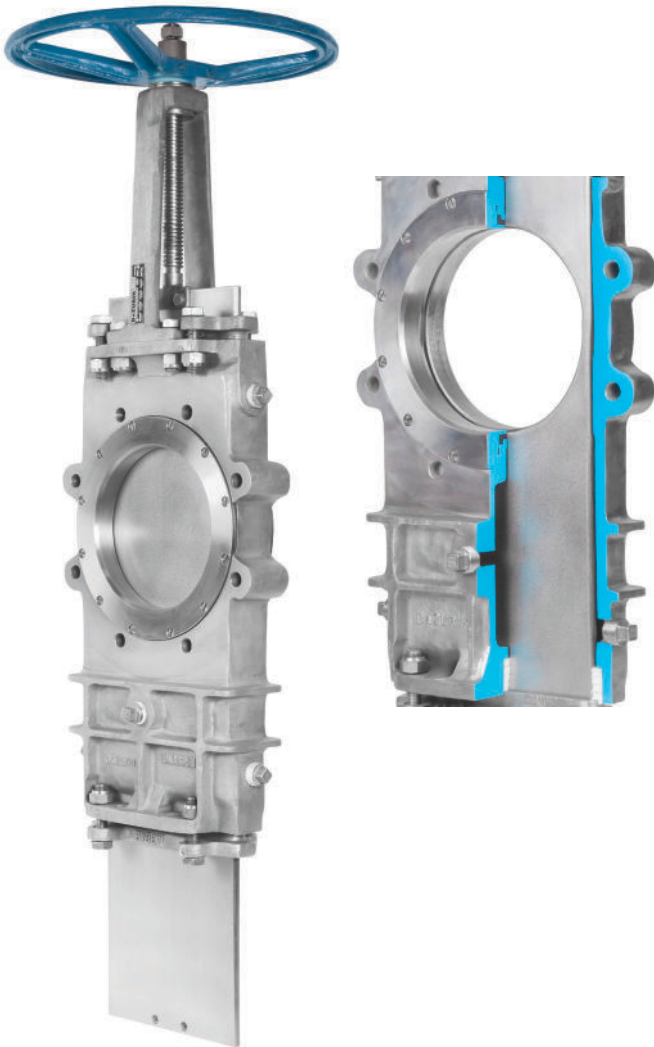


Lockout Device

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

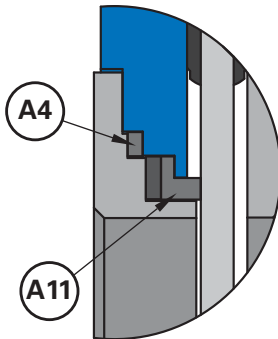


Materials of Construction

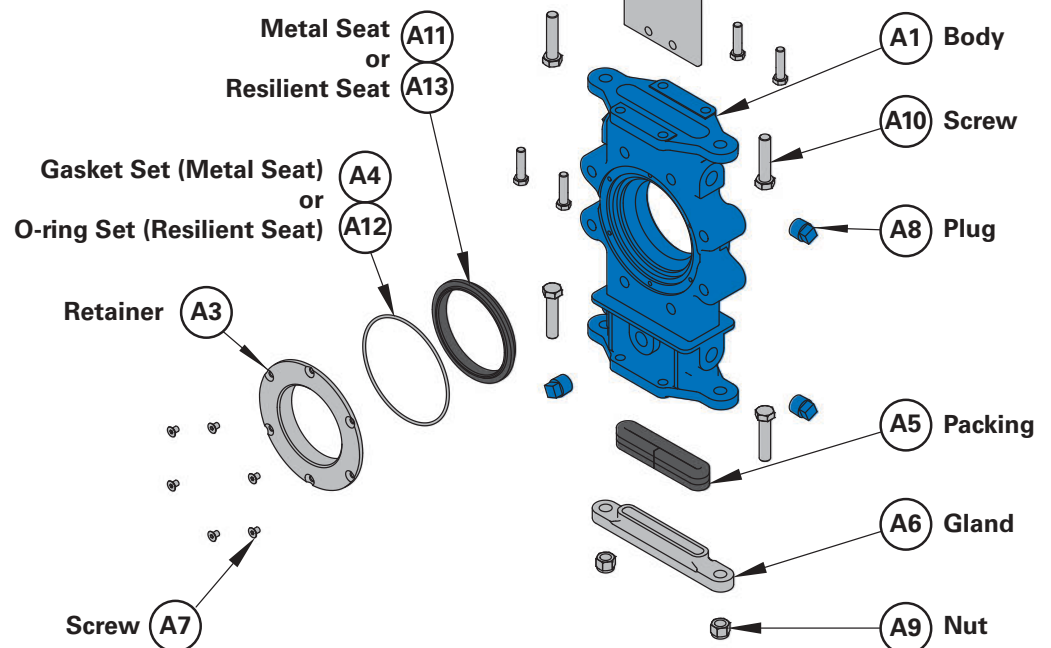
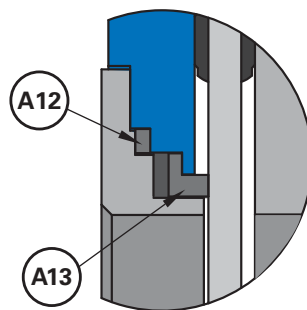
KGO Cast Design

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)
		316 Stainless Steel, A351 CF8M
		PTFE
		Reinforced PTFE
A13	Resilient Seat	Terpolymer of Ethylene, Propylene and A Diene (EPDM)

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
3" 80mm	590 510	0.10	6.2 40
4" 100mm	850 730	0.10	11.6 75
6" 150mm	3400 2930	0.10	26.3 170
8" 200mm	6050 5200	0.10	47.3 305
10" 250mm	9450 8200	0.10	74.2 479
12" 300mm	13600 11700	0.10	107.7 695
14" 350mm	16600 14300	0.10	137.9 890
16" 400mm	22000 19000	0.10	182.7 1179
18" 450mm	28100 24200	0.10	233.7 1508
20" 500mm	35000 30200	0.10	291.0 1877
24" 600mm	51100 44000	0.10	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
3" 80mm	27 12	37 17	CY-PC4	44	20
4" 100mm	49 22	60 27	CY-PC4	61	28
6" 150mm	83 38	103 47	CY-PC6	78	35
8" 200mm	119 54	143 65	CY-PC6	96	44
10" 250mm	240 109	296 135	CY-PC6	136	62
12" 300mm	359 163	397 180	CY-PC8	144	65
14" 350mm	413 188	476 217	CY-PC8	198	90
16" 400mm	657 299	726 330	CY-PC10	223	101
18" 450mm	727 330	812 197	CY-PC10	383	174
20" 500mm	1135 516	1225 557	CY-PC12	404	184
24" 600mm	1557 708	1663 756	CY-PC12	526	239
			CY-PC12	600	273
			CY-PC12	852	387
			CY-PC14	867	394
			CY-PC14	936	425
			CY-PC14	1500	682
			CY-PC16	1800	818
			CY-PC14	1803	820
			CY-PC16	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.

Valve Style

Give valve style code as follows:

KGO = O-Port Gate Valves

Valve Size

Give valve size code as follows:

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)

Body Style

Give body style code as follows:

CST = Cast Design 2-24" (50-600mm)
FAB = Fabricated Design 2-72" (50-1800mm)

End Connection

Give end connection code as follows:

Body Style CST

F1 = Flanged, ASME 150

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

Body Material

Give body material code as follows:

Body Style CST

S2 = 316 Stainless Steel

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

Packing Material

Give packing material code as follows:

Body Style CST

SMP = PTFE Braided Packing to 500°F (260°C) (pH Range 0-14)

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)

Note: The limiting factor in valve selection is the lowest temperature limit of the packing or seat.

Gate Material

Give gate material code as follows:

Body Style CST

S2 = 316 Stainless Steel

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

Seat Material

Give seat material code as follows:

Body Style CST

S2 = 316 Stainless Steel

EPDM = Terpolymer of Ethylene, Propylene and A Diene (EPDM)

T = PTFE

RT = Reinforced PTFE

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

Seat Facing

Give seat facing code as follows:

Body Style CST

NR = No Coating, Replaceable

Body Style FAB

NR = No Coating, Replaceable

TWR = Tungsten Carbide (Welded), Replaceable

CCR = Chrome Carbide, Replaceable

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

CWP Rating

Give CWP rating code as follows:

Body Style CST

3 = 150 psi (1030 kPa)

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

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

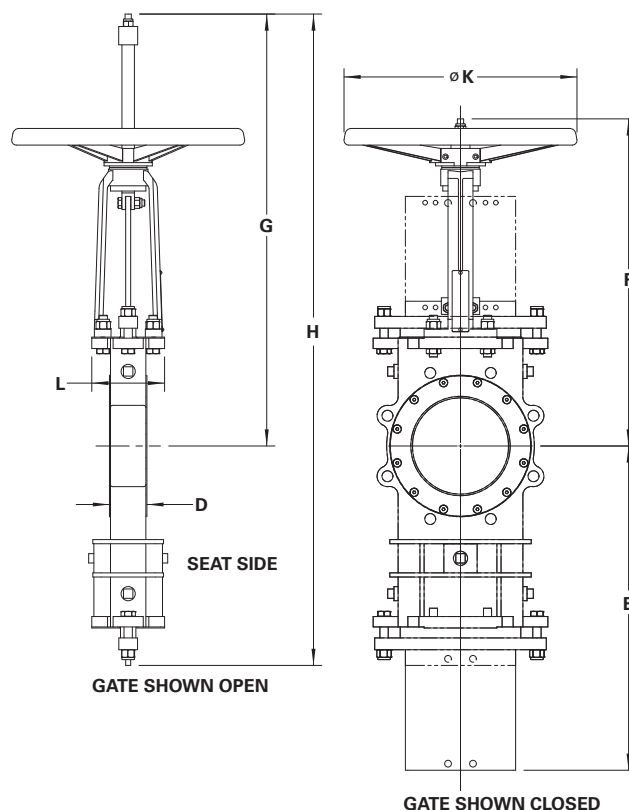
Valve Size	Order Code	Maximum Pressure Differential psi/kPa, Slurries/Paper Stock
	304 Stainless Steel Yoke	
2" 50mm	CY-PC4-S1	150 1035
3" 80mm	CY-PC4-S1	150 1035
4" 100mm	CY-PC4-S1	150 1035
6" 150mm	CY-PC6-S1	150 1035
8" 200mm	CY-PC8-S1	150 1035
10" 250mm	CY-PC10-S1	150 1035
12" 300mm	CY-PC12-S1	150 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"	1.88	10.80	13.30	15.50	24.10	8.00	3.47
50mm	48	274	338	394	612	203	88
3"	2.00	12.42	15.00	22.00	27.50	10.00	3.47
80mm	51	315	381	559	699	254	88
4"	2.00	14.25	17.50	21.50	31.50	10.00	3.47
100mm	51	362	445	546	800	254	88
6"	2.25	19.40	19.60	25.90	39.10	14.00	4.38
150mm	57	493	498	658	993	356	111
8"	2.75	24.60	24.00	32.50	49.00	16.00	4.75
200mm	70	625	610	826	1245	406	121
10"	2.75	29.50	26.90	37.10	56.40	21.00	5.25
250mm	70	749	683	942	1433	533	133
12"	3.00	35.10	31.70	44.10	66.80	21.00	5.25
300mm	76	892	805	1120	1697	533	133
14"	3.00	38.60	37.10	50.80	75.70	20.00	6.00
350mm	76	980	942	1290	1923	508	152
16"	3.50	44.50	41.50	57.20	86.10	20.00	6.00
400mm	89	1130	1054	1453	2187	508	152
18"	3.50	49.70	43.80	61.80	93.60	25.00	8.00
450mm	89	1262	1113	1570	2377	635	203
20"	4.50	54.80	47.80	67.80	102.70	25.00	10.00
500mm	114	1392	1214	1722	2609	635	254
24"	4.50	65.10	54.40	78.40	119.50	30.00	13.25
600mm	114	1654	1382	1991	3035	762	337

Inches
Millimeters

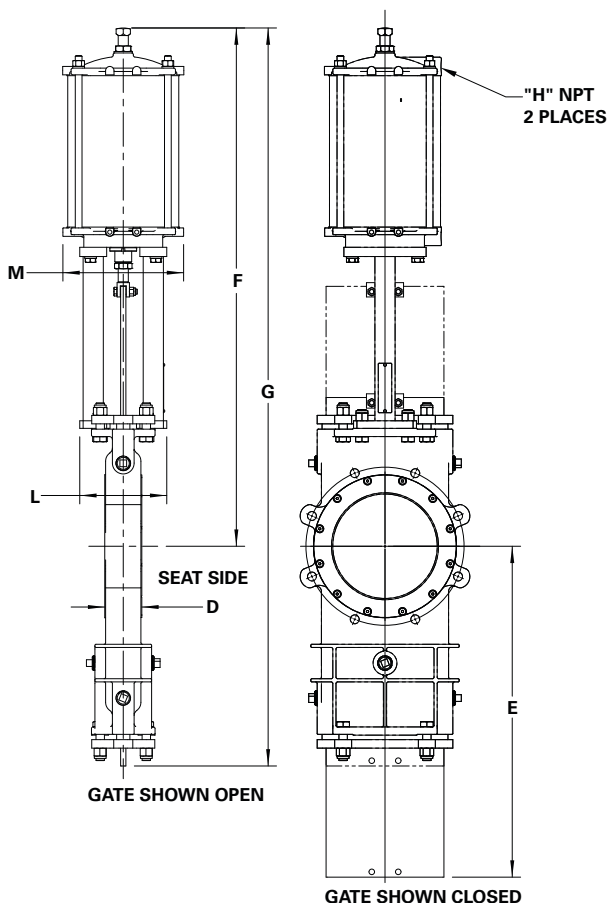


KGO-CST Valve and Cylinder

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