

BULLETIN 52.00-1A

# DeZURIK KSL-LA SLURRY KNIFE GATE VALVES



DeZURIK.com

# **Slurry Knife Gate**

# **Design and Construction**

DeZURIK's KSL-LA Slurry Knife Gate Valves are designed for on-off (isolation) service for applications consisting of abrasive, high solids content, wet or dry media. KSL-LA Slurry Knife Gate Valves are ideally suited for applications in the mining, power, and aggregate industries.

KSL-LA Knife Gate Valves are available in sizes 2-24" (50-600mm) with larger sizes available on application. Temperature ratings to 177°F (81°C) as standard, and up to 300°F (150°C) with high-temperature optional seat materials. Standard pressure rating on 2-24" valves is 100 psi (690kPa), with higher pressures available with optional gate materials.

Depending on the application requirements, the cast body is available in Ductile Iron, Carbon Steel and various Stainless Steel or higher alloy materials.





# **Features include:**

- Full flanged design with flange drilling per ASME B16.5 Class 150, DIN and BS standards, PN10 and PN16, and SANS 1123-1000 and 1600 Australian Table D & E (AS 2129) available.
- Bi-directional, drip tight shutoff to full pressure rating.
- Field replaceable sleeves with encapsulated supporting ring.
- Body construction allows for easy repairs.
- Full port reduces turbulence and pressure drop across the valve.
- Sleeve compression eliminates cavity where solids can collect.
- Sleeve design eliminates gate and stem packing.
- Sleeve design eliminates the requirement for flange gaskets.
- Straight vertical plane superstructure allows for easy installation of accessories.
- Gate fully retracts out of the flow path in the open position.
- Open / Closed position lock-outs optional.
- Optional gate coatings provide additional abrasion resistance and a non-stick (lubrication infused) surface that reduces actuating forces and extends sleeve life.
- Integral Lifting Lugs standard on sizes 12" (300mm) and larger.
- Flushing drain plates available.



# **Packingless Design**

The DeZURIK KSL-LA's compression-loaded sleeve design eliminates the need for conventional style packing. In the full open and closed positions, the sleeves seal to both downstream and atmosphere.

# **Open / Closed Position Lock-outs**

The DeZURIK KSL-LA is available with optional open and closed position lock-outs. The lock-outs are designed to withstand the maximum operating forces of the actuator supplied on the valve.

# **Rugged Stainless Steel Gate**

A durable gate resists damage and allows higher pressure drops. Gate material options include various stainless steels, heat-treated stainless steel and Hastelloy C. The gate is finish ground on both sides and edges to ensure long top seal and sleeve life.

To extend top seal and sleeve life, optional gate coatings are available that provide a lubricationinfused, non-stick surface that reduces the operating forces of the valve. A strong investment cast gate clip complements the KSL-LA's robust construction.

## **Stainless Steel Stem**

All valves are furnished with a stainless steel stem as standard that provides extra corrosion resistance, easy operation, and a longer cycle life. On manually operated valves the stem has single-lead threads to minimize wear and reduce the operating torque requirements of the valve.

# **Top Seal with Integrated Plate**

The DeZURIK KSL-LA has a top seal to prevent any discharge of process media from the top of the valve when the valve is stroked. The integrated plate design also centers, guides, and supports the gate, ensuring smooth operation.

# **Choice of Actuators**

The DeZURIK KSL-LA Slurry Knife Gate Valve is offered with a choice of handwheel, chainwheel, bevel gear, pneumatic or hydraulic cylinder, or electric motor actuators. Custom Engineered Hydraulic Power Units are also available.

# **Corrosion Resistant Yoke Sleeve**

A bronze yoke sleeve on manually operated valves provides corrosion resistance and assures easy operation. A grease fitting is provided to lubricate the stem thread and yoke sleeve.

### Heavy-Duty Vertical Plane Superstructure

The standard actuator superstructure is available in carbon steel or stainless steel and is designed to stand up under the most difficult operating conditions. The vertical plane design allows for easy installation of accessories. For valves mounted in horizontal installations, strengthened superstructures are available.

## Accessories

A wide variety of accessories are available including handwheel extensions, floorstands, stem covers and various cylinder actuator accessories such as filter regulators, speed controls and position indicating switches for customizing the valve/actuator package to meet specific application requirements.

# **Materials of Construction**

Item	Description	Material			
A1	Body	Ductile Iron, ASTM A395, Grade 65-45-12			
		316 Stainless Steel, ASTM A240 Type 316			
		17-4 PH Stainless Steel H900 Heat Treated, ASTM A564			
A2	Gate	2205 Duplex Stainless Steel, ASTM A240 Type 2205 Duplex			
A2	Gale	316 Stainless Steel, ASTM A240 Type 316 with a hardened nickel based non-stick coating			
		17-4 PH Stainless Steel H900 Heat Treated, ASTM A564 with a hardened nickel based non-stick coating			
		2205 Duplex Stainless Steel, ASTM A240 with a hardened nickel based non-stick coating			
		NR - Natural Rubber to 177°F (81°C)			
A3	Sleeve	HNBR - Hydrogenated Nitrile Butadiene to 300°F (150°C)			
		EPDM - Terpolymer of Ethylene, Propylene & a Diene, to 250°F (120°C)			
		NR - Natural Rubber to 177°F (81°C)			
A4	Sleeve Retainer	EPDM - Terpolymer of Ethylene, Propylene & a Diene, to 250°F (120°C)			
		HNBR - Hydrogenated Nitrile Butadiene to 300°F (150°C)			
A5	Body Gasket	uralon 8500			
A6	Top Seal	EPDM - Terpolymer of Ethylene, Propylene & a Diene, to 250°F (120°C)			
		Hydrogenated Nitrile Butadiene to 300°F (150°C)			
A7	Drain Gasket	Iralon 8500 (DP Option)			
A8	Drain Plate	arbon Steel, ASTM A36 (DP Option)			
A9	Grease Fitting				
A10	Screw	Carbon Steel, Zinc Plated			
A11	Screw	Carbon Steel, Zinc Plated			
A12	Washer	Carbon Steel, Zinc Plated			
A13	Lockwasher	Carbon Steel, Zinc Plated			
A14	Nut	Carbon Steel, Zinc Plated			
A15	Screw	Carbon Steel, Zinc Plated (DP Option)			
A16	Washer	Carbon Steel, Zinc Plated (DP Option)			
A17	Screw	Carbon Steel, Zinc Plated			
A18	Washer	Carbon Steel, Zinc Plated			
A19	Screw	Carbon Steel, Zinc Plated			
A20	Nut	Carbon Steel, Zinc Plated			



## **Valve Selection** Shut-Off Canabilities

Shat-On	Capabilities

2-24" (50-600mm) Driptight

NOTE: Leakage expected during actuation

### **Pressure Ratings** (Ambient Temperatures)

Valve Size	
<u>2-24"</u>	<u>100 psi C.W.P.</u>
(50-600mm)	690kPa

Higher pressures available on application

# **Applicable Standards**

DeZURIK KSL-LA Knife Gate Valves are designed and/or tested to meet the following standards:		
ASME B16.5/150	ASME B16.5 Class 150 Flange Drilling	
DIN 10	Metric 10 bar Flange Drilling	
DIN 16	Metric 16 bar Flange Drilling	
AS2129 Table D	Australian Table D Flange Drilling	
AS2129 Table E	Australian Table E Flange Drilling	
SANS 1123-1000	South African 1000 kPa Flange Drilling	
SANS 1123-1600	South African 1600 kPa Flange Drilling	

### **Flow Parameters**

Valve Size	<u>Cv*</u> Kv* 100% Open	K** (resistance)	Port Area (in <sup>2</sup> /cm <sup>2</sup> )
<u>2"</u>	<u>193</u>	0.16	<u>2.0</u>
50mm	167		13
<u>3"</u>	<u>434</u>	0.16	<u>4.6</u>
80mm	376		29
<u>4"</u>	<u>829</u>	0.16	<u>8.7</u>
100mm	717		56
<u>5"</u>	<u>1500</u>	0.16	<u>15.8</u>
125mm	1300		102
<u>6"</u>	<u>2160</u>	0.16	<u>22.7</u>
150mm	1870		146
<u>8"</u>	<u>3540</u>	0.16	<u>37.2</u>
200mm	3060		240
<u>10"</u>	<u>6140</u>	0.16	<u>64.5</u>
250mm	5310		416
<u>12"</u>	<u>8640</u>	0.16	<u>90.8</u>
300mm	7470		586
<u>14"</u>	<u>11700</u>	0.16	<u>123</u>
350mm	10100		792
<u>16"</u>	<u>14700</u>	0.16	<u>154</u>
400mm	12700		993
<u>18"</u>	<u>16600</u>	0.16	<u>174</u>
450mm	14400		1122
<u>20"</u>	<u>20500</u>	0.16	<u>215</u>
500mm	17700		1390
<u>24"</u>	<u>33600</u>	0.16	<u>353</u>
600mm	29100		2275

\*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=  $\underline{KxD}$  Where

- L = Equivalent length of pipe in feet K = Resistance coefficient D = Pipe diameter in feet f = Friction f

  - Pipe diameter in feet
     Friction factor, related to type of pipe

### **Valve Weights**

Mahar	Desis	JAR41-	MP41-	With Bevel Ge	ear Handwheel	With Bevel Gea	r Chainwheel	Burnatia	I hadroad ha
Valve Size	Basic Valve	With Handwheel	With Chainwheel	Standard Mounting	90° Mounting	Standard Mounting	90º Mounting	Pneumatic Cylinder	Hydraulic Cylinder
<u>2"</u> 50mm	<u>31</u> 14	<u>62</u> 28	<u>74</u> 33		1 <u>0</u> i0	<u>118</u> 53		<u>69</u> 31	<u>51</u> 23
<u>3"</u> 80mm	<u>45</u> 20	76 35	<u>88</u> 40	<u>1:</u> 5	<u>24</u> i6	<u>132</u> 60		<u>83</u> 38	<u>65</u> 30
<u>4"</u> 100mm	<u>55</u> 25	<u>113</u> 51	<u>121</u> 55	<u>1</u> 7	<u>58</u> '2	<u>166</u> 75	<u>i</u>	<u>117</u> 53	<u>101</u> 46
<u>5"</u> 125mm	<u>71</u> 32	<u>121</u> 55	<u>130</u> 59		<u>68</u> '6	<u>175</u> 80	<u>222</u> 101	<u>136</u> 62	<u>109</u> 50
<u>6"</u> 150mm	<u>81</u> 37	<u>131</u> 60	<u>140</u> 64		<u>78</u> 11	<u>185</u> 84	<u>232</u> 105	<u>146</u> 66	<u>119</u> 54
<u>8"</u> 200mm	<u>148</u> 67	<u>212</u> 96	<u>228</u> 104		<u>54</u> 15	<u>261</u> 119	<u>307</u> 140	<u>220</u> 100	<u>200</u> 91
<u>10"</u> 250mm	<u>151</u> 69	<u>226</u> 103	<u>242</u> 110		<u>67</u> 21	<u>288</u> 131	<u>334</u> 152	<u>228</u> 104	<u>235</u> 107
<u>12"</u> 300mm	<u>271</u> 123	N/A	N/A		<u>60</u> 09	<u>479</u> 218	<u>525</u> 239	<u>509</u> 231	<u>399</u> 181
<u>14"</u> 350mm	<u>338</u> 154	N/A	N/A	<u>496</u> 225	<u>543</u> 247	<u>516</u> 235	<u>563</u> 256	<u>511</u> 232	<u>452</u> 205
<u>16"</u> 400mm	<u>472</u> 215	N/A	N/A	<u>628</u> 285	<u>674</u> 306	<u>649</u> 295	<u>695</u> 316	<u>704</u> 320	<u>579</u> 263
<u>18"</u> 450mm	<u>600</u> 273	N/A	N/A	<u>860</u> 391	<u>975</u> 443	<u>880</u> 400	<u>995</u> 452	<u>846</u> 385	<u>710</u> 323
<u>20"</u> 500mm	<u>885</u> 402	N/A	N/A	<u>1172</u> 533	<u>1287</u> 585	<u>1193</u> 542	<u>1307</u> 594	<u>1445</u> 657	<u>1090</u> 495
<u>24"</u> 600mm	<u>1155</u> 525	N/A	N/A	<u>1499</u> 681	<u>1611</u> 731	<u>1519</u> 690	<u>1632</u> 741	<u>1704</u> 775	<u>1415</u> 643

# 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:

KSL = Slurry Knife Gate Valve

Valv Give			e code as fol	lows:			
2	=	2"	(50mm)	12	=	12"	(300mm)
3	=	3"	(80mm)	14	=	14"	(350mm)
4	=	4"	(100mm)	16	=	16"	(400mm)
5	=	5"	(125mm)	18	=	18"	(450mm)
6	=	6"	(150mm)	20	=	20"	(500mm)
8	=	8"	(200mm)	24	=	24"	(600mm)
10	=	10"	(250mm)				
			and 26-60" (650- for more informati		avail	able on a	pplication.

#### **Body Style**

Give body style code as follows:

LA = Long Body Style

#### **End Connection**

Give end connection code as follows:

- F1 = ASME B16.5 Class 150 UNC Tapping for Threads F110 = ISO 7005/PN10 Drilling
- F116 = ISO 7005/PN16 Drilling
- AS2129 Table D Drilling AS2129 Table E Drilling F1DA =
- F1EA =
- SANS1123-1000 F1S10 =
- F1S16 = SANS1123-1600

#### **Body Material**

Give body material code as follows: DI Ductile Iron

Other body materials are available on application

#### **Top Seal**

#### Give top seal material code as follows:

- Terpolymer of Ethylene, Propylene & a Diene, to 250°F (120°C) Hydrogenated Nitrile Butadiene to 300°F (150°C) FPDM =
- HNBR =

#### **Gate Material**

#### Give gate material code as follows: 316 Stainless Steel S2

- 17-4 Stainless Steel H900 Heat Treated **S**5
- S10 2205 Duplex Stainless Steel =
- 316 Stainless Steel with a hardened nickel-based, nonstick coating S2C =
- S5C = 17-4PH Stainless Steel H900 Heat Treated with a hardened nickel-based, nonstick coating
- S10C = 2205 Duplex Stainless Steel with a hardened nickel-based, nonstick coating

#### **Sleeve Material**

#### Give sleeve material code as follows:

- NR Natural Rubber to 177°F (81°C)
- Terpolymer of Ethylene, Propylene & a Diene , to 250°F (120°C) EPDM =
- HNBR = Hydrogenated Nitrile Butadiene to 300°F (150°C)

#### Options

#### Give option code as follows:

- Paint Options (Contact DeZURIK)
- Certified Physical and Chemical Test Reports (body & gate only) Certificate of Material Conformance CRT =
- CMC = DP =
  - Drain Plate
- FLS Sleeve Retainer Flange Seals, 2-8" (50-200mm) valves only. = Sleeve Retainer Flange Seals are inlcuded as standard on 10" (250mm) and larger valves

#### **Ordering Example:**

KSL,6,LA,F1,DI,EPDM,S2,NR,DP\*actuator

# Manual Actuators Handwheel and Chainwheel Actuators

All 2-10" (50-250mm) valves can be furnished with handwheel or chainwheel actuators. To order, add the appropriate order code to the basic valve order code. Refer to information on bevel gear actuators when pressures exceed limits shown. Actuator sizing is for slurries and liquids; contact DeZURIK for sizing on dry materials applications. Order chain for chainwheel actatuors as a separate item.

**Chainwheel Actuator** 

## **Handwheel Actuator**

	Order Code	Maximum	
Valve Size	Carbon Steel (CS) Yoke	Shutoff Pressure Differential psi/kPa	
<u>2"</u> 50mm	MN-HD12-CS	<u>100</u> 690	
<u>3"</u> 80mm	MN-HD12-CS	<u>100</u> 690	
<u>4"</u> 100mm	MN-HD12-CS	<u>100</u> 690	
<u>5"</u> 125mm	MN-HD12-CS	<u>100</u> 690	
<u>6"</u> 150mm	MN-HD16-CS	<u>100</u> 690	
<u>8"</u> 200mm	MN-HD20-CS	<u>100</u> 690	
<u>10"</u> 250mm	MN-HD20-CS	<u>50</u> 345	

	Order Code	Maximum
Valve Size	Carbon Steel (CS) Yoke	Shutoff Pressure Differential psi/kPa
<u>2"</u> 50mm	MN-CW12-CS	<u>100</u> 690
<u>3"</u> 80mm	MN-CW12-CS	<u>100</u> 690
<u>4"</u> 100mm	MN-CW12-CS	<u>100</u> 690
<u>5"</u> 125mm	MN-CW12-CS	<u>100</u> 690
<u>6"</u> 150mm	MN-CW20-CS	<u>100</u> 690
<u>8"</u> 200mm	MN-CW20-CS	<u>100</u> 690
<u>10"</u> 250mm	MN-CW20-CS	<u>50</u> 345

#### Ordering Example:

KSL,6,LA,F1,DI,EPDM,S2,NR,DP\*MN-HD16-CS

# **Bevel Gear Actuators**

Bevel gear actuators are available on 3-24" (80-600mm) valves with handwheel or chainwheel actuators. Bevel gear actuators provide vertical mounting of the handwheel or chainwheel, or can be used where space limitations prohibit the use of a standard handwheel or chainwheel. A mechanical advantage makes large valve operation easier and faster. Actuator sizing is for slurries and liquids; contact DeZURIK for sizing on dry materials applications.

### Bevel Gear Handwheel Actuator

	Order Code	Maximum
Valve Size	Carbon Steel (CS) Yoke	Shutoff Pressure Differential psi/kPa
<u>3"</u> 80mm	MNB-HD12-CS	<u>100</u> 690
<u>4"</u> 100mm	MNB-HD12-CS	<u>100</u> 690
<u>5"</u> 125mm	MNB-HD12-CS	<u>100</u> 690
<u>6"</u> 150mm	MNB-HD12-CS	<u>100</u> 690
<u>8"</u> 200mm	MNB-HD12-CS	<u>100</u> 690
<u>10"</u> 250mm	MNB-HD24-CS	<u>100</u> 690
<u>12"</u> 300mm	MNB-HD24-CS	<u>100</u> 690
<u>14"</u> 350mm	MNB-HD24-CS	<u>100</u> 690
<u>16"</u> 400mm	MNB-HD24-CS	<u>100</u> 690
<u>18"</u> 450mm	MNB-HD24-CS	<u>100</u> 690
<u>20"</u> 500mm	MNB-HD24-CS	<u>100</u> 690
<u>24"</u> 600mm	MNB-HD24-CS	<u>100</u> 690

#### Bevel Gear Chainwheel Actuator

Valve Size	Order Code Carbon Steel (CS) Yoke	Maximum Shutoff Pressure Differential psi/kPa
<u>3"</u> 80mm	MNB-CW12-CS	<u>100</u> 690
<u>4"</u> 100mm	MNB-CW12-CS	<u>100</u> 690
<u>5"</u> 125mm	MNB-CW12-CS	<u>100</u> 690
<u>6"</u> 150mm	MNB-CW12-CS	<u>100</u> 690
<u>8"</u> 200mm	MNB-CW12-CS	<u>100</u> 690
<u>10"</u> 250mm	MNB-CW20-CS	<u>100</u> 690
<u>12"</u> 300mm	MNB-CW20-CS	<u>100</u> 690
<u>14"</u> 350mm	MNB-CW20-CS	<u>100</u> 690
<u>16"</u> 400mm	MNB-CW20-CS	<u>100</u> 690
<u>18"</u> 450mm	MNB-CW20-CS	<u>100</u> 690
<u>20"</u> 500mm	MNB-CW20-CS	<u>100</u> 690
<u>24"</u> 600mm	MNB-CW20-CS	<u>100</u> 690

#### Ordering Example:

KSL,6,LA,F1,DI,EPDM,S2,NR,DP\*MNB-HD12-CS

# **Manual Actuator Accessories**

# **Chain for Chainwheel Actuators**

Order as a separate item by giving the correct code and specify required length of chain as second line information. One closing link is supplied with the chainwheel actuator.

Description
Steel, Zinc Plated 3/16
Galvanized 3/16
316 Stainless Steel 3/16

Ordering Example: ACC\*CN102 Chain 12 feet long (366cm)

# **Full-Force Lockout Device**

Lockouts for open and closed position are available on all sizes of handwheel, bevel gear 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:

KSL,6,LA,F1,DI,EPDM,S2,NR,DP\*MNB-HD12-CS,LK

# **Pneumatic Cylinder Actuators**

DeZURIK double-acting pneumatic cylinder actuators are available for on/off service. Supply pressure is 60 or 80 psi (410 or 550 kPa). To order, add the proper code from the table to the valve order code. Actuator sizing is for slurries and liquids; contact DeZURIK for sizing on dry materials applications.

Carbon Steel (CS) Yoke	Pressure Differential psi/kPa	
CY-PC4-CS	<u>100</u> 690	
CY-PC6-CS	<u>100</u> 690	
CY-PC8-CS	<u>100</u> 690	
CY-PC10-CS	<u>100</u> 690	
CY-PC12-CS	<u>100</u> 690	
CY-PC12-CS	<u>100</u> 690	
CY-PC14-CS	<u>100</u> 690	
CY-PC14-CS	<u>100</u> 690	
CY-PC16-CS	<u>100</u> 690	
CY-PC16-CS	<u>100</u> 690	
	Steel (CS) Yoke           CY-PC4-CS           CY-PC6-CS           CY-PC8-CS           CY-PC10-CS           CY-PC12-CS           CY-PC12-CS           CY-PC14-CS           CY-PC14-CS           CY-PC16-CS	

#### 60 psi (410 kPa) Air Supply

### 80 psi (550 kPa) Air Supply

Valve Size	Order Code Carbon Steel (CS) Yoke	Maximum Shutoff Pressure Differential psi/kPa
<u>2"</u> 50mm	CY-PC4-CS	<u>100</u> 690
<u>3"</u> 80mm	CY-PC6-CS	<u>100</u> 690
<u>4"</u> 100mm	CY-PC6-CS	<u>100</u> 690
<u>5"</u> 125mm	CY-PC6-CS	<u>100</u> 690
<u>6"</u> 150mm	CY-PC6-CS	<u>100</u> 690
<u>8"</u> 200mm	CY-PC8-CS	<u>100</u> 690
<u>10"</u> 250mm	CY-PC10-CS	<u>100</u> 690
<u>12"</u> 300mm	CY-PC12-CS	<u>100</u> 690
<u>14"</u> 350mm	CY-PC12-CS	<u>100</u> 690
<u>16"</u> 400mm	CY-PC14-CS	<u>100</u> 690
<u>18"</u> 450mm	CY-PC14-CS	<u>100</u> 690
<u>20"</u> 500mm	CY-PC16-CS	<u>100</u> 690
<u>24"</u> 600mm	CY-PC16-CS	<u>100</u> 690

# **Hydraulic Cylinder Actuators**

Double-acting hydraulic cylinders are available for on/off service. All actuators are sized to the full pressure rating of the valve. Actuator sizing is for slurries and liquids; contact DeZURIK for sizing on dry materials applications.

Valve Size	Order Code Carbon Steel (CS) Yoke	Fluid Supply Pressure (psi/kPa)	Maximum Shutoff Pressure Differential psi/kPa
<u>2"</u>	CY-HC1.5-CS	<u>1200</u>	<u>100</u>
50mm		8280	690
<u>3"</u>	CY-HC1.5-CS	<u>1200</u>	<u>100</u>
80mm		8280	690
<u>4"</u>	CY-HC1.5-CS	<u>1200</u>	<u>100</u>
100mm		8280	690
<u>5"</u>	CY-HC2-CS	<u>1200</u>	<u>100</u>
125mm		8280	690
<u>6"</u>	CY-HC2-CS	<u>1200</u>	<u>100</u>
150mm		8280	690
<u>8"</u>	CY-HC2-CS	<u>1200</u>	<u>100</u>
200mm		8280	690
<u>10"</u>	CY-HC3.25-CS	<u>550</u>	<u>100</u>
250mm		3795	690
<u>12"</u>	CY-HC3.25-CS	<u>550</u>	<u>100</u>
300mm		3795	690
<u>14"</u>	CY-HC4-CS	<u>550</u>	<u>100</u>
350mm		3795	690
<u>16"</u>	CY-HC4-CS	<u>550</u>	<u>100</u>
400mm		3795	690
<u>18"</u>	CY-HC4-CS	<u>550</u>	<u>100</u>
450mm		3795	690
<u>20"</u>	CY-HC5-CS	<u>550</u>	<u>100</u>
500mm		3795	690
<u>24"</u>	CY-HC5-CS	<u>550</u>	<u>100</u>
600mm		3795	690

Note: The maximum hydraulic pressure rating for hydraulic cylinders by size is as follows:

HC1.5 is 2000 psi HC2 is 2000 psi HC3.25 is 1000 psi HC4 is 800 psi HC5 is 950 psi

# **Cylinder Actuator Accessories**

# **Filter Regulator**

The DeZURIK Filter Regulator is designed to provide clean, accurate pressure to cylinder actuators.

# Four-Way Solenoid Valve

Solenoid valves may be ordered mounted and piped as part of a complete valve and cylinder actuator assembly or as a separate item.

# **Speed Control Valves**

Speed Control Valves are available for controlling valve opening or closing speed with cylinder actuators.

# **Position Indicating Switches**

Mechanical or Proximity Position Indicating Switches are available for use on cylinder actuators. One switch can be set to indicate open or closed position. Two switches will automatically be set to indicate full open and full closed positions.

# Stem Cover Bellows

To protect valve stem from environmental debris, the Stem Cover Bellows may be ordered as part of a complete valve and actuator assembly.

Ordering Example:

KSL,6,LA,F1,DI,EPDM,S2,NR,DP\*CY-PC6-CS,SCB

# **Full-Force Lockout Device**

Lockouts for open and closed position are available on all sizes for cylinder actuated valves. Lockouts are desinged 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:

KSL,6,LA,F1,DI,EPDM,S2,NR,DP\*CY-PC6-CS,LK

# **Electric Motor Actuators**

DeZURIK Knife Gate Valves can be furnished with electric motor actuators including Limitorque, Auma, Rotork, E.I.M. and others.

When ordering electric motor actuators, specify valve order code, shutoff pressure, service conditions (flowing media and installation direction); type of application (on/off); speed of operation; NEMA rating (4, 7, as per specification requirements.submersible, etc.); electrical characteristics (voltage and phase); actuator accessories and controls

# **Dimensions** Handwheel & Chainwheel

Valve		Dimensions					
Size	D	E* Installed	G Handwheel	G Chainwheel	к		
<u>2"</u>	<u>3.00</u>	<u>6.88</u>	<u>12.00</u>	<u>12.00</u>	<u>19.60</u>		
50mm	76	175	305	305	498		
<u>3"</u>	<u>3.75</u>	<u>6.88</u>	<u>12.00</u>	<u>12.00</u>	<u>20.98</u>		
80mm	95	175	305	305	533		
<u>4"</u>	<u>4.50</u>	<u>6.88</u>	<u>12.00</u>	<u>12.00</u>	<u>22.98</u>		
100mm	114	175	305	305	584		
<u>5"</u>	<u>5.00</u>	<u>7.00</u>	<u>12.00</u>	<u>12.00</u>	<u>28.85</u>		
125mm	127	178	305	305	733		
<u>6"</u>	<u>5.50</u>	<u>7.00</u>	<u>16.00</u>	<u>20.00</u>	<u>30.35</u>		
150mm	140	178	406	508	771		
<u>8"</u>	<u>6.75</u>	<u>7.25</u>	<u>20.00</u>	<u>20.00</u>	<u>35.23</u>		
200mm	171	184	508	508	895		
<u>10"</u>	<u>8.00</u>	<u>8.88</u>	<u>20.00</u>	<u>20.00</u>	<u>45.37</u>		
250mm	203	226	508	508	1152		



\* Retainer flanges are standard on 10" (250mm) and larger, and optional on 2-8" (50-200mm). If retainer flanges are not required, deduct 1.00" (25mm). Allow an additional .25-.50" (6-13mm) for installation.



# **Bevel Gear Handwheel**

	Dimensions					
Valve Size	D	E* Installed	G	H Standard Mounting	H 90 Degree Mounting	J
<u>3"</u>	<u>3.75</u>	<u>6.88</u>	<u>12.00</u>	<u>10.12</u>	<u>10.12</u>	<u>23.45</u>
80mm	95	175	305	257	257	596
<u>4"</u>	<u>4.50</u>	<u>6.88</u>	<u>12.00</u>	<u>10.12</u>	<u>10.12</u>	<u>25.70</u>
100mm	114	175	305	257	257	653
<u>5"</u>	<u>5.00</u>	<u>7.00</u>	<u>12.00</u>	<u>10.12</u>	<u>10.12</u>	<u>30.38</u>
125mm	127	178	305	257	257	772
<u>6"</u>	<u>5.50</u>	<u>7.00</u>	<u>12.00</u>	<u>10.12</u>	<u>10.12</u>	<u>32.70</u>
150mm	140	178	305	257	257	831
<u>8"</u>	<u>6.75</u>	<u>7.25</u>	<u>12.00</u>	<u>10.12</u>	<u>10.12</u>	<u>39.07</u>
200mm	171	184	305	257	257	992
<u>10"</u>	8.00	<u>8.88</u>	<u>24.00</u>	<u>18.37</u>	<u>18.37</u>	<u>44.45</u>
250mm	203	226	610	467	467	1129
<u>12"</u>	<u>9.50</u>	<u>10.13</u>	<u>24.00</u>	<u>18.37</u>	<u>18.37</u>	<u>51.58</u>
300mm	241	257	610	467	467	1310
<u>14"</u>	<u>10.50</u>	<u>10.15</u>	<u>24.00</u>	<u>18.37</u>	<u>26.25</u>	<u>55.45</u>
350mm	267	258	610	467	667	1408
<u>16"</u>	<u>11.75</u>	<u>11.00</u>	<u>24.00</u>	<u>18.37</u>	<u>26.25</u>	<u>63.20</u>
400mm	298	279	610	467	667	1605
<u>18"</u>	<u>12.50</u>	<u>12.25</u>	<u>24.00</u>	<u>20.98</u>	<u>35.48</u>	72.33
450mm	318	311	610	533	901	1837
<u>20"</u>	<u>13.75</u>	<u>14.13</u>	<u>24.00</u>	<u>20.98</u>	<u>35.48</u>	<u>75.15</u>
500mm	349	359	610	533	901	1909
<u>24"</u>	<u>16.00</u>	<u>14.63</u>	<u>24.00</u>	<u>20.98</u>	<u>35.48</u>	<u>94.95</u>
600mm	406	372	610	533	901	2412

\* Ratainer flanges are standard on 10" (250mm) and larger, and optional on 2-8" (50-200mm). If retainer flanges are not required, deduct 1.00" (25mm). Allow an additional .25-.50" (6-13mm) for Standard Mounting



#### 90 Degree Mounting



<u>Inches</u> Millimeters

installation.

Inches Millimeters

# Dimensions

# **Bevel Gear Chainwheel**

	Dimensions					
Valve Size	D	E* Installed	G	H Standard Mounting	H 90 Degree Mounting	к
<u>3"</u>	<u>3.75</u>	<u>6.88</u>	<u>12.00</u>	<u>9.62</u>	<u>9.62</u>	<u>23.45</u>
80mm	95	175	305	244	244	596
<u>4"</u>	<u>4.50</u>	<u>6.88</u>	<u>12.00</u>	<u>9.62</u>	<u>9.62</u>	<u>25.70</u>
100mm	114	175	305	244	244	653
<u>5"</u>	<u>5.00</u>	<u>7.00</u>	<u>12.00</u>	<u>9.62</u>	<u>18.37</u>	<u>30.38</u>
125mm	127	178	305	244	467	772
<u>6"</u>	<u>5.50</u>	<u>7.00</u>	<u>12.00</u>	<u>9.62</u>	<u>18.37</u>	<u>32.70</u>
150mm	140	178	305	244	467	831
<u>8"</u>	<u>6.75</u>	<u>7.25</u>	<u>12.00</u>	<u>9.62</u>	<u>18.37</u>	<u>39.07</u>
200mm	171	184	305	244	467	992
<u>10"</u>	<u>8.00</u>	<u>8.88</u>	<u>20.00</u>	<u>9.62</u>	<u>18.37</u>	<u>44.45</u>
250mm	203	226	508	244	467	1129
<u>12"</u>	<u>9.50</u>	<u>10.13</u>	<u>20.00</u>	<u>9.62</u>	<u>18.37</u>	<u>51.58</u>
300mm	241	257	508	244	467	1310
<u>14"</u>	<u>10.50</u>	<u>10.15</u>	<u>20.00</u>	<u>9.62</u>	<u>18.37</u>	<u>55.45</u>
350mm	267	258	508	244	467	1408
<u>16"</u>	<u>11.75</u>	<u>11.00</u>	<u>20.00</u>	<u>9.62</u>	<u>18.37</u>	<u>63.20</u>
400mm	298	279	508	244	467	1605
<u>18"</u>	<u>12.50</u>	<u>12.25</u>	<u>20.00</u>	<u>12.23</u>	<u>26.27</u>	<u>72.33</u>
450mm	318	311	508	311	667	1837
<u>20"</u>	<u>13.75</u>	<u>14.13</u>	<u>20.00</u>	<u>12.23</u>	<u>26.27</u>	<u>75.15</u>
500mm	349	359	508	311	667	1909
<u>24"</u>	<u>16.00</u>	<u>14.63</u>	<u>20.00</u>	<u>12.23</u>	<u>26.27</u>	<u>94.95</u>
600mm	406	372	508	311	667	2412

Standard Mounting



\* Retainer flanges are standard on 10" (250mm) and larger, and optional on 2-8" (50-200mm). If retainer flanges are not required, deduct 1.00" (25mm). Allow an additional .25-.50" (6-13mm) for installation.

<u>Inches</u> Millimeters

#### 90 Degree Mounting



# **Dimensions**

# **Pneumatic Cylinder**

		nsions		
Valve Size	D	E* Installed	L	к
<u>2"</u>	<u>3.00</u>	<u>6.88</u>	<u>7.88</u>	<u>23.83</u>
50mm	76	175	200	605
<u>3"</u>	<u>3.75</u>	<u>6.88</u>	<u>9.50</u>	<u>25.33</u>
80mm	95	175	241	643
<u>4"</u>	<u>4.50</u>	<u>6.88</u>	<u>11.00</u>	<u>27.20</u>
100mm	114	175	279	691
<u>5"</u>	<u>5.00</u>	<u>7.00</u>	<u>12.50</u>	<u>32.89</u>
125mm	127	178	318	835
<u>6"</u>	<u>5.50</u>	<u>7.00</u>	<u>13.50</u>	<u>35.20</u>
150mm	140	178	343	894
<u>8"</u>	<u>6.75</u>	<u>7.25</u>	<u>15.00</u>	<u>37.61</u>
200mm	171	184	381	955
<u>10"</u>	<u>8.00</u>	<u>8.88</u>	<u>18.00</u>	<u>37.68</u>
250mm	203	226	457	957
<u>12"</u>	<u>9.50</u>	<u>10.13</u>	<u>21.25</u>	<u>56.32</u>
300mm	241	257	540	1431
<u>14"</u>	<u>10.50</u>	<u>10.15</u>	<u>22.75</u>	<u>59.89</u>
350mm	267	258	578	1521
<u>16"</u>	<u>11.75</u>	<u>11.00</u>	<u>25.00</u>	<u>67.89</u>
400mm	298	279	635	1724
<u>18"</u>	<u>12.50</u>	<u>12.25</u>	<u>26.50</u>	<u>71.20</u>
450mm	318	311	673	1808
<u>20"</u>	<u>13.75</u>	<u>14.13</u>	<u>29.50</u>	<u>74.38</u>
500mm	349	359	749	1889
<u>24"</u>	<u>16.00</u>	<u>14.63</u>	<u>34.00</u>	<u>87.44</u>
600mm	406	372	864	2221



Inches Millimeters

**Hydraulic Cylinder** 



INSTALLED

Valve –	Dimensions					
Size	D	E* Installed	к	L		
<u>2"</u>	<u>3.00</u>	<u>6.88</u>	<u>20.50</u>	<u>7.88</u>		
50mm	76	175	521	200		
<u>3"</u>	<u>3.75</u>	<u>6.88</u>	<u>21.87</u>	<u>9.50</u>		
80mm	95	175	555	241		
<u>4"</u>	<u>4.50</u>	<u>6.88</u>	<u>24.25</u>	<u>11.00</u>		
100mm	114	175	616	279		
<u>5"</u>	<u>5.00</u>	<u>7.00</u>	<u>28.75</u>	<u>12.50</u>		
125mm	127	178	730	318		
<u>6"</u>	<u>5.50</u>	<u>7.00</u>	<u>31.31</u>	<u>13.50</u>		
150mm	140	178	795	343		
<u>8"</u>	<u>6.75</u>	<u>7.25</u>	<u>34.44</u>	<u>15.00</u>		
200mm	171	184	875	381		
<u>10"</u>	<u>8.00</u>	<u>8.88</u>	<u>42.63</u>	<u>18.00</u>		
250mm	203	226	1083	457		
<u>12"</u>	<u>9.50</u>	<u>10.13</u>	<u>47.57</u>	<u>21.25</u>		
300mm	241	257	1208	540		
<u>14"</u>	<u>10.50</u>	<u>10.15</u>	<u>53.38</u>	<u>22.75</u>		
350mm	267	258	1356	578		
<u>16"</u>	<u>11.75</u>	<u>11.00</u>	<u>59.26</u>	<u>25.00</u>		
400mm	298	279	1505	635		
<u>18"</u>	<u>12.50</u>	<u>12.25</u>	<u>66.31</u>	<u>26.50</u>		
450mm	318	311	1684	673		
<u>20"</u>	<u>13.75</u>	<u>14.13</u>	<u>71.69</u>	<u>29.50</u>		
500mm	349	359	1821	749		
<u>24"</u>	<u>16.00</u>	<u>14.63</u>	<u>84.81</u>	<u>34.00</u>		
600mm	406	372	2154	864		



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<u>Inches</u> Millimeters

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#### **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.