



SERIES 6 KNIFE GATE VALVE BI DIRECTIONAL - ELASTOMER SLEEVE

Model 6S

Series 6 Knife Gate Valve is a Bi-directional Full Lug style slurry valve designed for tough, abrasive and corrosive application, compact design with light weight and easy maintenance and suitable for a wide range of demanding applications in industries like mining, power, chemical, pulp & paper and cement etc. Flexible two piece sleeve system allows valve to operate in heavy slurries without sticking.



Applications

- To handle corrosive slurries
- Neutral slurries with high solids
- Mining Process
- Chemical Industrial Process
- Waste Water Treatment
- Steel Mills
- Power Plant

Special Features

- Dual embedded steel reinforced elastomer sleeves providing dynamically self-aligned sealing for zero leakage.
- Cavity free flow path offering minimum pressure drop
- Replaceable packing less gland design and eliminating the need of periodic adjustment
- Self-lubricating and lubricant is injected without disassembling the valve from the pipe line
- Body fully isolated from media except during the short duration of opening and Closing of the valve
- Can handle dry and wet media with wide particle size
- In line maintenance feasibility for changing sleeves or gate
- Provided splash guard at bottom to clean the slurry periodically
- Rectangular gate edges machined and polished for smooth operation
- Locking device for standard valve
- Sealing independent of pipeline pressure
- All style of actuators available

Technical Specifications

Size	: 2" to 16"
End Style	: Full Lug
Working Pressure	: 150 psi (10 bar)
Standard flange connection	: ASME B16.5 - Class 150 and others on request
Seat	: Resilient
Design conforms to	: MSS-SP-81

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Test Specifications

Body Shell Test	: As per MSS-SP-81
Seat Leakage Test	: As per MSS SP 61

All valves are tested prior to shipping in accordance with the quality system standard followed by quality control department to meet international standards.

Design Features

BODY

Full Lug style cast mono block body for smaller sizes and split body for larger sizes, with reinforced ribs in larger diameters provided for additional strength. Internal body design allows the gate to be fully guided. The grease nipples allow the gate to be lubricated, it reduce the friction between the gate and sleeves. Additionally, the design allows draining through bottom splash guard. Some leakage will occur from the bottom of the valve during operation, this allows solids to be flushed out from body cavity.

GATE

Standard stainless steel rectangular gate machined and polished for a greater sealing between the gate and sleeve. The gate edge machined and polished for smooth operation and reducing the friction to avoid the damage of the seals, the gate material can be changed upon request.

SLEEVE

The seat is made of natural rubber with steel reinforced as a standard. Seat can be supplied with EPDM, Nitrile, Viton, etc. Its solid sleeve design allows for maximum flexibility during gate travel, minimizing the effort necessary for operation. In the open position, the two sleeves are in permanent contact with each other, assuring full bore flow. There are no seat cavities which may cause material build-up and the fluid does not come into contact with the metallic parts of the valve. This design allows for easy replacement of damaged sleeves.

PACKING

Made of EPDM, it eliminates possible leaks to the exterior as well as minimizing the Maintenance. In combination with the grease nipples, it guarantees an optimal functioning of the gate.

STEM

The standard stainless steel stem offers a long corrosion resistant life. For rising stem Bevel Gear actuation is standard and non-rising stem is optional, a stem protector is provided for additional protection from dust collection on the stem.

SPLASH GUARD

The splash guards provided at the bottom of valve body. It permits continuous removal of solids that may accumulate during operation of the valve. They shall always be connected to a drain line.

ACTUATORS

Hand wheel operators can be easily replaced with gear operator or pneumatic actuator or electric actuator and valves can be supplied with a standard mounting kit to allow for installation on site.

Options

Surface Treatments

Valve components can be protected or coated for a longer life expectancy, depending on the application and the service conditions.

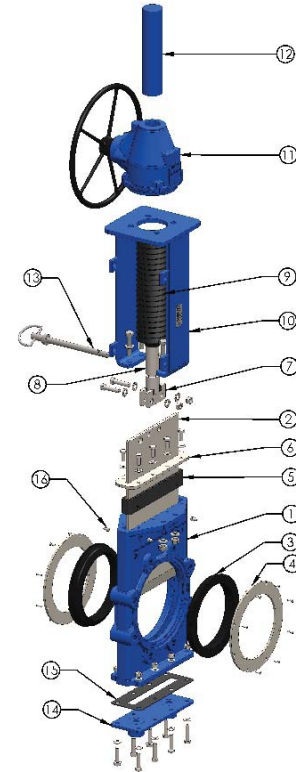
- The epoxy coating on all non stainless steel components is electrostatically applied making them corrosion resistant with a high quality surface finish.
- Gates can be provided with different coatings to improve wear and corrosion resistance, non-adherence properties etc.
- Please consult Technical Team for coating (or) surface treatment for special application.



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Parts List

S.No	Part	Details
1	Body	WCB / WCC / CF8 / CF8M
2	Gate	SS 304 / SS 316
3	Elastomer Seal	Natural Rubber / EPDM / Neoprene
4	Retainer Ring	CS / SS 304 / SS 316
5	Glandless Packing	Natural Rubber / EPDM / Neoprene
6	Gland Plate	CS / SS 304 / SS 316
7	Clevis	SS 304 / SS 316
8	Stem	SS 410 / SS 304
9	Bellows	Leather
10	Yoke	CS / SS
11	Gear Actuator	Standard
12	Stem Cover	CS
13	Lock Pin	SS / 17.4 PH
14	Splash Guard	CS / SS 304 / SS 316
15	Gasket	Natural Rubber / EPDM / Neoprene



Special alloys like CN7M (Alloy 20), Duplex SS, Hastelloy are available on request.

Valve Actuation

Manual Actuation

- Hand wheel
- Chain wheel
- Bevel Gear

Automatic Actuation

- Electric actuation
- Pneumatic actuation
- Hydraulic actuation

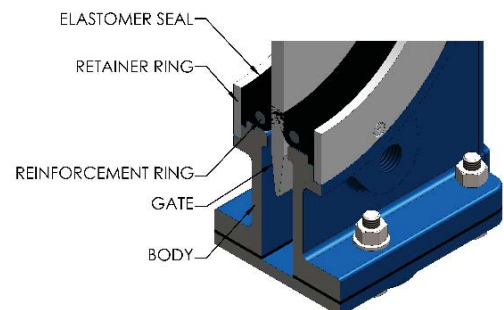
Accessories

- Mechanical stops
- Actuator manual override
- Limit switches
- Proximity switches
- Solenoid valves
- Air filter regulators

Seat Type

Resilient seat

- Material options: Natural Rubber (or) EPDM (or) Neoprene
- Reinforced with stainless steel
- Sleeves locked by retainer rings



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Gear Actuation

Dimension details

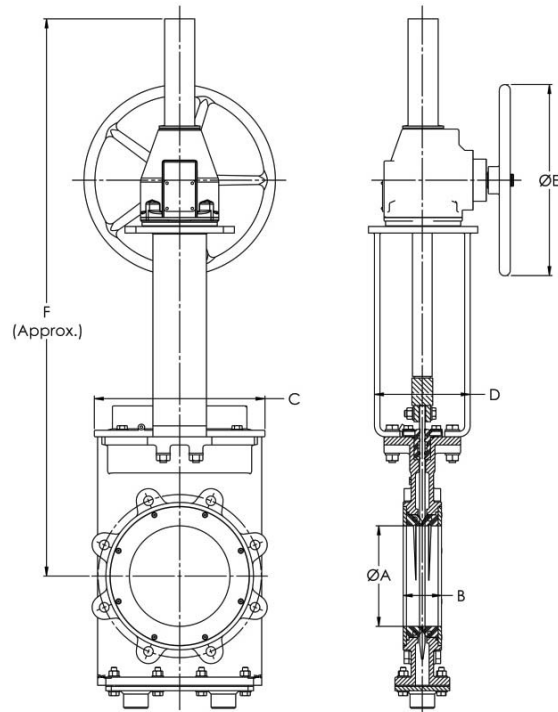
Available for valve sizes 2" to 16"

Standard Bevel Gear Actuation:

- Stem
- Yoke
- Bevel gear actuator with hand wheel
- Locking device
- Bellows

Options

- Chain wheel
- Non-rising stem
- Protection cover



Size: Inch / mm	A	B	C	D	E	F
2"	1.57	1.89	6.1	4.3	13.8	22.4
50	40.0	48.0	155	110	350	570
3"	2.76	2.01	6.3	4.7	13.8	26.6
80	70.0	51.0	160	120	350	675
4"	3.54	2.01	7.1	4.9	13.8	31.3
100	90.0	51.0	180	125	350	795
6"	5.31	2.24	8.5	5.3	15.7	37.2
150	135.0	57.0	216	135	400	945
8"	7.24	2.76	11.8	6.9	15.7	43.3
200	184.0	70.0	300	175	400	1100
10"	8.94	2.76	15.4	7.1	19.7	50.4
250	227.0	70.0	390	180	500	1280
12"	10.75	2.99	19.7	7.1	19.7	61.0
300	273.0	76.0	500	180	500	1550
14"	11.81	2.99	19.7	8.9	19.7	66.1
350	300.0	76.0	500	225	500	1680
16"	13.19	3.50	21.7	8.9	19.7	72.2
400	335.0	89.0	550	225	500	1835

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Pneumatic Actuation

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Standard pneumatic actuation

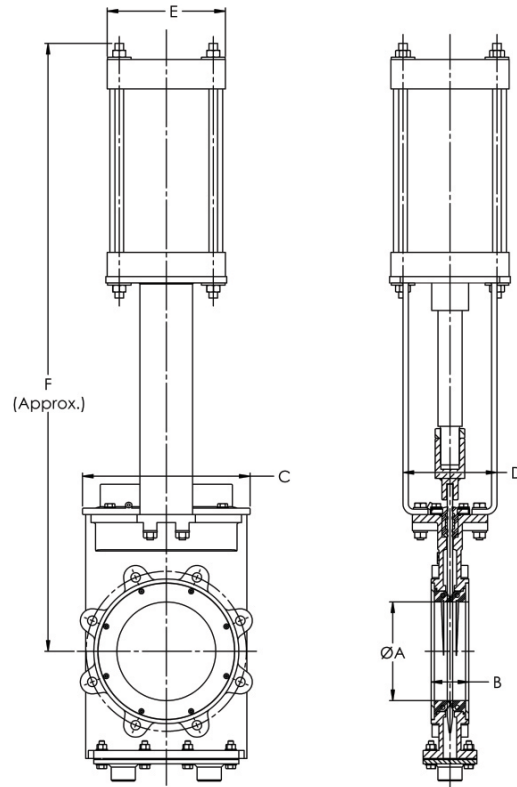
- Stainless steel barrels
- Stainless steel piston rod
- Cast or ductile iron or steel end cover
- Locking device
- Protection cover

Supply air pressure : Minimum 4 kg/cm²
Maximum 10 kg/cm²

Options

- Air filter with regulators
- Solenoid valves
- Mechanical limit switch
- Proximity switch
- Manual override
- Fail safe systems

Dimension details



Size: Inch / mm	A	B	C	D	E	F	Cylinder: Dia/Stroke
2"	1.57	1.89	6.1	4.3	3.9	23.6	4 / 3.94
50	40.0	48.0	155	110	100	600	100 / 100
3"	2.76	2.01	6.3	4.7	3.9	27.6	4 / 5.31
80	70.0	51.0	160	120	100	700	100 / 135
4"	3.54	2.01	7.1	4.9	3.9	31.5	4 / 6.10
100	90.0	51.0	180	125	100	800	100 / 155
6"	5.31	2.24	8.5	5.3	5.9	37.4	6 / 7.87
150	135.0	57.0	216	135	150	950	150 / 200
8"	7.24	2.76	11.8	6.9	7.9	43.3	8 / 10.04
200	184.0	70.0	300	175	200	1100	200 / 255
10"	8.94	2.76	15.4	7.1	9.8	51.2	10 / 11.81
250	227.0	70.0	390	180	250	1300	250 / 300
12"	10.75	2.99	19.7	7.1	11.8	57.1	12 / 13.78
300	273.0	76.0	500	180	300	1450	300 / 350
14"	11.81	2.99	19.7	8.9	13.8	66.9	14 / 16.93
350	300.0	76.0	500	225	350	1700	350 / 430
16"	13.19	3.50	21.7	8.9	13.8	72.8	14 / 19.09
400	335.0	89.0	550	225	350	1850	350 / 485



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Electric Actuation

Available for valve size 2" to 16"

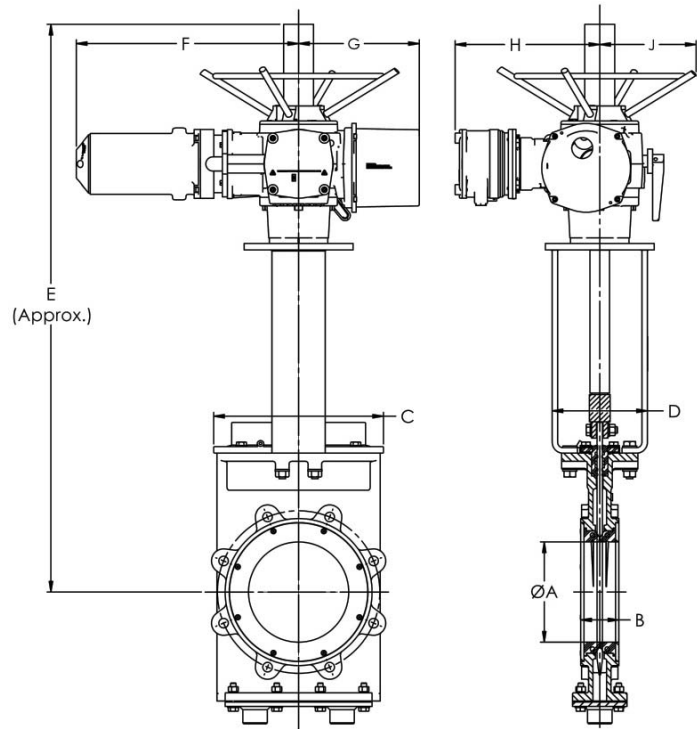
Standard Electric Actuation

- Electric motor
- Manual emergency operation
- Limit switches (open/closed)
- Torque switches
- Rising stem
- Yoke
- Stem protector
- Locking device

Option

- Non rising stem
- Mechanical limit switch
- Protection cover

Dimension details



Size: Inch / mm	A	B	C	D	E	F	G	H	J
2"	1.57	1.89	6.1	4.3	25.6	13.8	12.6	11.8	7.1
50	40.0	48.0	155	110	650	350	320	300	180
3"	2.76	2.01	6.3	4.7	27.6	13.8	12.6	11.8	7.1
80	70.0	51.0	160	120	700	350	320	300	180
4"	3.54	2.01	7.1	4.9	29.5	13.8	12.6	11.8	7.1
100	90.0	51.0	180	125	750	350	320	300	180
6"	5.31	2.24	8.5	5.3	40.9	13.8	12.6	11.8	7.1
150	135.0	57.0	216	135	1040	350	320	300	180
8"	7.24	2.76	11.8	6.9	46.1	13.8	12.6	11.8	7.1
200	184.0	70.0	300	175	1170	350	320	300	180
10"	8.94	2.76	15.4	7.1	54.3	13.8	12.6	11.8	7.1
250	227.0	70.0	390	180	1380	350	320	300	180
12"	10.75	2.99	19.7	7.1	59.1	21.7	13.8	13.8	12.8
300	273.0	76.0	500	180	1500	550	350	350	225
14"	11.81	2.99	19.7	8.9	66.1	21.7	13.8	13.8	12.8
350	300.0	76.0	500	225	1680	550	350	350	225
16	13.19	3.50	21.7	8.9	76.8	25.6	13.8	15.0	12.2
400	335.0	89.0	550	225	1950	650	350	380	310