KGV SERIES

SLURRY KNIFE GATE VALVE

Smart Solution for Harsh Application
FEATURES

1. Available Sizes 3"-36"
2. Abrasivion-Resistant Slurry Sleeves are Field Replaceable, Provide Bi-directional, Drop-Tight Shut-off and Eliminate the Need for Packing
3. 100% Full-Port Design
4. Heavy-duty 316L stainless Steel Get
5. Wiper Blade Cleans debris from Gate as it strokes
6. Open/Closed Lock-Out feature (optional)
7. Robust Corrosion-Resistant ductile iron yoke
8. Slotted Flange Holes for Easy through-Bolt installation
9. Grease Fittings for Gate and Stem Lubrication

APPLICATIONS
- Powder handling in silos
- Pulp and Paper Plants
- Slurry Handling (Chemical Plant & Process Industries)
- Water and Sewage Applications
- Pneumatic Conveying Systems
- High temperature services
- Mining & Power Plants

MATERIALS OF CONSTRUCTION

Body : Made up of one piece solid, rugged and heavy duty casting with flanges. Standard is Ductile Iron. SS 304, SS 316, SS 316L, Alloy 20, CD4MCu available on request.

Knife Gate : High tensile metal sheet SS 316L as standard. Alloy 20, Hastalloy etc available upon request.

Seat / Sleeve : Available in all materials as per requirement of application. Natural Rubber, Neoprene, EPDM, Viton, Hypalon etc.

Packing : Smooth well machined packing chamber to provide uniform compression of packing and gives zero leakage. PTFE/high temperature graphite asbestos, food grade packing etc available as per application requirement.

Hand Wheel : Cast Iron, epoxy painted.

When open, the KGV Valve’s reinforced elastomer sleeves seal against each other and provide a 100% full-port opening which minimizes turbulence and wear. In this open position, the seats isolate and protect all metal parts of the valve from coming in contact with the process. When closed, the sleeves provide a drop-light seal in both directions.

CLOSING OPERATION

TECHNICAL DATA

<table>
<thead>
<tr>
<th>SERIES KGV SLURRY KNIFE GATE VALVE</th>
<th>VALVE SIZE</th>
<th>WITHOUT RETAINING FLANGES</th>
<th>CLOSE C</th>
<th>OPEN H</th>
<th>WEIGHT LBS</th>
<th>MAXIMUM OPERATING PRESSURE IN PSI</th>
<th>MAXIMUM OPERATING PRESSURE IN PSI 17 4 PH GATE</th>
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</thead>
<tbody>
<tr>
<td>3&quot;</td>
<td>5.875&quot;</td>
<td>17.13&quot;</td>
<td>20.38&quot;</td>
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<td>150</td>
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<td>5.875&quot;</td>
<td>18.25&quot;</td>
<td>22.63&quot;</td>
<td>100</td>
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<td>21.06&quot;</td>
<td>27.18&quot;</td>
<td>100</td>
<td>150</td>
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</table>

JEC valves are designed, manufactured and tested in conformity to the most strict quality standards as per ISO 9001:2008. JEC valves are the pioneers for the pinch valves and extend the range to include gate valve, knife gate valve and elastomer sleeves in all material of construction. Quality checks are stringently followed at each and every stage of production to ensure the best class product.

At each stroke of the valve, it discharges a small amount of slurry which keeps the gate path and seat area clear of any entrapped particulars. Apart from other valves JEC KGV valves prevents the accumulation of slurry in the seat area, which can creates an obstacle in valve’s ability to close. Slurry sleeves and gate is field replaceable.
**ELASTOMER QUALITIES SELECTION**

**SUPERIOR SLEEVE DESIGN**

JEC valve seat is made up of two highly resistant, long lasting sleeves made up of natural rubber with metallic core. It’s well studied and patented hollow design allows for maximum flexibility on passing through the gate, minimizing the effort necessary for its operation.

The two sleeves are in permanent contact with each other so that there is total flow. Considering that the knife gate valve is specially designed to work with abrasive slurries, this design of sealing provides constant protection the body because the working media is not in direct contact with the body.

For easy maintenance the sleeves can be fully replaced from the outside of the valve as a complete unit and no need of flange rubber gaskets to make tightness between the valve and flanges.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Type of Sleeve</th>
<th>Maximum Operating Temperature</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EPDM</td>
<td>UP TO 90°C</td>
<td>Generally used for water and products diluted in water.</td>
</tr>
<tr>
<td>2</td>
<td>Natural Rubber</td>
<td>UP TO 75°C</td>
<td>Mild chemicals, organic acids, alcohols &amp; salts</td>
</tr>
<tr>
<td>3</td>
<td>Nitrile</td>
<td>CUP TO 90°C</td>
<td>Used for greasy fluids or oils</td>
</tr>
<tr>
<td>4</td>
<td>Viton</td>
<td>CUP TO 190°C</td>
<td>Animals &amp; vegetable oils, acids, hydrocarbons</td>
</tr>
<tr>
<td>5</td>
<td>Neoprene</td>
<td>CUP TO 100°C</td>
<td>Chemicals, oils and mild acids</td>
</tr>
<tr>
<td>6</td>
<td>Hypalon</td>
<td>CUP TO 130°C</td>
<td>Strong acids, bases, alcohols, hydroxides, hypochlorite solutions</td>
</tr>
</tbody>
</table>

**DESIGN FEATURES**

**CLEVIS**

JEC KGV Series valve has investment cast clevis with two bolt design which provides distribution of forces which eliminates lateral gate deflection.

**SPLASH CONTAINMENT**

JEC KGV series valves are having in built clean out area at the bottom of the valve body. It is enclosed by an optional removable drain plate which is provided with ports to drain away any accumulated solids that may prevent full gate closure. Due to the drain plate any solids, slurry or flush water ejected from the valve can be handled in a controlled manner.

**LOCKOUT FEATURE**

JEC KGV valves are having lock out facility which will keep valve stem in fixed position to prevent unauthorized operation of the valve. This pin is permanently attached to the valve by flexible wire cable.

**WIPER BLADES**

Wiper blades at the top of the valve prevent leakage through the top and also stop gate lubricant. Traditional packings are avoided because of wiper blades. It also prevents external grit from entering the valve body.

**CABLE & STEM LUBRICATION**

For smooth gate movement & longer sleeve life, gate lubrication each time after each cycle is required. It helps in easy & smooth operation of the valve.
**MODE OF OPERATIONS**

**BEVEL GEARS**

Bevel gear are recommended for high-pressure service or larger diameter valves. Suggested on all KGV valves over 6” in diameter and above 75 psi working pressure.

In particularly tough environments, an optional steel stem cover can be used to protect the stem threads.

**PNEUMATIC CYLINDER**

Jec Valve’s Series KGV Slurry Knife Gate Valves are also available with pneumatic cylinder actuators. Options include (but are not limited to) limit switches, solenoids and air regulators.

**DOUBLE-ACTING ACTUATOR**

Air-to-Open/Air-to-Close (ATO/ATC) “R” style actuators are used on the Service KGV Valve.

**SIGNLE-ACTING ACTUATOR**

Air-to-Open/Fail Close Spring (ATO/FCS) and Air-to-Close/Fail Open Spring (ATC/FOS) style actuators consist of either a fail-close spring, which is preloaded to provide sufficient force to close the gate upon air loss, or a fail-open spring, which drives the valve open upon air loss.

**MOTOR-OPERATED**

The motor-operated Service KGV Slurry Knife Gate Valve is reliable and provides reduced maintenance. Motor operators are cost effective and ideal for remote operations.

Controls can be furnished as an integral part of the electric operator or as a separate unit from a remote station. Optional features include explosion-proof construction, proportioning control from a 4-20 mA instrument signal and 4-20mA output transfer.

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**JAY AMBE ENGINEERING CO.**
MANUFACTURER OF INDUSTRIAL CHEMICAL PROCESS PUMPS & VALVES

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