

# Metso

Slurry handling solutions

## Knife Gate Valve



# Knife Gate Valve

Metso Knife Gate Valves are full bore valves for the most abrasive and demanding slurries with strong operational reliability. They are designed with both ease of maintenance and minimum total cost of ownership in mind. The various styles are engineered for different applications and can thus handle anything from the most demanding abrasive high pressure minerals processing applications to lighter slurries and even water.

## Areas of use

Some of the main applications for the mining industry include grinding circuit, thickeners, filters, tailings, cyclones, paste, concentrate pipelines, hydrometallurgy and transmitter isolation.

## Characteristics

This bi-directional valve ensures 100% sealing within any given pressure. In open position, the valve seats form a tight extension of the pipeline causing absolutely no leakage onto the metal parts. When the valve is closed, the seats are displaced axially creating a reliable seal with the gate until it forms a complete closure.

The solid top works provides excellent stability during operation. For safety reasons it is always supplied ready to be locked in either open or closed position. The seats also form a sealing face on the valve flanges saving the need for gaskets.





# Knife Gate Valves portfolio

## High pressure KGH series

The Metso KGH series high pressure slurry knife gate valves are designed to operate and provide bi-directional tight seal in high pressure and demanding mineral processing applications, typically slurry tailing systems.

Sizes range from 80 mm (3") to 450 mm (18") operating to a maximum pressure of 50 bar (725 psi).

## Wafer style KGV series

The Metso KGV series wafer style slurry knife gate valves unique design provides reliable service, ease of maintenance, and long term performance.

Sizes range from 50 mm (2") to 600 mm (24") operating to a maximum pressure of 10 bar (150 psi).

## Conventional style KGC series

The Metso KGC series conventional style knife gate valves offers superior flow characteristics and bi-directional zero leakage shut-off. They are suitable for lighter slurries and fluids such as sludge, bio mass and water.

Sizes range from 50 mm (2") to 600 mm (24") operating to a maximum pressure of 10 bar (150 psi).

# KGH series

## High pressure

These push through slurry knife gate valves are designed to operate and provide bi-directional tight seal in high pressure and demanding mineral processing applications, typically slurry tailing systems.

The KGH style knife gate valves are designed to operate and provide a bi-directional tight seal up to 50 bar. They are modular designed and can easily be customized with actuators and related automation accessories to different process conditions. They are also available with mechanical lock out. As standard, the KGH comes with heavy duty, two-piece fully lugged valve bodies in nodular iron. Gates are provided in high strength stainless steel, special grinded and hard anti-stick coated with purpose of reducing friction when they cycle through the valves rubber seats.



# KGV series

## Wafer style

Metso's KGV is a push through wafer type slurry knife gate valve with superior flow characteristics, offering reliable and bi-directional shut-off performance in abrasive and demanding mineral processing applications.

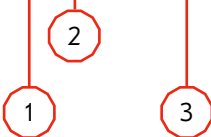
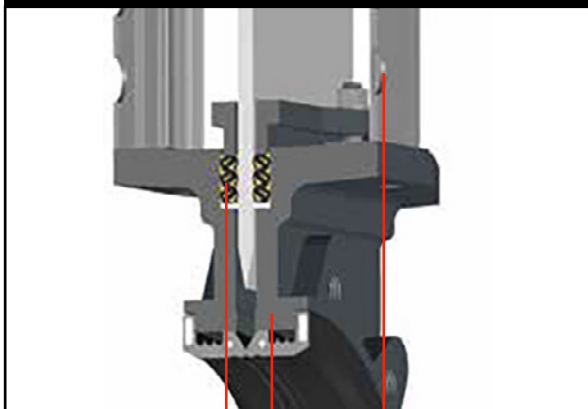
The KGV valve is modular designed and it can easily be customized with actuators and related automation accessories to different process conditions. The valve is also available with mechanical lock out. As standard, the KGV is supplied with a robust and precision machined nodular iron valve body and strong duplex stainless steel gate, which is also special grinded with purpose of reducing the friction when it cycles through the valve's rubber seats.



# Main features

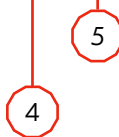
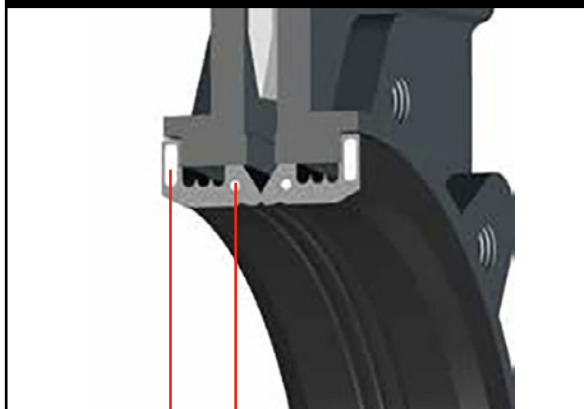
KGH and KGV

A precise gate guidance extend the valve's service life



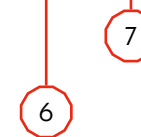
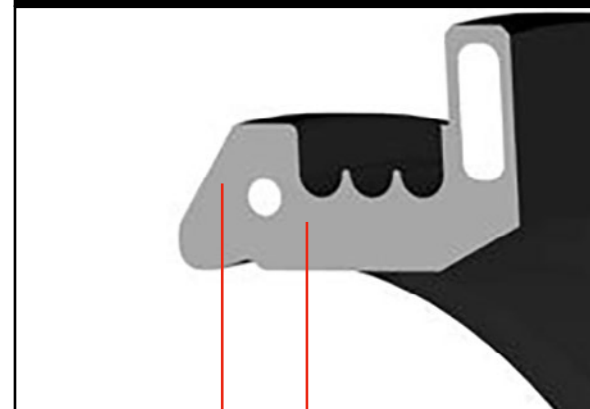
1. Precisely machined gate supports
  2. A robust gland box system
  3. A solid top works
- It's crucial during operation to keep the gate in position and to minimize the wear on the seats.

Built in steel reinforcements improve the performance



4. The front reinforcement rings ensure the seats shape, position and strength are maintained during operation.
5. The flange sealing reinforcements secure a tight and exact position of the seats towards the connection flange.

Integrated expansion areas give low operating force and minimize the stress on the seats



6. The seat entrance area is designed to give a smooth gate entry.
7. The expansion area allows the seat to be axially flexible requiring minimal operating force.

# KGC series

## Conventional style

Metso's KGC conventional style knife gate valve offers superior flow characteristics and bi-directional zero leakage shut-off. It is suitable for light slurries and fluids such as water, sludge and bio mass.

These valves are modular designed and can easily be customized in materials, with actuators and related automation accessories to different process conditions. KGC is supplied with a robust one piece valve body in nodular iron.

### Product features:

- Superior flow characteristics
- Bi-directional zero leakage shut-off
- High strength top works



Metso is a frontrunner in providing sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing and metals refining industries globally. By helping our customers increase their productivity, improve their energy and water efficiency and environmental performance with our process and product expertise, we are the **partner for positive change**.

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