Abrasive slurries

Technical Specifications

Sizes:	DN 3”/80 mm - DN 24”/600 mm (larger DN on request)
Working pressure:	DN 3”/80 mm - DN 24”/600 mm 300 psi /20 bar Other on request
Standard Flange connection:	ASME B16.5 Class 150/300 ASME B16.47 Serie A Class 150/300 EN 1092-2 PN 16/25 Others on request
Directives:	DIR 2006/42/CE (MACHINES) DIR 2014/68/EU (PED) Fluid: Group 1(b), 2 (Cat. I, mod. A) DIR 2014/34/EU (ATEX) Group II, Cat. 3: zones 2 and 22 (Available on request)

All ORBINOX valves are tested prior to shipping

ORBINOX

VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

MEMBER OF THE AVK GROUP

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ORBINOX reserves the right to change specifications without notice

ISO 9001 QUALITY
ISO 14001 ENVIRONMENT
OHSAS 18001 HEALTH & SAFETY

02/2018

ORBINOX

VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

HG

Knife gate valve for slurry high pressure

HG

Knife gate valve for slurry high pressure

The HG knife gate valve has been especially designed for highly demanding erosive, abrasive and corrosive slurry applications in industries such as mining, power plants, sand and gravel, chemical, etc. These are processes where wear is in general critical. This valve is the result of years of research, development and testing, as well as of our experience in the most demanding applications.

It is an on/off, bidirectional, full bore, high pressure and mono-block body knife gate valve.

The valve also includes two elastomer sleeves. These features together with the latest manufacturing processes ensure the highest standards of product quality.

The ORBINOX Group with 6 manufacturing plants and 12 sales and distribution centres worldwide, is present in more than 70 countries around the world. With over 50 years of experience in the manufacture of knife gate valves, ORBINOX is the world leader in this field.

Open position

- In the open position, the gate is fully retracted outside the bore on top of the sleeves.
- The sleeves are in contact and compressed against each other to seal against line pressure.
- No metal components are in contact with the slurry.
- The full bore design maximizes flow and minimizes turbulence and pressure drop.
- The seal design has no cavities where solids can accumulate. Full gate closing is assured and seat damage is prevented.

Closed position

- When closing, the gate travels through the sleeves, compressed against each other for a tight seal.
- The geometry, together with the chemical composition and the vulcanization process, makes the rubber sleeves very flexible. This flexibility lowers the friction, reduces the operating torque and preserves their working life.
- The double-seated design of the HG ensures a tight shut-off in bidirectional flows.
- The closing stroke is controlled to prevent excessive sleeves compression and stresses.

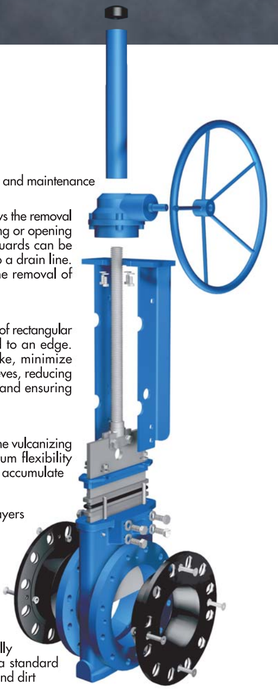
Seat/Sleeves

Temperature / application chart

Material	Max. Temp(°C)	Applications
Natural rubber	80	General
EPDM	120	Acids and non mineral oils low temperatures
Neoprene	90	Oils and solvents
Nitrile	100	Hydrocarbons, oils and greases

All sleeves are internally reinforced with a metallic core / Other on request

Main Features



Body

- Large face-to-face distance body
- The body is a single cast part (mono-block) design and maintenance free
- The open design of the lower part of the valve allows the removal of the slurry that has entered the body when closing or opening the valve, assuring a full gate closing. Splash guards can be optionally provided to convey this slurry media to a drain line. Flushing ports can also be added to improve the removal of this slurry media from the body

Gate

- Made of stainless steel, polished on both sides and of rectangular shape, the bottom side of the gate is machined to an edge. These features, together with a controlled stroke, minimize friction as the gate travels through the rubber sleeves, reducing the valve operating torque and the sleeve wear and ensuring optimum slurry isolation

Seat/Sleeves

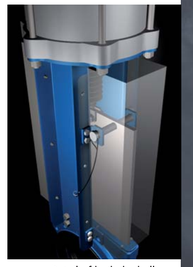
- The heavy design, the chemical composition and the vulcanizing process used in their production assure maximum flexibility and the absence of cavities where the solids can accumulate

Packing

- Conventional 100% tight packing with several layers of braided fiber and an EPDM o-ring

Actuator

- The reinforced actuator support, manufactured in a single piece, is easily interchangeable and includes open/closed lock-outs as a standard feature for maintenance operations. It is finished with an electrostatically applied EPOXY coating
- The piston rods of pneumatically or hydraulically actuated valves include bellows (rod boots) as a standard feature to protect against outside contamination and dirt



Detail of both the bellow for the automatic actuators and the safety locks

Splash guards

Actuator types

Manual:

Handwheel with rising stem

Bevel Gear

Automatic:

Pneumatic cylinder

Hydraulic cylinder

Electric actuator

One of ORBINOX main features is that all actuators are interchangeable with each another