



ORBINOX VALVES INTERNATIONAL

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Abrasive slurries

Technical Specifications

Sizes: DN 2"/50 mm - DN 36"/900 mm (larger DN on request)

Working pressure: DN 2"/50 mm - DN 36"/900 mm 150 psi /10 bar
Other on request

Standard Flange connection: ASME B16.5 Class 150
ASME B16.47 Serie A Class 150
EN 1092-2 PN 10
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

Technical information at:

www.orbinox.com



VG

Knife gate valve
for slurry



ORBINOX reserves the right to change specifications without notice

02/2018

VG

Knife gate valve for slurry



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 and hollow design, together with the chemical composition and the vulcanization process, make 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 VG ensures a tight shut-off in bidirectional flows.
- The closing stroke is controlled to prevent excessive sleeves compression and stresses.



Main Features

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

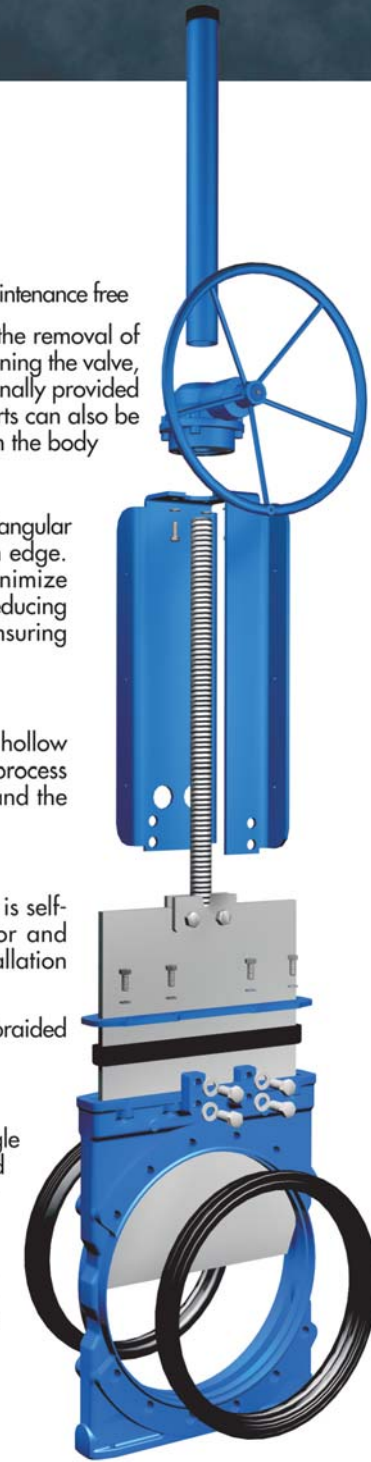
- The patented geometry of the elastomer sleeves, their hollow design, the chemical composition and the vulcanizing process used in their production assure maximum flexibility and the absence of cavities where the solids can accumulate

Packing

- The maintenance free EPDM standard gland packing is self-adjusting and prevents both leakage to the exterior and contamination of the interior of the valve in any installation position
- Conventional 100% tight packing with several layers of braided fiber and an EPDM o-ring also available

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 bellows for the automatic actuators and the safety locks



Splash guards



The VG knife gate valve has been especially designed for 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 and mono-block body knife gate valve. The valve

also includes two innovative and patented 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.

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

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 other