

# Abrasive slurries

## Technical Specifications

<b>Sizes:</b>	<b>VG</b>	- DN 2"/50 mm - DN 36"/900 mm (larger DN on request)	
	<b>WG</b>	- DN 3"/80 mm - DN 36"/900 mm (larger DN on request)	
	<b>HG</b>	- DN 3"/80 mm - DN 24"/600 mm (larger DN on request)	
<b>Working pressure:</b>	<b>VG</b>	- DN 2"/50mm - DN 36"/900mm	150 psi/10 bar
	<b>WG</b>	- DN 3"/80mm - DN 36"/900mm	150 psi/10 bar
	<b>HG</b>	- DN 3"/80mm - DN 24"/600mm	300 psi/20 bar
		Other on request	
<b>Standard Flange connection:</b>	<b>VG / WG</b>		
		- ASME B16.5 Class 150	
		- ASME B16.47 Serie A Class 150	
		- EN 1092-2 PN 10	
<b>HG</b>		- ASME B16.5 Class 150/300	
		- ASME B16.47 Serie A Class 150/300	
		- EN 1092-2 PN 16/25	
		Others on request	
<b>Directives:</b>	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

WG  
HG

### ORBINOX VALVES INTERNATIONAL

Parque Tecnológico de San Sebastián  
Pº Mikeletegui, 56-planta 3º  
20009 DONOSTIA-SAN SEBASTIAN, SPAIN  
Tel. + 34 943 69 80 30  
Fax: + 34 943 30 92 83  
e-mail: ovi@orbinox.com

#### EUROPE

**ORBINOX S.A.**  
ANOETA, GIPUZKOA • SPAIN  
orbinox@orbinox.com

**ORBINOX UK**  
BOGNOR REGIS, WEST SUSSEX • UK  
uk@orbinox.com

**ORBINOX COMERCIAL**  
BELAUNTZA, GIPUZKOA • SPAIN  
comercial@orbinox.com

**ORBINOX GERMANY**  
SCHWERTE, NRW • GERMANY  
germany@orbinox.com

**ORBINOX FRANCE**  
GENAS, REGION LYONNAISE • FRANCE  
france@orbinox.com

**DAMPER TECHNOLOGY LTD**  
EASTWOOD, NOTTINGHAM • UK  
sales@dampertechnology.com

#### ASIA

**ORBINOX INDIA**  
COIMBATORE, TAMIL NADU • INDIA  
india@orbinox.com

**ORBINOX CHINA**  
BEIJING / SHANGHAI • CHINA  
china.sales@orbinox.com

**ORBINOX S.E.A**  
JAKARTA • INDONESIA  
orbinox.sea@orbinox.com



#### AMERICA

**ORBINOX CANADA**  
LAVAL, QUEBEC • CANADA  
canada@orbinox.com

**ORBINOX USA**  
AMORY, MISSISSIPPI • USA  
usa@orbinox.com

**ORBINOX BRAZIL**  
INDAIATUBA, SAO PAULO • BRAZIL  
brasil@orbinox.com

**ORBINOX CHILE**  
SANTIAGO • CHILE  
chile@orbinox.com

**ORBINOX PERU**  
LIMA • PERU  
peru@orbinox.com

Technical information at:

[www.orbinox.com](http://www.orbinox.com)

ORBINOX reserves the right to change specifications without notice



03/2018



VG/WG/HG  
Knife gate valves  
for slurry service





# Knife gate valves for slurry service

VG  
WG  
HG



VG

WG  
HG

ORBINOX knife gate valves for slurry have 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. These valves are the result of years of research, development and testing, as well as of our experience in the most demanding applications.

They are on/off, bidirectional, full bore and mono-block body

knife gate valves. 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 above 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 closure is assured and seat damage is prevented.

## Closed position

- When closing, the gate travels between the sleeves, which then seal on either side of the gate.
- 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 valve ensures a tight shut-off in bidirectional flows.
- The closing stroke is controlled to prevent excessive sleeve compression and stress.



## 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 metal core / Other on request

## Main Features

### Body

- Wafer style VG and wide face-to-face distance WG / HG available
- The body is a single cast/fabricated part (mono-block) design and maintenance free
- The open design of the lower part of the valve allows the discharge of the slurry that has entered the body when closing or opening the valve, assuring a full gate closure. Splash guards can be optionally provided to convey this slurry media to a drain line. Flushing ports can also be added to improve the evacuation of this slurry media from the body

### Gate

- Made of stainless steel, polished on both sides and of rectangular shape, the bottom 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 sleeve wear, ensuring optimum slurry isolation

### Seat/Sleeves

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

### Packing

- The maintenance free EPDM standard gland packing for VG /WG valves 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 is standard for HG valve and also available for VG /WG valves

### 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

## Actuator types

Manual:



Handwheel with rising stem



Bevel Gear

Automatic:



Pneumatic cylinder

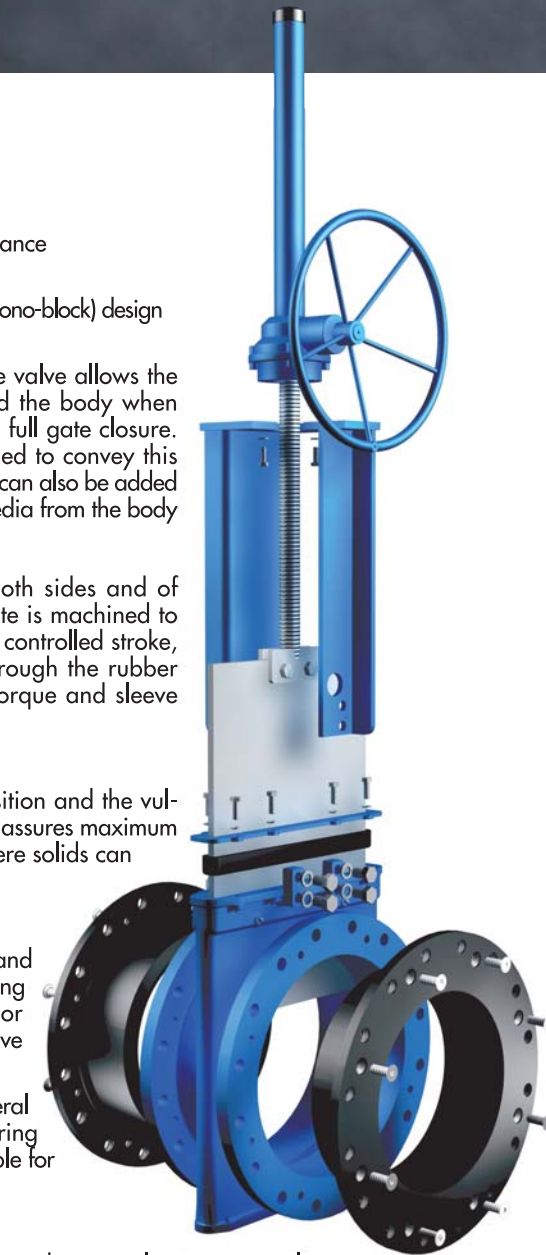


Hydraulic cylinder



Electric actuator

One of ORBINOX's main features is that all actuators are interchangeable with each other



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



Splash guards

