

**ORBINOX**

VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

Valves for  
mining



# MORE THAN 55 YEARS

ORBINOX is present in more than 70 countries with over 55 years of experience designing, manufacturing and marketing knife gate valves, sluice gates, dampers, and valves for hydraulic works.

We are today a global leader in the manufacturing of knife gate valves.

Product quality and customer satisfaction are our goals. We have a highly qualified and experienced team providing the best solutions to suit the needs of our customers. Our production plants are equipped with the most up to date machinery which combined with our modular product design and production-to-order system, allows us to be highly flexible with specifications and delivery times.



# WIDE PRODUCT RANGE

We offer a wide range of knife gate valves, sluice gates, dampers and valves for hydraulic works which cover a large variety of applications in various business segments such as Water & Waste Water Treatment, Mining, Power Generation, Pulp & Paper, Food & Beverage, Bulk Handling, Steel Industry, Air Separation and Dams, Reservoirs and Hydro Solutions.

Product innovation and product quality are key values for ORBINOX, allowing us to adapt to increasingly faster market changes and to maintain our leadership.



# LEADING MANUFACTURER OF KNIFE GATE VALVES




7 manufacturing plants  
and 14 sales companies

With 7 Manufacturing Plants in Europe, the Americas and Asia, 14 Sales Companies and an extensive network of Distributors worldwide, ORBINOX is currently present in over 70 countries across the five continents, enabling us to be close to our customers in order to offer technical advice and respond to their requirements.

We think globally, whilst applying local expertise.

## ORBINOX IN MINING



Mining is one of the main industrial segments for ORBINOX. As a result of our long experience in knife gate valve design and manufacturing for mining applications, ORBINOX offers today a comprehensive range of slurry knife gate valves.

Our goal at all times is to offer excellent performance and low maintenance downtime solutions that solve our Customers' most demanding application needs.

Our experience in the design and manufacturing of special valves allows us also to adapt to special application requirements. ORBINOX has the capacity to customize solutions by offering the appropriate valve for every application.



# MINING APPLICATIONS

Abrasion, erosion and corrosion are the main challenges of slurry applications. Fluid handling equipment must be specifically designed and manufactured to operate under these conditions.

## CONCENTRATION PLANTS

After crushing, the ore is conveyed to the concentration plant.

When further reducing the particle size in the comminution area (crushers, high pressure grinding rolls, autogenous and semi-autogenous mills, ball mills, etc.), the produced slurries are usually of high solid concentration and large particle size. Our rugged heavy duty SER.65 (WG) valve has been specifically designed to operate in these severe conditions.

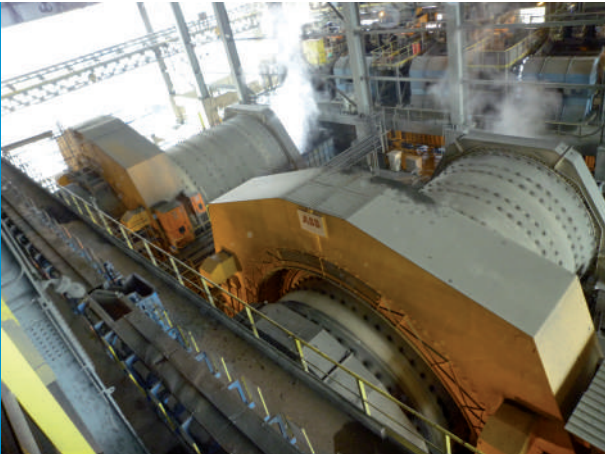
In the cyclones, where the mineral ore is first separated based on size, the SER.65 (WG) valve provides an exceptional performance due to particle size and concentration. The lighter construction and more economical SER.61 (VG) valve is also an excellent solution depending on the mineral type, concentration and size.

In the separation process based on particle type (usually flotation cells, also gravity separation or magnetic separation) where the particle size is small, our SER.61 (VG) valve has an excellent performance.

The concentrated mineral ore is then dewatered in the thickeners. Both, SER.61 (VG) and SER. 65 (WG) valves are, depending on each mine's process, perfect solutions for these units.

Finally, the mineral goes through filtering (usually vacuum or press filters). SER.61 (VG), SER.65 (WG) valves offer efficient performance.

Tailings: different valves can be used in the handling of tailings or the left-over materials separated from the mineral ore. Depending on the process pressure, SER.61 (VG), SER.65 (WG) and SER.68 (HG) valves can be used.



## LEACHING PLANTS

After crushing and, in many cases, also milling as in the concentration plants, copper, gold, silver and many other metal ores are processed in leaching plants.

Our SER.61 (VG) and SER.65 (WG) valves are well suited for tank leaching processes, both in the same leaching process in tanks and vats as well as in the subsequent thickening and filtering stages. The valves are specifically designed to operate in corrosive environments to provide extended valve life.

Our SER.61 (VG) and SER.65 (WG) valves are also a good solution for certain areas in pressure leaching or in high pressure and temperature leaching in autoclaves.

## OTHER APPLICATIONS

Slurry pipelines: the SER.68 (HG) valve has been designed to operate with slurries at high pressure. Its heavy-duty construction allows to handle either tailing slurries or mineral ore concentrate slurries.

Process water: mines require large quantities of water for many different uses. Our product range for water treatment, such as the SER.10 (EX), SER.20 (ET) and SER.22 (BT) knife gate valves and the MU, CC, RB, SL/SA sluice gates offer excellent solutions for mining water applications.

ORBINOX Slurry Knife Gate Valves have been engineered considering these specific mining operational conditions to guarantee an optimum performance.

# ORBINOX SLURRY KNIFE GATE VALVES

SER.61 (VG)  
Wafer Style



SER.65 (WVG)  
Heavy Duty



SER.68 (HG)  
Heavy Duty  
High Pressure



- Size range  
SER.61 (VG) 2" to 36"  
SER.65 (WVG) 3" to 36"  
SER.68 (HG) 3" to 36"
- Cold working pressure of 150 psi for SER.61 (VG) and SER.65 (WVG) and 300 psi for SER.68 (HG)
- Wafer style body for SER.61 (VG) and heavy duty wide face-to-face body for SER.65 (WVG) and SER.68 (HG)
- Bi-directional 100% bubble-tight shut off
- Full port design for greater flow capacity and minimal pressure drop
- No cavities where solids can collect and prevent the gate from closing
- No metallic parts in contact with the slurry
- Manual, pneumatic, electric and hydraulic actuators available

## OTHER VALVES

SERIES 10/20/22  
Knife Gate Valves

- Wafer or lug type (MSS SP-81)
- Uni- or bi-directional
- Size range: 2" to 36" (SER.10, 84")
- Rising and non-rising stem available
- Wide range of materials available
- Resilient seated and metal-to-metal
- Epoxy-coating on all cast iron/carbon steel components
- Manual, pneumatic, electric and hydraulic actuators
- Bonnets, flush ports, V-ports, special materials, fabricated valves



MU/CC/RB/SL/SA  
Sluice Gates

- Meet or exceed AWWA C561/C513
- Four-side (wall-mounted) and three-side (channel gate) sealing
- Uni- or bi-directional
- Sizes up to 160" x 160"
- Fabricated stainless steel construction. Wide range of materials available
- Self-adjusting sealing and self-cleaning UHMWPE guides
- Rising stem and non-rising stem for gates
- Manual, pneumatic, electric and hydraulic actuators



# ORBINOX SLURRY KNIFE GATE VALVES

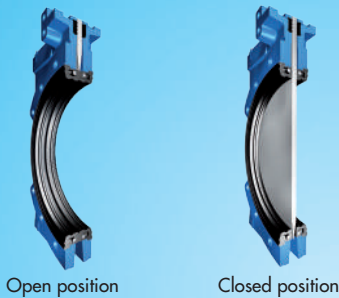
## SERIES 61 (VG)

- Single cast or fabricated monoblock design
- Wafer style body
- Open bottom for body cleaning
- Nodular cast iron body as standard, other materials available
- Flushing ports available for body cleaning
- Rectangular shape stainless steel gate, polished both sides and with the bottom end machined to an edge. Other materials and gate coatings available
- Patented bidirectional double elastomer sleeve design with internal steel ring

Material	Max.Temp	Applications
Natural rubber	80 °C	General
EPDM	120 °C	Acids and non-mineral oils
CR (Neoprene)	90 °C	Oils and solvents
NBR (Nitrile)	100 °C	Hydrocarbons, oils and greases
FKM (Viton)	200 °C	High temperature

- In the open position, sleeves are compressed against each other. In the closed position, the gate is between the sleeves. Both cases are 100% tight shut-off

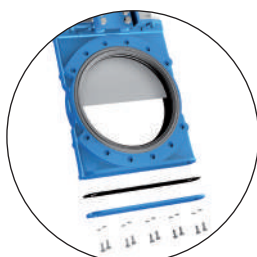
### BI-DIRECTIONAL DOUBLE SLEEVE DESIGN



Open position

Closed position

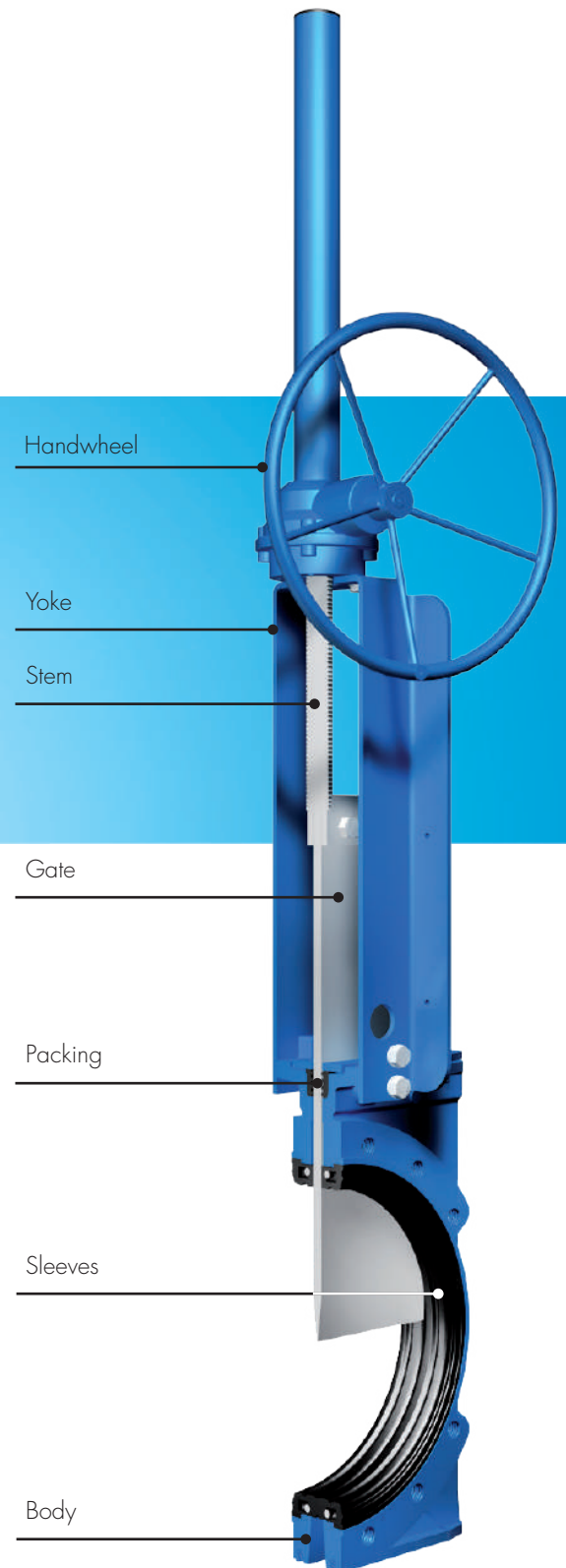
- Maintenance free EPDM gland packing. PTFE compression packing plus O-ring available
- Stainless steel stem
- Reinforced yoke design in large sizes
- Optional gate lockout system available
- Epoxy coating on all cast iron and carbon steel components
- Extensions and floor stands
- Automated valves with gate guards in accordance with safety standards
- Wide variety of accessories available: limit & proximity switches, mechanical stops, solenoid valves, manual overrides and fail safe systems
- Splash guards, flat plate and tubular design available



Flat Plate

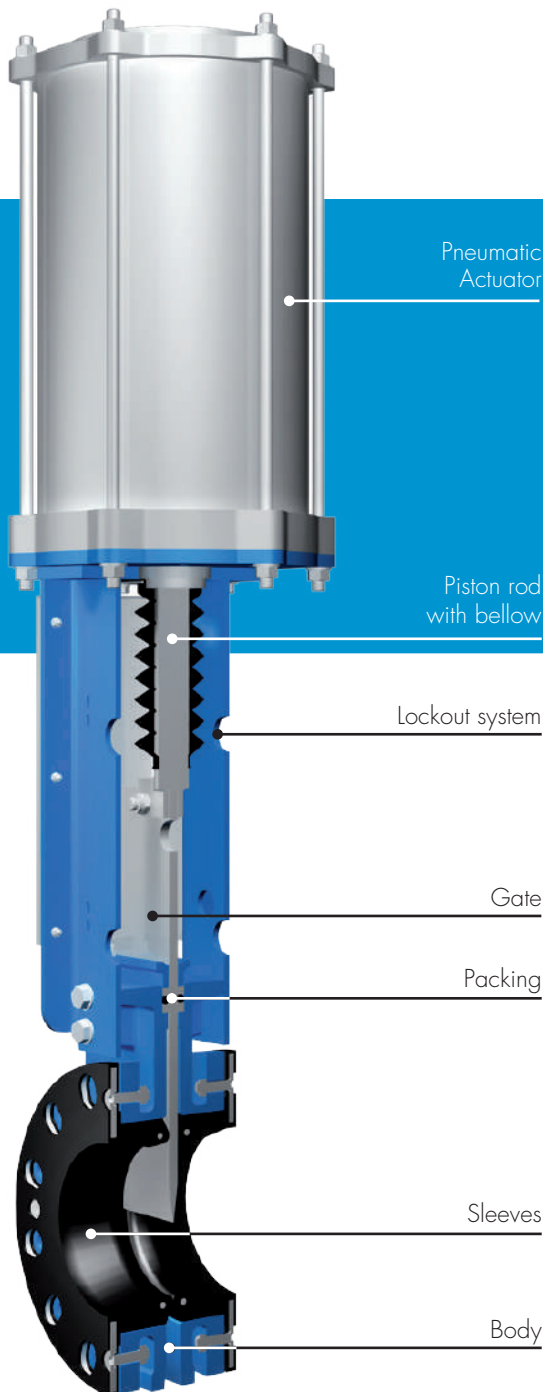


Tubular Design

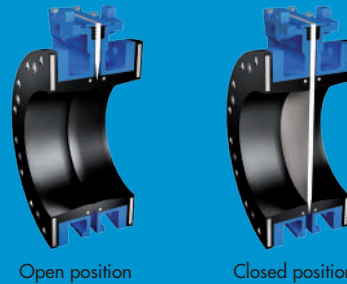


# SERIES 65 (WG) & SERIES 68 (HG)

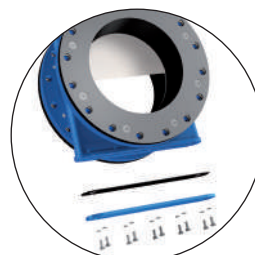
- Single cast or fabricated monoblock design
- Flanged body
- Open bottom for body cleaning
- Nodular cast iron body as standard, other materials available
- Flushing ports available for body cleaning
- Rectangular shape stainless steel gate, polished both sides and with the bottom end machined to an edge. Other materials and gate coatings available
- Heavy duty bi-directional double elastomer sleeve design with internal steel ring
- Availability of same range of sleeve materials as for SER.61 (VG)
- In the open position, sleeves are compressed against each other. In the closed position, the gate is between the sleeves. Both cases are 100% tight shut-off



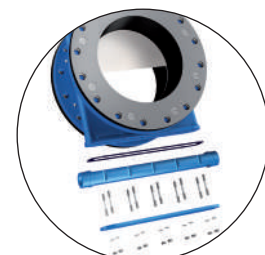
## BI-DIRECTIONAL DOUBLE SLEEVE DESIGN



- Gaskets for valve installation not required
- Maintenance free EPDM gland packing for SER.65 (WG). PTFE compression packing plus O-ring for SER.68 (HG), also available for SER.65 (WG)
- Stainless steel stem
- Reinforced yoke design
- Optional gate lockout system available
- Epoxy coating on all cast iron and carbon steel components
- Extensions and floor stands
- Automated valves with gate guards in accordance with safety standards
- Wide variety of accessories available: limit & proximity switches, mechanical stops, solenoid valves, manual overrides and fail safe systems
- Splash guards, flat plate and tubular design available



Flat Plate



Tubular Design





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VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

MEMBER OF THE  GROUP

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