

High Pressure Knife Gate Valve

The **Aranzu** High Pressure Knife Gate Valve is engineered for the demanding conditions of paste backfill and slurry pipeline systems in the mining industry. Designed to handle high-pressure and high-density slurries, this valve provides reliable isolation and flow control in systems where conventional valves fail prematurely due to abrasive media and pressure surges. The valve design allows for tight shut-off, bi-directional sealing, and minimal maintenance, making it ideal for both static and dynamic paste backfill and slurry operations.



- Design** ➔ The High Pressure Knife Gate Valve features a CF8M stainless steel body with a hardened stainless-steel gate and replaceable wear sleeves, providing superior resistance to abrasion and corrosion. Sealing elements are made from PTFE and NBR, optimised for both high-pressure sealing and chemical resistance.

↑ High Pressure Knife Gate Valve cont...

Key design features include:

- **Body material:** CF8M (316 Stainless Steel)
- **Gate material:** 304 / 316 Stainless Steel
- **Sealing system:** PTFE & NBR for high-pressure, slurry-rated sealing
- **Connection type:** High pressure ASME B16.5 Class 600 flanged, Victaulic HP70ES hub-and-clamp, or MPS (Mining Pressure Systems) end connections
- **Pressure rating:** Up to 25 MPa (250 bar)
- **Actuation options:** Electric, pneumatic, or hydraulic with manual override
- **Fail-safe options:** Configurable (open/close/remain) based on client requirements
- **Control integration:** Remote operation via Profinet / Ethernet IP / 24V DC communication protocols

The robust construction and standardised flange interface simplify maintenance and ensure reliable service in the harshest slurry handling environments.

Application → The High Pressure Knife Gate Valve is designed for use in cemented paste backfill, tailings, and slurry transfer pipelines, where flow isolation and pressure control are critical.

Typical applications include:

- Paste backfill plant discharge lines
- Borehole and stope isolation valves
- Process water and return slurry lines
- Emergency pressure relief and diversion circuits

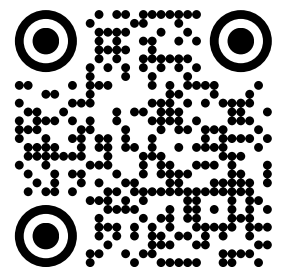
The valve's high structural integrity and sealing reliability make it ideal for underground or surface operations where safety and uptime are paramount.

Variations →

- Available in DN80 to DN450 sizes (larger on request)
- Pressure classes up to Class 1500 / 25 MPa
- Choice of manual, pneumatic, hydraulic, or electric actuation
- Custom coating options for corrosive or humid environments
- Optional battery backup control panels for power redundancy (as used with Diverter and Dump Valves)
- Remote monitoring and SCADA feedback capability

Custom Requirements → Aranzu offers full customisation to meet site-specific requirements, including:

- Alternate materials of construction (Duplex or Super Duplex stainless steel) for severe corrosion environments
- Integration with battery backup systems for remote or power limited installations



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