Subsea Rotary Gate Valves
Intelligent engineering for extreme environments
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Unlocking possibilities

It is 20 years since LB Bentley supplied the first small bore valve with API specification to the subsea industry.

Today, exploration is heading into remoter locations with deeper waters and more extreme conditions. Accessing reserves is becoming more challenging than ever before.

In order to enhance recovery rates cost-effectively, operators rely on their hardware. Reliable valves are a vital component of hardware requirements.

With two decades’ experience, we have the edge when it comes to designing and developing small bore subsea valves. We pioneered metal-to-metal sealing technology that reduces the risk of contamination and failure.

We employ some of the brightest minds in the industry to stretch the boundaries of design with creative engineering. The outcome is bespoke products that help engineers solve their design challenges. We like to think of it as a partnership approach.
20-year field proven

Our rotary gate valve is beautiful in its simplicity. With 100% continuous metal-to-metal design across stem, seat-to-gate and seat-to-body, it performs reliably even with the dirtiest of fluids. The valve’s innovative ‘wiping’ action means it is self-cleaning, which further promotes longevity.

Compact design reduces the size and weight of the product. It has minimal moving parts and a time-saving quarter-turn mechanism that can be operated manually or with hydraulics. Even in the event of over-torque the internal parts of the valve cannot be damaged; it will continue to rotate and function as normal.

Robust and simple, each of our rotary gate valves can suit many applications and various media, from hydraulic fluids to well fluids to injection chemicals. Porting and mounting arrangements can be tailored according to need. Body size, stems, seals and ROV interfaces can be rationalised if required.

Versatile

Every Christmas tree and manifold has its own specifications. That’s why our valves are custom-made in line with their purpose and the space envelope.

It all adds up to better quality and cost-efficiency. And that means maximum assurance surrounding safety, performance and reliability.
Features

Our rotary gate valves can be supplied in a wide range of operating pressures, working pressures and operating temperatures. Standard features are outlined below, but if you need something different please contact us.

Sizes
✓ 3/8 inch
✓ 1/2 inch
✓ 3/4 inch

Service
✓ Control fluids
✓ Well fluids containing H2S / CO₂ gas
✓ Injection chemicals

Operating interface
✓ Hydraulic operator with manual override
✓ Manual tee-bar operation
✓ ROV interface

Connections
✓ Threaded
✓ Welded
✓ Flanged
✓ Manifold mounted

Metal-to-metal sealing
✓ Gate/seat
✓ Seat/body (with elastomeric environmental seal)
✓ Stem/body (primary), with chevron seal set (secondary)

Multiple valves
✓ Available in mono-block, e.g. double block and bleed or several valves as required for chemical injection manifolds

3/8 inch rotary valve

1/2 inch rotary valve

Rotary valve with hydraulic actuation
Technical specifications

Pressure ratings (standard valves)
5,000 psi
10,000 psi
15,000 psi
16,500 psi

Operating depth
3,000 metres
Water depth insensitive, due to no-volume displacement design

Performance specification
Tested to API 6A appendix F PR2

Temperature range
3/4” range P-U (-20°F [-29°C] to +250°F [+121°C])
3/8” and 1/2” range (-20°F [-29°C] to +302°F [+150°C])

Design life
25 years

Hydraulic operating pressures
3,000 psi
5,000 psi

Typical materials
Available in API material classes FF to HH and NACE MR-0175/ISO 15156

Acceptable torque (without damage)
250 lb.ft.
Higher capacities available if required

1/2 inch rotary valves

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<tr>
<th>Size</th>
<th>Pressure psi</th>
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<td>3/8&quot;</td>
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Contact

We understand the challenges of deep sea production and push boundaries to deliver intelligently engineered, bespoke small bore valves.

We exceed required industry standards to future-proof our products and protect your investment.

We are part of Severn Glocon Group’s global valve engineering network.

We are LB Bentley. Contact us today to find out how we can work with you to maximise efficiency and safety in your subsea operations.

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The Severn Glocon Group policy is one of continuous improvement and we reserve the right to modify these specification details without notice.