SUBSEA RANGE.
ALCO VALVES DELIVER TRUSTED SOLUTIONS FOR CRITICAL APPLICATIONS.
The Alco Valves Group has been delivering quality, precision and excellence for its customers since 1977. In that time the business has evolved into the choice supplier of technically advanced valve products and solutions for critical applications across the globe.

The Alco Valves Group’s extensive range of valves and accessories are precision made to fit the bespoke applications using advanced machinery and manufacturing processes. Quality assurance is of the utmost importance to Alco and the group holds a number of internationally recognised quality standards certifications and management systems.

The Alco Valves Group now operates in over thirty countries worldwide with office locations in the UK and Malaysia. In 2016 the group developed its flagship headquarters in Yorkshire, UK, establishing it as a state of the art production and technology centre. This is where innovation comes to life and products are designed, tested and manufactured using the latest industry-led technology.

This dedication to operational excellence runs throughout the business, from customer service right through to the safety and reliability of products. The Alco Valves Group is committed to continual improvement and infrastructure investment as it aspires to be the most technologically advanced valve provider in the world.
 SUBSEA PRODUCTS

SSB1 Subsea Instrument Ball Valve
SSC1 Centurion API Ball Valve
SSC2 Centurion ASMI Ball Valve
SSC3 Centurion Long Life Ball Valve
SSC4 Centurion 3 Way Ball Valve
SSN1 Substar PR2 Needle Valve
SSN2 Substar PR2 Needle Valve
SSN3 Substar PR2 Needle Valve
SSN4 Substar PR2 Needle Valve
SSTMS3 Trunnion Mounted Ball Ball Ball Valve
SSTMS2 Trunnion Mounted Ball Needle Ball Valve
SSTMS1 Trunnion Mounted Ball Valve
SSTMS4 Trunnion Mounted 3 Way Ball Valve
SSTMM1 Trunnion Mounted Ball Valve
SSTMM2 Trunnion Mounted Ball Needle Valve
SSTMM3 Trunnion Mounted Ball Ball Ball Valve
SSTMM4 Trunnion Mounted 3 Way Ball Valve
SSMS Small Bore Trunnion Ball Valve
SSCV Check Valve
SSTS Temporary Service Ball Valve
SSTMS1 Trunnion Mounted Ball Valve
Alco Valves manufacture a range of high integrity bar stock instrument ball valves for light to medium subsea service applications. The SSB1 is a floating pattern ball valve design that can be configured with threaded end connections in various materials. It provides a superb shut-off solution with a smooth 90 Degree operation for pressures up to 10,000 psi and a maximum working depth of 300 metres (1000 ft). Product qualifications to API and internationally recognised standards are available on request.
Pressure Rating
Up to API 6A 10,000 psi

— Threaded pipe connections
— Handle, ROV and diver operated
— Bare stem / Actuation options available
— Single block isolation
— Full and reduced bore options from 6mm - 13mm
— Suitable for underwater service depth to 300m (1000 ft)
The Centurion is a floating pattern ball valve originally designed for a high pressure compressed natural gas application, where the design was substantiated by performing over 1,000,000 cycles. The Centurion design has also been PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009. Extensive testing and operational experience demonstrates the Centurion valve provides superior sealing solutions where safety and reliability for extended life are required at pressures up to 10,000 psi and a maximum working depth of 3000 metres (10,000 ft).
Pressure Rating
Up to API 6A 10,000 psi

- Choice of operators: Bare stem (for user actuation), lever or low torque ROV paddle
- Connection options include: Flanged, threaded and welded
- Suitable for underwater service up to 3000m (10,000ft)
- Body, stem and ingress seals
- Available in 10mm and 13mm bore sizes (19mm on request)
- Single block, double block or double block and bleed available
- Triple stem sealing design
- PR2 performance verification testing to API 6A
- Lip seal primary seals
- O-ring secondary and tertiary seals (as applicable)
- NPT, BSPP and BSPT thread options
- Schedule pipe or customer defined stub tubes
- SAE connections available on request
This subsea valve range is designed for superb sealing keeping flow media in and the outside liquid out. Usual Alco high performance in guaranteed combined with excellent external sealing providing a working depth of up to 10,000ft. The SSC2 range offers single block, double block and double block and bleed options designed to ASME specifications with threaded, welded or flanged connections. The in-house design team can accommodate most requirements.
Pressure Rating
Up to API 10,000 psi

— Choice of operators: Bare stem (for user actuation), lever or low torque ROV paddle
— Connection options include: Flanged, threaded and welded
— Suitable for underwater service up to 3000m (10,000ft)
— Body, stem and ingress seals
— Available in 10mm and 13mm bore sizes (19mm on request)
— Single block, double block or double block and bleed available
— Triple stem sealing design
— PR2 performance verification testing to API 6A
— Lip seal primary seals
— O-ring secondary and tertiary seals (as applicable)
— NPT, BSPP and BSPT thread options
— Schedule pipe or customer defined stub tubes
— SAE connections available on request
Alco Valves utilised the technical design of the Centurion ball valve to provide a three way version suitable for diverting high pressure lines as well as providing shut off in a single valve body. The three way centurion is offered as a bottom entry design as standard and was developed for high flow applications of pressures up to 10,000 psi as a maximum working depth of 3000 metres (10,000 ft) and has up to a 50 year life span.
Pressure Rating
Up to API 10,000 psi

— Choice of operators: Bare stem, lever or low torque ROV paddle
— Connection options include: Flanged, threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— Available in 10mm and 13mm bore sizes (19mm on request)
— Triple stem sealing design
— PR2 performance verification testing to API 6A
— Mixing or diverting flow
— Optional ROV guide receptacle
— Schedule pipe or customer defined stub tubes
— SAE connections available upon request
**SSC4 - Centurion 3 Way Ball Valve Range**

This Sub-Tek valve range is designed for superb sealing keeping flow media in and the outside liquid out. Usual Alco high performance is guaranteed combined with excellent external sealing providing a working depth of up to 10,000ft.

The SSC4 range offers single block, multiport options designed to API specifications with threaded or welded connections. The in-house design team can accommodate most requirements.

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### Flow Diagram

- Outlet
- Outlet
- Inlet

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**Valve Construction**

- Valve Body
- End Connector
- L-Port Ball
- Ingress Seals
- Valve Bonnet
- ROV Receptacle with Paddle
— Choice of operators: Bare stem (actuated), lever or ROV paddle
— Connection options include: Threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— Body, stem and ingress seals
— Available in 10mm and 13mm bore sizes (19mm on request)
— 3 way multiport solution
— Triple stem sealing design
— PR2 performance verification testing to API 6A
— Lip seal primary seals
— O-ring secondary and tertiary seals (as applicable)
— NPT, BSPP and BSPT thread options
— Schedule pipe or customer defined stub tubes
SSN1 - Substar PR2 Needle Valve

The Substar needle valve utilises a metal to metal, anti-rotating tip for superior shut off that can be configured with various end connections in various materials. The range has been successfully PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009 and in addition has been endurance tested to TOTAL GS-EP-SPS-005 completing over 1200 cycles. The SSN1 is offered as a single block isolation valve.
Pressure Rating
Up to API 10,000 psi

— Connection options include: Flanged, threaded and welded
— Single block isolation
— 10mm or 12mm bore size options
— Diver operated only
— Suitable for underwater service up to 3000m (10,000ft)
— PR2 performance verification testing to API 6A
— Schedule pipe or customer defined stub tubes
The Substar needle valve utilises a metal to metal, anti-rotating tip for superior shut off that can be configured with various end connections in various materials. The range has been successfully PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009 and in addition has been endurance tested to TOTAL GS-EP-SPS-005, completing over 1200 cycles. The SSN2 is a single block and bleed configuration for instrumentation.
Pressure Rating
Up to API 10,000 psi

— Connection options include: Flanged, threaded and welded
— Single block and bleed
— 10mm or 12mm bore size options
— Diver operated only
— PR2 performance verification testing to API 6A
— Suitable for underwater service depth of 3000m (10,000ft)
— Coded handle colours and shapes for ease of operation
— Schedule pipe or customer defined stub tubes
SSN3 - Substar Double Block and Bleed Needle Valve

The Substar needle valve utilises a metal to metal, anti-rotating tip for superior shut off that can be configured with various end connections in various materials. The range has been successfully PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009 and in addition has been endurance tested to TOTAL GS-EP-SPS-005, completing over 1200 cycles. The SSN3 has a double block and bleed configuration for instrumentation.
Pressure Rating
Up to API 10,000 psi

— Connection options include: Flanged, threaded and welded
— Double block and bleed configuration
— Needle vent valve
— 10mm or 12mm bore size
— Diver operated only
— PR2 performance verification testing to API 6A
— Suitable for underwater service depth of 3000m (10,000 ft)
— Coded handle design to prevent incorrect operation
SSN4 - Substar Manifold
Direct Mount

The Substar manifold is suitable for direct mounting for use with differential pressure transmitters. The Substar needle valve utilises a metal to metal, anti-rotating tip for superior shut off that can be configured with various end connections in various materials. The range has been successfully PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009 and in addition has been endurance tested to TOTAL GS-EP-SPS-005, completing over 1200 cycles.
Pressure Rating
Up to API 10,000 psi

— Connection options include: Threaded and welded
— Double block and bleed configuration
— 10mm bore
— Diver operated only
— PR2 performance verification testing to API 6A
— Suitable for underwater service depth of 3000m (10,000 ft)
— Coded handle colours and shapes for ease of operation
The SSCVP is a piston check valve designed with sealing suitable for gas or liquid service. PR2 qualified to API specification 6A, 20th Edition / ISO 104232: 2009, the SSCVP can be offered to API or ASME standards in a range of materials for service pressures up to 10,000 psi and a maximum working depth of 3000m (10,000 ft).
Flow Direction
Up to API 10,000 psi

— Connection options include: Flanged, threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— 13mm (1/2") to 50mm (2") bore size options
— Check valve design can be incorporated into other valve configurations
The SSTS is a floating ball valve designed for light to medium duty subsea service. The range can be configured with soft or metal seats for demanding service conditions and can be offered to API or ASME standards in a range of materials for service pressures up to 10,000 psi and a maximum working depth of 3000m (10,000 ft).
Pressure Rating
Up to API 10,000 psi

— Single isolate configuration
— Connection options include: Flanged, threaded or welded
— ROV, bare stem or diver operated options available
— Suitable for underwater service depth of 3000m (10,000 ft)
— 13mm to 150mm bore size options
The SSTMS1 is a single isolate trunnion ball valve designed for light to heavy duty subsea service. PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009, the SSTM range can be offered with soft or metal seats for demanding service conditions. The design can be offered to API and ASME standards in a range of materials for service pressures up to 10,000 psi and a maximum working depth of 3000m (10,000 ft).

**Valve Construction**

1. ROV Operation Drive
2. ROV Receptacle
3. Position Indicating SHC Screws
4. Flanged Body
5. Bolt On Flange
6. Trunnion Ball
Pressure Rating
Up to API 10,000 psi

— Single isolate configuration
— Connection options include: Flanged, threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— 13mm up to 250mm bore sizes available
— Soft seat design
— Trunnion design
— ROV, gearbox or diver operated
— PR2 performance verification testing to API 6A available
The SSTMS2 is a single block and bleed trunnion ball valve designed for light to heavy duty subsea service. PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009, the SSTMS range can be offered with soft or metal seats for demanding service conditions. The design can be offered to API or ASME standards in a range of materials for service pressures up to 10,000 psi and a maximum working depth of 3000m (10,000 ft).
Pressure Rating
Up to API 10,000 psi

- Single block and bleed configuration
- Ball or Substar needle valve vent options
- Connection options include: Flanged, threaded and welded
- Suitable for underwater service depth of 3000m (10,000ft)
- 13mm up to 250mm bore sizes available
- Soft or metal seat options
- Trunnion design
- ROV, gearbox or diver operated
- PR2 performance verification testing to API 6A
The SSTMS3 is a double block and bleed trunnion ball valve designed for light to heavy duty subsea service. PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009, the SSTMS range can be offered with soft or metal seats for demanding service conditions. The design can be offered to API or ASME standards in a range of materials for service pressures up to 10,000 psi and a maximum working depth of 3000m (10,000 ft).

Flow Diagram

- Lever Handle
- Valve Body
- Trunnion Ball
- Bolt On Flange
- Bolt On Venting Ball Valve
- Vent Plug
Pressure Rating
Up to API 10,000 psi

— Double block and bleed configuration
— Ball or Substar needle valve vent options
— Connection options include: Flanged, threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— 13mm to 250mm bore size options
— Soft or metal seat options
— Trunnion design
— ROV, gearbox or diver operated
— PR2 performance verification testing to API 6A available
This subsea valve range is designed for superb sealing keeping flow media in and the outside liquid out. Usual Alco high performance in guaranteed combined with excellent external sealing providing a working depth of up to 10,000ft. The SSTMS4 range offers a single block 3 way design to API specifications with threaded connections. The in-house design team can accommodate most requirements.

**Flow Diagram**

1. Outlet
2. Inlet
3. Outlet
4. Outlet
5. Bottom End Connector
6. Lever Handle
7. Ingress Seal
8. Valve Body
9. End Connector
10. L Port Trunnion Ball
Pressure Rating
Up to API 10,000 psi

— Single block diverting valve
— ROV, gearbox or diver operated
— Soft seat design
— Trunnion design
— Bolted body design
— 13mm up to 25mm bore sizes available
— Connection options include: Flanged, threaded and welded
— Flanges to ASME B16.5 or API 6A
— Suitable for underwater service depth of 3000m (10,000ft)
— Body, Stem and Ingress seals
— PR2 performance verification testing to API 6A available
This subsea valve range is designed for superb sealing keeping flow media in and the outside liquid out. Usual Alco high performance is guaranteed combined with excellent external sealing providing a working depth of up to 10,000 ft.

The SSTMM1 range offers single block and double block options designed to ASME or API specifications with threaded, welded or flanged connections. The in-house design team can accommodate most requirements.
Pressure Rating
Up to API 10,000 psi

— Single isolate configuration
— Connection options include: Flanged, threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— 13mm up to 250mm bore sizes available
— Metal seat design
— Trunnion design
— ROV, gearbox or diver operated
— PR2 performance verification testing to API 6A available
SSTMM2 - Trunnion Mounted Ball Needle Valve Range

This subsea valve range is designed for superb sealing keeping flow media in and the outside liquid out. Usual Alco high performance in guaranteed combined with excellent external sealing providing a working depth of up to 10,000ft.

The SSTMM2 range offers single block and bleed & double block and bleed options designed to API specifications with threaded, welded or flanged connections. The in-house design team can accommodate most requirements.
Pressure Rating
Up to API 10,000 psi

Flow Direction
Bi-directional

— Single isolate configuration
— Connection options include: Flanged, threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— 13mm up to 250mm bore sizes available
— Metal seat design
— Trunnion design
— ROV, gearbox or diver operated
— PR2 performance verification testing to API 6A available
This subsea valve range is designed for superb sealing keeping flow media in and the outside liquid out. Usual Alco high performance in guaranteed combined with excellent external sealing providing a working depth of up to 10,000ft.

The SSTMM3 range offers single block and bleed and double block and bleed options designed to API specifications with threaded, welded or flanged connections. The in-house design team can accommodate most requirements.
— Single isolate configuration
— Connection options include: Flanged, threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— 13mm up to 250mm bore sizes available
— Metal seat design
— Trunnion design
— ROV, gearbox or diver operated
— PR2 performance verification testing to API 6A available
SUBSEA INSTRUMENT BALL VALVES

SSTMM4 - Trunnion Mounted 3 Way Ball Valve Range

Alco Valves utilised the technical design of the SSMS ball valve to provide a three way version suitable for diverting high pressure lines as well as providing shut off in a single valve bod. The SSTM three way trunnion ball valve is offered as a bottom entry design as standard and was developed for high flow applications of pressures up to 10,000 psi as a maximum working depth of 3000m (10,000 ft).

Flow Diagram

• Lever Handle
• Ingress Seal
• Valve Body
• End Connector
• L Port Trunnion Ball
• Bottom End Connector
Pressure Rating
Up to API 10,000 psi

— Choice of operators: Bare stem, lever or low torque ROV paddle
— Connection options include: Flanged, threaded and welded
— Suitable for underwater service depth of 3000m (10,000ft)
— 13mm up to 250mm bore sizes available
— Triple stem sealing as standard
— PR2 performance verification testing to API 6A available
— Mixing or diverting flow
— Schedule pipe or customer defined stub tubes
— SAE connections available on request
The SSMS is a compact trunnion ball valve designed for light to heavy duty subsea service. PR2 qualified to API specification 6A, 20th Edition / ISO 10423:2009, the SSMS range can be offered with soft or metal seats for demanding service conditions. The design can be offered to API or ASME standards in a range of materials for service pressures up to 10,000 psi and a maximum working depth of 3000m (10,000 ft).
Pressure Rating
Up to API 10,000 psi

- Choice of operators: Bare stem, lever or low torque ROV paddle
- Connection options include: Flanged, threaded and welded
- Suitable for underwater service depth of 3000m (10,000ft)
- 5mm bore
- Compact design
- Soft or metal seat design options
- Triple stem sealing as standard
- PR2 performance verification testing to API 6A
- Single block or double block configurations available
- Compact trunnion design