oliver twinsafe

1” TO 24” DOUBLE BLOCK & BLEED PIPELINE VALVES SOLUTIONS TO A STANDARD ASME B16.10 LENGTH
EVERYTHING IN THIS BROCHURE IS AVAILABLE AS A SINGLE ISOLATE VALVE





reliability under pressure



- Double block and bleed valves 1" to 20" bore and 24" Reduced bore.
- Double block and bleed full bore to a standard B16.10 length up to 8" bore size.
- High temperature/high pressure.
- Cryogenic ball valves, side entry.
- Cast and forged body construction.
- Metal and soft seated construction.
- API 10K and API 15K Design's.
- Compact valve and swivel flange.
- Subsea API 6DSS to 12” size.
- Swing check valves.
- Low Emission valves.
- Zero leakage metal seated valves.
- High temperature valves to 500 C.
- Low temperature valves to -196 C.
- Specific requirements for Nuclear, Polymer, Mining & Marine applications.











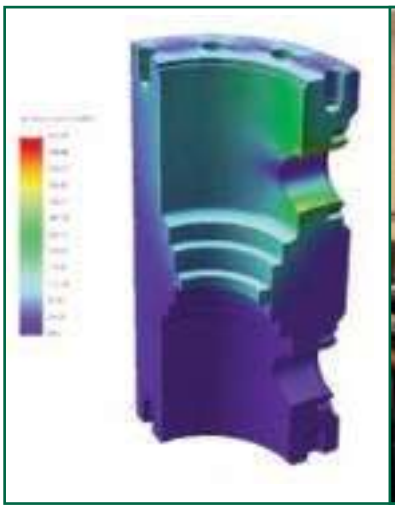
DESIGN

Oliver Twinsafe Valves have invested heavily in the research and development of new products for the Oil and Gas Industry. To aid this research and development process, we maintain in house **Finite Element Analysis (FEA) software package, and 3D capability.**

FEA consists of a computer model of a material or design that is loaded and analysed for specific results. It is used in new product design, and existing product refinement.

This FEA package is coupled with several 3D modelling software seats, so you can be sure that from the initial concepts of a design through to production, the integrity of the valve is guaranteed.







PRODUCTION









PRESSURE TESTING







All Twinsafe Valves are tested in accordance with our own in house high performance test specifications, which operate above and beyond the tests required in ASME B16.34, API 598 and API 6D, thus ensuring the customer receives the highest standard of products.

Oliver Twinsafe Valves has invested in the state of the art test stations to allow larger valves to be tested easily, accurately and quickly on hydro, air and gas media.



PAINTING

Oliver Twinsafe Valves have inhouse the ability to blast and paint valves to our standard three part epoxy paint specifications or customers special paint specifications.







FIRE TESTING



The Fire Test Rig consists of 16 Gas burns, which encapsulate the whole valve in a temperature - controlled flame as required by the usual fire test specifications.

Fire tests can be carried out and certified to all the main fire test specifications such as API 6FA & ISO 10497. Additional fire tests according to unique customer specifications can also be carried out upon request, for both our trunnion and floating soft seated ball valves.

All fire-tested valves come complete with a fire test certificate, which has been certified by an independent body such as Lloyds or DNV etc.

TEMPERATURE

Standard temperature range is -20°C to 150°C in accordance with API6D and higher temperatures to 315°C with metal seated valves, lower temperature option to -50°C and -100°C are also available.

EXPLOSIVE DECOMPRESSION

Explosive decompression occurs when gas at high pressure permeates into seal materials. When the gas pressure is reduced the absorbed gas expands, which can cause the seals to swell and blister. Oliver Twinsafe Valves only use seal material within their 'twinsafe valve' range that are resistant to explosive decompression.

PRESSURE EQUIPMENT DIRECTIVE

Manufactured in accordance with the Pressure Equipment Directive 2014/68/EU and the Pressure Equipment (Safety) Regulations 2016, UK Statutory Instrument 2016 No. 1105.



reliability under pressure

WELD INLAY

A Range of weld inlay materials can be applied to valve bodies and balls.

CAVITY RELIEF

Any undesirable build up of pressure in the ball cavity is relieved automatically past the 'sprung' seat design on trunnion mount balls.

HIGH PRESSURE 10K TWINSAFE

1" and 2" flange size designs to 10,000 PSI are available.

COMPACT CONNECTIONS

Combine the enormous weight savings from the Twinsafe concept with an additional saving in weight which can be achieved by utilising hub connections or compact flanges.



DESIGN

Designed in accordance with the industry Standards i.e. B16.34, ASME VIII, B16.10, B16.5, API 6D.

DEVELOPMENT

Continual development maintains the highest levels of performance and integrity for our Double Block and Bleed Twinsafe valves. Oliver Twinsafe Valves maintains in-house performance and fire test facilities. We also incorporate the latest finite element analysis software in the design of valves.

ANTI STATIC DESIGN

Twinsafe floating and trunnion ball valves incorporate anti static design as standard.



VALVE MARKING

Marking of ball valves to MSS-SP-25 and EN19 standards.

Seat Options - Metal Seated - Soft Seated
(Both single and double piston effect)

Tungsten Carbide Chrome Carbide and stellite metal seats available as well as full range of soft seats.

REDUCED BORES AVAILABLE

ASME B16.5: CLASS 150 TO 2500 AND API 6A: 3000 PSI TO 10000 PSI

REDUCED LEAD TIMES

Oliver Twinsafe valves have the ability to offer expedited lead times on all valves as required.

MAXIMUM SIZES AND CLASSES

1" to 12" Class 150 to 2500lb, 14" to 16" Class 150 to 900lb.

BI - DIRECTIONAL

Twinsafe floating and trunnion ball valves are BI - Directional as standard.

GEAR BOX OPERATION

All Trunnion ball valves are fitted with a gearbox as standard, with watertight casing to IP65 protection rating, strengthened helicoidal gearing, complete with mechanical position indication. De-clutchable manual override gear box and high ratio gear boxes for greater torque output are also available, please consult factory.

VALVE ACTUATION/LIMIT SWITCHES

On one or both of the valves, double acting and spring return, pneumatic or hydraulic actuators are available, limit switches and open and close indication can also be specified. Please consult factory.

CERTIFICATION AND TRACEABILITY

All valves exhibit unique identification coding and material test certificates to BS EN10204 as well as lifetime factory history being available.

FUGITIVE EMISSIONS

Oliver Twinsafe Valves have been tested and qualified to ISO 15848 -1 specification. In addition a selection of the range has been Shell TAT qualified in accordance with 77/300 and we can offer FE production testing to ISO 15848-2 and Shell standard 77/312.

SEAT INJECTION/SPINDLE INJECTION

This is an option, please specify full details to factory.

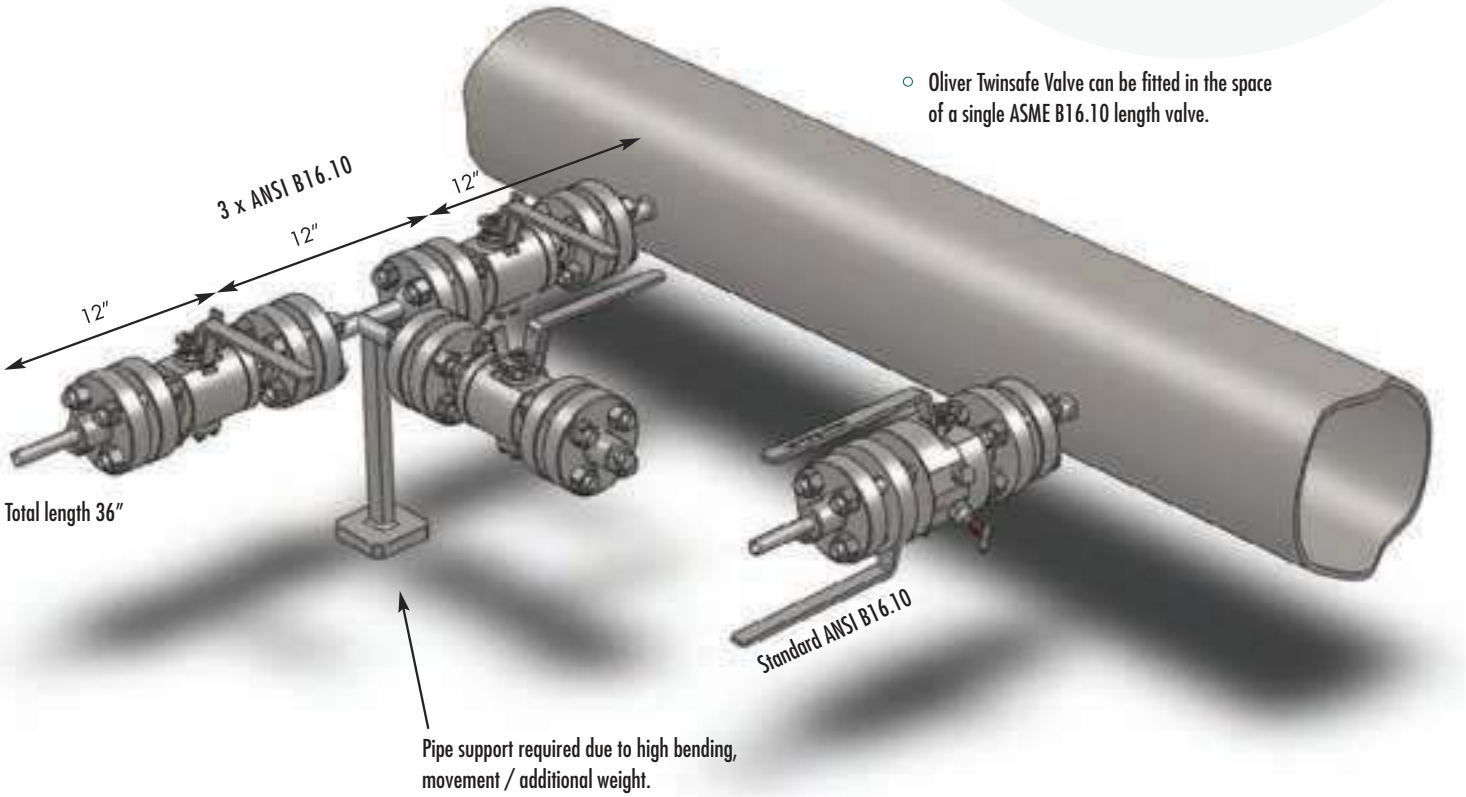
OUR BALL VALVES ARE MANUFACTURED ACCORDING TO:

ASTM	MATERIALS
NACE MR-01-75	MATERIALS
API 6D	MANUFACTURE AND TESTING
ASME B16.34	BALL VALVE DESIGN
ASME B16.5	FLANGED ENDS
ASME B16.10	FACE TO FACE DIMENSIONS (DEPENDANT ON TYPE)
ASME B16.25	BUTT WELD ENDS
ASME B16.11	SOCKET WELD ENDS
ASME VIII	BALL VALVE DESIGN
BS 5351	BALL VALVE MANUFACTURE
BS 6755 PART 1	BALL VALVE TESTING
API 6FA, BS 6755 PART 2	FIRESAFE TESTING
API 607 REV 4	

REGISTERED TRADE MARKS

Twinsafe, Quad Block, Compact Pigging System (CPS) and Compact Standard Length (CSL) are registered trade marks owned by Oliver Twinsafe Limited.

SMALL BORE (FSL) TWINSAFE VALVE SOLUTION
WORLD WIDE PATENT (FLANGE STANDARD LENGTH)



- Oliver Twinsafe Valve can be fitted in the space of a single ASME B16.10 length valve.

YOUR PROBLEM

Weight = 100kg (Based on 1.5" 1500 class).

- 3 Ball valves.
- 24 Bolts.
- 6 Gaskets.
- Additional pipework.
- Expediting of additional parts.
- Additional leak points = 9.
- Safety issues + more increasingly.
- All leak points require inspection prior to commissioning.

OLIVER SOLUTION

Weight = 32kg.

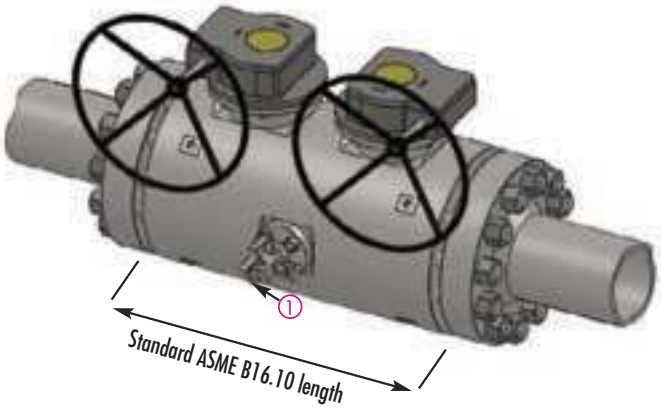
- 1 valve.
- 8 Bolts.
- 2 Gaskets.
- No additional pipework.
- No pipe support required.
- Low bending movement.
- No bore reduction.
- Factory tested - one component.

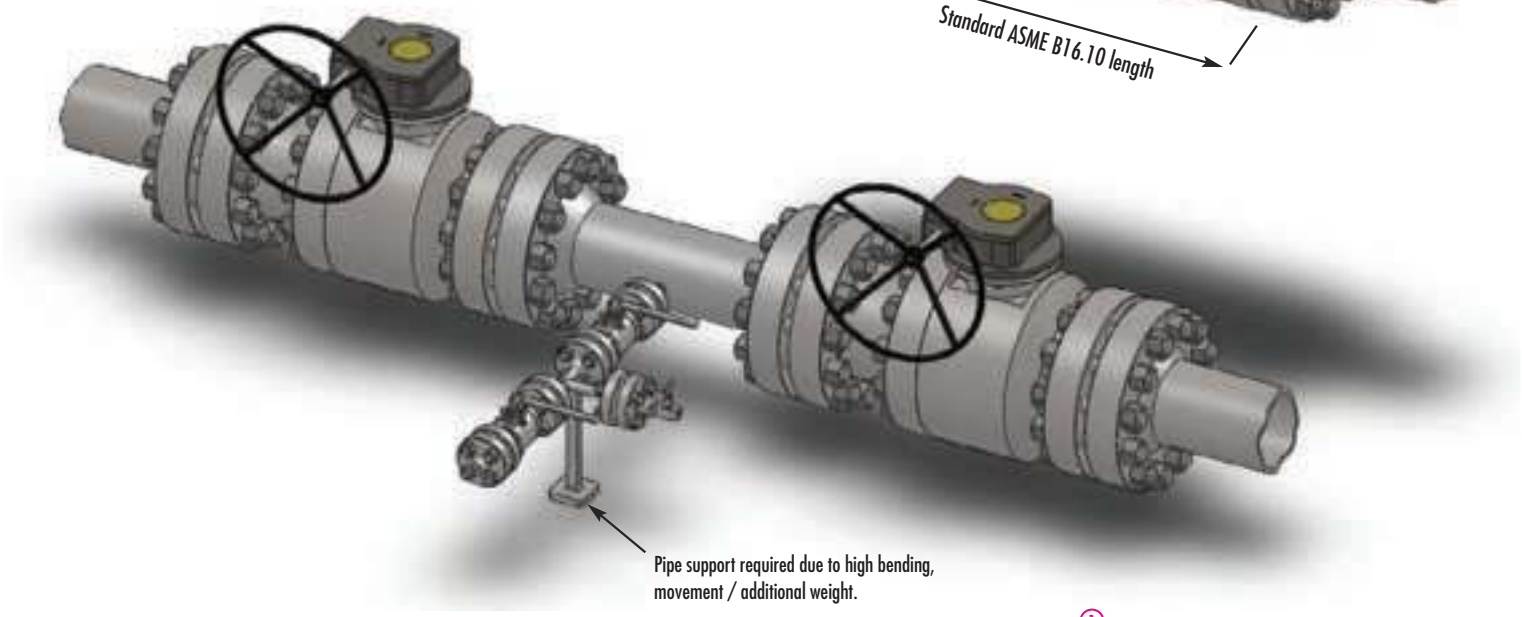
LARGE BORE (CSL) TWINSAFE VALVE SOLUTION
WORLD WIDE PATENT (COMPACT STANDARD LENGTH)

reliability under pressure

Full bore - Larger process return on 6" Twinsafe VS 6" plug valve at $90 a barrel equates to 146,966 barrels or $13,226,940 extra process a day!

Full bore - No system pressure drop hydrate formation, flow cavitation or pig restriction problems.





① **Vent valve** - can be any Double Block and Bleed, mono flange Twinsafe or integral needle valve from Oliver Valves.

YOUR PROBLEM

- **Length** = 3 x B16.10 ASME length.
- **Weight** =Over 21/2 times.
- **Leak points** =(On standard two piece trunnion plate ball valves) 10.

OLIVER SOLUTION

- **Space saving- cost saving.** - Replace ASME B16.10 single isolate ball valve with a Double Block and Bleed valve of the same face to face dimension, for additional safety, with no need for pipework modifications.
- **Weight saving - cost saving** - Oliver Twinsafe Valve solution will be at least half the weight when compared to two separate pipeline valves, plus a spool piece.
- **Reduced leak path - safety** - With a reduction of 10 potential leak paths, when compared to separate pipeline valves, the Oliver Twinsafe solution increases safety and saves on the considerable costs involved in leak monitoring on site.
- **Cost saving less items purchased** - Considerable cost savings by purchasing one Double Block and Bleed valve compared to two pipeline valves + vent valves + spool piece + gaskets + bolts + radiography + MPI + man hours to order, expedite and install.
- **No expensive pipework modifications.**
- **Reduction in shipping costs.**

WHY EVERY CUSTOMER SHOULD INSIST ON A OLIVER TWINSAFE FLOATING DBB VALVE



- Oliver Twinsafe Valves produce a range of floating ball double block and bleed ball valves for critical piping applications.
- All Oliver Twinsafe Valves offer true double isolation with two independent ball valves contained in one valve body, guaranteeing absolute shut off and maximising the safe operation of any processing facility.
- Full through bore gives optimum flow capacity thus minimizing pressure loss and maximizing output.
- The range of floating valves are available in three distinct designs: Two piece - bolted construction, either FSL (flanged standard length) - which has 2 ball valves in an ASME B16.10 standard length from 1", 1 1/2" and 2" bore sizes, in ANSI pressure classes 600, 900, 1500 and 2500, or COSL (compact Oliver standard length) in ANSI pressure classes 150 and 300; CSL (compact standard length) - single piece body with overall lengths in accordance with ANSI B16.10 up to 3" full bore Class 600 (larger sizes and pressure classes are available from our trunnion valve range) FOSL (flanged Oliver standard length) - 3-piece bolted construction incorporating standard flanged ends or hub connections up to 3" full bore Class 600 (larger sizes and pressure classes are available from our trunnion valve range).
- A range of soft and metal seat materials are available to suit most applications.
- Standard vent valve option is an integral needle valve, but other options are available.
- Forged bodies, available in wide range of materials.

The key benefits of the Oliver Twinsafe Valves are...

- **Space saving** – the ability to replace single isolate valves with a true double block and bleed valve, but within the same overall length, ensures that expensive pipework is kept to an absolute minimum thus reducing the overall space requirements for associated equipment.
- **Weight saving** – when compared to a conventional double block and bleed hook up of two separate ball valves with a central spool piece and vent valve, weight savings are considerable.
- **Safety (Reduced Leak Paths, Double Isolation)** – when compared to a traditional hook-up of two single 3-piece isolated ball valves with standard trunnion design and a spool piece, the Oliver Twinsafe solution reduces the number of potential leak points by 8. Legislation is moving toward these leak points having to be individually tested to ensure the soundness of each joint, which is an expensive and time consuming operation. Every Oliver Twinsafe Valve has two separate bi-directional ball valves ensuring true double isolation, with various options available for venting of the cavity between each ball valve.
- **Cost saving** – less items purchased. In today's world total cost of project is reviewed by contractors and their users. Compared to a traditional hook-up, considerable cost savings on each installation are achieved, plus additional savings on completion times when you review the costs of man hours for assembly, gaskets, bolts, pipes, valves and fabrication.
- **Full bore, maximum production rates** – full through bore ensures maximum flow rates and allows for pigging of production lines without restriction.

FLOATING - FLANGED STYLE , TWO PIECE CONSTRUCTION
(FSL = FLANGED STANDARD LENGTH) (FOSL = FLANGED OLIVER STANDARD LENGTH)



- Two piece body.
- World Wide Patent No. 2271164.
- 1" NB Size 150, 300 lb = FOSL / 600, 900, 1500, 2500 lb = FSL
- 1 1/2" NB Size 150, 300 lb = FOSL / 600, 900, 1500, 2500 lb = FSL
- 2" NB Size 150, 300 lb = FOSL / 600, 900, 1500, 2500 lb = FSL
- 3" NB Size 150, 300, 600 lb = FOSL
- Floating Ball construction / Needle valve vent / Lever operated.

Note: All Full Bore apart from 2" 900/1500 which is reduced bore to 1 3/4" and 2" 2500 which is Reduced Bore to 1 1/2".

Both configurations are available with Metal seated 1", 1 1/2" and 2" Bores to Class 600 only.



FLOATING - COMPACT STYLE, SINGLE PIECE CONSTRUCTION
(CSL = COMPACT STANDARD LENGTH)



- One piece body.
- World Wide Patent No. 0229303.
- 1" NB Size 150, 300, 600, 900, 1500 lb = CSL
- 1 1/2" NB Size 150, 300, 600, 900, 1500 lb = CSL
- 2" NB Size 150, 300, 600, 900, 1500 lb = CSL
- 3" NB Size 300, 600 lb = CSL
- Floating Ball construction / Needle valve vent / Lever operated.

Note: All Full Bore apart from 2" 900/1500 which is Reduced Bore to 1 3/4".



WHY EVERY CUSTOMER SHOULD INSIST ON A COMPACT STYLE OLIVER TWINSAFE TRUNNION DBB VALVE



- Oliver Twinsafe Valves produce a range of trunnion mounted double block and bleed ball valves for critical piping applications.
- All Oliver Twinsafe Valves offer true double isolation with two independent ball valves contained in one valve body, guaranteeing absolute shut off and maximising the safe operation of any processing facility.
- Full through bore gives optimum flow capacity thus minimizing pressure loss and maximizing output.
- The range of trunnion valves are available in two distinct designs: CSL (compact standard length) - single piece body with overall lengths in accordance with ANSI B16.10 up to 8″ full bore and up to 12″ reduced bore; FOSL (flanged Oliver standard length) - 3-piece bolted construction incorporating standard flanged ends or hub connections, up to 14″ full bore and up to 16″ reduced bore.
- Where ANSI B16.10 length is not possible due to size constraints, but overall length is critical, we can offer COSL (compact Oliver standard length) - single piece body with overall lengths reduced to a minimum, available up to 12″ full bore.
- A range of soft and metal seat materials are available to suit most applications.
- Various vent options are available and our sister company, Oliver Valves, can supply an exhaustive range of vent valve configurations with needle valves from 5.4mm to 20mm bore, with screwed or bolted bonnet; double block & bleed valves, monoflange valves. Oliver Twinsafe vent valves are also available up to 2″ bore.
- Cast & forged bodies are available in wide range of materials.
- Weld inlaying of either the full through bore or the seat cavities and sealing areas is available.

The key benefits of the Oliver Twinsafe Valves are...

- **Space saving** – the ability to replace single isolate valves with a true double block and bleed valve, but within the same overall length, ensures that expensive pipework is kept to an absolute minimum thus reducing the overall space requirements for associated equipment.
- **Weight saving** – when compared to a conventional double block and bleed hook up of two separate ball valves with a central spool piece and vent valve, weight savings of over 50% are not unusual. When applied to a typical metering skid, the reduction in weight and space allows savings on additional pipework and the skid framework giving weight savings of around 33%
- **Safety (Reduced Leak Paths, Double Isolation)** – when compared to a traditional hook-up of two single 3-piece isolated ball valves with standard trunnion design and a spool piece, the Oliver Twinsafe solution reduces the number of potential leak points by 8. Legislation is moving toward these leak points having to be individually tested to ensure the soundness of each joint, which is an expensive and time consuming operation. Every Oliver Twinsafe Valve has two separate bi-directional ball valves ensuring true double isolation, with various options available for venting of the cavity between each ball valve.
- **Cost saving** – less items purchased. In today's world total cost of project is reviewed by contractors and their users. Compared to a traditional hook-up, for example of a 6″ 1500lb double block & bleed installation a total saving of over £5,000 on each installation is achieved, plus additional savings on completion times when you review the costs of man hours for assembly, gaskets, bolts, pipes, valves and fabrication.
- **Full bore, maximum production rates** – full through bore ensures maximum flow rates and allows for pigging of production lines without restriction. For comparison a 6″ double block & bleed plug valve with a CV of 1180 against a 6″ double block & bleed twinsafe ball valve with a CV of 5074 equates to 44,532 barrels per day through the plug valves and 191,489 barrels per day through the Twinsafe valves. At an oil price of $90 a barrel this is $13,226,940 a day more through our valve than the plug valve! *Therefore maximum through bore equals maximum profit.*

COMPACT STYLE, SINGLE PIECE CONSTRUCTION (CSL) (COSL)



4" Full Bore 2500 LB
Standard ASME B16.10 Length Twinsafe valve



3" Full Bore 900 LB
Standard ASME B16.10 Length Twinsafe valve



CSL - Retro fit (Brownfield) - offshore



CSL - New build (Greenfield) - offshore



CSL - Onshore



CSL - Offshore

WHY EVERY CUSTOMER SHOULD INSIST ON A FLANGED THREE PIECE CONSTRUCTION

reliability under pressure



- FOSL has two isolation valves in the shortist possible length and utilises flange connections or hub connections.
- **Space saving**, the ability to replace single isolate valves with a true double block and bleed valve, but within the same overall length, ensures that expensive pipework is kept to an absolute minimum thus reducing the overall space requirements for associated equipment.
- **Weight saving**, when compared to a conventional double block and bleed hook up of two separate ball valves with a central spool piece and vent valve, weight savings of over 50% are not unusual. When applied to a typical metering skid, the reduction in weight and space allows savings on additional pipework and the skid framework giving weight savings of around 33%".
- **Safety (Reduced Leak Paths, Double Isolation)** – when compared to a traditional hook-up of two single 3-piece isolated ball valves with standard trunnion design and a spool piece, the Oliver Twinsafe solution reduces the number of potential leak points by 8. Legislation is moving toward these leak points having to be individually tested to ensure the soundness of each joint, which is an expensive and time consuming operation. Every Oliver Twinsafe Valve has two separate bi-directional ball valves ensuring true double isolation, with various options available for venting of the cavity between each ball valve.
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- We have range of different material combinations with a range of seat materials from various soft seating materials to metal seated chrome carbide and tungsten carbide seats. Actuation can be pneumatic, electric, on both valves or one valve.
- We also have many different services. We have great successes in cryogenic, low temperature, LNG, polymer, high temperature, semi-solid and severe service.
- Major benefit to Oliver Twinsafe Valves is our sister company, Oliver Valves, who can supply an exhaustive range of vent valve configurations in various needle valves from 5.4mm to 20mm bore, bolted bonnet, double block & bleed, monoflange and Twinsafe vent valves up to 2" bore – literally anything is possible.
- Cast & forged bodies available and inlaying either 100% or seat cavities are available.

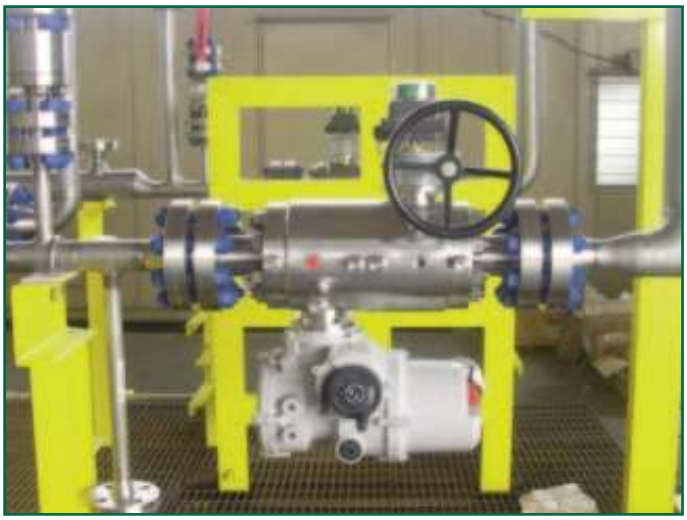
FLANGED STYLE, THREE PIECE CONSTRUCTION (FOSL)



12" 1500lb Full bore
Flanged Oliver Standard Length Twinsafe valve, flanged connections



12" 1500lb Full bore
Oliver Standard Length Twinsafe valve, hub connections







Actuated and hub connection



Monoflange vent (5.4, 8mm bore)



Twinsafe vent (1", 2" bore)



DBB vent (10, 14, 20mm bore)



Needle valve Threaded bonnet vent (5.4, 11, 20mm bore)



Needle valve Bolted bonnet vent (5.4, 11mm bore)

TWINSAFE LEVEL GAUGE VALVES



Type: LGDBB - Twinsafe level gauge Double Block and Bleed valve.
Used in level Gauge applications where a diaphragm seal pressure transmitter is being used.
The problem is media in tank can solidify, small particles build up on sensing faces leading to false readings.
Pressure Transmitter is isolated and will need to be removed for cleaning.
A Twinsafe designed specifically for Diaphragm seal pressure transmitter applications.
Can clean, drain away contaminates and recalibrate transmitter without removal.
Consists of 5 valves in 1 compact unit.

OPERATION
1, Close the two main isolation valves.
2, Open needle valve vent, venting cavity between balls to ensure a true double barrier.
3, Open small flushing drain valve (located on the bottom) to drain media trapped between second isolate & diaphragm seal.
4, Add cleaning solution under pressure through the purge valve (located at top) due to internal drillings, the cleaning solution hits the diaphragm seal from four angled ports cleaning the entire face.
5, After flushing with cleaning fluid, reverse above procedure.

LOW EMISSION VALVES



LE SERIES | PIPELINE VALVES

The Oliver Twinsafe LE Series of trunnion-mounted ball valves have been specially developed to meet the demands of low fugitive emissions, at elevated temperatures up to 350°C.

Oliver has developed a patented design, working closely with a major seal manufacture, to provide Class B leakage rate at high temperatures above 200°C.

The valves are available as a metal seated design, with specially selected materials of construction to ensure full compatibility with project requirements.

Valve Design	API 6D
Pressure Class	ASME Class 150 – 900
Temperature Range	-50°C to +350°C
End Connections	Flanged, Butt Weld, Hub
Size Range	1 to 18in (DN25 to DN500)

DESIGN FEATURES

Single Isolate, DIB or DBB designs available
DVT Qualification tested to Shell standard 77/300
Advanced Polymer sealing technology
Forged 1 piece compact body, 2 piece or 3 piece body designs
Bi-directional sealing
Anti-static device
Anti-Blow out stem
Self-relieving seats
Manual or actuated operation (electric/pneumatic/hydraulic)

TESTING & CERTIFICATION

- Independently tested by Shell to their DVT qualification standard 77/300
- Firesafe qualification testing to ISO 10497, API 6FA and API 607
- Fugitive Emission Testing to 77/312 Class BH
- Pressure Equipment Directive 2014/68/EU

For Sales Enquiries Email or Telephone:

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sales@valves.co.uk | www.valves.co.uk

Customised Valve Specialist

APPLICATIONS: SOUR GAS, HIGH TEMPERATURE, NATURAL GAS & HYDROCARBON PROCESSING

ZERO LEAKAGE VALVES



ZL SERIES | PIPELINE VALVES

The Oliver Twinsafe ZL-Series of trunnion-mounted metal seated ball valves have been engineered to provide true zero leakage, bubble tight isolation capability and repeatability to give longevity in service.

The valve design incorporates field proven metal to metal seating, with carefully selected, low permeable coatings and advanced ball/seat geometries , to provide zero through seat leakage performance.

The robust trunnion design ensures low operating torques, with ISO mounting pad suitable for gear operation or actuator mounting. Custom body and trim materials available based on process application and project requirements

Valve Design	API 6D, API 6A
Pressure Class	ASME Class 150 – 2500 API 6A 3000, 5000, 10,000
Temperature Range	-50°C to +350°C
End Connections	Flanged, Butt Weld, Hub
Size Range	1 to 18 in (DN25 to DN500)

DESIGN FEATURES

High integrity HVOF coating of ball and seats
Single Isolate, DIB or DBB designs available
Forged 1 piece compact body, 2 piece or 3 piece body designs
Bi-directional sealing
Suitable and proven for high-cycle operations (in house testing zero leakage over 400 cycles)
Anti-static device
Anti-Blow out stem
Self-relieving seats
O ring and Lip Seal seals available
Low fugitive emission packing available
Weld overlay of full through bore or sealing areas available
Manual or actuated operation (electric/pneumatic/hydraulic)

TESTING & CERTIFICATION

- Firesafe qualification testing to ISO 10497, API 6FA and API 607
- Fugitive Emission Testing to ISO 15848
- Pressure Equipment Directive 2014/68/EU
- API 6A PR2 Annex F qualification testing – Independently witnessed
- Shell qualification testing to MESC 77/300 – Shell witnessed

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Customised Valve Specialist

APPLICATIONS: UPSTREAM OIL & GAS, MEDIA WITH SOLIDS, HIGH PRESSURE & HIGH TEMPERATURE

HIGH TEMPERATURE VALVES





HT SERIES | PIPELINE VALVES

The Oliver Twinsafe HT-Series of ball valves are specifically designed for high temperature applications where soft seated valves are no longer suitable, typically for process temperatures higher than 200°C (392°F).

The valve design utilises qualified and field proven metal to metal seating, with carefully selected, low permeable coatings, to provide zero leakage performance. In addition, a range of high temperature sealing materials are available, for temperature ratings up to 500°C and also for ultra-low emission applications.

The robust trunnion design ensures low operating torques, with ISO mounting pad suitable for gear operation or actuator mounting. Custom body and trim materials available based on process application and project requirements.

Valve Design	API 6D, API 6A
Pressure Class	ASME Class 150 – 2500 API 6A 3000, 5000, 10,000
Temperature Range	-50°C to +500°C
End Connections	Flanged, Butt Weld, Hub
Size Range	1 to 18 in (DN25 to DN500)

DESIGN FEATURES

Proven high temperature sealing technology for temperatures beyond 300°C
Low fugitive emission packing available
Bi-directional sealing
Forged 1 piece compact body, 2 piece or 3 piece body designs
High integrity carbide coating of ball and seats
Single Isolate, DIB or DBB designs available
Suitable and proven for high-cycle operations (in house testing over 400 cycles)
Specially selected low friction, high temperature bearings allowing high number of cycles
Anti-static device
Anti-Blow out stem
Self-relieving seats
O ring and Lip Seal seals available
Weld overlay of full through bore or sealing areas available
Manual or actuated operation (electric/pneumatic/hydraulic)

TESTING & CERTIFICATION

- Firesafe qualification testing to ISO 10497, API 6FA and API 607
- Fugitive Emission Testing to ISO 15848
- Pressure Equipment Directive 2014/68/EU
- API 6A PR2 Annex F qualification testing - independently witnessed
- Shell qualification testing to MESC 77/300 - independently witnessed

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Customised Valve Specialist

APPLICATIONS: DOWNSTREAM REFINING, CHEMICAL PROCESSING & STEAM INJECTION

LOW TEMPERATURE VALVES



LT SERIES | PIPELINE VALVES

The Oliver Twinsafe LT-Series of floating and trunnion-mounted ball valves have been designed for process applications with operating temperatures below -50°C, down to -196°C.

Oliver have developed a range of pipeline valves suitable for cryogenic applications. Utilising its in-house research and development facilities, Oliver Twinsafe has refined its designs to optimise performance and reliability at service temperatures down to -196°C.

The valves are available as soft seated designs, with specially selected materials of construction to ensure full compatibility with project requirements.

Valve Design	API 6D
Pressure Class	ASME Class 150 – 900
Temperature Range	-196°C to +120°C
End Connections	Flanged, Butt Weld, Hub
Size Range	1 to18in (DN25 to DN500)

DESIGN FEATURES

Single Isolate, DIB or DBB designs available
End entry configuration. Forged 1 piece compact body, 2 piece or 3 piece body designs.
Lip Sealing Technology
DVT Qualification tested to Shell standard 77/300 and 77/312
Bi-directional sealing
Anti-static device
Anti-Blow out stem
Self-relieving seats
Manual or actuated operation (electric/pneumatic/hydraulic)

TESTING & CERTIFICATION

- Independently tested by Shell to their DVT qualification standard 77/300
- Firesafe qualification testing to ISO 10497, API 6FA and API 607
- Fugitive Emission Testing to 77/312 Class BH
- Pressure Equipment Directive 2014/68/EU

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Customised Valve Specialist

APPLICATIONS: LNG, LPG, GAS BLOWDOWN, PIPELINE ISOLATION & STORAGE

HYDROGEN VALVES



Valve Design	API 6D, API 6A
Pressure Class	ASME Class 150 – 600
Temperature Range	-40°C to +121°C
End Connections	Flanged, Butt Weld, Hub
Size Range	1 to 18 in (DN25 to DN500)



H_2G SERIES | PIPELINE VALVES

The Oliver Twinsafe H_2G Series of floating and trunnion-mounted ball valves have been specially developed for the requirements of Hydrogen applications.

Oliver has developed its own unique qualification program that exceeds current industry standards to ensure they are the market leader in this rapidly expanding industry sector.

The valves are available with zero through seat leakage in both soft and metal seated designs, with specially selected materials of construction to ensure full compatibility with Hydrogen.

TESTING & CERTIFICATION
- Third Party Witnessed Qualification
- Firesafe Qualification Testing To ISO 10497, API 6FA And API 607
- Fugitive Emission Testing To ISO 15848
- Pressure Equipment Directive 2014/68/EU
- Seat And Gland Endurance Testing
- Valve Signature Comparisons

DESIGN FEATURES

Bubble tight through seat leakage – soft or metal seats
Forged 1 piece compact body, 2 piece or 3 piece body designs
High integrity coating of ball and seats for metal seated designs
Bi-directional sealing
Single Isolate, DIB or DBB designs available
Suitable and proven for high-cycle operations
Anti-static device
Anti-Blow out stem
Self-relieving seats
Independent secondary stem seal tests
Low fugitive emission packing
Manual or actuated operation (electric/pneumatic/hydraulic)
Designed for rapid operation

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QUALIFIED WITH 99.9% HYDROGEN

Customised Valve Specialist

APPLICATIONS: FUEL STATIONS, TRANSPORTATION, STORAGE & GAS METERING

POLYMER PLANT VALVE

Metal-seated Trunnion Mount Ball Valves

Pressure Class	ASME Class 150-2500
Max Operating Temperature	Up to 315°C (625°F) (at reduced pressure)
Min Operating Temperature	-20°C (-4°F)
End Connections	Flanges in accordance with ANSI B16.5, Butt Weld or other custom connections

Designed and developed to replace conventional valves lasting only 3 months in service, the Oliver Twinsafe design is still in operation after 20 years!



H_2 CO_2 neutral

SEVERE SERVICE | PIPELINE VALVES

The Oliver Twinsafe Polymer Valve was specifically designed to solve issues found with conventional valves in the polymer manufacturing process. Specially developed and unique seat cavity protection system prevents build up of the polymer within the valve, to ensure continuous seat sealing and ease of operation, with no increases in operating torques. This design has been in service for over 20 years, replacing previous conventional valves that were failing after just 3 months. The valve design can be adapted to similar applications where build up of media around the ball cavity causes valve operational issues. Please contact Oliver Twinsafe valves to discuss your specific application in further detail.

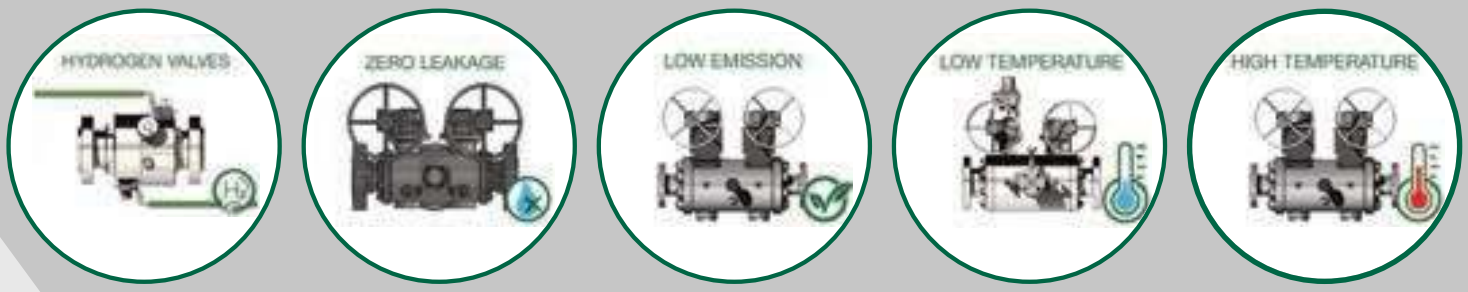
- Metal-seated Trunion Mount Ball Valve
- Unique Seat Cavity Protection System (SPS)
- Operable Temperature: -20°C to +100°C
- 20 years Proven in Harsh Real Field Conditions
- Designed to Prevent Build-up of Solids in Ball & Seat Cavity

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Product Approved by SASOL

Single Isolate Valves Available

SPECIALIST PIPELINE VALVE RANGE



COMPACT BALL VALVES

Compact Valves With Swivel Flange Connections





COMPACT BALL VALVES | PIPELINE VALVES

Our Compact Style Single and Oliver Twinsafe Ball Valves are designed to provide considerable space and weight savings when compared to a traditional flanged end ball valve.

The valve utilises Oliver's proven ball valve technology and can be supplied with either manual or automated actuation.

- Bi Directional Ball Valve with Soft or Metal Seats
- Swivel Flange Type Construction, with Butt Weld Hub Connections
- Floating Ball

DESIGN FEATURES

Compact light weight design
Threaded valve insert
Oliver swivel flanges
Firesafe design
Anti-blow out stem

Valve Design	ASME VIII DIV2, ASME B16.34, NACE MR-01-75, API 6D
Pressure Class	ASME Class up to 10,000psi, 2,500lb
Temperature Range	-46°C to +200°C
End Connections	Butt Weld profile to ASME B16.25.
Size Range	1 to 8 in (DN25 to DN200)

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Customised Valve Specialist

APPLICATIONS:
FPSO's & Offshore Platforms

COMPACT CHECK VALVES

Compact Swing Check Valve with Swivel Flange Connections

Valve Design	ASME VIII DIV2, ASME B16.34, NACE MR-01-75, API 6D
Pressure Class	ASME Class up to 10,000psi, 2,500lb
Temperature Range	-46°C to +200°C
End Connections	Butt Weld profile to ASME B16.25.
Size Range	NPS 1 to 8in (DN25 to DN200)
Body & Trim Material	Alloy Steel, Stainless Steel, Duplex Steel or Nickel Alloys
Spring Material	Nickel Alloy X-750
Seat Material	Glass Filled PTFE
Fire Safe Seals Material	Graphite
Body Seal Materials	FKM AED or HNBR AED O-rings with PTFE back-up rings



Our Compact Check and Swivel Flange Valves are designed to provide considerable space and weight savings when compared to a traditional flanged end valve.

Oliver Check Valve Design, Features & Benefits

1. In common with ball valve, the check valve has a threaded valve insert, designed to take full working pressure.

2. Profiled flapper design to allow for a fully bore flow path in the open position.

3. Low stress torsion spring to maximise fatigue life.

4. Metal to metal seating with PTFE seal for maximum in-service performance.

ADDITIONAL DESIGN FEATURES

Compact design compared to traditional ASME B16.5 flanges.
Oliver swivel flanges designed to allow hubs to be welded into line, before split rings and flanges are fitted.
Valve can be fitted with no additional 'springing' of pipework.
In addition to O-ring seals and metal-to-metal contact, graphite rings provide additional resistance to leakage in the event of fire.
EPDM foam flange gasket supplied as standard with swivel flanges to minimise exposure of capscrews to environment.

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APPLICATIONS:
FPSO's & Offshore Platforms

CONTROL VALVES

V-notch Isolated Ball Design for Smooth Throttled Flow

2 Isolation Ball Designs Available



V-notch Ball



Cage Ball



H_2 CO_2 neutral

SMOOTH THROTTLED FLOW | PIPELINE VALVES

The first isolation ball valve has a V-notch design and 60 degree port to provide smooth control of the throttle flow, whereas the second isolate ball hasn't, as this is used as a shut-off valve. This design prevents hydraulic hammer from occurring and protects downstream equipment such as filtration cartridges and H20 membranes on desalination skids from sudden and immediate change in pressures. Another area of concern that the design guards against is defamation of diaphragm seals on PI's which may lead to a full diaphragm replacement. We have two ball designs available, V-notch and Cage.

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- Prevents Hydraulic Hammer
- Protects Downstream Equipment
- Provides Smooth Throttle Flow Control

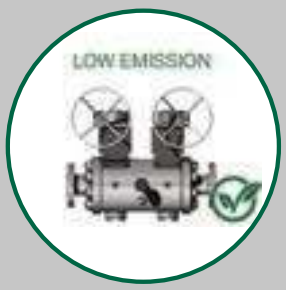
Customised Valve Specialist

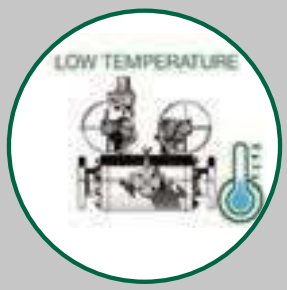
2 Isolation Ball Designs are Available

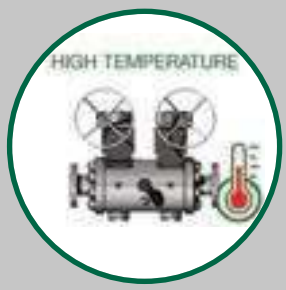
SPECIALIST PIPELINE VALVE RANGE









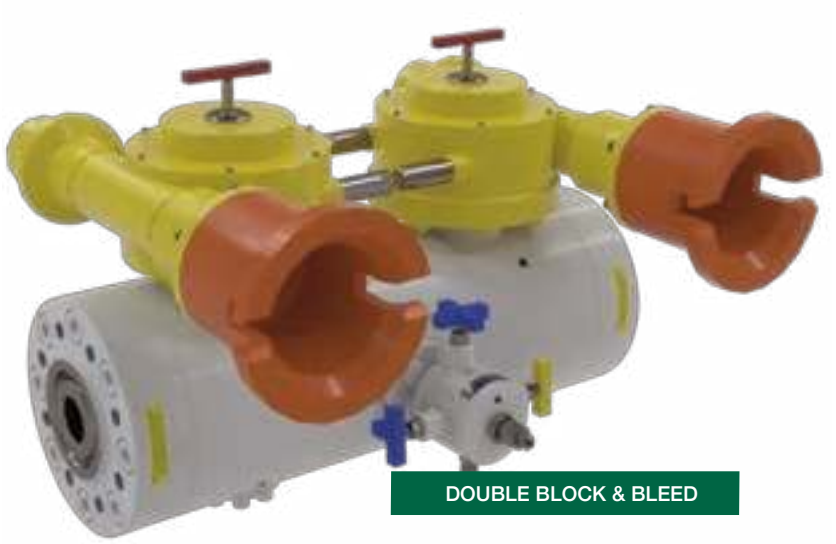


SUBSEA RANGE

Subsea Ball Valves and Twinsafe DBB Valves



SINGLE ISOLATE



DOUBLE BLOCK & BLEED

SUBSEA RANGE | PIPELINE VALVES

Oliver has been in the valve business since 1979, and in 1995, ventured into the subsea industry with a range of ball, needle, check and gate valves developed and qualified in our technology leading facility.

The company is based in Knutsford, close to major transport hubs in the North West of England. This allows access to a wide range of material suppliers and machine shops from here and around the world. Enabling the organisation to use cutting edge materials and coating technology. With a dedicated team of engineers located in four locations worldwide and 14 factories here in Knutsford and Worldwide, valves are designed and tested for extreme pressure and temperature conditions. Our Hyperbaric or external pressure test chambers can simulate water depths of 400 atmospheres.

The high level of product quality has ensured we are utilised time and time again in major oil and gas projects.

Valve Design	API 6DSS Single Twinsafe DBB
Pressure Class	ASME Class 150 to 1500
Operating Depth	From shallow water to ultra deep water: 3,000m (10,000ft)
End Connections	ASME B16.5 Flange. Weld end to ASME B16.25 optional
Size Range	2 to 12 in (DN50 to DN300) Larger sizes are available

API 6DSS BALL VALVE DESIGN FEATURES

Soft seated valves utilise PEEK 450G seating material
Metal seated valves utilise tungsten carbide coating on ball and seats
Leak rate C as standard, Classes A and B optional
Lip seals for stem sealing to minimise operating torques
Anti-Blow out stem design
Dry low friction bearings
Standard seat designs are single piston effect, double piston effect available
Electrical conductivity between ball, stem and body
Environmental seals to prevent ingress of seawater
Body to end connector and bonnet sealing, using double elastometric seals, lip seals or metal to metal sealing available
Available in a range of materials: Carbon, Stainless or Duplex Steel and Nickel Alloys

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Customised Valve Specialist

APPLICATIONS:
FPSO's & Offshore Platforms

MARINE SERVICE VALVES

Instrument & Piping Valves for Marine Service





MARINE | PIPELINE VALVES

We have been proficient in the manufacture of valves from Marine grade Aluminium Bronze material since the 1980's and have designed and produced many variations of our existing valves for the maritime industry, including Hull valves and Storm valves.

Both types of valves have been designed and tested for critical applications, such as permitting and controlling sea water onboard a vessel to cool heavy machinery and even to adjust the ballast of submarines. Similarly, storm valves are used to control the outflow of a vessel to prevent water from entering the system during rough seas and bad weather. Storm valves consist of a ball valve and a check valve.

Valve Design	API 6D, API 6A
Pressure Class	ASME Class 150 – 2500 API 6A 3000, 5000, 10,000
Temperature Range	-50°C to +350°C
End Connections	Flanged, Butt Weld, Hub
Size Range	1 to 18 in (DN25 to DN500)

DESIGN FEATURES

High integrity HVOF coating of ball and seats
Single Isolate, DIB or DBB designs available
Forged 1 piece compact body, 2 piece or 3 piece body designs
Bi-directional sealing
Suitable and proven for high-cycle operations (in house testing zero leakage over 400 cycles)
Anti-static device
Anti-Blow out stem
Self-relieving seats
O ring and Lip Seal seals available
Low fugitive emission packing available
Weld overlay of full through bore or sealing areas available
Manual or actuated operation (electric/pneumatic/hydraulic)

TESTING & CERTIFICATION

- Firesafe qualification testing to ISO 10497, API 6FA and API 607
- Fugitive Emission Testing to ISO 15848
- Pressure Equipment Directive 2014/68/EU
- API 6A PR2 Annex F qualification testing – Independently witnessed
- Shell qualification testing to MESC 77/300 – Shell witnessed

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APPLICATIONS:

NUCLEAR SERVICE VALVES

Instrument & Piping Valves for Nuclear Service



NUCLEAR SERVICE | PIPELINE VALVES

Oliver Valves have long been associated with supplying high precision valves to the former generation of UK Nuclear Power Stations. They include: Nuclear Electric Hartlepool, Heysham 1 & 2, Hinckley Point, Oldbury, Sizewell B, Wylfa & Trawsfyndd, and Scottish Power at Torness & Hunterston, B.N.F.L Sellerfield, Capenhurst and Springfields.

Twinsafe continues to supply vital components to the new generation of nuclear power stations such as Hinkley Point C. Our design engineers are continually working with manufacturers of small medium Reactors (SMR's) around the world to provide valve solutions to meet the often complex and diverse challenges within the Nuclear Power Industry.

Valve Design	API 6D, API 6A
Pressure Class	ASME Class 150 – 2500 API 6A 3000, 5000, 10,000
Temperature Range	-50°C to +350°C
End Connections	Flanged, Butt Weld, Hub
Size Range	1 to 18 in (DN25 to DN500)

DESIGN FEATURES

High integrity HVOF coating of ball and seats
Single Isolate, DIB or DBB designs available
Forged 1 piece compact body, 2 piece or 3 piece body designs
Bi-directional sealing
Suitable and proven for high-cycle operations (in house testing zero leakage over 400 cycles)
Anti-static device
Anti-Blow out stem
Self-relieving seats
O ring and Lip Seal seals available
Low fugitive emission packing available
Weld overlay of full through bore or sealing areas available
Manual or actuated operation (electric/pneumatic/hydraulic)

TESTING & CERTIFICATION

- Firesafe qualification testing to ISO 10497, API 6FA and API 607
- Fugitive Emission Testing to ISO 15848
- Pressure Equipment Directive 2014/68/EU
- API 6A PR2 Annex F qualification testing – Independently witnessed

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Customised Valve Specialist

APPLICATIONS:
Nuclear Power Stations & SMR Manufacturers

POWER INDUSTRY VALVES

Instrument & Piping Valves for Power Industry & Steam Plant Service



POWER INDUSTRY | PIPELINE VALVES

Oliver Twinsafe has long been associated with the supply of high precision valves designed and manufactured for the power station sector in the UK and around the world.

Large bore compact valves have been designed to operate at temperatures of up to 250°C, these are suited to a wide range of environments and applications, such as Fuel Gas Pre-heating and twin vents. We also offer metal and soft seated ball valves, which remain a requirement of some power stations.

Valve Design	API 6D, API 6A
Pressure Class	ASME Class 150 – 2500 API 6A 3000, 5000, 10,000
Temperature Range	-50°C to +350°C
End Connections	Flanged, Butt Weld, Hub
Size Range	1 to 18 in (DN25 to DN500)

DESIGN FEATURES

Combination of Metal & Soft seated ball valves in 1 Twinsafe
Max operating torque 210°C for increased operating temperatures (250°C design temp)
High integrity HVOF coating of ball and seats
Single Isolate, DIB or DBB designs available
Forged 1 piece compact body, 2 piece or 3 piece body designs
Bi-directional sealing
Suitable and proven for high-cycle operations (in house testing zero leakage over 400 cycles)
Anti-static device, Anti-Blow out stem
Self-relieving seats
O ring and Lip Seal seals available
Low fugitive emission packing available
Weld overlay of full through bore or sealing areas available
Manual or actuated operation (electric/pneumatic/hydraulic)

TESTING & CERTIFICATION

- Firesafe qualification testing to ISO 10497, API 6FA and API 607
- Fugitive Emission Testing to ISO 15848
- Pressure Equipment Directive 2014/68/EU
- API 6A PR2 Annex F qualification testing – Independently witnessed
- Shell qualification testing to MESC 77/300 – Shell witnessed

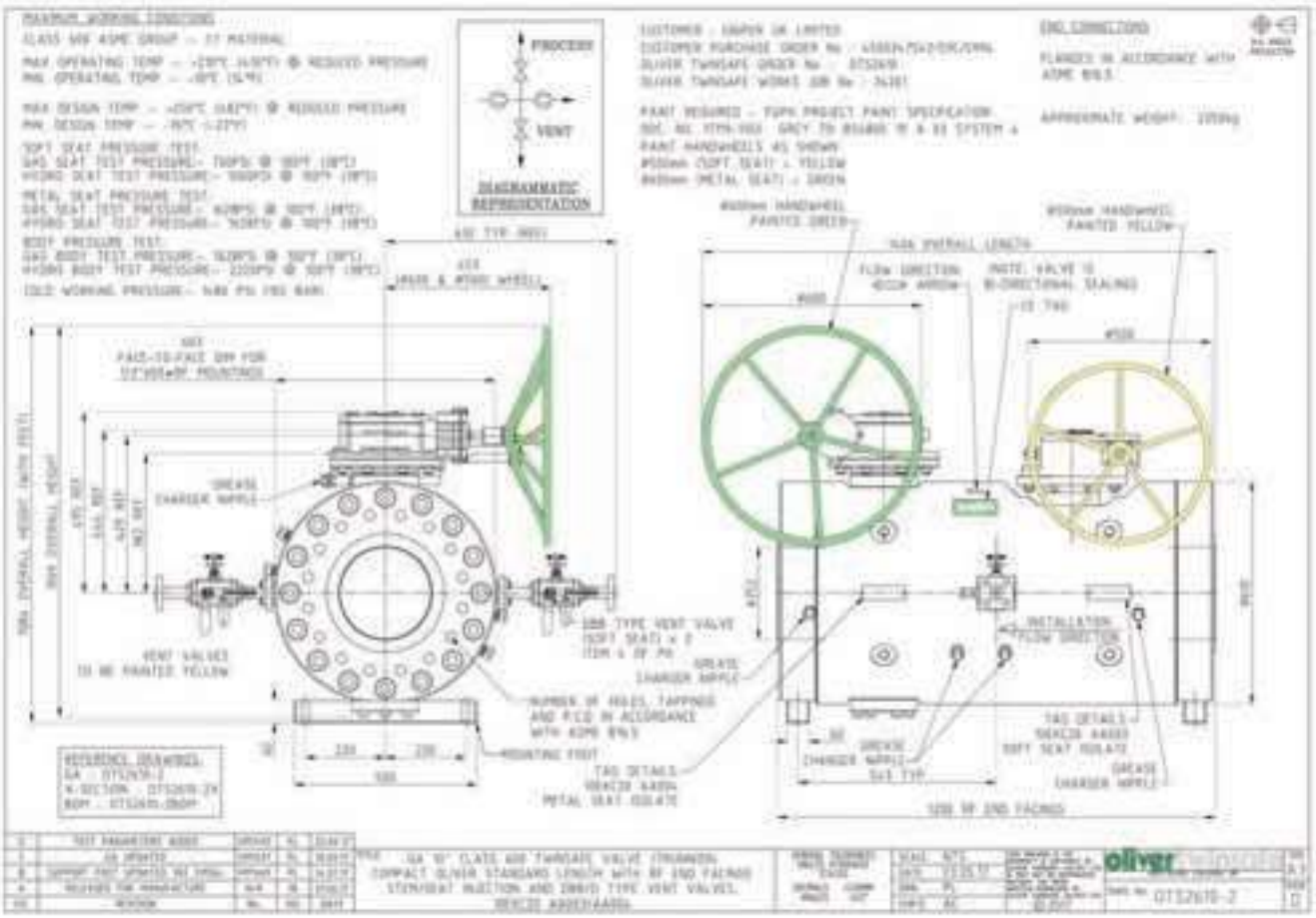
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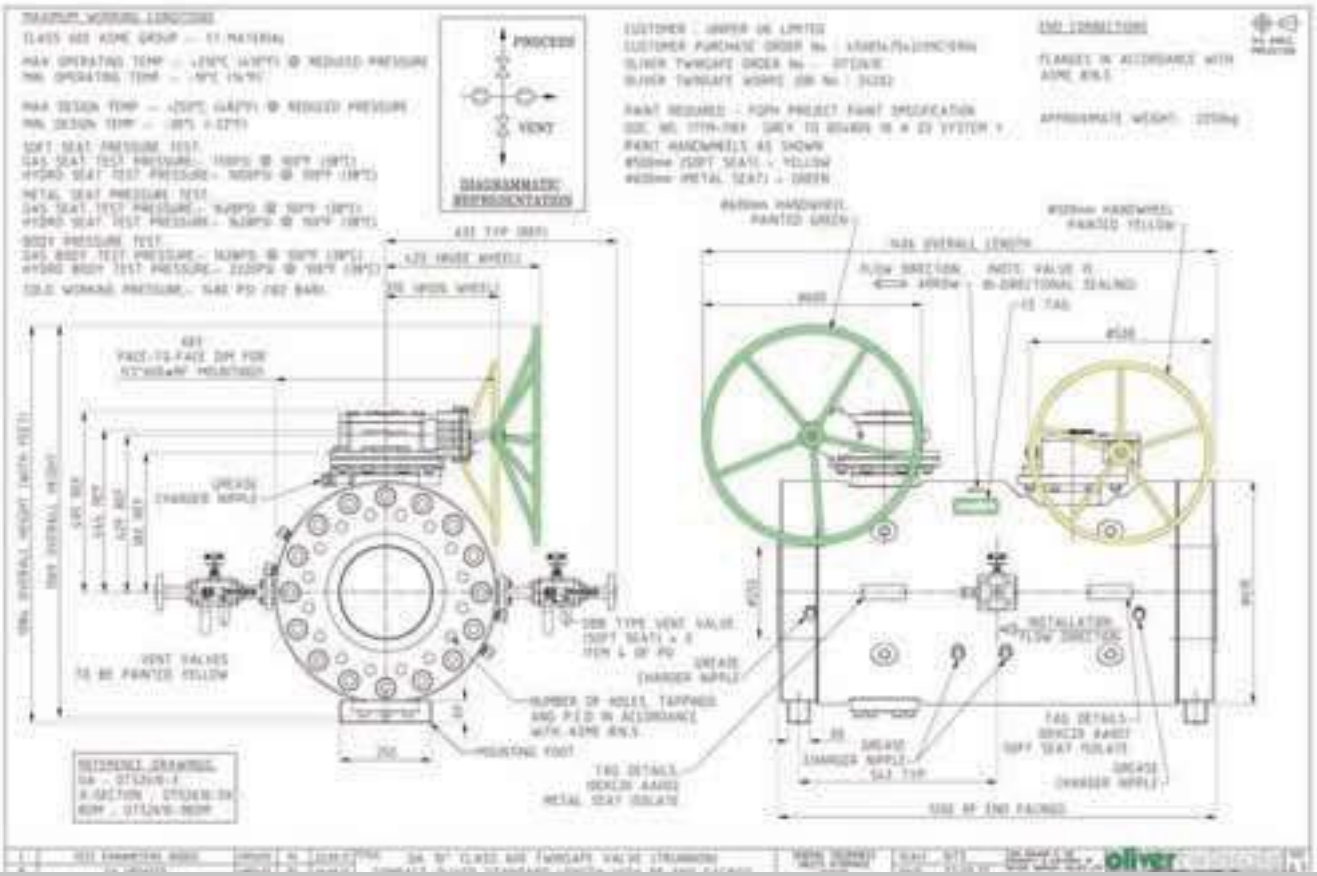
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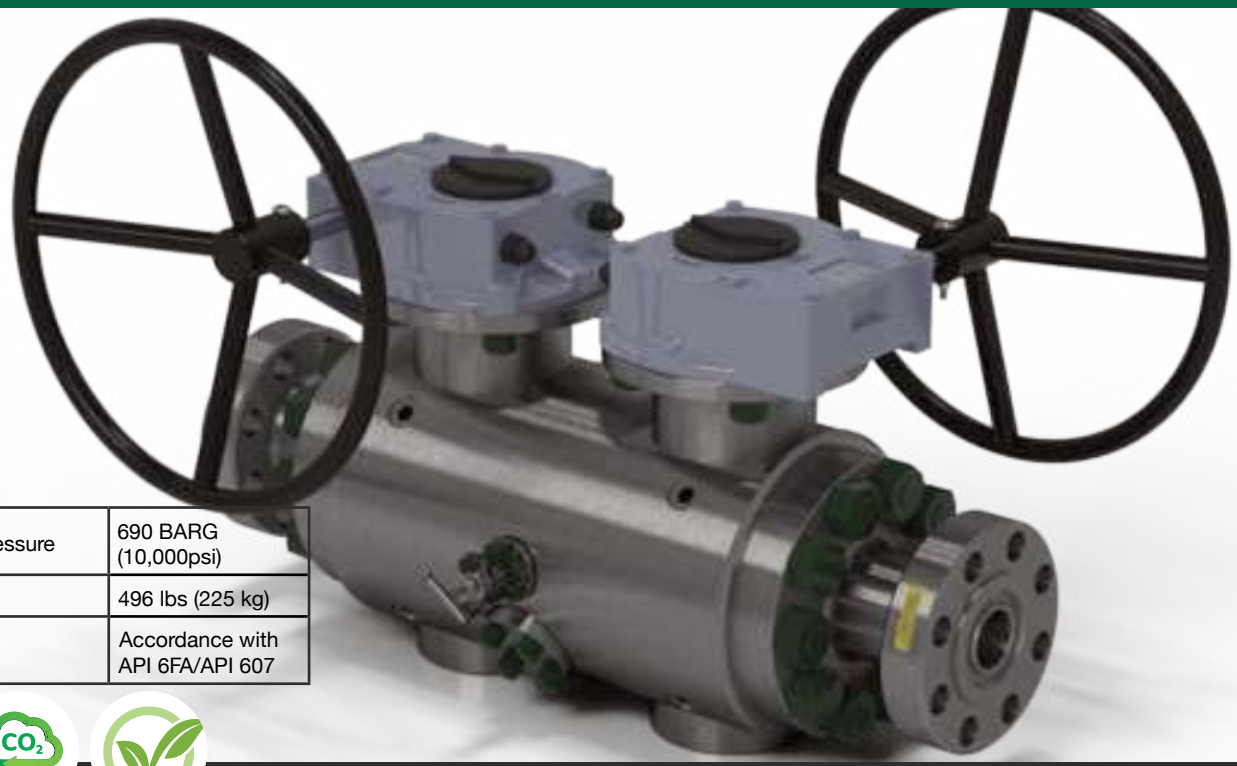
APPLICATIONS:


PROCESS
VENT
DIAGRAMMATIC REPRESENTATION
FLANGES IN ACCORDANCE WITH ASME B16.5
VENT VALVES TO BE PAINTED YELLOW
GREASE CHARGER NIPPLE
INSTALLATION FLOW DIRECTION
TAG DETAILS
SEE IF END FACING


PROCESS
VENT
DIAGRAMMATIC REPRESENTATION
FLANGES IN ACCORDANCE WITH ASME B16.5
VENT VALVES TO BE PAINTED YELLOW
GREASE CHARGER NIPPLE
INSTALLATION FLOW DIRECTION
TAG DETAILS
SEE IF END FACING

API 6A

3k, 5k 10k & 15k API Trunnion Mount Ball Valves



Cold Working Pressure	690 BARG (10,000psi)
Weight	496 lbs (225 kg)
Fire Safe	Accordance with API 6FA/API 607

H_2 CO_2 neutral

ZERO LEAKAGE | PIPELINE VALVES

Our API 6A Trunnion Mount Ball Valves are PR2 qualified. The test consist of 160 cycles at ambient temperature, 20 cycles at elevated temperature and 20 cycles at low temperature.

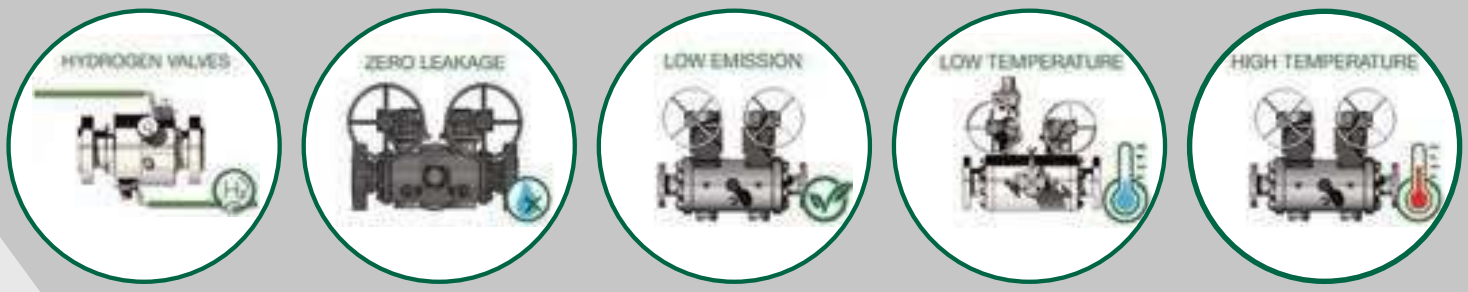
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- Soft & Metal Seated Designs Available
- Operable Temperature: -29°C to +144°C (metal seat)
- Single Isolate, Double Block or DBB Options
- API 6A 20th Edition PR2 Appendix F Qualified
- Working Pressure up to 10,000psi (690 bar)

Customised Valve Specialist

Independent Third-party Witness of PR2 Testing

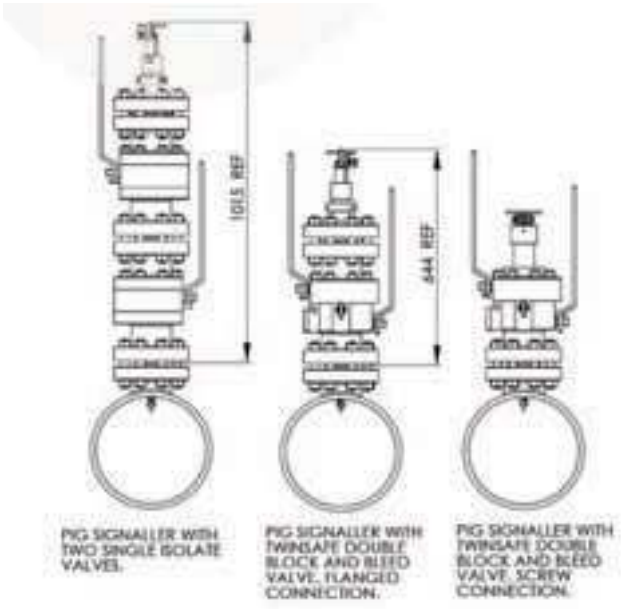
SPECIALIST PIPELINE VALVE RANGE



COMPACT PIG SIGNALLER (DBB)

Compact Pig Signallers





PIG SIGNALLER VALVE | PIPELINE VALVES

Pig Signalling safety requirements often stipulate having double isolation between the pig signaller and process pressure.

Oliver Twinsafe valve engineers have worked closely with Pig Signaller manufacturers to reduce the length, weight, size, and leak points in the traditional hook up and have produced an extremely versatile and compact valve with the same features and benefits as a Double Block and Bleed (DBB) valve.

DESIGN FEATURES

Pig Signaller connection is integral and incorporated into the Twinsafe valve
High integrity HVOF coating of ball and seats
Single Isolate, DIB or DBB designs available
Forged 1 piece compact body, 2 piece or 3 piece body designs
Bi-directional sealing
Suitable and proven for high-cycle operations (in house testing zero leakage over 400 cycles)
Anti-static device
Anti-Blow out stem
Self-relieving seats
O ring and Lip Seal seals available
Low fugitive emission packing available
Weld overlay of full through bore or sealing areas available
Manual or actuated operation (electric/pneumatic/hydraulic)

TESTING & CERTIFICATION

- Firesafe qualification testing to ISO 10497, API 6FA and API 607
- Fugitive Emission Testing to ISO 15848
- Pressure Equipment Directive 2014/68/EU
- API 6A PR2 Annex F qualification testing – Independently witnessed
- Shell qualification testing to MESC 77/300 – Shell witnessed

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APPLICATIONS:
FPSO's & Offshore Platforms

COMPACT PIGGING SYSTEM

Compact Pigging Systems





PIGGING SYSTEM | PIPELINE VALVES

A compact Pig launching and receiving station for any length of pig in a design typical of standard industry practices up to 14” line sizes. Patent applied for.

EXTRA SAFETY AS STANDARD

Interlocks - valve interlocks are not shown for clarity but are standard ensuring hatch cannot be opened with pressure in the pig bay. Oliver Twinsafe Valves use Smith Flow Control or Netherlocks B.V interlocking systems as standard.

Pressure Hatch - we have standardised on the Bandlock™ 2 high pressure quick opening closure incorporating the pressure warning screw as standard.
Pig detector incorporated into design as standard.

DESIGN FEATURES

Flexibility - Any length of pig can be introduced
Safety - All valveing are Oliver Double Block & Bleed valves
Weight saving - 6” high pressure (1500lb) trap, just over 1 tonne, in fact lighter than CPM™
Space saving - Just over 1.3 meters in length, use CSL Oliver Twinsafe for mainline valve for additional space saving
Cost saving - Lower cost than traditionally fabricated pig stations
Standard - A typical launching and receiving station - note schematic shows, “in-line T”, oversized hatch V pig bay bore size etc

OFFERS HUGE WEIGHT & SPACE SAVINGS ON FPSO’S AND OFFSHORE PLATFORMS

Available in sizes from 6” to 14” and in all materials

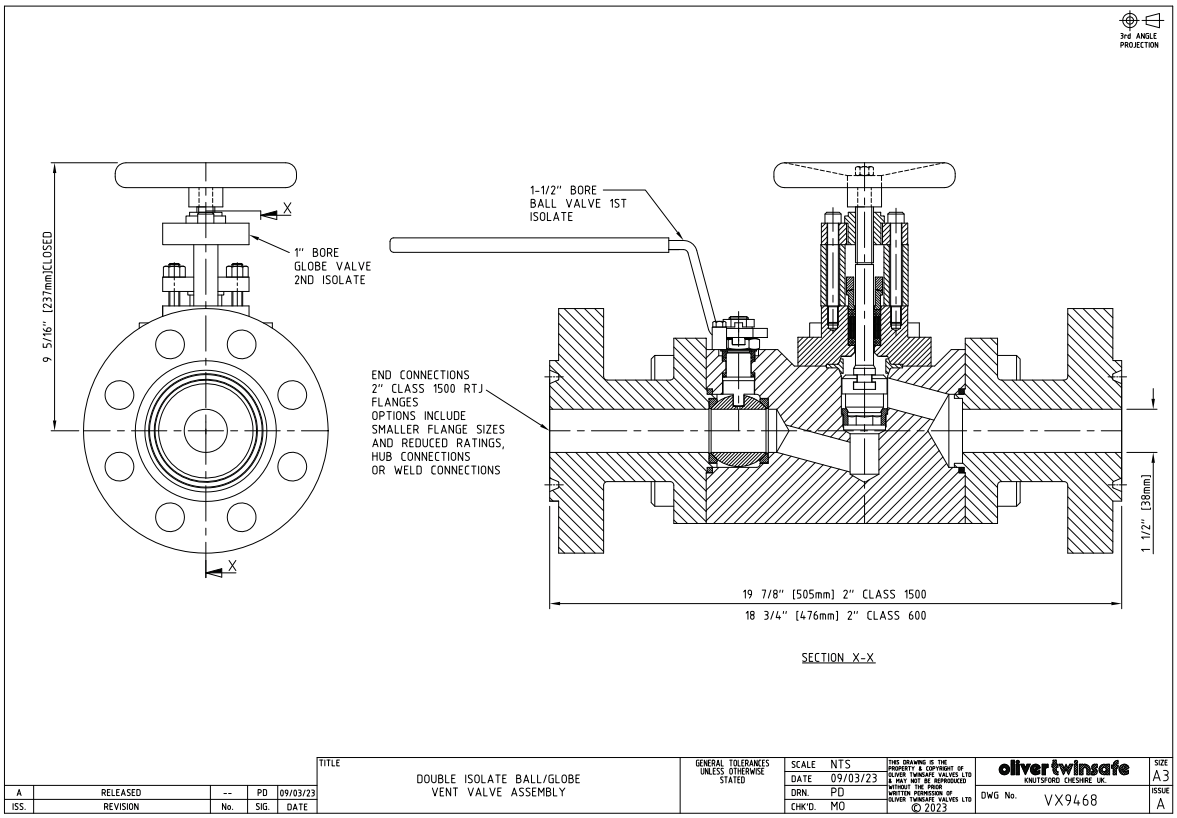
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APPLICATIONS:
FPSO’s & Offshore Platforms

COMBINATION VALVES

Ball & Globe Valves



COMBINATION | BALL & GLOBE VALVES

These Ball and Globe valve configuration's were first supplied to the Ringhorne project in the Norwegian sector of the North Sea in 2002.

Connections 2" 1500 RTJ.

Ball Valve 1 ½" Bore (Firesafe).

Globe Valve = 1" Bore (Non Firesafe).



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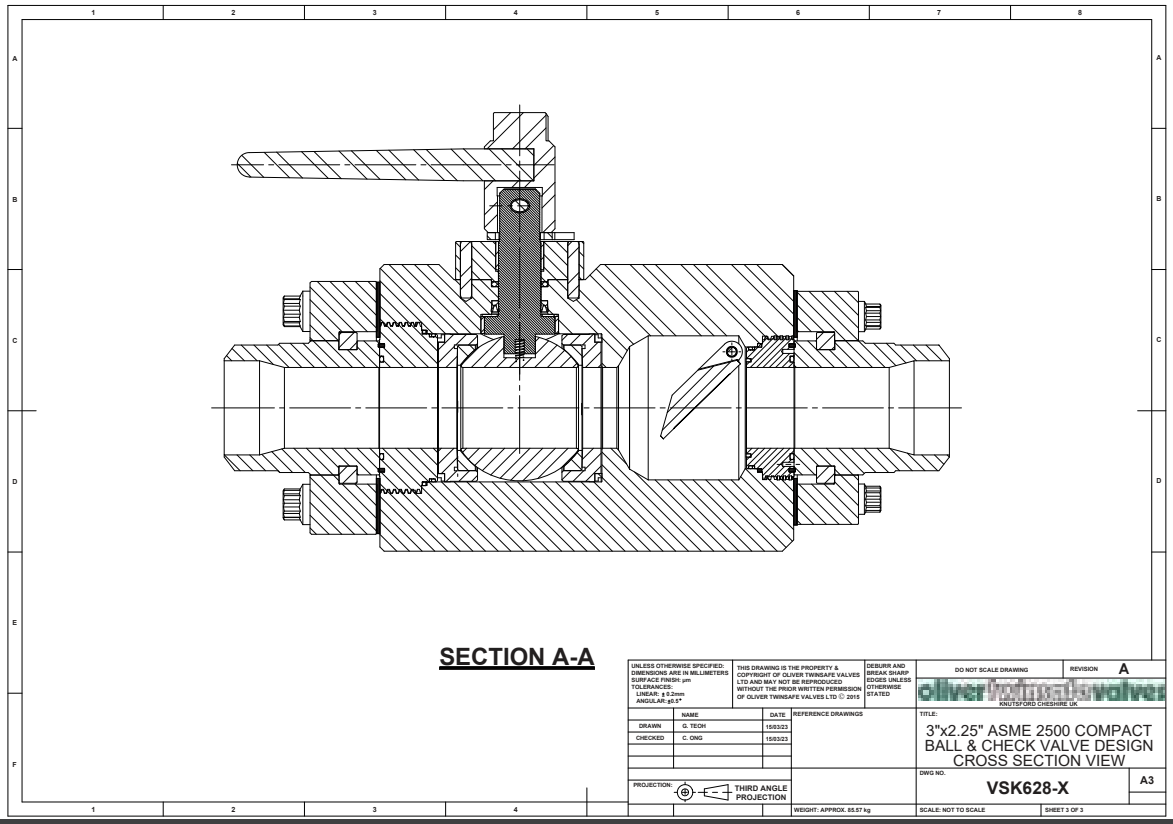
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APPLICATIONS:
FPSO's & Offshore Platforms

COMBINATION VALVES

BALL & SWING CHECK VALVES



COMBINATION | BALL & SWING CHECK VALVES

These Ball and Check valve configurations which in this instance also include a blind flange were first supplied to the Ringhorn project in the Norwegian sector of the North Sea in 2002.

Description -	Compact swing check valve.
Bore -	NPS 1" to 8" [DN25 to DN200].
Pressure Rating -	ASME Classes upto 2,500lb / 10,000psi.
Hydro Body Test	
Pressure -	1.50 x working pressure.
Working Temperature -	-50 to +400 deg F (-46 to +200 deg C).
Specifications -	ASME VIII DIV2, ASME B16.34, NACE MR-01-75, API 6D.
End Connections -	Buttweld profile to ASME B16.25.
Body and Trim Material -	Alloy Steel, Stainless Steel, Duplex Steel or Nickel Alloys.
Spring Material -	Nickel Alloy X-750.
Seat Material -	Glass filled PTFE.
Fire Safe Seals Material -	Graphite.
Body Seal Materials -	FKM AED or HNBR AED O-rings with PTFE back-up rings.



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Customised Valve Specialist

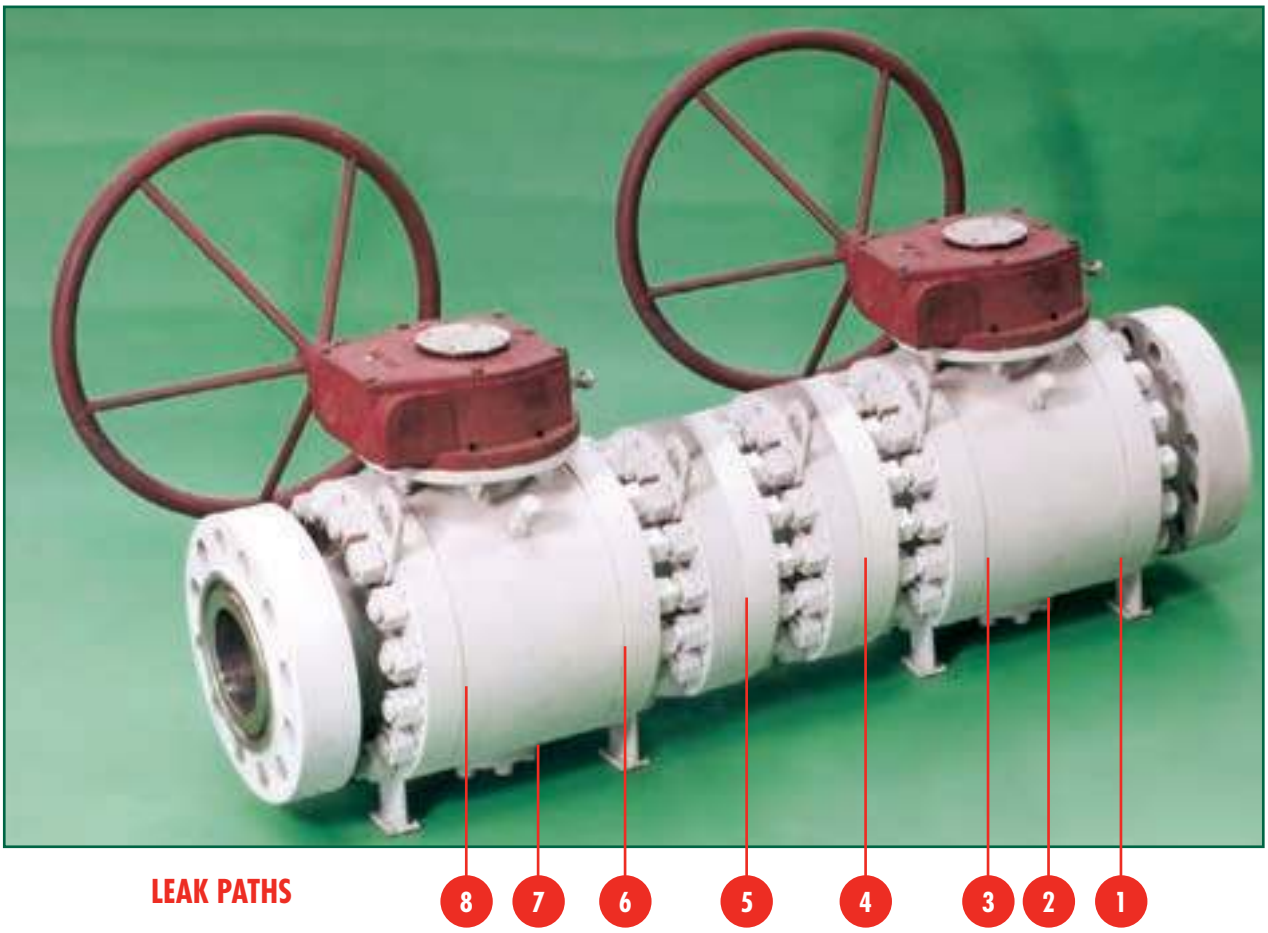
APPLICATIONS:
FPSO's & Offshore Platforms

SAFETY - REDUCED LEAK PATHS

TWINSAFE vs TWO ISOLATION BALL VALVE HOOK UP = A REDUCTION OF EIGHT POTENTIAL LEAK PATHS.

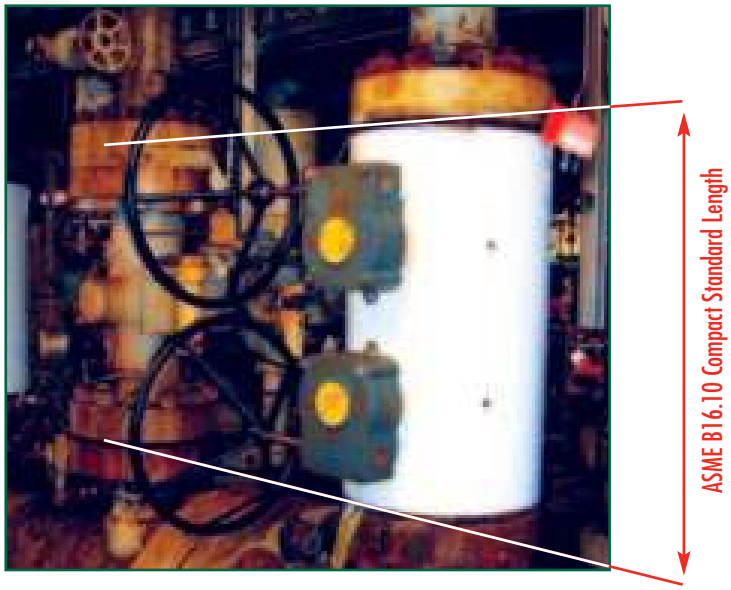


Looking at a traditional hook up, two traditional single 3 piece isolate ball valves and spool piece means a potential of, 8 additional leak points (2 from trunnion, 4 from 3 piece design, 2 from spool joints.) Compared to one piece Twinsafe with slipper plate trunnion design.



REPLACE ONE VALVE WITH TWO, WITH NO MODIFICATION TO PIPEWORK.

Standard ASME B16.10 Length full bore Twinsafe valves replace single Isolate valves in retrofit work and provides engineers the opportunity to move from single isolate to Double Block and Bleed without design change of pipework.







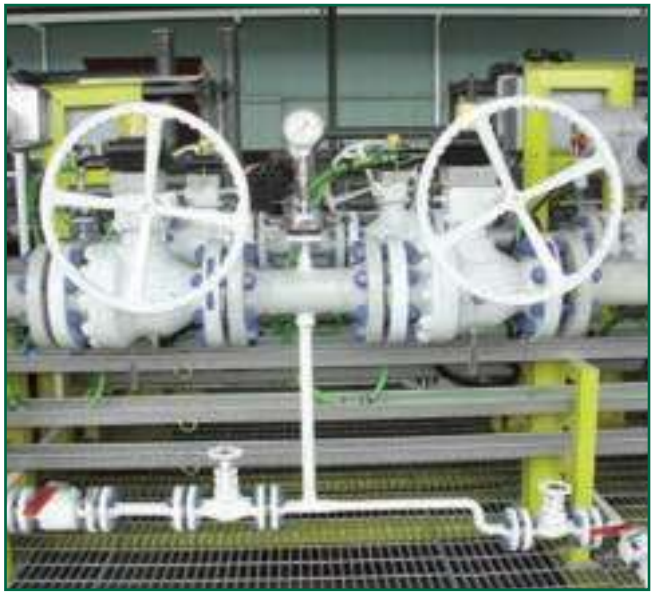




Skid package footprint reduced therefore skid cost reduced by keeping the valve envelope to standard ASME B16.10 length.

TWINSAFE vs TWO STANDARD ISOLATION BALL VALVE HOOK UP = A REDUCTION OF ALMOST HALF OF THE WEIGHT.

TWO ISOLATION VALVES WITH SPOOL PIECE



= 217kg x 2 = 434kg

COMPACT OLIVER TWINSAFE VALVE



= 284kg

Almost half the weight is taken out of a double block and bleed hookup when compared to two single isolates (more if spool piece is included) multiply this by multiple assemblies of Twinsafe on the top works of an offshore platform as shown, the weight savings and cost savings are dramatic, more so if valves are in exotic material.



Multiple Twinsafe installations equals huge savings.

HUGE HIDDEN COST SAVINGS OF ONE FACTORY TESTED UNIT vs TRADITIONAL INSTALLATION.



A Single Isolate 6" Full Bore 1500 LB Ball Valve to ASME B16.10 Length Versus
An Oliver Twinsafe 6" Full Bore 1500 LB Double Block and Bleed Valve to ASME B16.10 Length.

THE PAST

6" 300/600lb Example

Existing Hook Up - Two Isolation valves, plus Vent Valve and Associated Materials, Fabrication. Installation and Testing

Materials					
Pipe (A333 Gr 6) Sch XXS	6"	6	£67.24	£403.44	
Flange RFWN-600# Sch XXS	6"	2	£143.75	£287.50	
Flange RFWN-600# Sch XXS	3/4"	1	£13.13	£13.13	
O' Lets Sch 160	3/4"	1	£22.50	£22.50	
Spiral Wound Gasket - 600#	6"	4	£11.83	£47.32	
Spiral Wound Gasket - 600#	3/4"	1	£2.04	£2.04	
Bolts per set 6" - 600#		4	£99.60	£398.40	
Bolts per set 1" - 600#		1	£11.30	£11.30	
Fabricators Handling Charge @ 10%				£118.56	
Valves 300/600#	6"	2	£3,300.00	£6,600.00	
Valves 300/600#	3/4"	1	£400.00	£400.00	£8,304.19
Fabrication					
Butt Weld Sch XXS	6"	2	£294.32	£588.64	
Butt Weld Sch XXS	3/4"	1	£61.23	£61.23	
O'let	3/4"	1	£61.23	£61.23	
Radiography	6"	2	£30.63	£61.26	
Radiography	3/4"	1	£19.03	£19.03	
MPI	6"	2	£3.19	£6.38	
MPI	3/4"	2	£1.65	£3.30	
Hydrotest		1	£100.00	£100.00	
Paint		1	£100.00	£100.00	£1,001.07
Installation					
Erect Valve 600#	6"	2	11.08	22.16	
Erect Valve 600#	3/4"	1	3.57	3.57	
Erect Valves Pipework Sch XXS	6"	1	6.51	6.51	
Bolt up Flg'd Joint 600#	6"	2	5.33	10.66	
Bolt up Flg'd Joint 600#	3/4"	1	1.87	1.87	
Non Prod and Sup'v @ 70%				31.34	
Total Man Hours				76.11 x	
Man Hour Rate				£33.00	£2,511.63
TOTAL COST					**£11,816.89**

6" 1500lb Example

Existing Hook Up - Two Isolation valves, plus Vent Valve and Associated Materials, Fabrication. Installation and Testing

Materials					
Pipe (A333 Gr 6) Sch XXS	6"	6	£67.24	£403.44	
Flange RFWN-1500# Sch XXS	6"	2	£143.75	£287.50	
Flange RFWN-1500# Sch XXS	3/4"	1	£13.13	£13.13	
O' Lets Sch 160	3/4"	1	£22.50	£22.50	
Spiral Wound Gasket - 1500#	6"	4	£11.83	£47.32	
Spiral Wound Gasket - 1500#	3/4"	1	£2.04	£2.04	
Bolts per set 6" - 1500#		4	£99.60	£398.40	
Bolts per set 1" - 1500#		1	£11.30	£11.30	
Fabricators Handling Charge @ 10%				£118.56	
Valves 1500#	6"	2	£5,000.00	£10,000.00	
Valves 1500#	3/4"	1	£500.00	£500.00	£11,804.19
Fabrication					
Butt Weld Sch XXS	6"	2	£294.32	£588.64	
Butt Weld Sch XXS	3/4"	1	£61.23	£61.23	
O'let	3/4"	1	£61.23	£61.23	
Radiography	6"	2	£30.63	£61.26	
Radiography	3/4"	1	£19.03	£19.03	
MPI	6"	2	£3.19	£6.38	
MPI	3/4"	2	£1.65	£3.30	
Hydrotest		1	£100.00	£100.00	
Paint		1	£100.00	£100.00	£1,001.07
Installation					
Erect Valve 1500#	6"	2	11.08	22.16	
Erect Valve 1500#	3/4"	1	3.57	3.57	
Erect Valves Pipework Sch XXS	6"	1	6.51	6.51	
Bolt up Flg'd Joint 1500#	6"	2	5.33	10.66	
Bolt up Flg'd Joint 1500#	3/4"	1	1.87	1.87	
Non Prod and Sup'v @ 70%				31.34	
Total Man Hours				76.11 x	
Man Hour Rate				£33.00	£2,511.63
TOTAL COST					**£15,316.89**

THE FUTURE

Proposed Oliver Twinsafe Valve

Materials					
Valve 600# Twinsafe DBB	6"	1	£5,012.00		
Spiral Wound Gasket - 600#	6"	2	£11.83	£23.66	
Bolts per set 6" - 600#		2	£99.60	£199.20	£5,234.86
Fabrication					
Not Applicable					£0
Installation					
Erect Valve 600#	6"	1	20.00	20.00	
Bolt up flag'd Joint 600#	6"	2	5.33	10.66	
Non Prod and Sup'v @ 70%				21.46	
Total Man Hours				52.12	
Man Hour Rate				£33.00 x	£1,719.96
TOTAL COST					**£6,954.82**

Total saving £4,862.07 each installation, plus saving on completion time. Leak points on joints, weight of each unit, space of each unit, safety of pressure testing of the whole unit at the factory, one item to tag as opposed to many, no specialist coded welding or MPI/Radiography inspection personnel on site.

Proposed Oliver Twinsafe Valve

Materials					
Valve 1500# Twinsafe DBB	6"	1	£8,200.00		
Spiral Wound Gasket - 1500#	6"	2	£11.83	£23.66	
Bolts per set 6" - 1500#		2	£99.60	£199.20	£8,422.86
Fabrication					
Not Applicable					£0
Installation					
Erect Valve 1500#	6"	1	20.00	20.00	
Bolt up flag'd Joint 1500#	6"	2	5.33	10.66	
Non Prod and Sup'v @ 70%				21.46	
Total Man Hours				52.12	
Man Hour Rate				£33.00 x	£1,719.96
TOTAL COST					**£10,142.82**

Total saving £5,174.07 each installation, plus saving on completion time. Leak points on joints, weight of each unit, space of each unit, safety of pressure testing of the whole unit at the factory, one item to tag as opposed to many, no specialist coded welding or MPI/Radiography inspection personnel on site.

LARGER PROCESS RETURN - FULL BORE

ON FLOWLINES ADDITIONAL $10,000,000 OF PROCESS THROUGH VALVE A DAY.



Full Bore therefore;

- No system pressure drop problems
- No Hydrate formation problems
- No flow cavitation problems
- No pig restriction problems

A major priority is to MINIMISE PRESSURE DROPS, which will occur in flow lines. By minimising the pressure drops you can maximise the product, which in turn increases PROFIT.

The easiest way to maximise the reductions in diameter of the flow line is to introduce a full bore valve, which will have the largest flow coefficient (Cv) for a given nominal bore.

Flow coefficient, or, Cv by definition is the volume of water in gallons per minute at 60°F that will flow through a given element with a pressure drop of 1 psi. Below are some examples of calculations on different pipeline valves.

Oliver Twinsafe Valve 6" Double Block and Bleed Full Bore Ball Valve	Typical Single Block 6" Plug Valve
Valve C_V = 5074	Valve C_V = 1180

To calculate the flow that could be achieved from each of these valves with a 1 psi pressure drop, we would use the formula below.

$$Q = C_V\sqrt{\frac{\Delta P}{(s.g.)}}$$

Q = Flow, gallons per minute
C_V = Flow coefficient
ΔP = Pressure Drop, psi
s.g. = Specific gravity

The process media will be taken as API 40° Crude with specific gravity of 0.825.

Oliver Twinsafe Valve 6" Double Block and Bleed Full Bore Ball Valve	Typical Single Block 6" Plug Valve
Flow = 5586 Gallons/Minute This actually equates to 191,489 barrels per day	Flow = 1299 Gallons/Minute This actually equates to 44,532 barrels per day

Taking the difference between these two figures of 146,966 barrels per day and multiplying this by cost of a barrel of crude oil $90 it can be seen that an extra $13,226,940 a day can be produced which is why it makes sense to install an Oliver Twinsafe Full Bore Double Block and Bleed valve.

Minimising Leak Paths = Maximum Safety.
Maximising Through Paths = Maximum Profits.

PRODUCT SPECIFICATION AT A GLANCE

FLOATING BALL VALVE — FULL BORE

Size & Class	Full Bore Size	FSL	CSL	COSL	FOSL	Operation	Seat
1" 150	1"	x	o	o	✓	Lever	PTFE
1" 300	1"	x	o	o	✓	Lever	PTFE
1" 600	1"	o	o	o	✓	Lever	PTFE
1" 900	1"	o	o	o	o	Lever	PEEK
1" 1500	1"	✓	o	o	o	Lever	PEEK
1" 2500	1"	✓	o	o	o	Lever	PEEK
2" 150	2"	x	o	o	✓	Lever	PTFE
2" 300	2"	x	o	o	✓	Lever	PTFE
2" 600	2"	x	o	o	✓	Lever	PTFE
2" 900	1 3/4"	✓	o	o	o	Lever	PEEK
2" 1500	1 3/4"	✓	o	o	o	Lever	PEEK
2" 2500	1 1/2"	✓			o	Lever	PEEK
3" 150	3"	x	x	o	✓	Lever	PTFE
3" 300	3"	x	✓	o	o	Lever	PTFE
3" 600	3"	x	✓	o	o	Lever	PTFE
3" 900	N/A	x	x	x	x	Lever	N/A
3" 1500	N/A	x	x	x	x	Lever	N/A
3" 2500	N/A	x	x	x	x	Lever	N/A

FLOATING BALL VALVE — REDUCED BORE

Size & Class	Reduced Bore Size	FSL	CSL	COSL	FOSL	Operation	Seat
2"x 1" 150	1"	x	o	o	✓	Lever	PTFE
2"x 1" 300	1"	x	o	o	✓	Lever	PTFE
2"x 1" 600	1"	o	o	o	✓	Lever	PTFE
2"x 1" 900	1"	o	o	o	o	Lever	PEEK
2"x 1" 1500	1"	✓	o	o	o	Lever	PEEK
2"x 1" 2500	1"	✓	o	o	o	Lever	PEEK
3"x 2" 150	2"	x	✓	x	o	Lever	PTFE
3"x 2" 300	2"	x	✓	x	o	Lever	PTFE
3"x 2" 600	2"	o	✓	o	o	Lever	PTFE
3"x 2" 900	1 3/4"	✓	✓	o	o	Lever	PEEK
3"x 2" 1500	1 3/4"	✓	✓	o	o	Lever	PEEK
3"x 2" 2500	1 1/2"	✓	✓	o	o	Lever	PEEK
4"x 3" 150	3"	x	x	x	✓	Lever	PTFE
4"x 3" 300	3"	o	✓	x	o	Lever	PTFE
4"x 3" 600	3"	o	✓	x	o	Lever	PTFE
4"x 3" 900	N/A	x	x	x	x	Lever	N/A
4"x 3" 1500	N/A	x	x	x	x	Lever	N/A
4"x 3" 2500	N/A	x	x	x	x	Lever	N/A

TRUNNION BALL VALVE — FULL BORE

Size & Class	Full Bore Size	FSL	CSL	COSL	FOSL	Operation	Seat
2" 150	2"	N/A	x	o	✓	Gear Box	Devlon
2" 300	2"	N/A	x	o	✓	Gear Box	Devlon
2" 600	2"	N/A	x	o	✓	Gear Box	Devlon
2" 900	2"	N/A	✓	o	o	Gear Box	Devlon
2" 1500	2"	N/A	✓	o	o	Gear Box	Devlon
2" 2500	1 3/4"	N/A	✓	o	o	Gear Box	Devlon
3" 150	3"	N/A	x	o	✓	Gear Box	Devlon
3" 300	3"	N/A	x	o	✓	Gear Box	Devlon
3" 600	3"	N/A	✓	o	o	Gear Box	Devlon
3" 900	3"	N/A	✓	o	o	Gear Box	Devlon
3" 1500	3"	N/A	✓	o	o	Gear Box	Devlon
3" 2500	2 1/2"	N/A	✓	o	o	Gear Box	Devlon
4" 150	4"	N/A	x	o	✓	Gear Box	Devlon
4" 300	4"	N/A	x	o	✓	Gear Box	Devlon
4" 600	4"	N/A	✓	o	o	Gear Box	Devlon
4" 900	4"	N/A	✓	o	o	Gear Box	Devlon
4" 1500	4"	N/A	✓	o	o	Gear Box	Devlon
4" 2500	3 1/2"	N/A	✓	o	o	Gear Box	Devlon
6" 150	6"	N/A	x	o	✓	Gear Box	Devlon
6" 300	6"	N/A	x	o	✓	Gear Box	Devlon
6" 600	6"	N/A	✓	o	o	Gear Box	Devlon
6" 900	6"	N/A	✓	o	o	Gear Box	Devlon
6" 1500	6"	N/A	✓	o	o	Gear Box	Devlon
6" 2500	5 1/4"	N/A	✓	o	o	Gear Box	Devlon
8" 150	8"	N/A	x	o	✓	Gear Box	Devlon
8" 300	8"	N/A	x	o	✓	Gear Box	Devlon
8" 600	8"	N/A	x	o	✓	Gear Box	Devlon
8" 900	7 15/16"	N/A	✓	o	o	Gear Box	Devlon
8" 1500	7 5/8"	N/A	✓	o	o	Gear Box	Devlon
8" 2500	7"	N/A	✓	o	o	Gear Box	Devlon
10" 150	10"	N/A	x	o	✓	Gear Box	Devlon
10" 300	10"	N/A	x	o	✓	Gear Box	Devlon
10" 600	10"	N/A	x	o	✓	Gear Box	Devlon
10" 900	10"	N/A	✓	o	✓	Gear Box	Devlon
10" 1500	9 3/8"	N/A	x	o	✓	Gear Box	Devlon
10" 2500	8 3/4"	N/A	x	o	✓	Gear Box	Devlon
12" 150	12"	N/A	x	o	✓	Gear Box	Devlon
12" 300	12"	N/A	x	o	✓	Gear Box	Devlon
12" 600	12"	N/A	x	o	✓	Gear Box	Devlon
12" 900	12"	N/A	x	o	✓	Gear Box	Devlon
12" 1500	13 1/3"	N/A	x	o	✓	Gear Box	Devlon
12" 2500	10 7/16"	N/A	x	o	✓	Gear Box	Devlon
14" 150	13 3/16"	N/A	x	o	✓	Gear Box	Devlon
14" 300	13 3/16"	N/A	x	o	✓	Gear Box	Devlon
14" 600	14"	N/A	x	o	✓	Gear Box	Devlon
14" 900	13 3/16"	N/A	x	x	x	Gear Box	Devlon
14" 1500	N/A	N/A	x	x	x	Gear Box	Devlon
14" 2500	N/A	N/A	x	x	x	Gear Box	Devlon
16" 150	15 3/16"	N/A	x	✓	✓	Gear Box	Devlon
16" 300	15 3/16"	N/A	x	✓	✓	Gear Box	Devlon
16" 600	15 3/16"	N/A	x	✓	✓	Gear Box	Devlon
16" 900	134 2/3"	N/A	x	✓	✓	Gear Box	Devlon
16" 1500	N/A	N/A	x	x	x	Gear Box	Devlon
16" 2500	N/A	N/A	x	x	x	Gear Box	Devlon

TRUNNION BALL VALVE — REDUCED BORE

Size & Class	Reduced Bore Size	FSL	CSL	COSL	FOSL	Operation	Seat
3"x 2" 150	2"	N/A	x	x	o	Gear Box	Devlon
3"x 2" 300	2"	N/A	x	x	o	Gear Box	Devlon
3"x 2" 600	2"	N/A	✓	✓	o	Gear Box	Devlon
3"x 2" 900	2"	N/A	✓	✓	o	Gear Box	Devlon
3"x 2" 1500	2"	N/A	✓	✓	o	Gear Box	Devlon
3"x 2" 2500	1 3/4"	N/A	✓	✓	o	Gear Box	Devlon
4"x 3" 150	3"	N/A	x	x	o	Gear Box	Devlon
4"x 3" 300	3"	N/A	✓	✓	o	Gear Box	Devlon
4"x 3" 600	3"	N/A	✓	✓	o	Gear Box	Devlon
4"x 3" 900	3"	N/A	✓	✓	o	Gear Box	Devlon
4"x 3" 1500	3"	N/A	✓	✓	o	Gear Box	Devlon
4"x 3" 2500	2 1/2"	N/A	✓	✓	o	Gear Box	Devlon
6"x 4" 150	4"	N/A	x	x	o	Gear Box	Devlon
6"x 4" 300	4"	N/A	x	x	o	Gear Box	Devlon
6"x 4" 600	4"	N/A	✓	✓	o	Gear Box	Devlon
6"x 4" 900	4"	N/A	✓	✓	o	Gear Box	Devlon
6"x 4" 1500	4"	N/A	✓	✓	o	Gear Box	Devlon
6"x 4" 2500	3 1/2"	N/A	✓	✓	o	Gear Box	Devlon
8"x 6" 150	6"	N/A	x	x	o	Gear Box	Devlon
8"x 6" 300	6"	N/A	x	x	o	Gear Box	Devlon
8"x 6" 600	6"	N/A	✓	✓	o	Gear Box	Devlon
8"x 6" 900	6"	N/A	✓	✓	o	Gear Box	Devlon
8"x 6" 1500	6"	N/A	✓	✓	o	Gear Box	Devlon
8"x 6" 2500	5 1/4"	N/A	✓	✓	o	Gear Box	Devlon
10"x 8" 150	8"	N/A	x	x	o	Gear Box	Devlon
10"x 8" 300	8"	N/A	x	x	o	Gear Box	Devlon
10"x 8" 600	8"	N/A	x	x	o	Gear Box	Devlon
10"x 8" 900	7 15/16"	N/A	✓	✓	o	Gear Box	Devlon
10"x 8" 1500	7 5/8"	N/A	✓	✓	o	Gear Box	Devlon
10"x 8" 2500	7"	N/A	✓	✓	o	Gear Box	Devlon
12"x 10" 150	10"	N/A	x	x	✓	Gear Box	Devlon
12"x 10" 300	10"	N/A	x	x	✓	Gear Box	Devlon
12"x 10" 600	10"	N/A	✓	✓	✓	Gear Box	Devlon
12"x 10" 900	10"	N/A	✓	✓	✓	Gear Box	Devlon
12"x 10" 1500	9 3/8"	N/A	x	x	✓	Gear Box	Devlon
12"x 10" 2500	8 3/4"	N/A	x	x	x	Gear Box	Devlon
14"x 12" 150	12"	N/A	x	x	✓	Gear Box	Devlon
14"x 12" 300	12"	N/A	x	x	✓	Gear Box	Devlon
14"x 12" 600	12"	N/A	x	x	✓	Gear Box	Devlon
14"x 12" 900	12"	N/A	✓	✓	✓	Gear Box	Devlon
14"x 12" 1500	11 1/3"	N/A	x	x	✓	Gear Box	Devlon
14"x 12" 2500	10 7/16"	N/A	x	x	x	Gear Box	Devlon
16"x 14" 150	13 3/16"	N/A	x	x	✓	Gear Box	Devlon
16"x 14" 300	13 3/16"	N/A	x	x	✓	Gear Box	Devlon
16"x 14" 600	13 3/16"	N/A	x	x	✓	Gear Box	Devlon
16"x 14" 900	12 2/3"	N/A	x	x	x	Gear Box	Devlon
16"x 14" 1500	N/A	N/A	x	x	x	Gear Box	Devlon
16"x 14" 2500	N/A	N/A	x	x	x	Gear Box	Devlon
18"x 16" 150	15 3/16"	N/A	x	✓	✓	Gear Box	Devlon
18"x 16" 300	15 3/16"	N/A	x	✓	✓	Gear Box	Devlon
18"x 16" 600	15 3/16"	N/A	x	✓	✓	Gear Box	Devlon
18"x 16" 900	14 2/3"	N/A	x	✓	✓	Gear Box	Devlon
18"x 16" 1500	N/A	N/A	x	x	x	Gear Box	Devlon
18"x 16" 2500	N/A	N/A	x	x	x	Gear Box	Devlon

✓ = Standard Offered.
o = Not Standard but can be offered.
x = Not available.

CSL = Compact Standard Length (B16.10 API 6D).
COSL = Compact Oliver Sandard Length.
FSL = Flanged Standard Length.
FOSL = Flanged Oliver Sandard Length.

IMPORTANT NOTE: Standard Lenth cartridge style valves may have restrictions on vent bore size, limited seat injection availability, ball support methods & material (i.e. Floating & Trunnion).

Oliver Twinsafe Valves have made every effort to ensure the accuracy of the information in this document, however due to continuous research and development we do not accept any liability for using information contained in this document.

For larger sizes even if not shown, please consult the factory as we may now be able to offer.

how to order

T	4	DBB	/	D	/	C	/	4-900RF	/	4-900RF	/	75-900RF	/	CSL / CT / FB / FS / GO / NA / TN

TWINSAFE

BORE SIZE

1	= 1″	6	= 6″	14	= 14″	24	= 24″
2	= 2″	8	= 8″	16	= 16″		
3	= 3″	10	= 10″	18	= 18″		
4	= 4″	12	= 12″	20	= 20″		

STYLE

DBB	=	Twinsafe Double Block & Bleed Valve
DB	=	Twinsafe Double Block
BB	=	Single Block & Bleed
BK	=	Block Valve
LGBK	=	Twinsafe Level Gauge Block Valve
LGDB	=	Twinsafe Level Gauge Double Block Valve
LGDBB	=	Twinsafe Level Gauge Double Block & Bleed Valve

CONFIGURATION

A	=	Double Ball Block
D	=	2 Ball Isolates, Needle Vent
F	=	2 Ball Isolates, Ball Vent
G	=	Ball, Globe Isolate, Needle Vent
BN	=	Ball, Needle Vent
BB	=	Ball, Ball Vent

MATERIAL SELECTION

C	=	ASTM A350 LF2 Carbon Steel Forged Bar	Forged
S	=	ASTM A182 F316 Stainless Steel Forged Bar	
D	=	ASTM A182 F51 Duplex Forged Bar	
SD	=	ASTM A182 F55 Super Duplex Forged Bar	
825	=	Incoloy 825 Forged Bar	
625	=	Inconel 625 Forged Bar	
LCC	=	ASTM A352 LCC Cast Carbon Steel with Low Carbon	Cast
CF8	=	ASTM A351 CF8M Cast 316 Stainless steel	
4A	=	ASTM A995 4A Cast Duplex	
6A	=	ASTM A995 6A Cast Super Duplex	
6MC	=	ASTM A494 CW-6MC Cast Inconel 625	

Other materials available upon request

INLET CONNECTION

FLANGE SIZE		FOLLOWED BY CLASS		FOLLOWED BY FLANGE TYPE	
1 = 1″	10 = 10″	150	= 150lb	RTJ	= Ring Type Joint
2 = 2″	12 = 12″	300	= 300lb	RF	= Spiral Finish Raised Face
3 = 3″	14 = 14″	600	= 600lb		
4 = 4″	16 = 16″	900	= 900lb		
6 = 6″	18 = 18″	1500	= 1500lb		
8 = 8″	20 = 20″	2500	= 2500lb		
	24 = 24″				

OUTLET CONNECTION

FLANGE SIZE		FOLLOWED BY CLASS		FOLLOWED BY FLANGE TYPE	
1 = 1″	10 = 10″	150	= 150lb	RTJ	= Ring Type Joint
2 = 2″	12 = 12″	300	= 300lb	RF	= Spiral Finish Raised Face
3 = 3″	14 = 14″	600	= 600lb		
4 = 4″	16 = 16″	900	= 900lb		
6 = 6″	18 = 18″	1500	= 1500lb		
8 = 8″	20 = 20″	2500	= 2500lb		
	24 = 24″				

VENT CONNECTION

INTEGRAL VENT VALVE	WHERE A SEPARATE VENT VALVE IS SUPPLIED
Heavy Duty Head Unit 25F = 1/4″ NPT 50F = 1/2″ NPT 75F = 3/4″ NPT	*Vent Valves - specify which "Oliver Valve" either single isolate, mono valve or double block and bleed valve/DBB mono required Examples: MONO / BK / BV / LF2 / Y / 75-800RF-50F DBB / D / S / X / 10-1500RTJ / 50F / MONO / BK / 50-600RF / SSV11 / 50F / 50F

OPTIONS (ALPHABETICALLY)

ACT	= Actuated	FS	= Firesafe	LT196	= -196ºC cryogenic service
ATV	= Anti-tamper vent valve	FSL	= Flange Standard Length	MS-TC	= Metal Seated Tungsten Carbide
BF	= Blind Flange on Vent	GO	= Gear Operated	MS-TC-Gas	= Metal Seated Tungsten Carbide to Gas Tested
CF	= Cavity Filler	HL	= Handle Locking Lever and Gear Box Options	MS-CC	= Metal Seated Chrome Carbide
COSL	= Compact Oliver Standard Length	HT180	= High temperature 180ºC	MS-S	= Metal seated stellite
CSL	= Compact Standard Length	HT315	= High temperature 315ºC	NA	= NACE Specification
CT	= Carbon Steel Trim	HTB	= Hybrid Trunnion ball valve	OSY	= Outside Screw and Yoke design
DT	= Duplex Trim	IL316	= 316 Weld inlay	PK	= PEEK Seats
EXT	= With GO and LO Options Handle Extensions	IL625	= 625 Weld inlay	RB	= Reduced Bore
FB	= Full Bore	LO	= Lever Operated	SPS	= Spring protection system
FL	= Floating Ball Design	LT50	= -50ºC low temperature service	SSI	= Seat and stem injection
FOSL	= Flange Oliver Standard Length	LT100	= -100ºC low temperature service	ST	= Stainless Steel Trim
				TN	= Trunnion Ball Design

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SAWYE

HK Sawye International

Authorised distributor of the Oliver Valves group

Oil & gas valve supply from stock and project order

SAWYE supplies the Oliver Valves group of companies to oil and gas operators, EPC contractors and packagers in China, the Middle East, South East Asia and Africa: instrument needle, gauge and manifold valves, double block and bleed valves, pipeline ball valves, twin seal and hydrogen service valves, and subsea valves from Oliver Valvetek.

- Oliver Valves - instrument valves, manifolds, DBB and instrument enclosures
- Oliver Twinsafe - pipeline ball valves, double block & bleed, twin seal
- Oliver Hydcovalves - hydrogen and carbon capture service valves
- Oliver Valvetek - subsea gate, needle and check valves

Contact

Email websale@sawye.com
Web www.sawye.com

Technical reply within 24 hours | EN 10204 3.1 certificates with every shipment

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