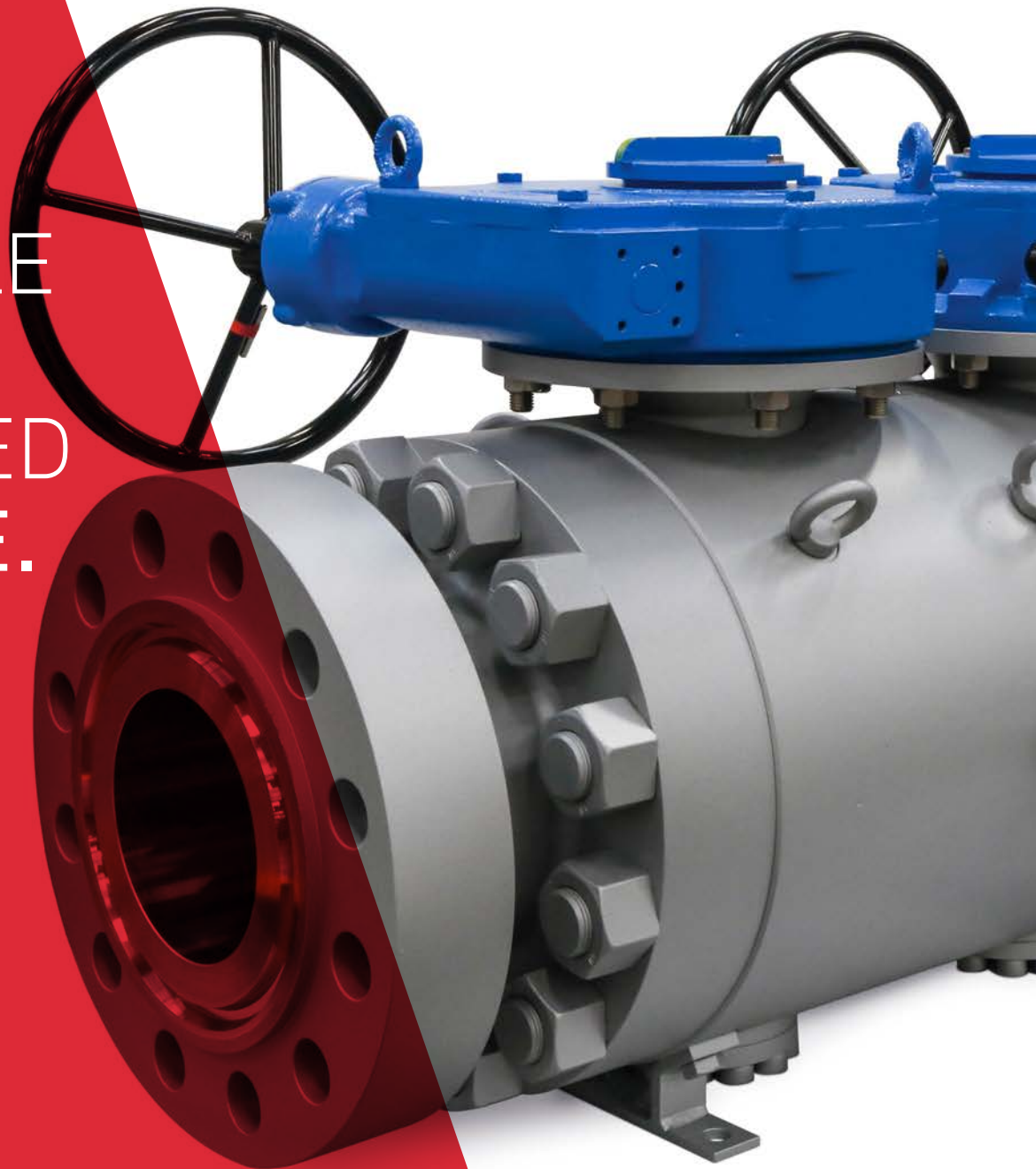


DOUBLE  
BLOCK  
& BLEED  
RANGE.



ALCO VALVES DELIVER TRUSTED  
SOLUTIONS FOR CRITICAL  
APPLICATIONS.





## ALCO VALVES GROUP LTD

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 customer's requirements 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, UAE, Malaysia, Australia and USA. 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.

**40** YEARS OF  
MANUFACTURING  
EXCELLENCE

# ALCO VALVES DBB RANGE

PATENT PENDING



Our Double Block and Bleed (DBB) valve range includes our new XC range, designed for supercritical applications with challenging conditions.

This ranges allow you to positively isolate both sides of the valve with a bubble-tight seal, and vent any excess medium through a needle valve.

It includes options for high-pressure, critical processes, such as our XC range, which are all API 6A tested and manufactured in accordance with ASME standards.

ASME NACE®

Component  
Features†



### XC VALVE RANGE

The XC range of valves offers secure lock-off of fluid for safe, reliable performance of complex operations. They benefit from high structural integrity and come in a wide choice of materials.

### FLOATING PATTERN VALVES

Our floating pattern valves are designed for downstream use and feature two ball rings, which hold the ball in place under varying levels of pressure.

### TRUNNION MOUNT BALL VALVES

Our trunnion mount valves are well-suited to upstream applications with higher pressure levels, or those handling coarser, less-refined media. They feature more resilient design and spring-energised seats.

### SAMPLING & INJECTION VALVES

Our sampling and injection valves are designed for applications where selective sampling of a medium, or the injection of other substances is required as part of the process.



**Temp. Range**  
-46°C > 472°C<sup>†</sup>



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
Multiple Available



**Compliance**  
NACE MR - 01 - 75



**Corrosion Protection**  
Ingress Sealing



**Material Traceability**  
Major Components



**Flow Direction**  
Uni & Bi directional



**Servicing Kits**  
Available

<sup>†</sup> Other options and accessories can be supplied upon request, please contact Alco Valves Group for further details.

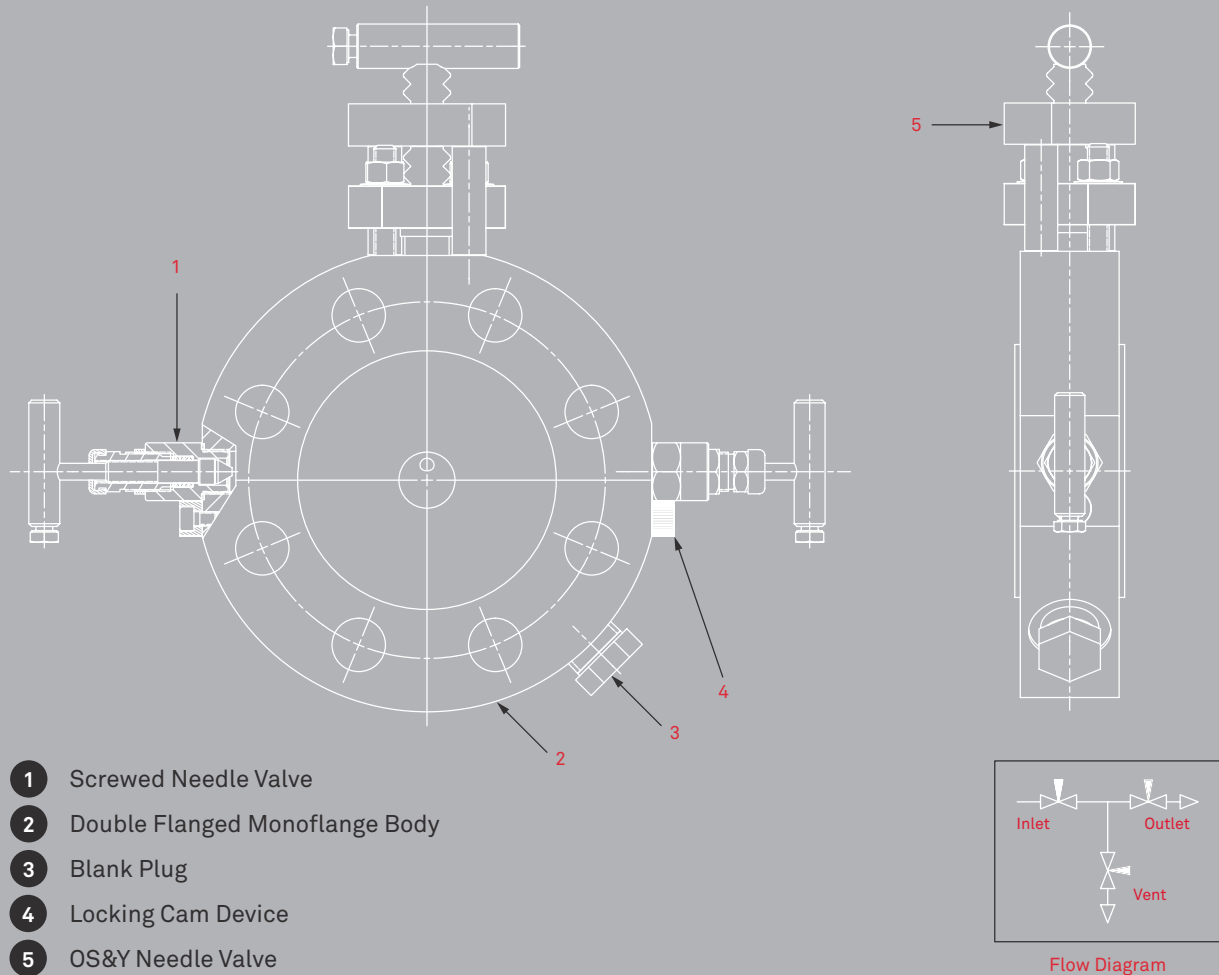
# Ø5mm Bore DMF Monoflange Flange x Flange

Technical Spec

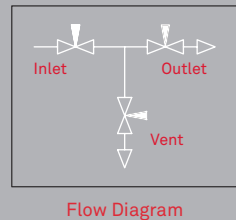
Double block and bleed monoflange valve with flanged inlet & outlet and threaded vent, utilising metal to metal seat and bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The DMF type valve offers a Needle configuration as well as an OS&Y Needle, Needle, Needle configuration to suit all needs. The unique anti-vibration cam locking device at body bonnet connection is for extra safety. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 472°C.

Valve Construction



- 1 Screwed Needle Valve
- 2 Double Flanged Monoflange Body
- 3 Blank Plug
- 4 Locking Cam Device
- 5 OS&Y Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	Standard Needle
Flat Face	Flat Face	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 472°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Corrosion Protection**  
Ingress Sealing



**Material Traceability**  
Major Components



**Flow Direction**  
Uni-directional



**Servicing Kits**  
Available

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- Bubble tight metal to metal seat for positive shut off
- Two piece non-rotating hardened tip for first time seal and long service life
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing
- PEEK body bonnet seal for high pressure and high temperature
- Actuating threads are above packing to prevent contamination by the process medium
- Separate shut off for vent to prevent unwanted loss of process medium
- OS&Y valves available alongside standard Needle valves to cater for all customer needs
- Any combination of Vent sizes and types available on request
- Raised Face, Flat Face and Ring Type Joint connection options available
- Venting Plug available for Vent Port

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

### Non-Destructive Testing/Examination Options

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Pressure Testing

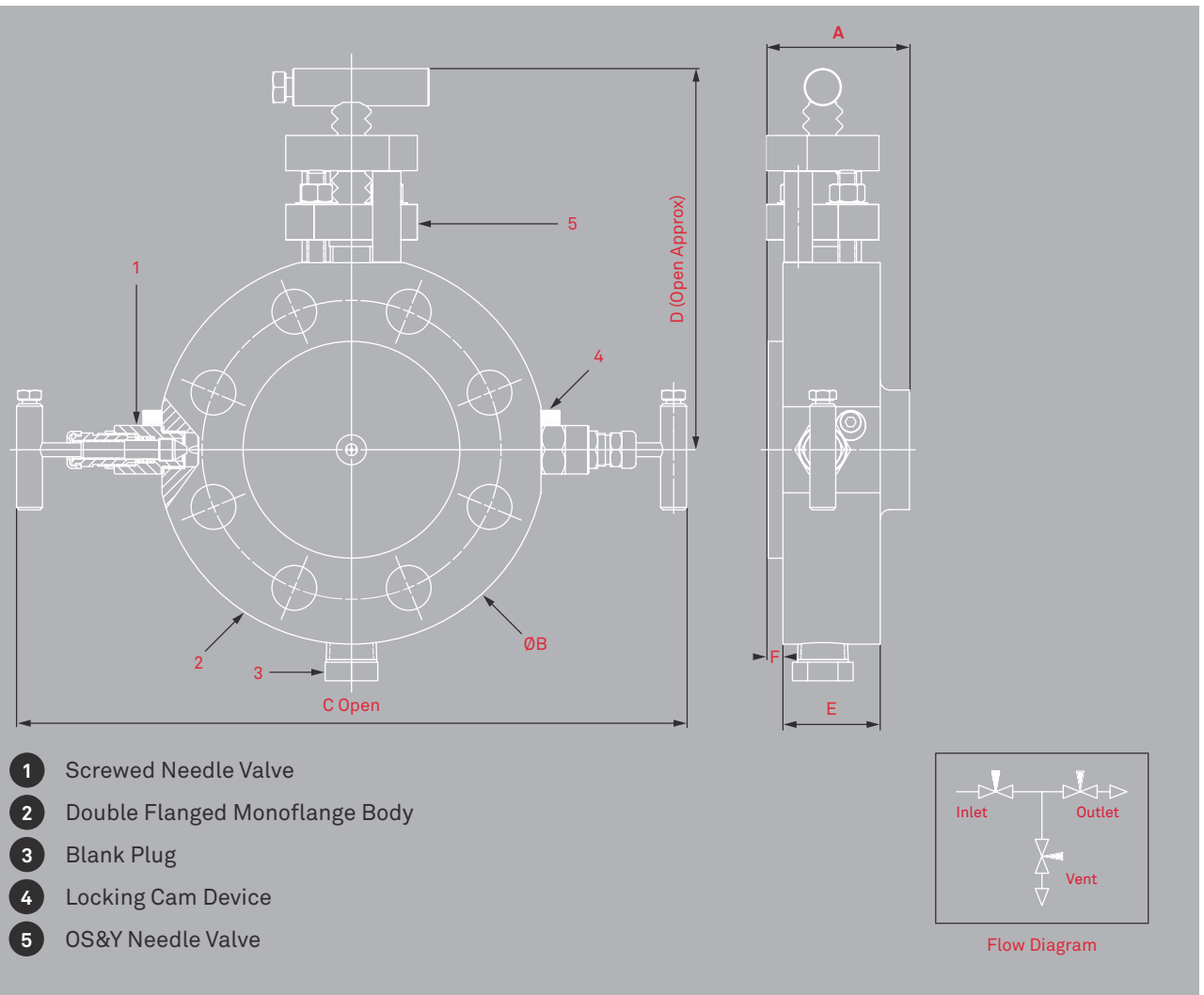
# Ø5mm Bore SMF Monoflange Flange x Screw

Technical Spec

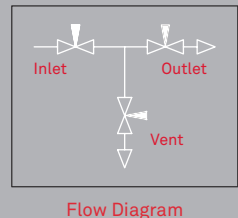
Double block and bleed monoflange valve manifold with flanged inlet, with threaded outlet and vent connections utilising metal to metal seat and bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The SMF type valve offers a Needle, Needle, Needle configuration as well as an OS&Y Needle, Needle, Needle configuration to suit all needs. Anti-tamper needle valves are also available to prevent unauthorised operation. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 472°C.

Valve Construction



- 1 Screwed Needle Valve
- 2 Double Flanged Monoflange Body
- 3 Blank Plug
- 4 Locking Cam Device
- 5 OS&Y Needle Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.





**Temp. Range**  
-46°C > 472°C<sup>†</sup>



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2"<sup>†</sup>



**Compliance**  
NACE MR - 01 - 75

<sup>†</sup> Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- ASME B16.5 ½” to 2” NB Flange sizes - Larger sizes are available
- Different needle combinations/types available including OS&Y and Anti-Tamper
- Designed to ASME B16.34 Class 150 to 2500 pressure rated and API 6A up to 10,000psi
- Materials available; ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel
- ASME B1.20.1 ½” – 14 NPT Outlet Size – Standard
- Various trim materials available
- ASME B1.20.1 ½” – 14 NPT Vent Size – Standard
- Standard Designs are fire safe
- Other Outlet/Vent Sizes and Thread types are available
- Sample Probes/Injection Quills can be added to flanged face

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Data Table

For further information regarding this range, please see the Ø5mm Bore SMF Monoflange Flange x Screw product data table at the back of this brochure.

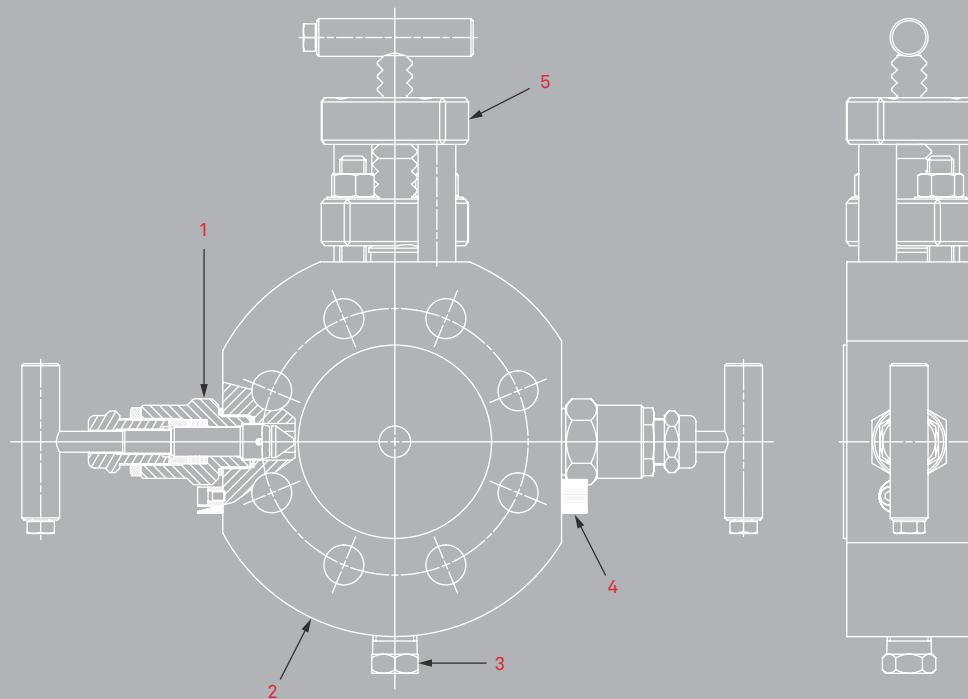
# Ø10mm Bore DMF Monoflange Flange x Flange

Technical Spec

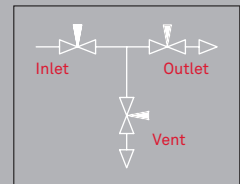
Double block and bleed monoflange valve with flanged inlet & outlet, utilising metal to metal seat and bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The DMF type valve offers a Needle, Needle, Needle configuration as well as an OS&Y Needle, Needle, Needle configuration to suit all needs. The unique anti-vibration cam locking device at body bonnet connection is for extra safety. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 472°C.

Valve Construction



- 1 Screwed Needle Valve
- 2 Double Flanged Monoflange Body
- 3 Blank Plug
- 4 Locking Cam Device
- 5 OS&Y Needle Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	Standard Needle
Flat Face	Flat Face	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 472°C†



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2"†



**Compliance**  
NACE MR - 01 - 75

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- ASME B16.5 1/2" to 2" NB Flange sizes - Larger sizes are available
- ASME B16.34 Class 150 to 2500 pressure rated and API 6A up to 10,000psi
- ASME B1.20.1 1/2" – 14 NPT Outlet Size – Standard
- ASME B1.20.1 1/2" – 14 NPT Vent Size – Standard
- Other Outlet/Vent Sizes and Thread types are available
- Sample Probes/Injection Quills can be added to flanged face
- Different needle combinations/types available including OS&Y and Anti-Tamper
- Materials available; ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel
- Various trim materials available
- Standard Designs are fire safe

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

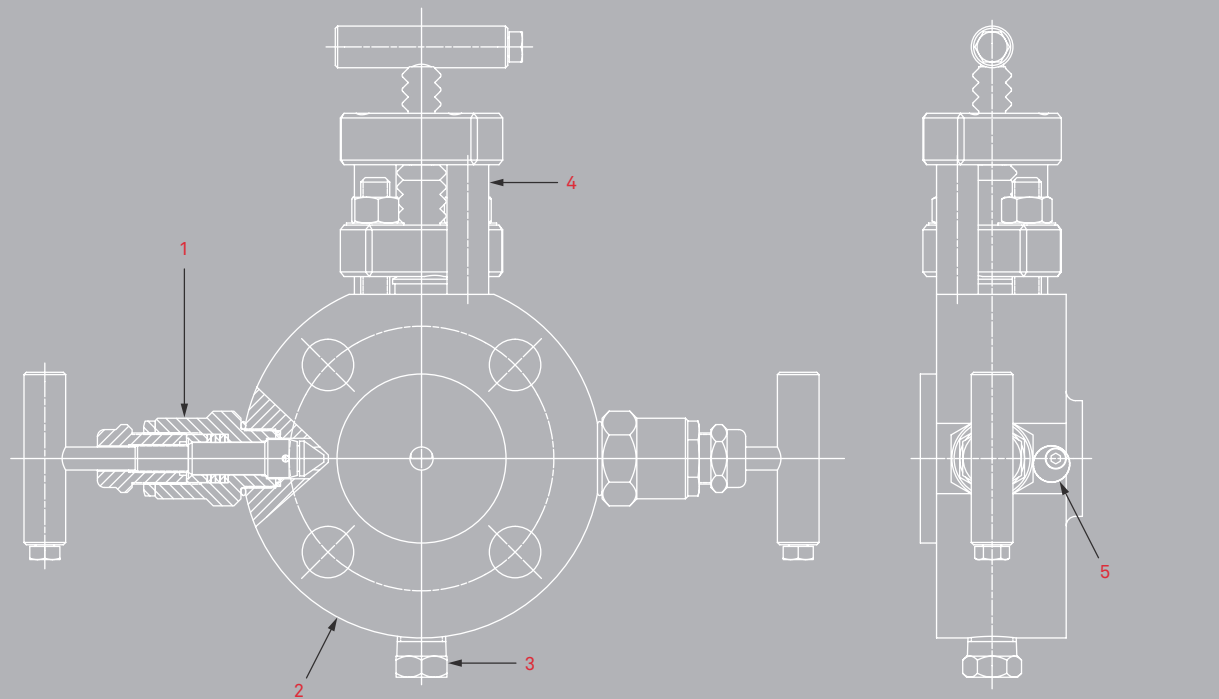
# Ø10mm Bore SMF Monoflange Flange x Screw

Technical Spec

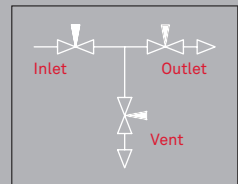
Double block and bleed monoflange valve with flanged inlet, and threaded outlet and vent connections utilising metal to metal seat and bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The 10SMF type valve offers a Needle, Needle, Needle configuration as well as an OS&Y Needle, Needle, Needle configuration to suit all needs. The unique anti-vibration cam locking device at body bonnet connection is for extra safety. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 472°C.

Valve Construction



- 1 Screwed Needle Valve
- 2 Single Flanged Monoflange Body
- 3 Blank Plug
- 4 OS&Y Needle Valve
- 5 Locking Cam Device



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 472°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Uni-directional



**Servicing Kits**  
Available

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Bubble tight metal to metal seat for positive shut off
- Two piece non-rotating hardened tip for first time seal and long service life
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing
- PEEK body bonnet seal for high pressure and high temperature
- Actuating threads are above packing to prevent contamination by the process medium
- Unique bonnet locking cam. No accidental removal of head unit, or loosening due to vibration
- Positive no slack stem action
- Separate shut off for vent to prevent unwanted loss of process medium
- Any combination of Vent/Outlet sizes and types available on request
- Raised Face, Flat Face and Ring Type Joint connection options available
- Venting Plug available for Vent Port

Pressure Testing

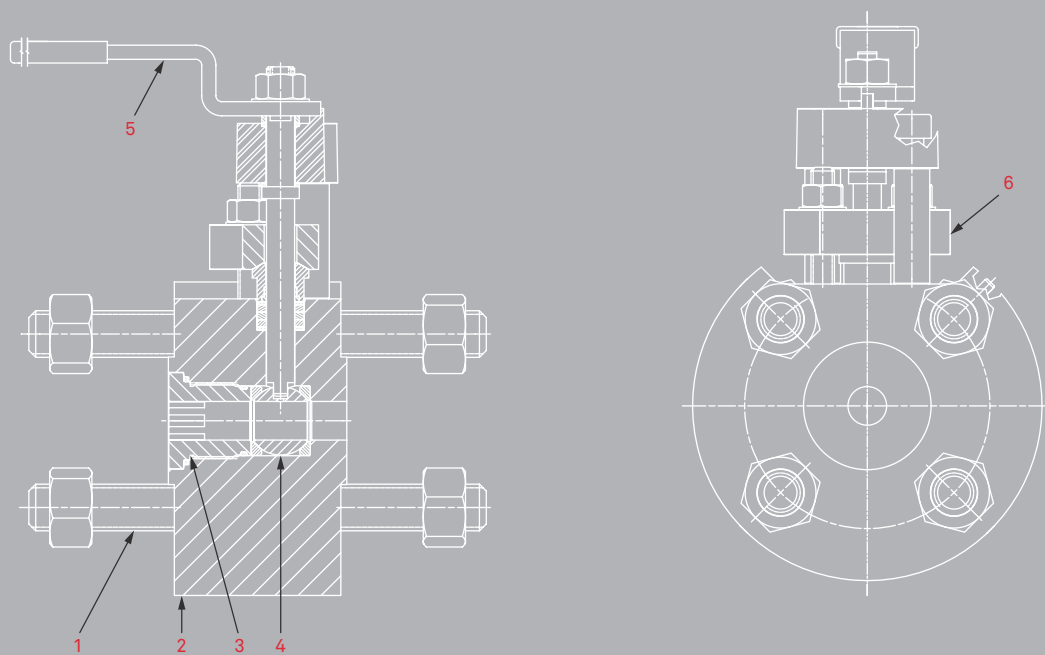
All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

# MFB Ball Valve Monoflange

Technical Spec

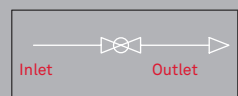
Single block monoflange valve utilising soft seated materials with insert or two piece bolted style connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The MFB type valve offers a single Ball configuration. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of 200°C and can be supplied with bore sizes ranging from ½” up to 2”.



Valve Construction

- 1 Integrated Fasteners
- 2 Double Flanged Monoflange body
- 3 Screwed Body Insert
- 4 Floating Ball Valve
- 5 Valve Handle
- 6 OS&Y for Ball Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †
Raised Face	Raised Face
Flat Face	Flat Face
Ring Type Joint	Ring Type Joint

†Other options can be supplied upon request.



**Temp. Range**  
-29°C > 200°C<sup>†</sup>



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2"<sup>†</sup>



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Bi-directional



**Servicing Kits**  
Available

<sup>†</sup> Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- Pressure rated up to ASME Class 2500
- Bubble tight soft seats for positive shut off
- Flange sizes from ½" up to 2" – larger available in some circumstances
- Spares and Repair kits available to extend service life further
- Full material traceability of major components
- Raised Face connection, Flat Face and Type Joing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

#### Non-Destructive Testing/Examination Options

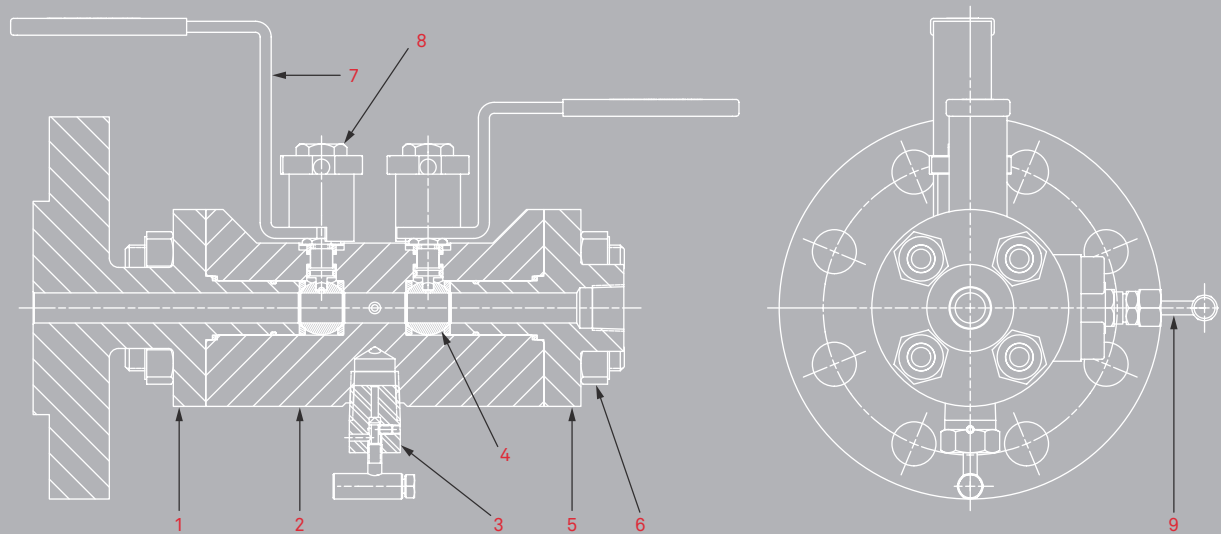
- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

# OB Series Flange x Screw 3 Piece

Technical Spec

Double block and bleed bar stock body cartridge valve manifold with bolt on flanges, utilising both soft seat and metal to metal seat, with bonnet to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The BVO type valve offers a Ball, Bolted Needle, Ball configuration. Flanged connections and a threaded female vent port. This series offers working pressures of up to ASME B16.5 class 2500 or API 6A 10,000 psi with a maximum working temperature of up to 200°C.



Valve Construction

- 1 Bolt on Flange Connection
- 2 Valve Body
- 3 Safety Vent Port (optional)
- 4 Isolation Ball Valve
- 5 Bolt on Threaded Connection
- 6 Hex Nut
- 7 Valve Handle
- 8 Handle Locking Device
- 9 Bolted Needle Valve

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

†Other options can be supplied upon request.





**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 3" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Standard configuration body with interchangeable process connections
- Option of flanged, threaded and butt-welded connections amongst others
- Bore sizes from 10mm up to 250mm
- Pressure rated up to ASME B16.5 class 2500 and API 6A 10,000 psi
- Double block and bleed configuration
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel amongst others
- Lockable and Anti-tamper devices available
- Fire safe design
- Choice of venting valve design

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

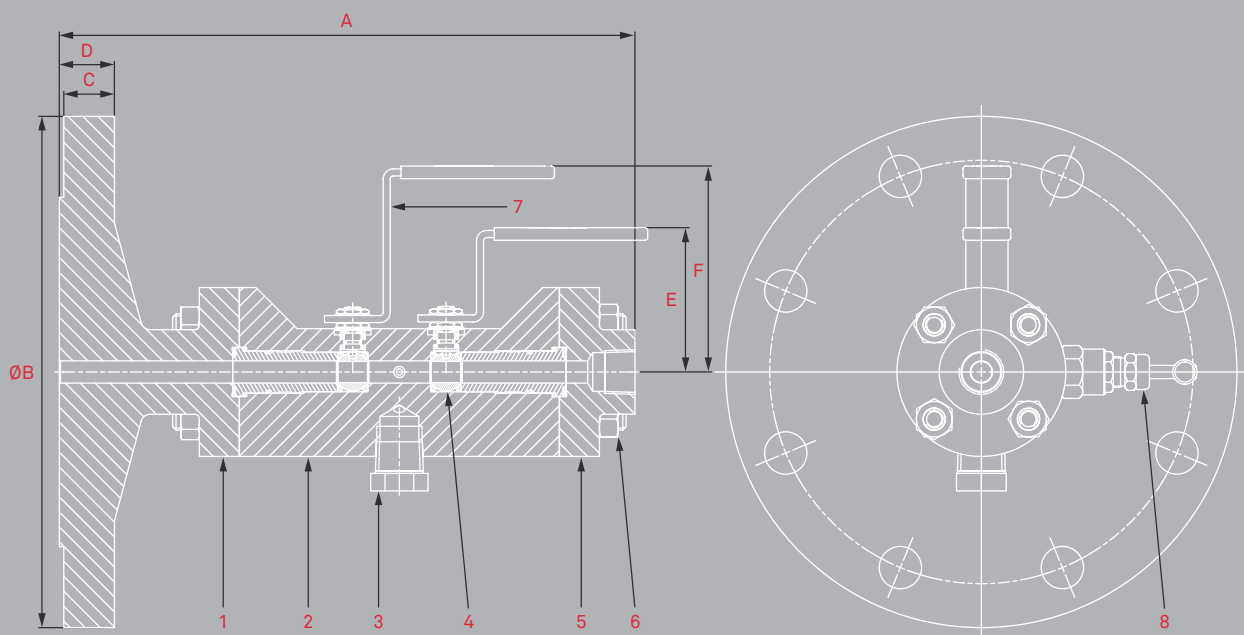
- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

# V Series Flange x Screw 3 Piece

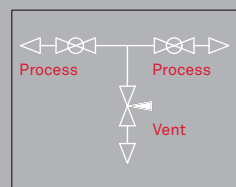
Technical Spec

Double block and bleed bar stock body cartridge valve manifold with interchangeable flanges, utilising both soft seat and metal to metal seat, with bonnet to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The BVV type valve offers a Ball, Needle, Ball configuration. Flanged connections and a threaded female vent port. This series offers working pressures of up to ASME B16.5 class 2500 or API 6A 10,000 psi with a maximum working temperature of up to 200°C.



- 1 Bolt on Flange Connection
- 2 Valve Body
- 3 Blank Plug (optional)
- 4 Isolation Ball Valve
- 5 Bolt on Threaded Connection
- 6 Fasteners
- 7 Valve Handle
- 8 Screwed Needle Valve



Flow Diagram

Valve Construction

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 3" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Standard configuration body with interchangeable process connections
- Option of flanged, threaded and butt-welded connections amongst others
- Bore sizes from 10mm up to 50mm
- Pressure rated up to ASME B16.5 class 2500 and API 6A 10,000 psi
- Double block and bleed configuration
- Range of Bolting Grades can be supplied, with coatings available
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel amongst others
- Lockable and Anti-tamper devices available
- Fire safe design
- Choice of venting valve design

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Data Table

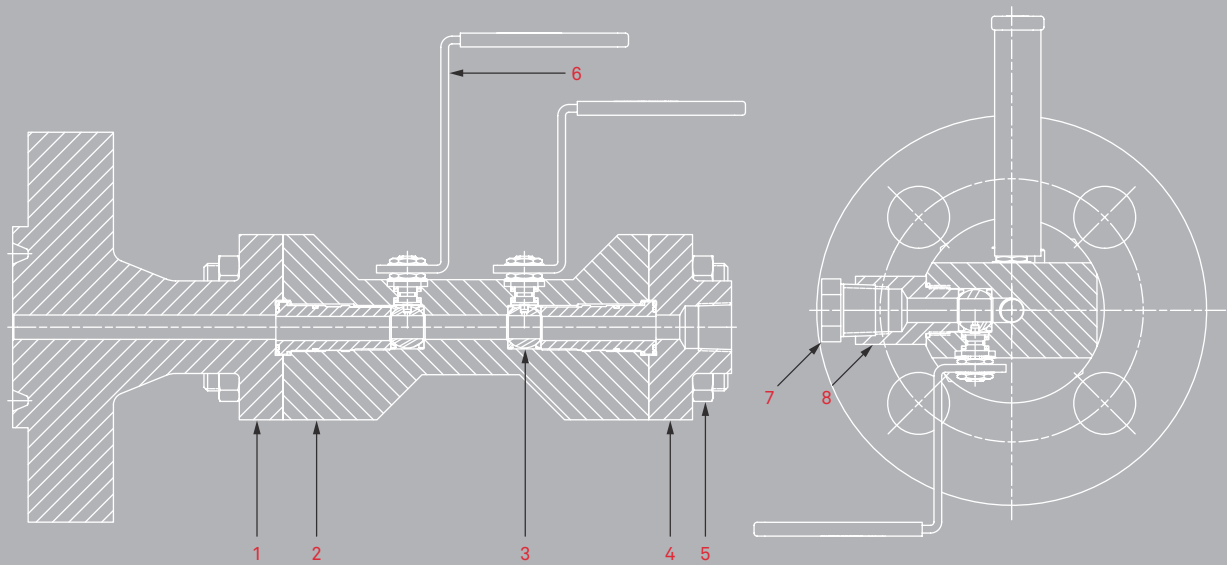
For further information regarding this range, please see the V Series Flange x Screw 3 Piece product data table at the back of this brochure.

# Y Series Flange x Screw 3 Piece

Technical Spec

Double block and bleed, double flanged valve manifold utilising soft seats, with soft body seals and O-rings for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The BVY type valve offers a Ball, Ball, Ball configuration. This series offers working pressures of up to ASME B16.5 class 2500 or API 6A up to 10,000 psi, with a maximum working temperature of up to 200°C.



Valve Construction

- 1 Bolt on Flange Connection
- 2 Valve Body
- 3 Isolation Ball Valve
- 4 Bolt on Threaded Connection
- 5 Fasteners
- 6 Valve Handle
- 7 Blank Plug
- 8 Venting Ball Valve Connection

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 3" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Standard configuration body with interchangeable process connections
- Option of flanged, threaded and butt-welded connections amongst others
- Bore sizes from 10mm up to 250mm
- Pressure rated up to ASME B16.5 class 2500 and API 6A 10,000 psi
- Double block and bleed configuration
- Range of Bolting Grades can be supplied, with coatings available
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel amongst others
- Lockable and Anti-tamper devices available
- Fire safe design
- Choice of venting valve design

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

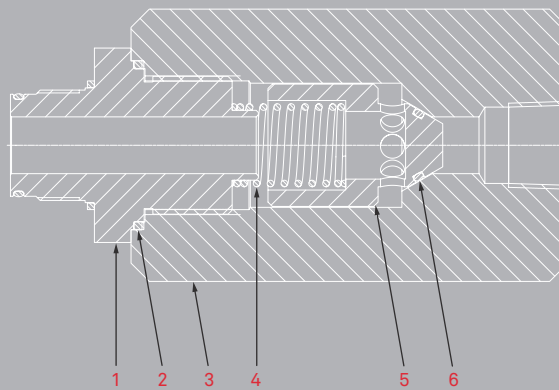
**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

# CV-A Check Valve Type

The check valve type is offered by Alco on most of the Hi-Tek valves. The purpose is to prevent bi-directional flow on valves that require flow in only one direction. The CV-A type is offered on sizes from 10mm bore up to 25mm bore and cover pressures up to ASME class 2500 and API 10,000 psi.

The valve can be screwed onto the end of a valve, or housed without the valve body, but this does not affect the performance, meaning that the valve is suited to all applications.



- 1 End Connector
- 2 Body Seal
- 3 Check Valve Body
- 4 Check Valve Spring
- 5 Check Valve Piston
- 6 Sealing O-Ring

°C

Temp. Range  
-46°C > 200°C †



Pressure Rating  
ASME Class 150 - 2500



Thread Sizes  
1/4" - 3/4"



Flow Direction  
Bi-directional

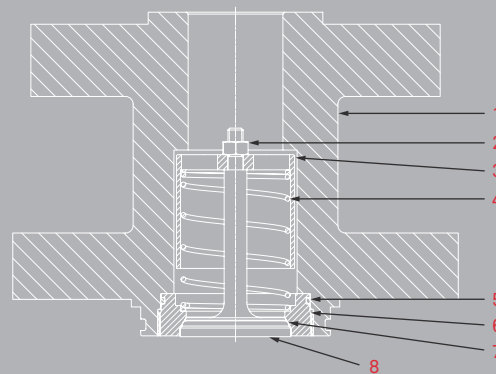
- Easy fit onto existing valve designs
- Designed up to ASME B16.5 Class 2500/API 10,000 psi
- Range of materials available
- Size ranges from 1/4" up to 3/4" in a variety of different threads
- Designs are fire safe
- -10mm up to 25mm bore sizes

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

# CV-B Check Valve Type

The check valve type is offered by Alco on most of the Hi-Tek valves. The purpose is to prevent bi-directional flow on valves that require flow in only one direction. The CV-B type is offered on sizes from 38mm bore up to 50mm bore and cover pressures up to ASME class 2500 and API 10,000 psi.

The valve can be screwed onto the end of a valve, or housed without the valve body, but this does not affect the performance, meaning that this type is suited to all applications.



- |                              |                             |
|------------------------------|-----------------------------|
| 1 Bolt on Flange             | 6 Check Valve Spring Insert |
| 2 Piston Hex Nut             | 7 Piston Seal O-Ring        |
| 3 Check Valve Piston Housing | 8 Check Valve Piston        |
| 4 Check Valve Spring         |                             |
| 5 Body Seal O-Ring           |                             |

°C

Temp. Range  
-46°C > 200°C †



Pressure Rating  
ASME Class 150 - 2500



Thread Sizes  
38mm - 50mm



Flow Direction  
Bi-directional

- Easy fit onto existing valve designs
- Designed up to ASME B16.5 Class 2500/API 10,000 psi
- Range of materials available
- Size ranges from 38mm bore to 50 mm bore and are incorporated inside valve bodies
- Designs are fire safe

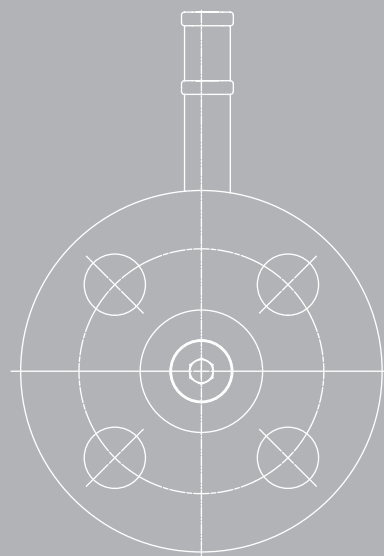
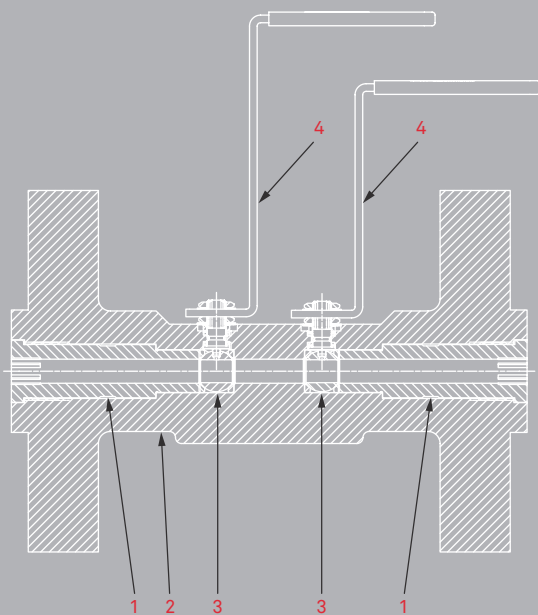
# BQ Series Flange x Flange 1 Piece

Technical Spec

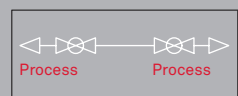
Double block double flanged valve manifold utilising soft seats, for superior, bubble tight sealing capabilities at both high pressures and temperatures. Incorporated into a single body design with insert sealing to prevent leakage and flow medium loss.

The DVQ range offers a Ball, Ball configuration. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Body Insert
- 2 Valve Body
- 3 Floating Ball Valve
- 4 Ball Valve Handle



Flow Diagram

Options

Flange/Inlet †	Outlet †
Raised Face	Raised Face
Flat Face	Flat Face
Ring Type Joint	Ring Type Joint





**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2"



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional (Optional)

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Designed to ASME B16.34 Class 150 to 2500 pressure rated and API 6A up to 10,000psi
- Bore sizes from 10mm up to 25mm
- Single piece design
- ASME B1.20.1 ½" – 14 NPT Outlet size – Standard
- ASME B1.20.1 ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted
- Isolation ball valves
- Materials available include; ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel amongst others
- Various trim materials available
- Venting Plug available for Vent Port
- Standard Designs are fire safe
- Lockable devices available

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

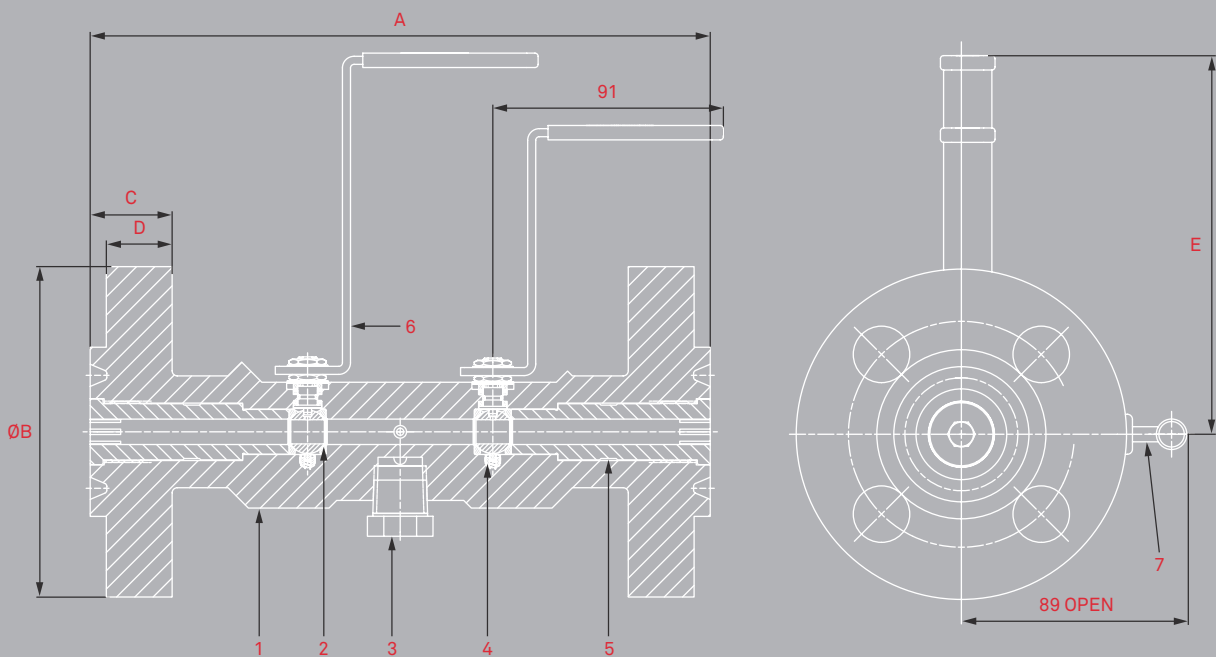
# V Series Flange x Flange 1 Piece

Technical Spec

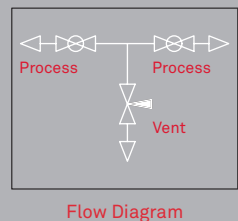
Double block and bleed double flanged valve manifold utilising both soft seat and metal to metal seat, with bonnet to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The DVV type valve offers a Ball, Needle, Ball configuration. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Valve Body
- 2 Isolation Ball Valve
- 3 Blank Plug
- 4 Screwed Insert
- 5 Valve Handle
- 6 Venting Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	Standard Needle
Flat Face	Flat Face	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional (Optional)

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- ASME B16.5 Class 150 to 2500 pressure rated
- Bore sizes from 10mm up to 19mm
- ASME B1.20.1 ½" – 14 NPT Vent size – Standard
- Other Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted
- Various trim materials available
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Double block and bleed or just double block designs available

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

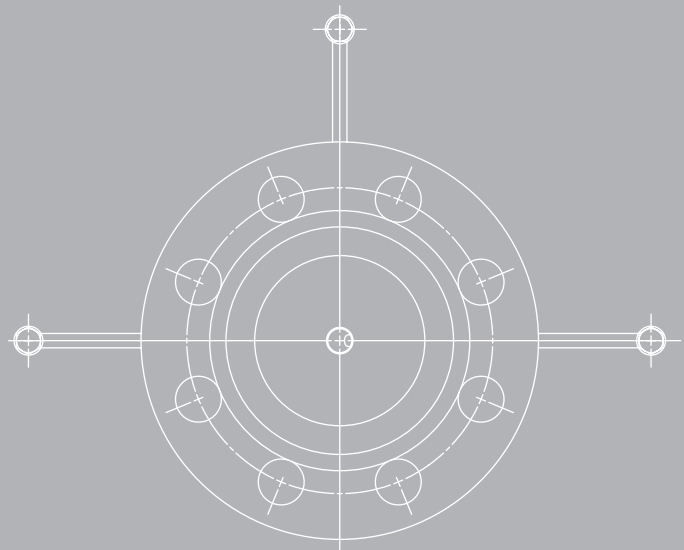
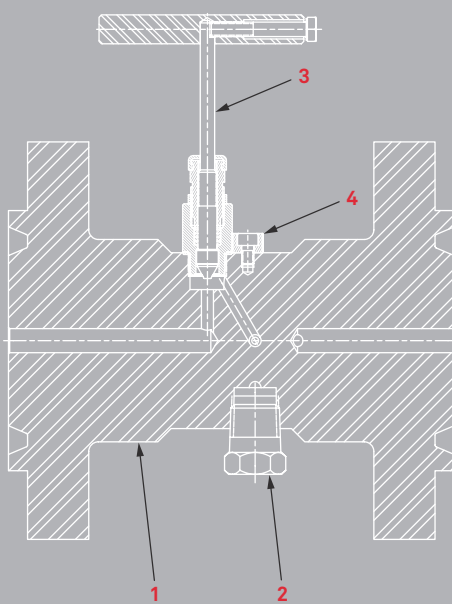
# X Series Flange x Flange

Technical Spec

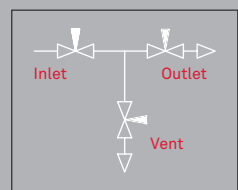
Double block and bleed double flanged valve utilising metal to metal seats for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The DVX type valve offers a Needle, Needle, Needle configuration. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 472°C.

Valve Construction



- 1 Valve Body
- 2 Blank Plug
- 3 Isolation Needle Valve
- 4 Locking Cam



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †
Raised Face	Raised Face	NPT	Plugged
Flat Face	Flat Face	BSPP	Unplugged
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 472°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional (Optional)

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- ASME B16.5 Class 150 to 2500 pressure rated
- Bore sizes from 10mm up to 25mm
- ASME B1.20.1 ½" – 14 NPT Vent size – Standard
- Other Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted
- Various trim materials available
- Isolation ball valves and venting needle valve as standard
- Materials available include; ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Double block and bleed and double block designs available

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

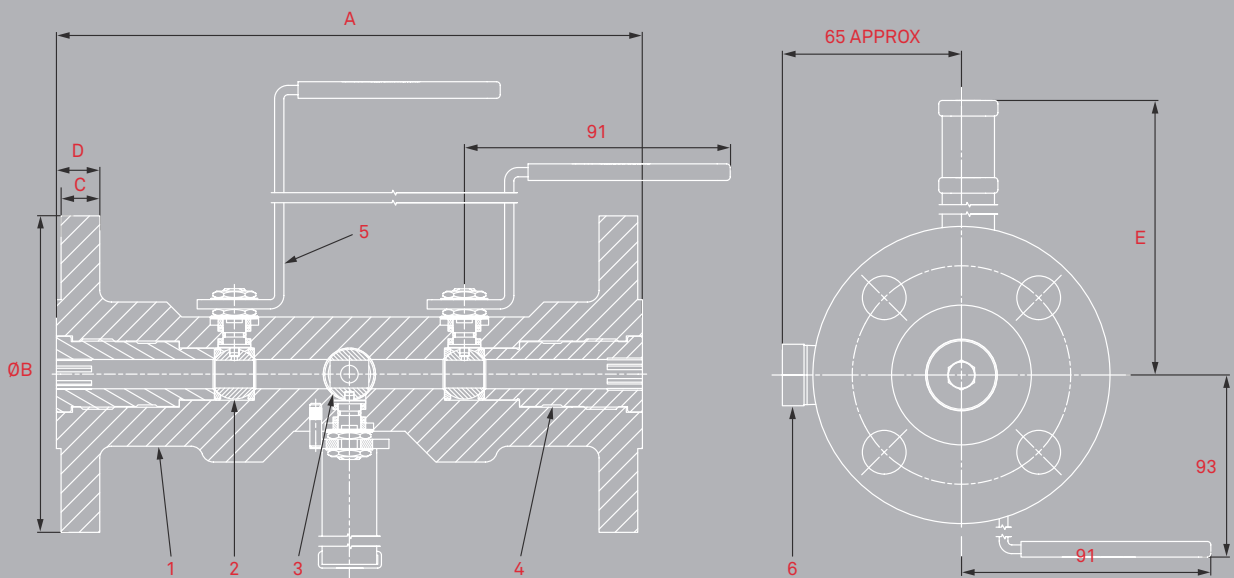
# Y Series Flange x Flange 1 Piece

Technical Spec

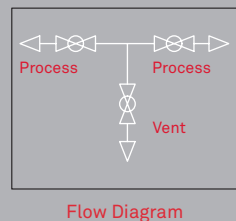
Double block and bleed double flanged valve utilising soft seats, with metal to metal insert connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The DVY type valve offers a Ball, Ball, Ball configuration. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Valve Body
- 2 Isolation Ball Valve
- 3 Venting T-Port Ball Valve
- 4 Screwed Insert
- 5 Valve Handle
- 6 Blank Plug



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †
Raised Face	Raised Face	NPT	Plugged
Flat Face	Flat Face	BSPP	Unplugged
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional (Optional)

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Designed to ASME B16.34 Class 150 to 2500 pressure rated and API 6A up to 10,000psi
- Bore sizes from 10mm up to 25mm
- Single piece design
- ASME B1.20.1 ½" – 14 NPT Outlet size – Standard
- ASME B1.20.1 ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted
- Isolation ball valves and venting ball valve as standard
- Materials available include; ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel
- Various trim materials available
- Standard Designs are fire safe
- Lockable devices available
- Double block and bleed and double block designs available

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESG SPE 77/300 and MESG SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Data Table

For further information regarding this range, please see the Y Series Flange x Flange 1 Piece product data table at the back of this brochure.

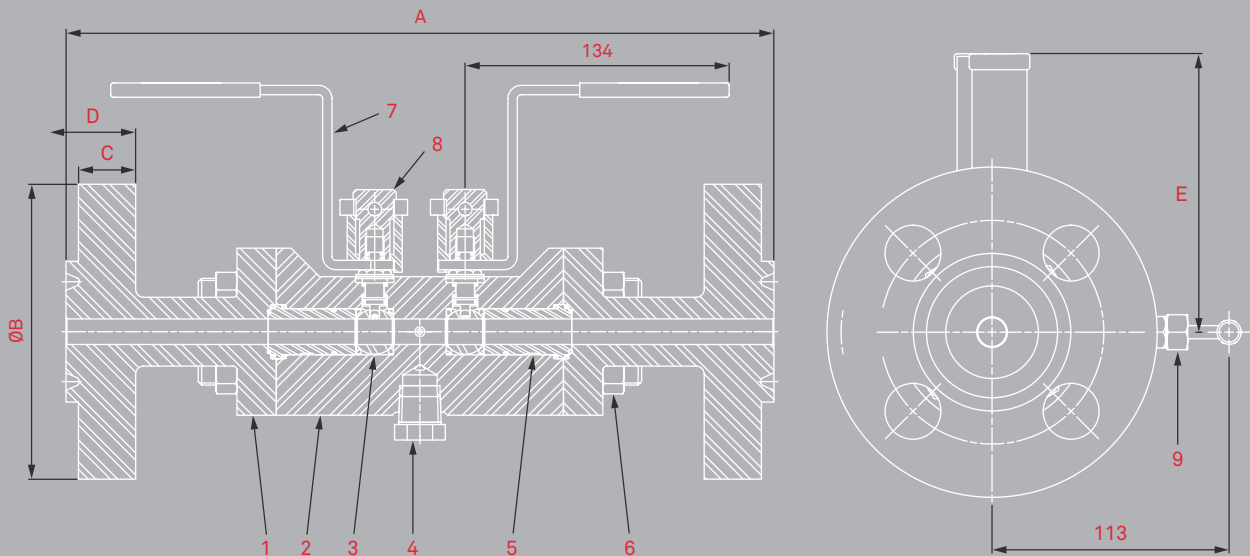
# OB Series Flange x Flange 3 Piece

Technical Spec

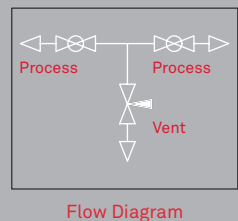
Double block and bleed 3 piece flange by flange valve utilising both soft seats and a metal to metal seat, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The FVO type valve offers a Ball, Bolted Needle, Ball configuration. Interchangeable flange options make this valve highly customisable for applications that include changes in piping configurations. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Bolt on Flange Connection
- 2 Valve Body
- 3 Isolation Valve
- 4 Blank Plug
- 5 Body Insert
- 6 M12 Hex Nut
- 7 Valve Handle
- 8 Locking Device
- 9 Bolted Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	Standard Needle
Flat Face	Flat Face	BSPP	Unplugged	Anti Tamper Needle
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.





**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 3" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Standard configuration body with interchangeable process connections
- Bore sizes from 10mm up to 250mm
- Pressure rated up to ASME B16.5 class 2500 and API 6A 10,000 psi
- Double block and bleed configuration
- Lockable and Anti-tamper devices available
- Choice of venting valve design
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel
- Fire safe design

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Data Table

For further information regarding this range, please see the OB Series Flange x Flange 3 Piece product data table at the back of this brochure.

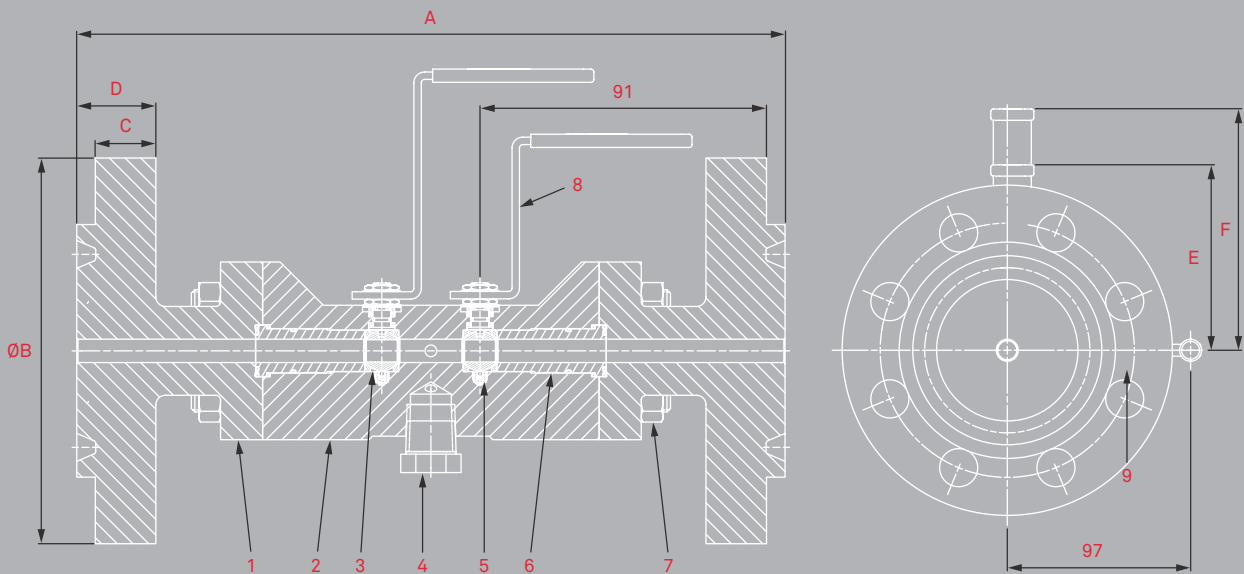
# V Series Flange x Flange 3 Piece

Technical Spec

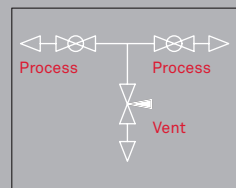
Double block and bleed barstock manifold with multiple connection options, utilising both soft seat and metal to metal seat, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The FVV type valve offers a Ball, Needle, Ball configuration. The different flange options available offer a wide variety of uses. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1** Bolt on Flange
- 2** Valve Body
- 3** Isolation Ball Valve
- 4** Blank Plug
- 5** Anti Static Device
- 6** Body Insert
- 7** Fasteners
- 8** Valve Handle
- 9** Screwed Needle Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	Standard Needle
Flat Face	Flat Face	BSPP	Unplugged	Anti Tamper Needle
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 3" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Standard configuration body with interchangeable process connections
- Bore sizes from 10mm up to 250mm
- Pressure rated up to ASME B16.5 class 2500 and API 6A 10,000 psi
- Double block and bleed configuration
- Lockable and Anti-tamper devices available
- Fire safe design
- Choice of venting valve design
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Data Table

For further information regarding this range, please see the V Series Flange x Flange 3 Piece product data table at the back of this brochure.

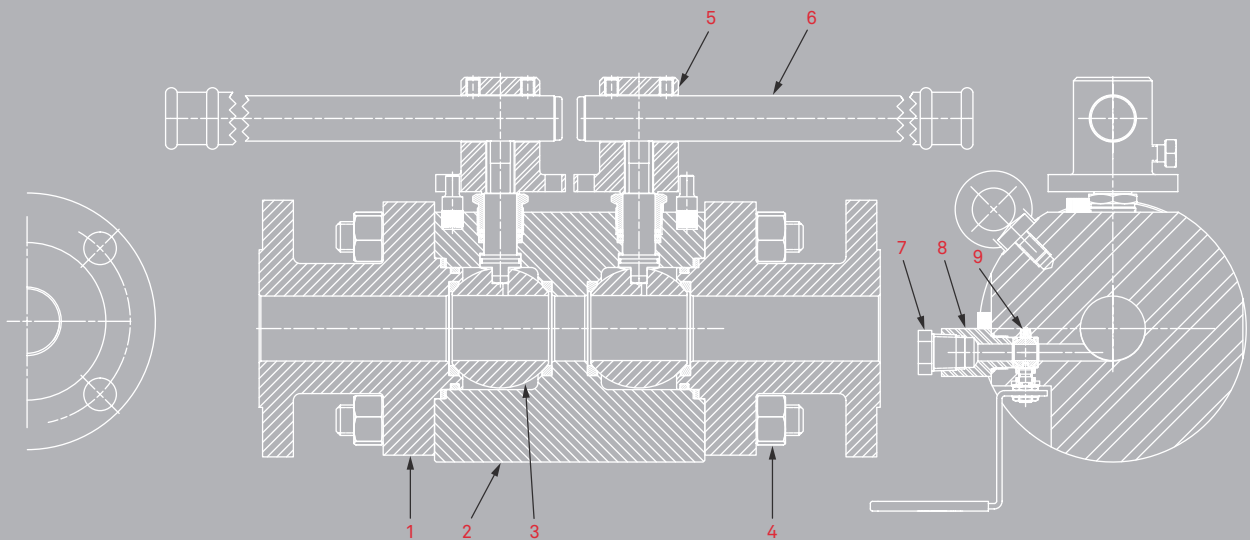
# Y Series Flange x Flange 3 Piece

Technical Spec

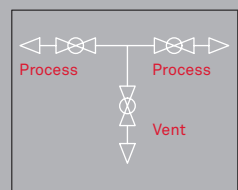
Double block and bleed 3 piece flange by flange valve manifold utilising a soft seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The FVY type valve offers a Ball, Ball, Ball configuration. Interchangeable flange options make this valve highly customisable for applications that include changes in piping configurations. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Bolt on Flange
- 2 Valve Body
- 3 Isolation Ball Valve
- 4 Fasteners
- 5 Handle Boss
- 6 Handle Tube
- 7 Blank Plug
- 8 Vent Connector
- 9 Venting T-Port Ball Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	Standard Needle
Flat Face	Flat Face	BSPP	Unplugged	Anti Tamper Needle
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 3" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Standard configuration body with interchangeable process connections
- Option of flanged, threaded and butt-welded connections others available
- Bore sizes from 10mm up to 250mm
- Pressure rated up to ASME B16.5 class 2500 and API 6A 10,000 psi
- Double block and bleed configuration
- Lockable and Anti-tamper devices available
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel
- Fire safe design

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

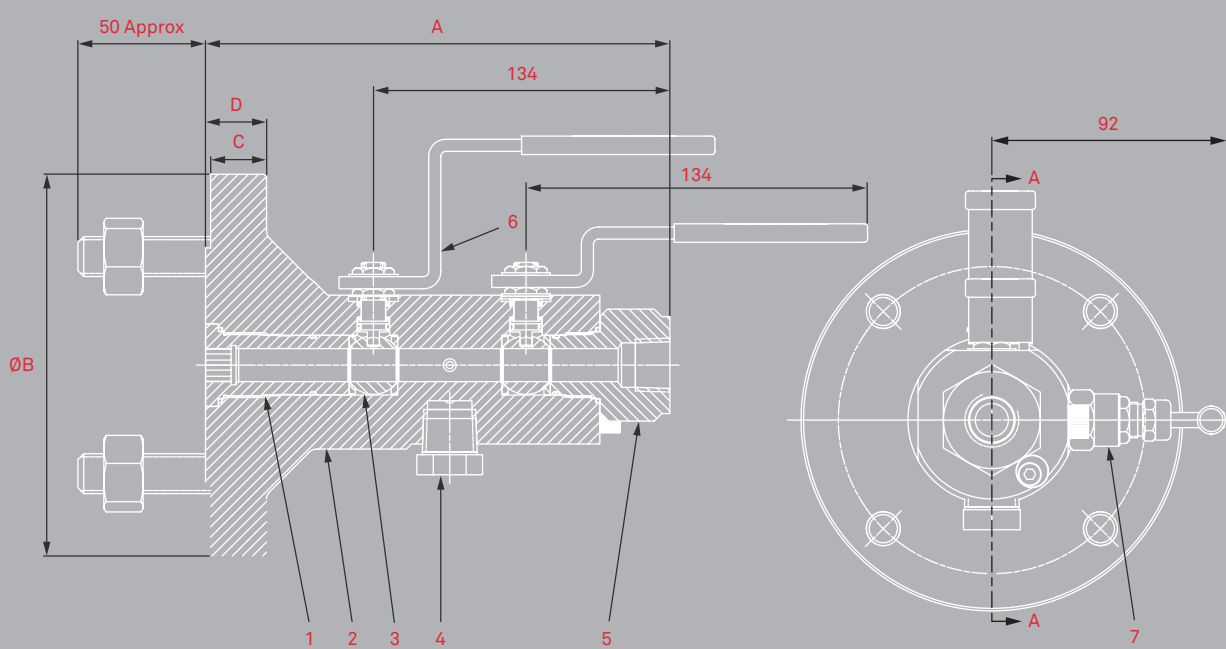
- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

# DE Series Flange x Screw 1 Piece

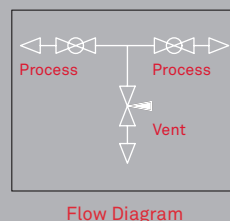
Technical Spec

Double/Single Block and Bleed Top Hat valve utilising soft seating and metal soft seated ball valves and a metal seated needle valve with bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The SVE type valve offers a Ball, Needle, Ball or Ball, Needle configuration to suit all needs. The valve offers integral studding options for use in areas where a stud and nut are hard to fit. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 200°C.



- 1 Screwed Insert
- 2 Valve Body
- 3 Isolation Ball Valve
- 4 Blank Plug
- 5 Screwed End Connector
- 6 Valve Handle
- 7 Screwed Needle Valve



Valve Construction

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C<sup>†</sup>



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2"†



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Uni-directional



**Servicing Kits**  
Available

<sup>†</sup> Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- Two piece non-rotating hardened tip for first time seal and long service life
- OS&Y valves available alongside standard Needle valves to cater for all customer needs
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing
- Pressure rated up to ASME B16.5 Class 2500
- PEEK body bonnet seal for high pressure and high temperature
- Any combination of Vent/Outlet sizes and types available on request
- Separate shut off for vent to prevent unwanted loss of process medium

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Pressure Testing

For further information regarding this range, please see the DE Series Flange x Screw 1 Piece product data table at the back of this brochure.

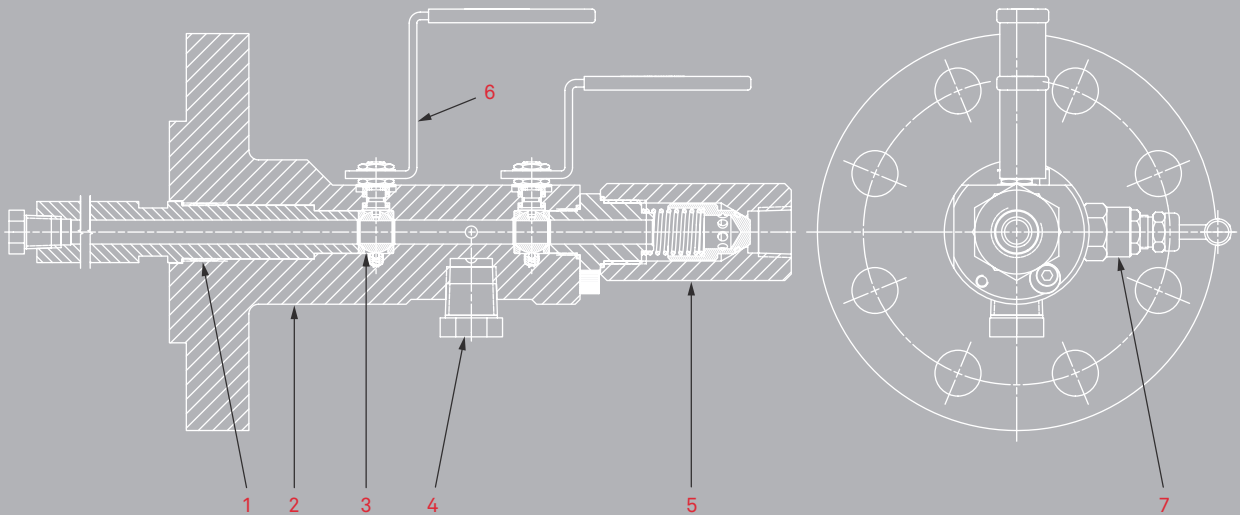
Data Table

# V Series Injection Flange x Screw

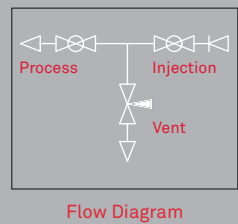
Technical Spec

Double/Single block and bleed single flanged valve manifold utilising soft seated ball valves and a metal seated needle valve with bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The SVI type valve offers a Ball, Needle, Ball configuration (Other configurations are available also). An injection quill is also attached to the flanged end of the valve making it the outlet, a Check Valve is generally included at the threaded end/inlet. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 200°C.



- 1 Injection Quill (Plugged)
- 2 Valve Body
- 3 Isolation Ball Valve
- 4 Blank Plug
- 5 Check Valve
- 6 Valve Handle
- 7 Screwed Needle Valve



Valve Construction

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.





**Temp. Range**  
-46°C > 200°C<sup>†</sup>



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2"†



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Uni-directional



**Servicing Kits**  
Available

<sup>†</sup> Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- Two piece non-rotating hardened tip for first time seal and long service life
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing
- PEEK body bonnet seal for high pressure and high temperature
- Actuating threads are above packing to prevent contamination by the process medium
- Separate shut off for vent to prevent unwanted loss of process medium
- Venting Plug available for Vent Port
- Positive no slack stem action
- OS&Y valves available alongside standard Needle valves to cater for all customer needs
- Pressure rated up to ASME B16.5 Class 2500

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

#### Non-Destructive Testing/Examination Options

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

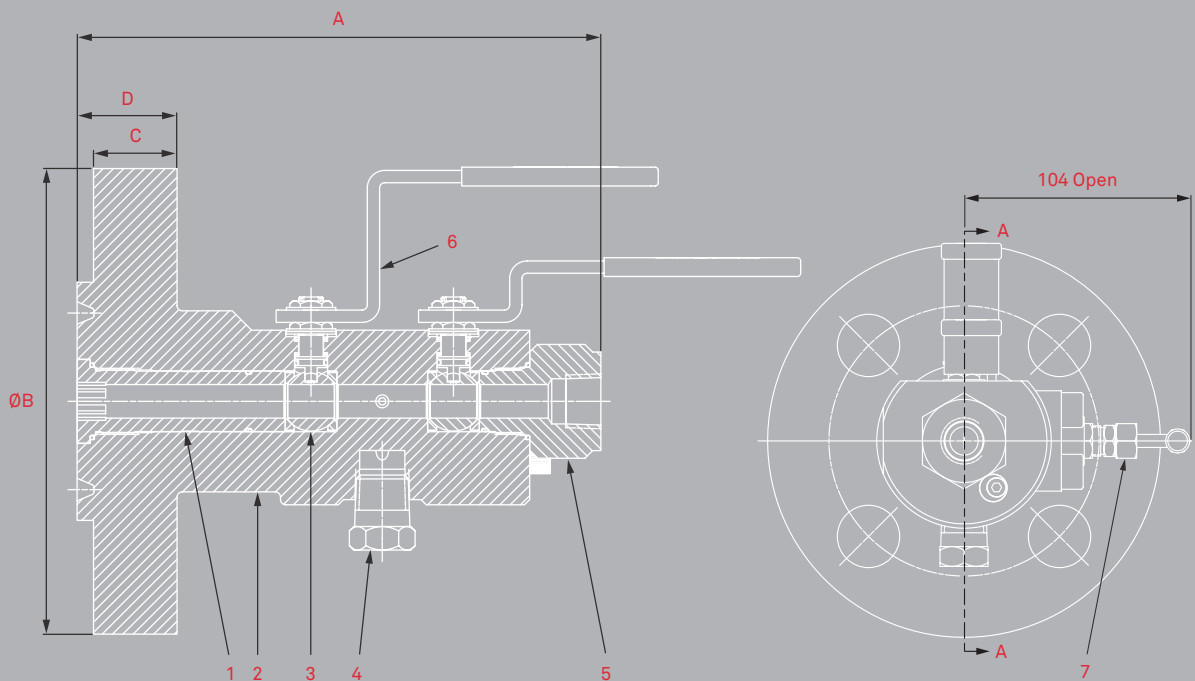
# OB Series Flange x Screw 1 Piece

Technical Spec

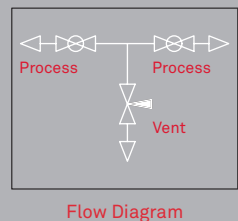
Double block and bleed single flanged valve manifold utilising soft seated ball valves and a metal to metal seated needle valve with bonnet to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The SVO type valve offers Ball, Bolted Needle, Ball and Ball, Bolted Needle configuration. The bolted needle offers a more robust option to the screwed type that provides longer service options. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of 200°C.

Valve Construction



- 1 Injection Quill (Plugged)
- 2 Valve Body
- 3 Isolation Ball Valve
- 4 Blank Plug
- 5 Anti Static Device
- 6 Check Valve
- 7 Valve Handle



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Bi-directional (Optional)



**Servicing Kits**  
Available

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Two piece non-rotating hardened tip for first time seal and long service life
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing
- Separate shut off for vent to prevent unwanted loss of process medium
- Bore size range from 13mm - 19mm
- Any combination of Vent/Outlet sizes and types available on request
- Raised Face and Flat Face and Ring Type Joint connection options available
- Venting Plug available for Vent Port

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Data Table

For further information regarding this range, please see the OB Series Flange x Screw 1 Piece product data table at the back of this brochure.

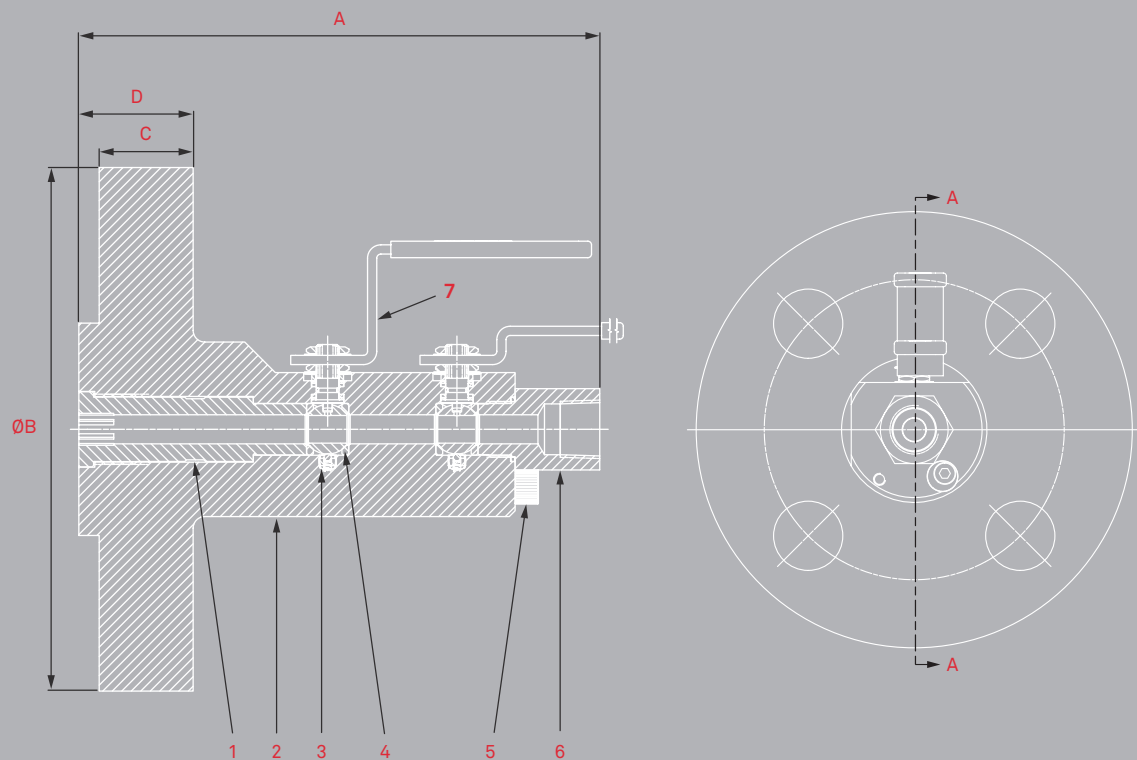
# BQ Series Flange x Screw 1 Piece

Technical Spec

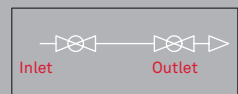
Double block single flanged valve manifold utilising soft seating for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The SVQ type valve offers a Ball, Ball configuration. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 200°C.

Valve Construction



- 1** Screwed Body Insert
- 2** Valve Body
- 3** Anti Static Device
- 4** Floating Ball Valve
- 5** Locking Cam
- 6** Female NPT End Connector
- 7** Ball Valve Handle



Flow Diagram

Options

Flange/Inlet †	Outlet †
Raised Face	Raised Face
Flat Face	Flat Face
Ring Type Joint	Ring Type Joint

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Uni-directional



**Servicing Kits**  
Available

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- PEEK body bonnet seal for high pressure and high temperature
- Actuating threads are above packing to prevent contamination by the process medium
- Any Outlet sizes available on request
- Raised Face and Ring Type Joint connection options available

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

#### Non-Destructive Testing/Examination Options

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

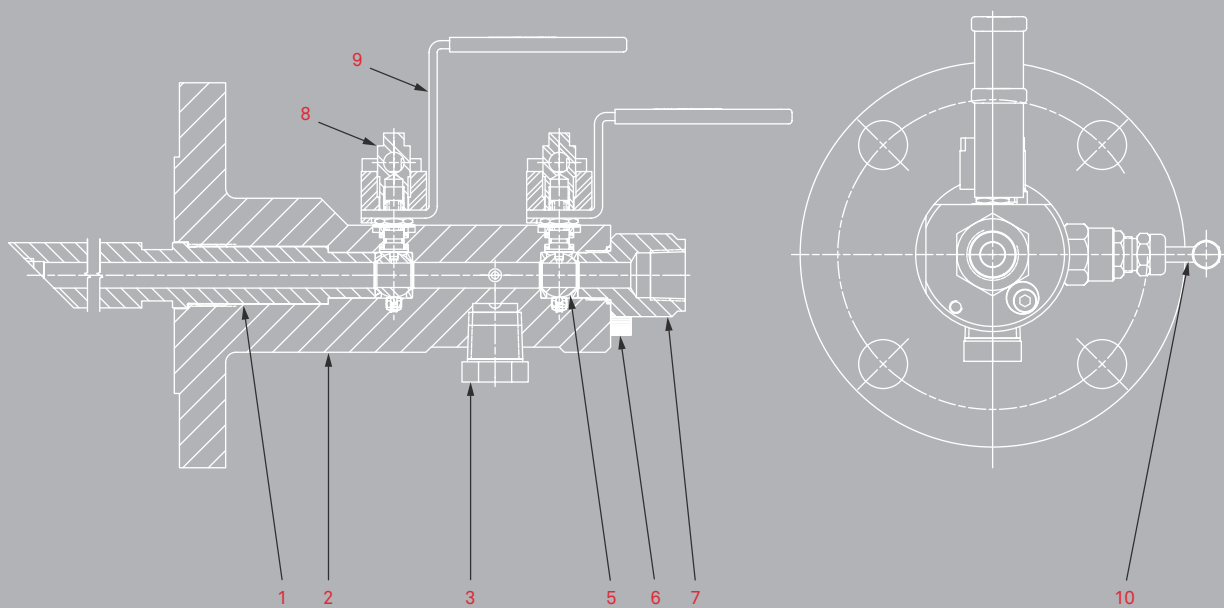
For further information regarding this range, please see the BQ Series Flange x Screw 1 Piece product data table at the back of this brochure.

# V Series Sample Flange x Screw

Technical Spec

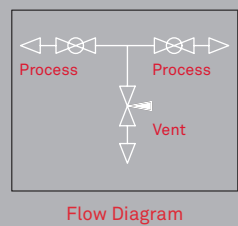
Double block and bleed single flanged valve manifold utilising soft seated ball valves and a metal seated valve with bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The SVS type valve offers a Ball, Needle, Ball configuration (Other configurations available). A sample probe is also attached to the flanged end of the valve. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 200°C.



Valve Construction

- 1 Sample Probe Insert
- 2 Single Flanged Body
- 3 Blank Plug
- 4 Floating Ball Valve
- 5 Locking Cam
- 6 End Connector
- 7 Handle Locking Device
- 8 Ball Valve Operation Handle
- 9 Screwed Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Uni-directional



**Servicing Kits**  
Available

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Bubble tight metal to metal seat for positive shut off
- Two piece non-rotating hardened tip for first time seal and long service life
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing
- PEEK body bonnet seal for high pressure and high temperature
- Actuating threads are above packing to prevent contamination by the process medium
- Separate shut off for vent to prevent unwanted loss of process medium
- OS&Y valves available alongside standard Needle valves to cater for all customer needs
- Any combination of Vent/Outlet sizes and types available on request
- Raised Face and Ring Type Joint connection options available
- Venting Plug available for Vent Port

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Pressure Testing

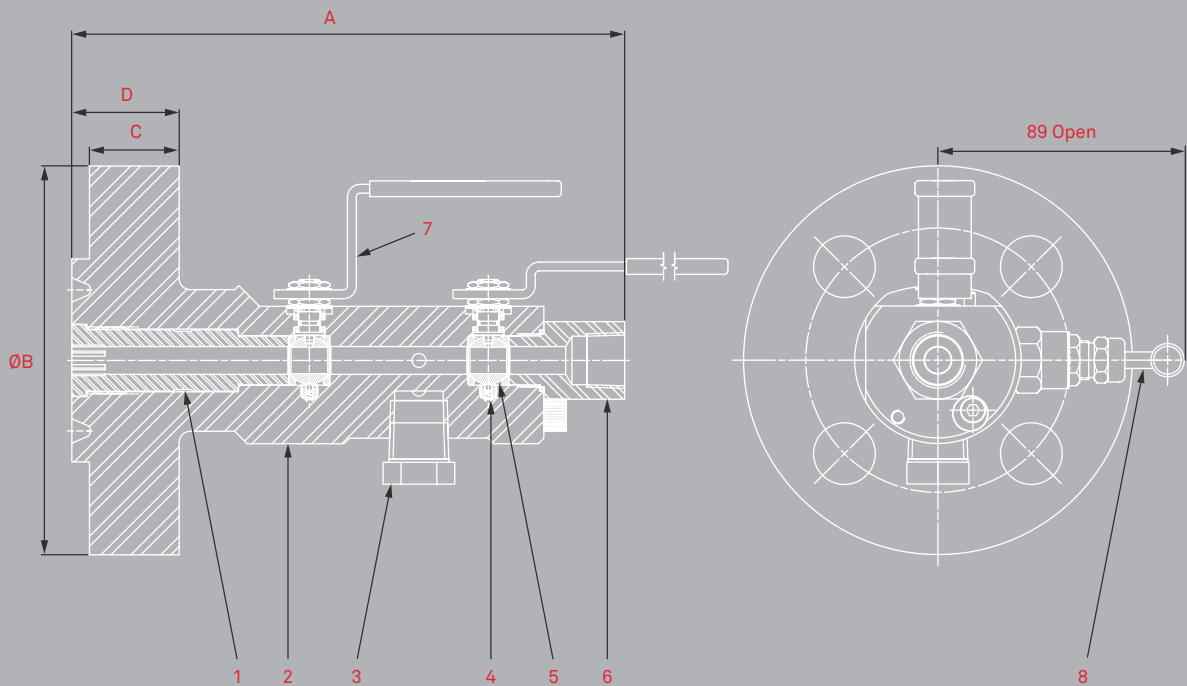
# V Series Flange x Screw 1 Piece

Technical Spec

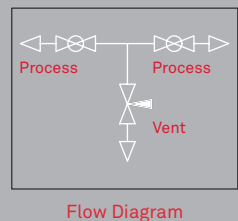
Double block and bleed single flanged valve manifold utilising both soft seat and metal to metal seat, with bonnet to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The SVV type valve offers a Ball, Needle, Ball configuration. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Screwing Insert
- 2 Valve Body
- 3 Blank Plug
- 4 Anti Static Device
- 5 Isolation Ball Valve
- 6 Screwed End Connector
- 7 Valve Handle
- 8 Screwed Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.





**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional (Optional)

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- ASME B16.5 Class 150 to 2500 pressure rated and API 6A 10,000k
- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

#### Non-Destructive Testing/Examination Options

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Pressure Testing

For further information regarding this range, please see the V Series Flange x Screw 1 Piece product data table at the back of this brochure.

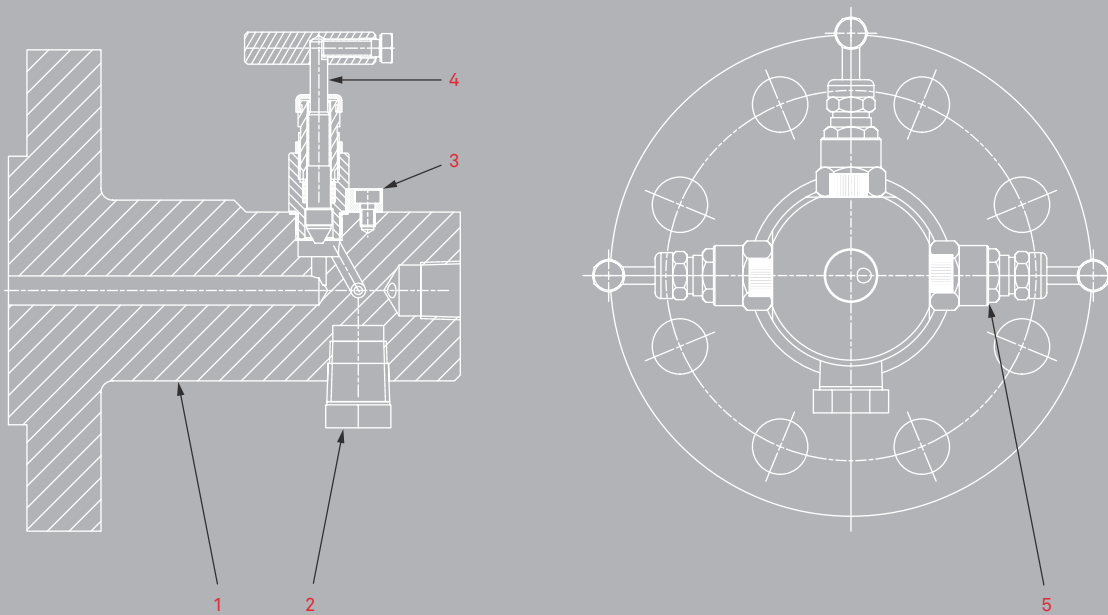
Data Table

# X Series Flange x Screw

Technical Spec

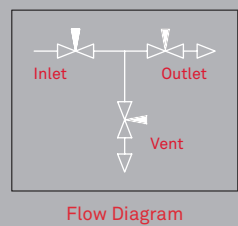
Double block and bleed single flanged valve manifold utilising metal to metal seat and bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The SVX type valve offers a Needle, Needle, Needle configuration as well as an OS&Y Needle, Needle, Needle configuration to suit all needs. The unique anti-vibration cam locking device at body bonnet connection is for extra safety. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 472°C.



Valve Construction

- 1 Valve Body
- 2 Blank Plug
- 3 Locking Cam
- 4 Screwed Isolation Needle Valve
- 5 Screwed Venting
- 6 Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 472°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Uni-directional



**Servicing Kits**  
Available

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- Bubble tight metal to metal seat for positive shut off
- OS&Y valves available alongside standard Needle valves to cater for all customer needs
- Two piece non-rotating hardened tip for first time seal and long service life
- Any combination of Vent/Outlet sizes and types available on request
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing
- Raised Face and Ring Type Joint connection options available
- PEEK body bonnet seal for high pressure and high temperature
- Venting Plug available for Vent Port
- Actuating threads are above packing to prevent contamination by the process medium

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

#### Non-Destructive Testing/Examination Options

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

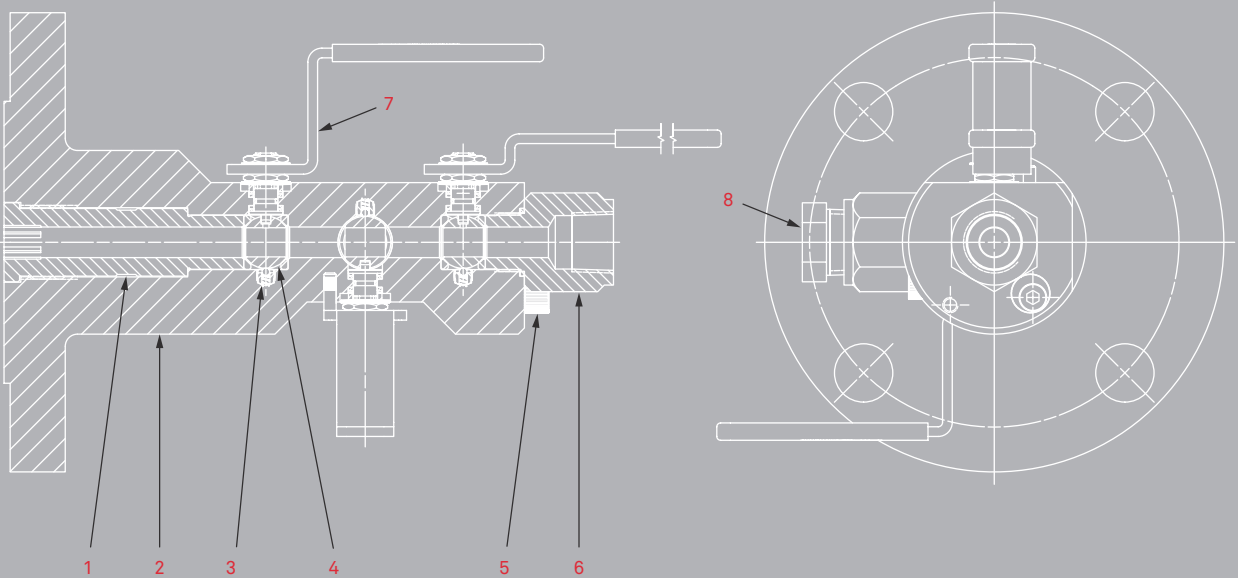
Pressure Testing

# Y Series Flange x Screw 1 Piece

Technical Spec

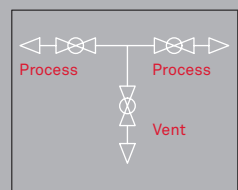
Double block and bleed single flanged valve utilising metal to metal seat and bonnet to body connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures.

The SVY type valve offers a Ball, Ball, Ball configuration. The unique anti-vibration cam locking device at body bonnet connection is for extra safety. This series offers working pressures of up to ASME class 2500 with a maximum working temperature of 200°C.



Valve Construction

- 1 Valve Body
- 2 Screwed Insert
- 3 Anti Static Device
- 4 Floating Ball Valve
- 5 Locking Cam
- 6 End Connector
- 7 Valve Handle
- 8 Blank Plug



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †
Raised Face	NPT	NPT	Plugged
Flat Face	BSPP	BSPP	Unplugged
Ring Type Joint	BSPT	BSPT	Safety Vent Plug

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Material Traceability**  
Major Components



**Flow Direction**  
Uni-directional



**Servicing Kits**  
Available

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- Pressure responsive multi-ring/piston packing for compression and pressure dynamic sealing
- PEEK body bonnet seal for high pressure and high temperature
- Actuating threads are above packing to prevent contamination by the process medium
- Separate shut off for vent to prevent unwanted loss of process medium
- Any combination of Vent/Outlet sizes and types available on request
- Raised Face and Ring Type Joint connection options available
- Venting Plug available for Vent Port

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

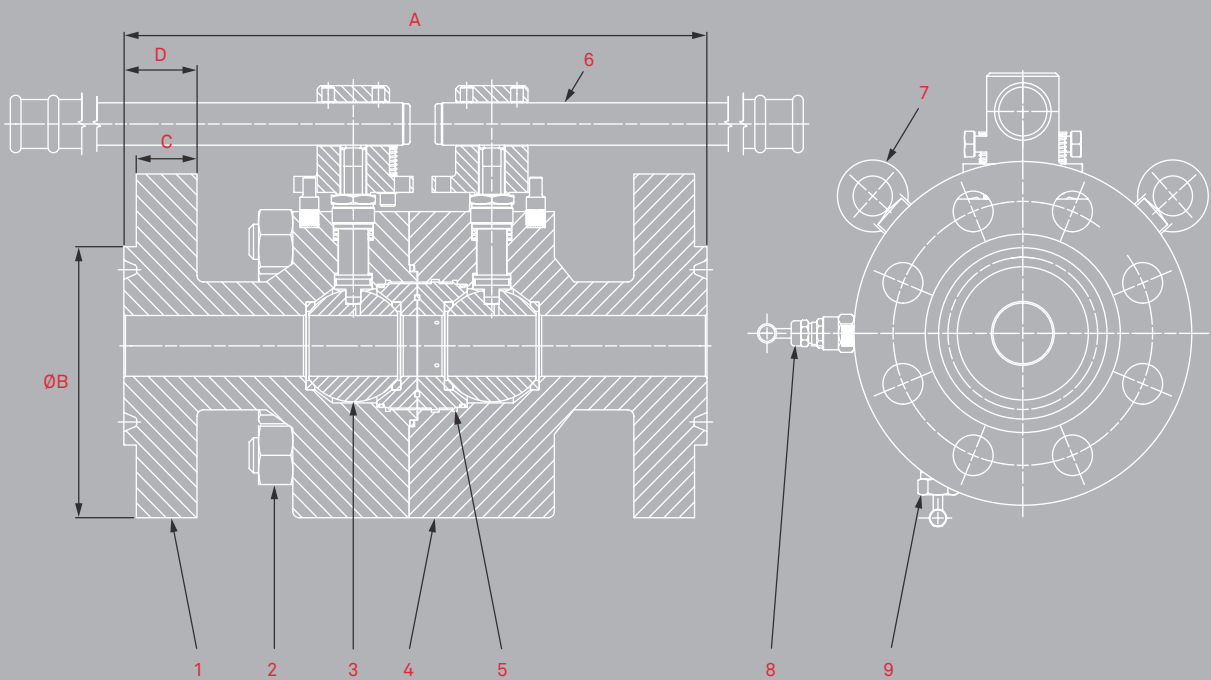
- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

# TB Twin Blok II Type

Technical Spec

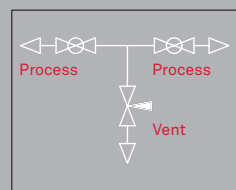
Double block and bleed double flanged valve manifold utilising both soft seat and metal to metal seat, with a single body to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TB type valve offers a Ball, Needle, Ball configuration. The award winning design features a single leak path design and compact manifold that fits 3 valves into a much shorter face to face length than other manifolds offering the same applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.



Valve Construction

- |                          |                        |
|--------------------------|------------------------|
| 1 Twin Block Valve Body  | 6 Ball Valve Handle    |
| 2 Body Fasteners         | 7 Lifting Eye          |
| 3 Floating Ball Valve    | 8 Screwed Needle Valve |
| 4 Twin Blok Valve Body   | 9 Safety Vent Plug     |
| 5 Twin Blok Screw Insert |                        |



Flow Diagram

<sup>†</sup>Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 6" †



**Compliance**  
NACE MR - 01 - 75

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Small Face to Face means 3 valves fit in the space of one standard isolation valve
- Reduced number of Leak Paths – only one
- 19mm Bore to 100mm Bore
- Designed to ASME B16.34 Class 150 to 2500 pressure rated and API 6A up to 10,000psi
- ASME B1.20.1 ½" – 14 NPT Vent Size – Standard
- Fire safe designs
- Needle, Anti-Tamper Needle or Bolted Needle Vent options
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Data Table

For further information regarding this range, please see the TB Twin Blok II Type product data table at the back of this brochure.

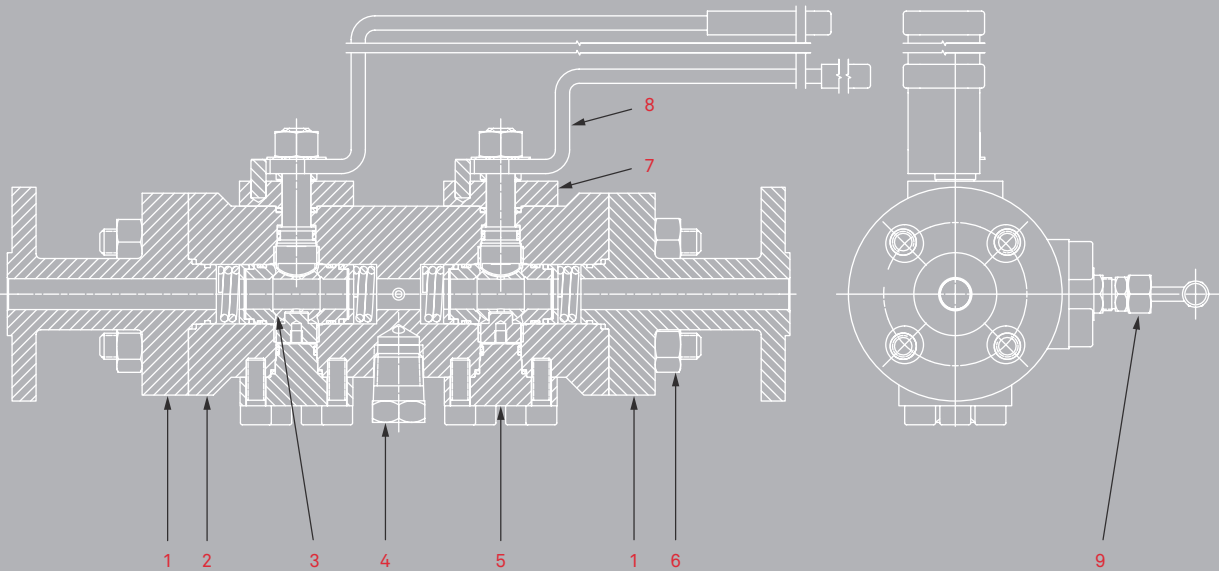
# OB Series Metal Seat Trunnion Flange x Flange

Technical Spec

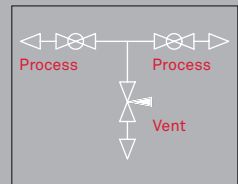
Double block and bleed trunnion mounted valve manifold utilising metal to metal seats, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMM-BVO type valve offers a Ball, Bolted Needle, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1** Bolt on Flange
- 2** Valve Body
- 3** Metal Seated Trunnion Ball Valve
- 4** Blank Plug
- 5** Trunnion Flange Pin
- 6** Fasteners
- 7** Ball Valve Bonnet
- 8** Valve Handle
- 9** Bolted Needle Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	Standard Needle
Flat Face	Flat Face	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	

† Other options can be supplied upon request.





**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2"-12" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional (Optional)

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- ASME B16.5 Class 150 to 2500 pressure rated and API 10,000K
- ½" – 14 NPT Vent size – Standard
- Other Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Various trim materials available
- Standard Designs are fire safe
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625
- Lockable and anti-tamper devices available

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

### Non-Destructive Testing/Examination Options

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

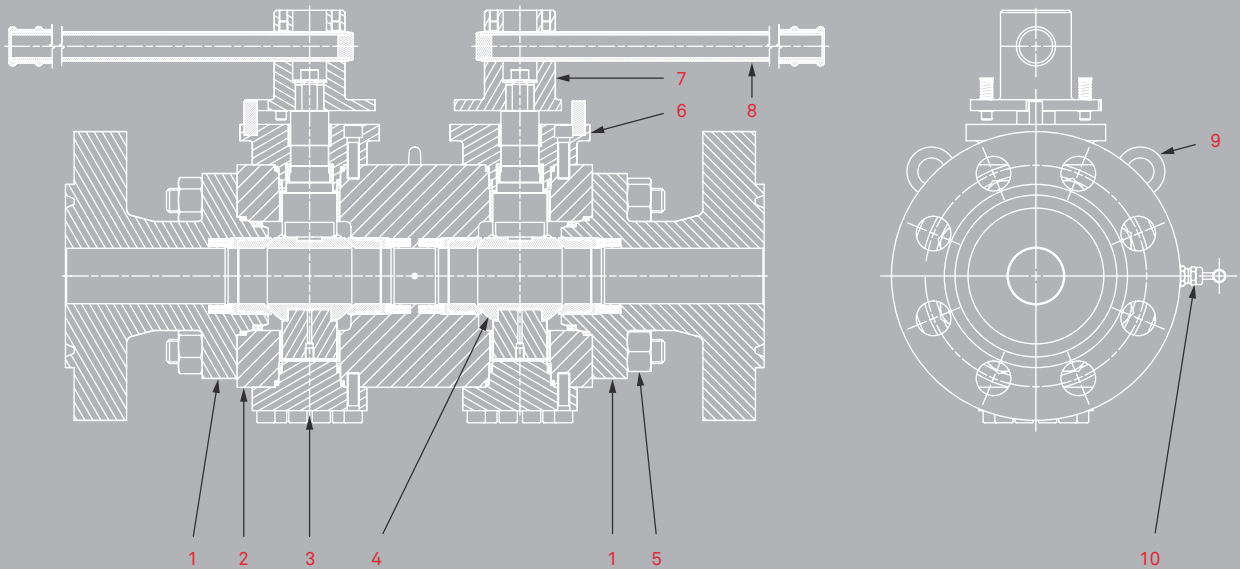
Pressure Testing

# V Series Metal Seat Trunnion Flange x Flange

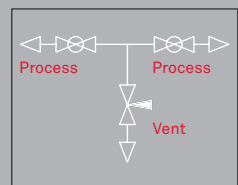
Technical Spec

Double block and bleed trunnion mounted valve manifold utilising metal to metal seats, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMM-BVV type valve offers a Ball, Needle, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.



- |                                    |                              |
|------------------------------------|------------------------------|
| 1 Bolt on Flange                   | 6 Ball Valve Stem Bonnet     |
| 2 Valve Body                       | 7 Handle Boss                |
| 3 Trunnion Flange Pin              | 8 Handle Tube                |
| 4 Metal Seated Trunnion Ball Valve | 9 Lifting Device (Over 25kg) |
| 5 Fasteners                        | 10 Screwed Needle Valve      |



Flow Diagram

Valve Construction

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C<sup>†</sup>



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
Up to 12"†



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional (Optional)

<sup>†</sup> Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- ASME B16.5 Class 150 to 2500 pressure rated and API 10,000K
- ½" – 14 NPT Vent size – Standard
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Various trim materials available
- Standard Designs are fire safe
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625
- Lockable and anti-tamper devices available

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

#### Non-Destructive Testing/Examination Options

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

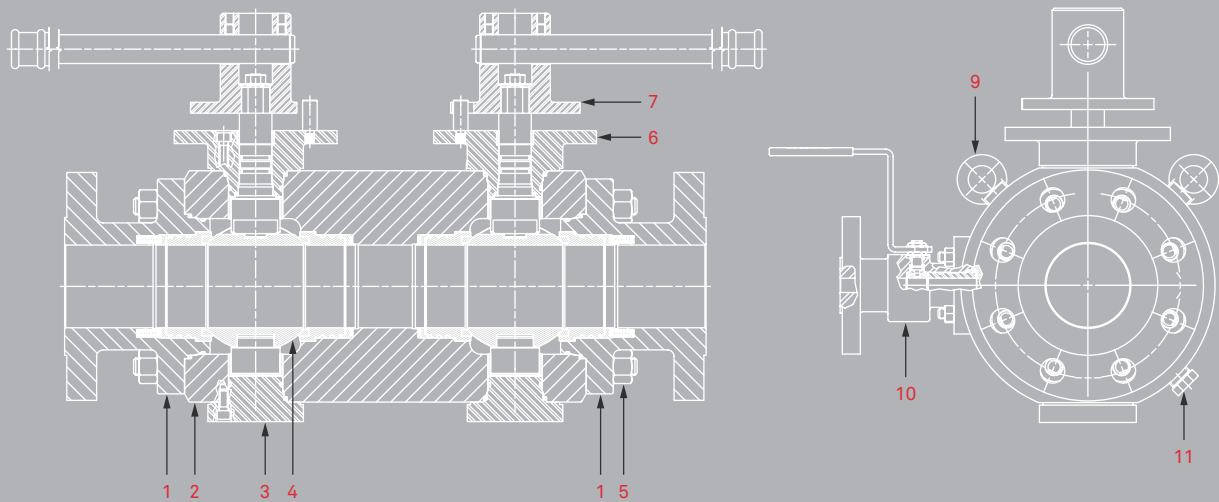
Pressure Testing

# Y Series Metal Seat Trunnion Flange x Flange

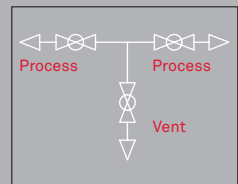
Technical Spec

Double block and bleed trunnion mounted valve manifold utilising metal to metal seats, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMM-BVY type valve offers a Ball, Ball, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.



- |                                    |                              |
|------------------------------------|------------------------------|
| 1 Bolt On Flange                   | 7 Handle Boss                |
| 2 Valve Body                       | 8 Handle Tube                |
| 3 Trunnion Flange Pin              | 9 Lifting Device (Over 25Kg) |
| 4 Metal Seated Trunnion Ball Valve | 10 Bolted Venting Ball Valve |
| 5 Fasteners                        | 11 Blank Plug                |
| 6 Ball Valve Stem Bonnet           |                              |



Flow Diagram

Valve Construction



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Uni-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625 amongst others.
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Screwed check valve option available

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

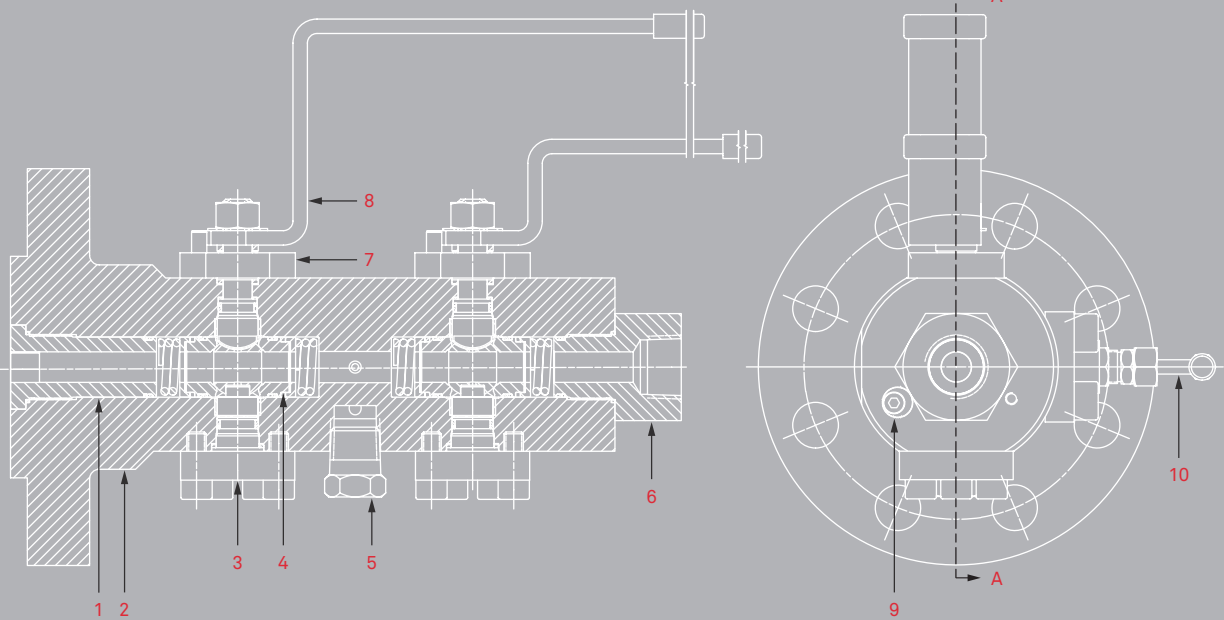
Pressure Testing

# OB Series Metal Seat Trunnion Flange x Screw

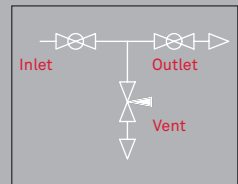
Technical Spec

Double block and bleed trunnion mounted valve manifold utilising metal to metal seating, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMM-SVO type valve offers a Ball, Bolted Needle, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.



- |   |                                  |    |                        |
|---|----------------------------------|----|------------------------|
| 1 | Screwed Body Insert              | 6  | Screwed End Connector  |
| 2 | Valve Body                       | 7  | Ball Valve Stem Bonnet |
| 3 | Trunnion Flange Pin              | 8  | Valve Handle           |
| 4 | Metal Seated Trunnion Ball Valve | 9  | Locking Cam Device     |
| 5 | Blank Plug                       | 10 | Bolted Needle Valve    |



Flow Diagram

Valve Construction



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Uni-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625 amongst others.
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Screwed check valve option available

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Pressure Testing

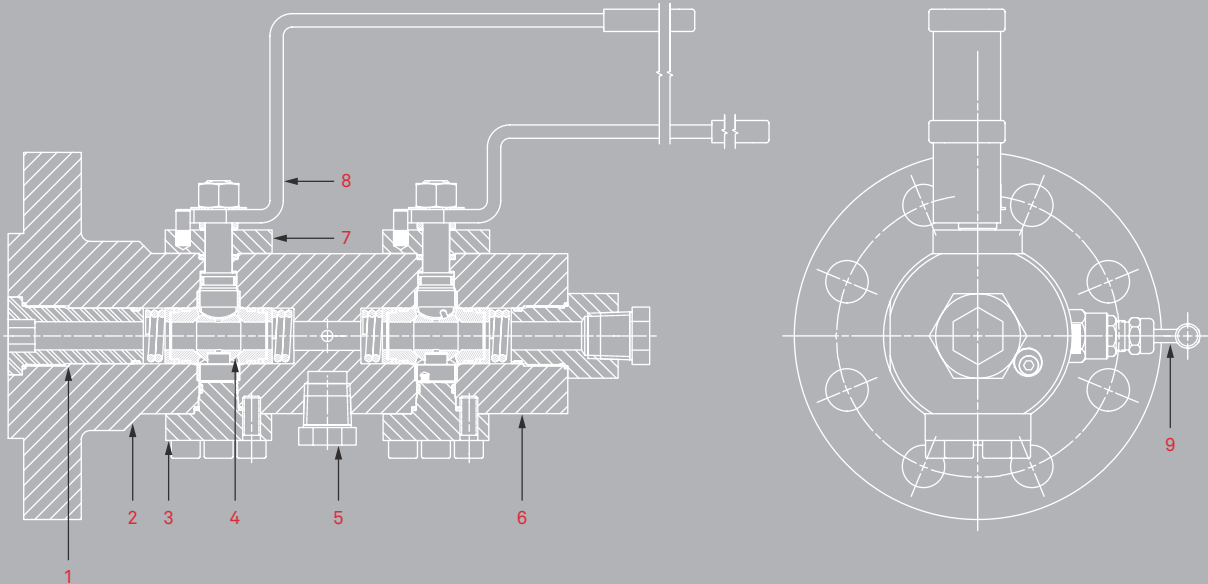
# V Series Metal Seat Trunnion Flange x Screw

Technical Spec

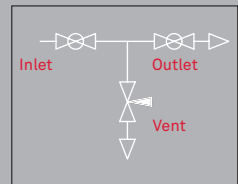
Double block and bleed trunnion mounted valve manifold utilising metal to metal seating, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMM-SVO type valve offers a Ball, Bolted Needle, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Screwed Insert
- 2 Single Flanged Body
- 3 Trunnion Mount Pin
- 4 Trunnion Mounted Ball Valve
- 5 Blank Plug
- 6 Screwed End Connector
- 7 Trunnion Ball Valve Bonnet
- 8 Valve Handle
- 9 Screwed Needle Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.





**Temp. Range**  
-46°C > 200°C<sup>†</sup>



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2"<sup>†</sup>



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Uni-directional

<sup>†</sup> Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625 amongst others.
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Screwed check valve option available

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

#### Non-Destructive Testing/Examination Options

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

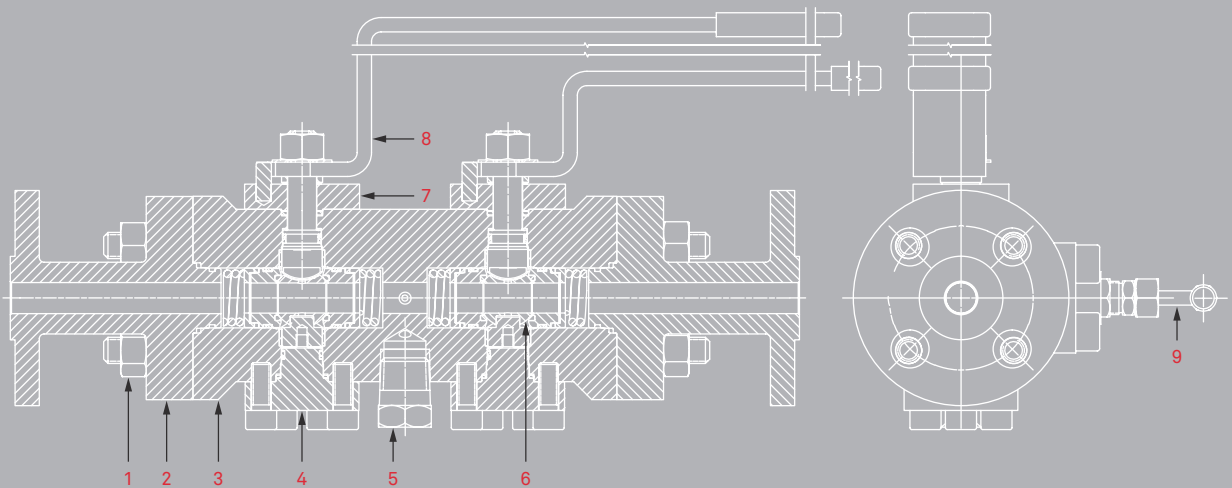
# OB Series Soft Seat Trunnion Flange x Flange

Technical Spec

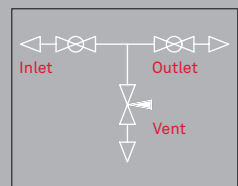
Double block and bleed trunnion mounted valve manifold utilising both soft seats and metal to metal seats, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMS-BVO type valve offers a Ball, Bolted Needle, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Fasteners
- 2 Bolt-On Flange
- 3 3 Piece Bolted Valve Body
- 4 Trunnion Mount
- 5 Blank Plug
- 6 Trunnion Mounted Ball Valve
- 7 Trunnion Bonnet Housing
- 8 Valve Handle
- 9 Bolted Needle Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	A193 B8M/A194 8MA
Flat Face	Flat Face	BSPP	Unplugged	A193 B7M/A194 2HM
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	A320 L7/A194 7
NPT	NPT			
BSPP	BSPP			
BSPT	BSPT			

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Uni-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625 amongst others.
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Screwed check valve option available

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

Pressure Testing

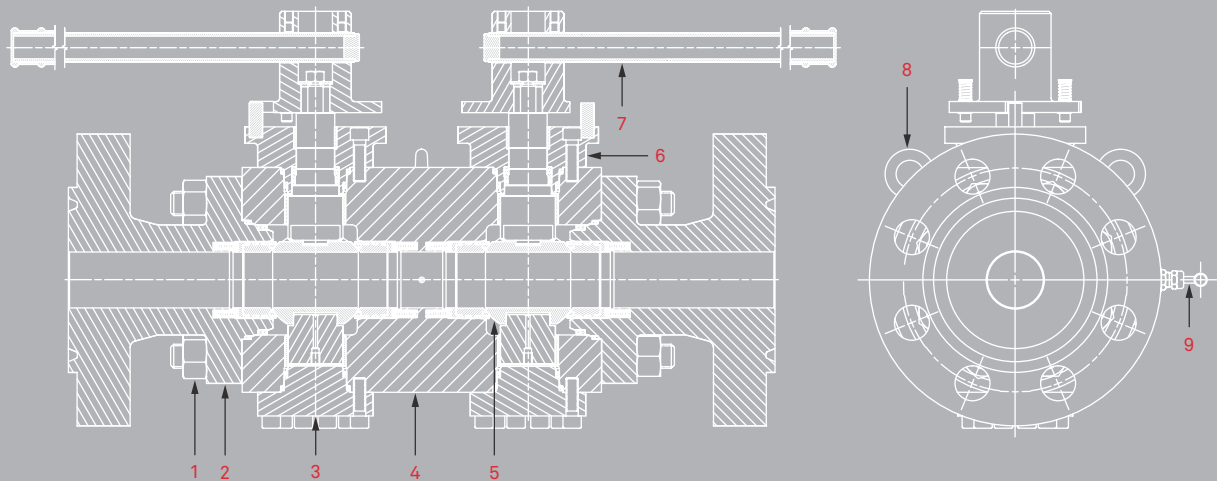
# V Series Soft Seat Trunnion Flange x Flange

Technical Spec

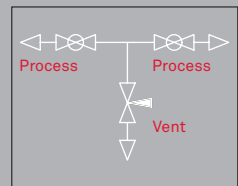
Double block and bleed trunnion mounted valve manifold utilising both soft seats and metal to metal seats, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMS-BVV type valve offers a Ball, Needle, Ball configuration. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Fasteners
- 2 Bolt On Flange
- 3 Trunnion Mount Pin
- 4 3 Piece Bolted Valve Body
- 5 Soft Seated Trunnion Ball Valve
- 6 Trunnion Bonnet Housing
- 7 Valve Handle
- 8 Lifting Device (Valves Over 25Kg)
- 9 Screwed Needle Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	Raised Face	NPT	Plugged	A193 B8M/A194 8MA
Flat Face	Flat Face	BSPP	Unplugged	A193 B7M/A194 2HM
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug	A320 L7/A194 7
NPT	NPT			
BSPP	BSPP			
BSPT	BSPT			

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Uni-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

**Design Features**

- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625 amongst others.
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Screwed check valve option available

**Pressure Testing**

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

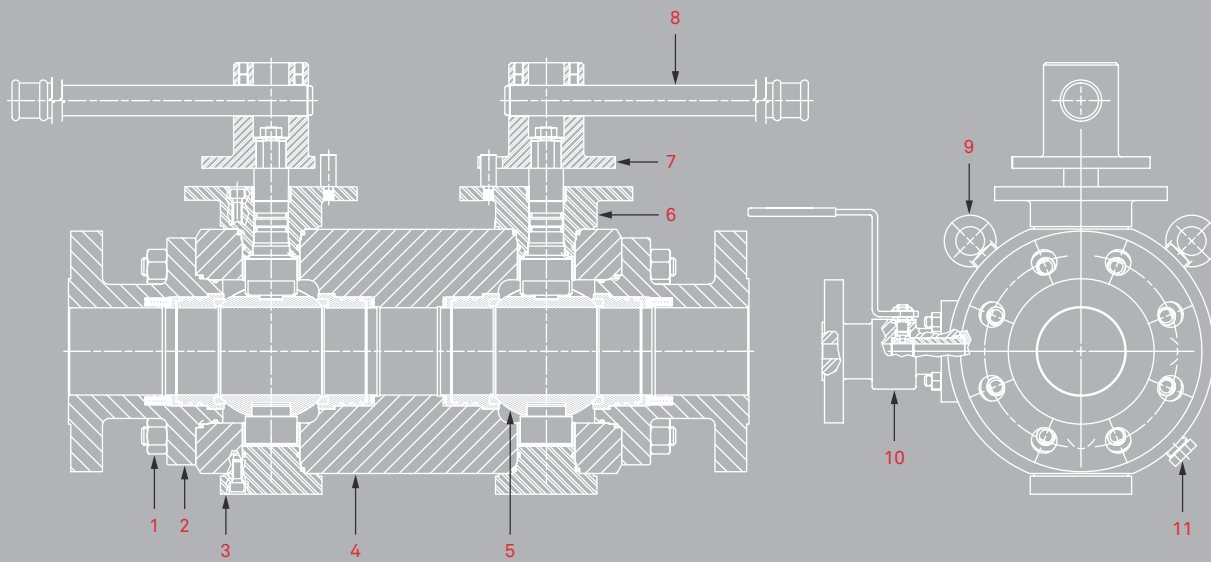
# Y Series Soft Seat Trunnion Flange x Flange

Technical Spec

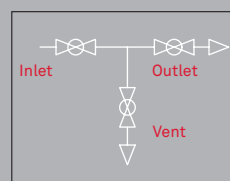
Double block and bleed trunnion mounted valve manifold utilising both soft seats and metal to metal seats, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMS-BVY type valve offers a Ball, Ball, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Fasteners
- 2 Bolt On Flange
- 3 Trunnion Mount Pin
- 4 3 Piece Bolted Valve Body
- 5 Trunnion Mounted Ball Valve
- 6 Trunnion Bonnet Housing
- 7 Valve Handle
- 8 Bolted Venting Ball Valve
- 9 Lifting Device (Valves Over 25Kg)
- 10 Blank Plug



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †
Raised Face	Raised Face	NPT	Plugged
Flat Face	Flat Face	BSPP	Unplugged
Ring Type Joint	Ring Type Joint	BSPT	Safety Vent Plug
NPT	NPT		
BSPP	BSPP		
BSPT	BSPT		

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Uni-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting ball valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625 amongst others.
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Screwed check valve option available

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

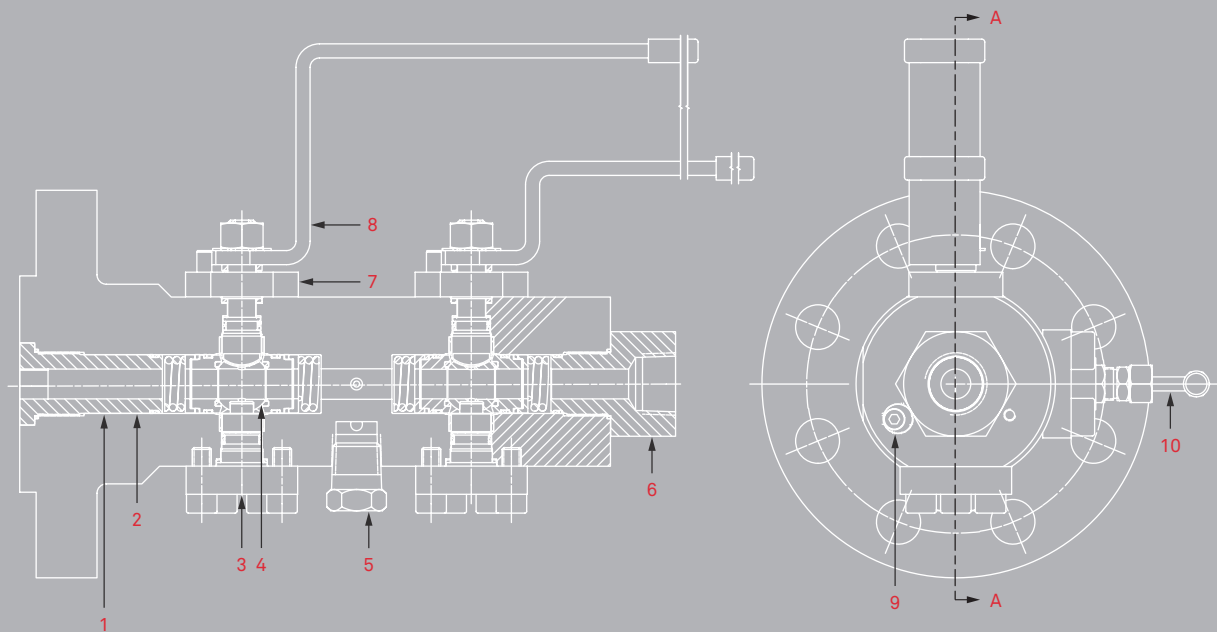
# OB Series Soft Seat Trunnion Flange x Screw

Technical Spec

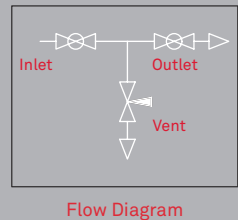
Double block and bleed trunnion mounted valve manifold utilising both soft seats and metal to metal seats, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMS-SVO type valve offers a Ball, Bolted Needle, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Screwed Body Insert
- 2 Valve Body
- 3 Trunnion Mount
- 4 Trunnion Soft Seat Ball Valve
- 5 Blank Plug
- 6 Screwed End Connector
- 7 Ball Valve Bonnet
- 8 Valve Handle
- 9 Locking Cam Device
- 10 Bolted Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.





**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625 amongst others.
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Screwed check valve option available
- Available in 13mm bore size

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

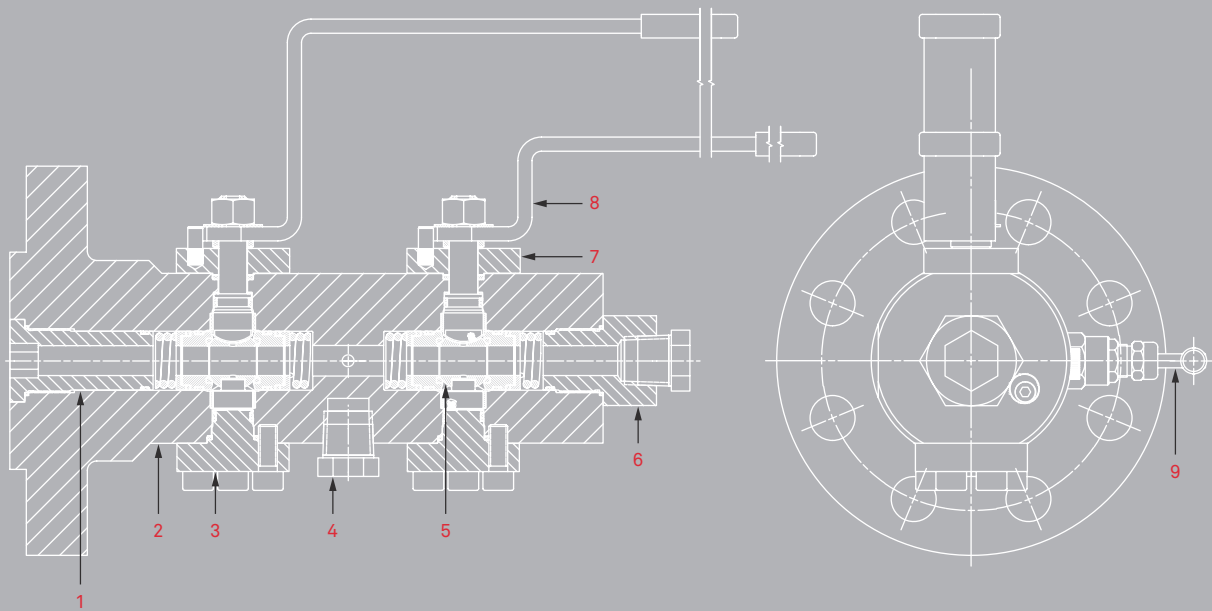
- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

# V Series Soft Seat Trunnion Flange x Screw

Technical Spec

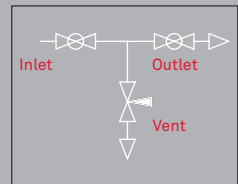
Double/Single block and bleed single flanged valve utilising both soft seat and metal to metal seating, using the latest in piston seat design, with flange to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures.

The TMS-SVV type valve offers a Ball, Needle, Ball configurations. The trunnion seated ball valves offer longer lasting service in all conditions while the piston seat design offers superb sealing in lower pressure applications. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.



Valve Construction

- 1 Screwed Body Insert
- 2 Single Flanged Body
- 3 Trunnion Mount Pin
- 4 Blank Plug
- 5 Soft Seat Trunnion Ball Valve
- 6 Screwed End Connector
- 7 Ball Valve Bonnet
- 8 Valve Handle
- 9 Screwed Needle Valve



Flow Diagram

Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Raised Face	NPT	NPT	Plugged	Standard Needle
Flat Face	BSPP	BSPP	Unplugged	Anti-Tamper Needle
Ring Type Joint	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

† Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flange Sizes**  
ASME B16.5 1/2" - 2" †



**Compliance**  
NACE MR - 01 - 75



**Flow Direction**  
Bi-directional (Optional)

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

- ½" – 14 NPT Outlet size – Standard
- ½" – 14 NPT Vent size – Standard
- Other Outlet/Vent sizes and thread types are available
- Sample Probes/Injection Quills can be fitted to flanged side
- Isolation ball valves and venting needle valve as standard
- Materials available include: ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel 625 amongst others.
- Various trim materials available
- Standard Designs are fire safe
- Lockable and anti-tamper devices available
- Screwed check valve option available

Design Features

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

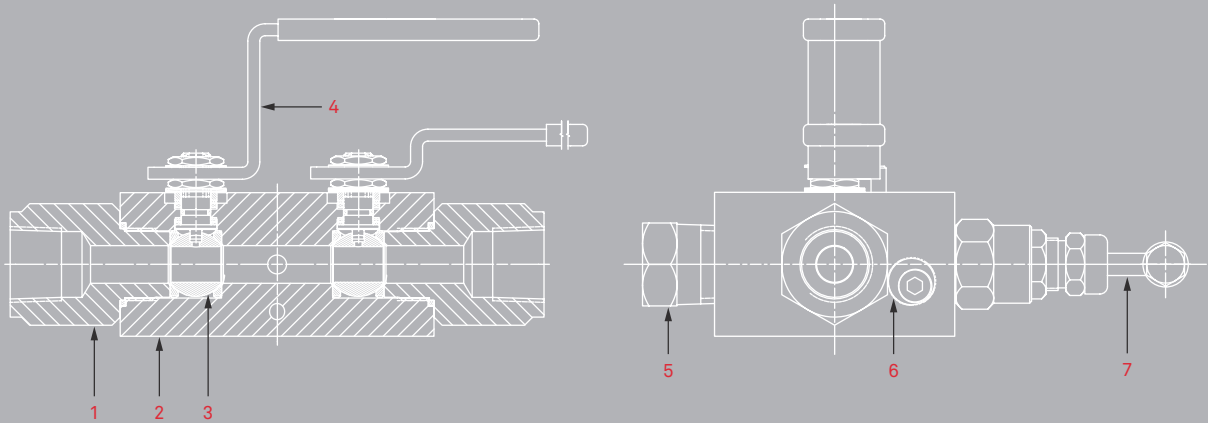
Pressure Testing

# V Series Screw x Screw 10K

Technical Spec

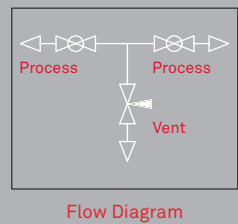
Double block and bleed valve manifold utilising both soft seat and metal to metal seat, with bonnet to body connection for superior, bubble tight sealing capabilities at both high pressures and temperatures. Offering autoclave connections for superb, high pressure sealing.

The VBU type valve offers a Ball, Needle, Ball configuration. This series offers working pressures of up to API 6A 10,000 psi with a maximum working temperature of up to 200°C.



Valve Construction

- 1 Screwed End Connector
- 2 Barstock Valve Body
- 3 Floating Ball Valve
- 4 Valve Handle
- 5 Plugged Vent Port
- 6 Locking Cam
- 7 Screwed Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
Autoclave	Autoleave	Autoleave	Unplugged	Standard Needle Anti-Tamper Needle

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flow Direction**  
Bi-directional



**Compliance**  
NACE MR - 01 - 75

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Compact design
- Interchangeable end connections
- Ideal for high pressures
- Autoclave connections
- Standard designs are fire safe
- Materials include; ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel amongst others
- Single piece body with screwed end connections
- Pressure rated up to 10,000 psi
- 1/8" to 1" female vent port sizes in various thread types
- Lockable and anti-tamper devices available

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

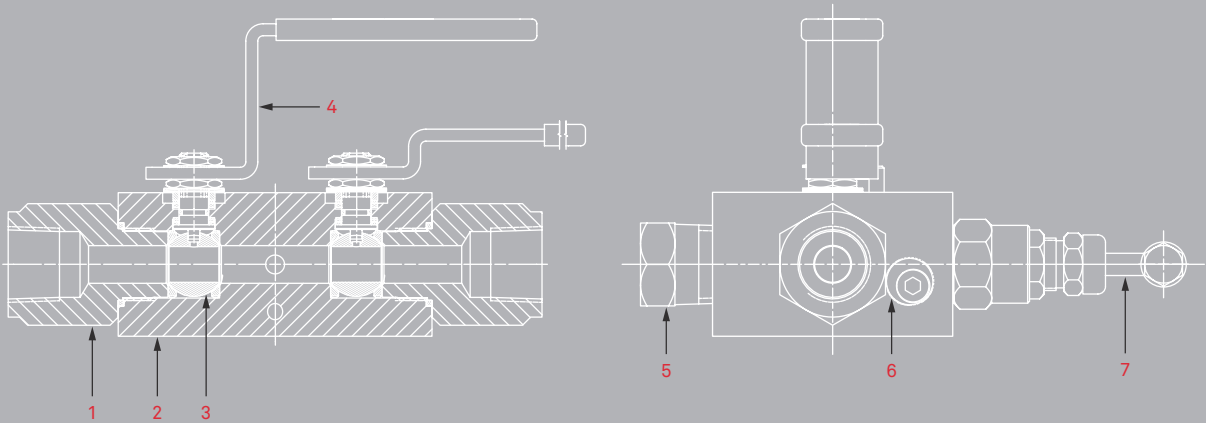
# V Series Screw x Screw 6K

Technical Spec

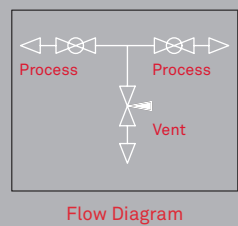
Double block and bleed valve manifold utilising both soft seat and metal to metal seat connections for superior, bubble tight sealing capabilities at both high pressures and temperatures. Compact design for small spaces.

The VVB type valve offers a Ball, Needle, Ball configuration. This series offers working pressures of up to ASME B16.5 class 2500 with a maximum working temperature of up to 200°C.

Valve Construction



- 1 Screwed End Connector
- 2 Barstock Valve Body
- 3 Floating Ball Valve
- 4 Valve Handle
- 5 Plugged Vent Port
- 6 Locking Cam
- 7 Screwed Needle Valve



Options

Flange/Inlet †	Outlet †	Vented Port Thread †	Vent Port †	Needle Valve
NPT	NPT	NPT	Plugged	Standard Needle
BSPP	BSPP	BSPP	Unplugged	Anti-Tamper Needle
BSPT	BSPT	BSPT	Safety Vent Plug	OS&Y Needle
				Lockable OS&Y Needle

†Other options can be supplied upon request.



**Temp. Range**  
-46°C > 200°C †



**Pressure Rating**  
ASME Class 150 - 2500



**Flow Direction**  
Bi-directional



**Compliance**  
NACE MR - 01 - 75

† Actual maximum working temperature is dependent on valve service conditions; please contact for more information.

Design Features

- Compact design
- Interchangeable end connections
- Ideal for high pressures
- 1/8" to 1" connections available in various thread types
- Standard designs are fire safe
- Pressure rated up to 10,000 psi
- 1/8" to 1" female vent port sizes in various thread types
- Lockable and anti-tamper devices available
- Materials include; ASTM A182 F316 Stainless Steel, ASTM A182 F51/55 Duplex & Super Duplex, and ASTM B564 UNS N06625 Inconel amongst others
- Single piece body with screwed end connections
- Pressure rated up to 10,000 psi
- Lockable and anti-tamper devices available

Pressure Testing

All our Valves are tested thoroughly. We offer a wide range of testing options due to our variety of in-house testing equipment. Standard Hydro-body, Hydro-seat and Gas seat testing is carried out to API 598 and API 6A, with permissible leakage to ISO 5208. However other standards can be adhered to should it be required, including but not limited to PR2, ISO 15848, MESC SPE 77/300 and MESC SPE 77/312. Please speak to our Sales team with regards to your testing requirements and we will be happy to advise.

**Non-Destructive Testing/Examination Options**

- DPI
- MPI
- Ultrasonic
- Hardness Testing
- Radiography

# Ø5SMF Monoflange Product Type

## 5MM BORE, NEEDLE, NEEDLE, NEEDLE RF MONOFLANGE, FLANGE X SCREW

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1/2"	150	SMF-NNN-4N#-4AR	60	95	212	104	38.1	1.6	2
	1/2"	300	SMF-NNN-4N#-4BR	60	95	212	104	38.1	1.6	2
	1/2"	600	SMF-NNN-4N#-4CR	60	95	212	104	38.1	6.3	2
	1/2"	900/1500	SMF-NNN-4N#-4ER	55	121	240	117	33.8	6.6	3
	1/2"	2500	SMF-NNN-4N#-4FR	60	133	253	124	33.8	6.3	4
	3/4"	150	SMF-NNN-4N#-6AR	60	98	217	107	38.1	1.6	2
	3/4"	300	SMF-NNN-4N#-6BR	60	118	238	117	38.1	1.6	3
	3/4"	600	SMF-NNN-4N#-6CR	60	118	238	117	38.1	6.3	3
	3/4"	900/1500	SMF-NNN-4N#-6ER	57	130	250	122	35.8	6.3	4
	3/4"	2500	SMF-NNN-4N#-6FR	60	140	259	127	38.8	6.3	5
	1"	150	SMF-NNN-4N#-8AR	60	108	227	112	38.1	1.6	3
	1"	300	SMF-NNN-4N#-8BR	60	124	243	120	38.1	1.6	4
	1"	600	SMF-NNN-4N#-8CR	60	124	243	120	38.1	6.3	4
	1"	900/1500	SMF-NNN-4N#-8ER	57	149	270	132	35.8	6.3	5
	1"	2500	SMF-NNN-4N#-8FR	60	159	279	137	38.8	6.3	6
	1 1/2"	150	SMF-NNN-4N#-12AR	67	128	247	122	38.1	1.6	4
	1 1/2"	300	SMF-NNN-4N#-12BR	67	156	277	137	38.1	1.6	6
	1 1/2"	600	SMF-NNN-4N#-12CR	67	156	277	137	38.1	6.3	6
	1 1/2"	900/1500	SMF-NNN-4N#-12ER	60	178	299	148	38.8	6.3	8
	1 1/2"	2500	SMF-NNN-4N#-12FR	66	203	324	160	44.8	6.3	11
2"	150	SMF-NNN-4N#-16AR	60	152	273	136	38.1	1.6	6	
2"	300	SMF-NNN-4N#-16BR	60	165	286	142	38.1	1.6	6	
2"	600	SMF-NNN-4N#-16CR	60	165	286	142	41.3	6.3	6	
2"	900/1500	SMF-NNN-4N#-16ER	62	216	337	168	40.8	6.3	11	
2"	2500	SMF-NNN-4N#-16FR	73	235	356	174	51.3	6.3	16	



# Ø5SMF Monoflange Product Type (cont'd)

## 5MM BORE, OSY NEEDLE, NEEDLE, NEEDLE RF MONOFLANGE, FLANGE X SCREW

Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Nominal weight
1/2"	150	SMF-ONN-4N#-4AR	60	95	214	126	38.1	1.6	3
1/2"	300	SMF-ONN-4N#-4BR	60	95	214	126	38.1	1.6	3
1/2"	600	SMF-ONN-4N#-4CR	60	95	214	126	38.1	6.3	3
1/2"	900/1500	SMF-ONN-4N#-4ER	55	121	240	138	33.8	6.6	4
1/2"	2500	SMF-ONN-4N#-4FR	60	133	253	145	33.8	6.3	5
3/4"	150	SMF-ONN-4N#-6AR	60	98	217	128	38.1	1.6	3
3/4"	300	SMF-ONN-4N#-6BR	60	118	238	138	38.1	1.6	4
3/4"	600	SMF-ONN-4N#-6CR	60	118	237	138	38.1	6.3	4
3/4"	900/1500	SMF-ONN-4N#-6ER	57	130	250	144	35.8	6.3	4
3/4"	2500	SMF-ONN-4N#-6FR	60	140	259	149	38.8	6.3	5
1"	150	SMF-ONN-4N#-8AR	60	108	227	133	38.1	1.6	3
1"	300	SMF-ONN-4N#-8BR	60	124	243	141	38.1	1.6	4
1"	600	SMF-ONN-4N#-8CR	60	124	243	141	38.1	6.3	4
1"	900/1500	SMF-ONN-4N#-8ER	57	149	270	152	35.8	6.3	5
1"	2500	SMF-ONN-4N#-8FR	60	159	279	159	38.8	6.3	7
1 1/2"	150	SMF-ONN-4N#-12AR	67	128	247	143	38.1	1.6	5
1 1/2"	300	SMF-ONN-4N#-12BR	67	156	277	158	38.1	1.6	6
1 1/2"	600	SMF-ONN-4N#-12CR	67	156	277	158	38.1	6.3	6
1 1/2"	900/1500	SMF-ONN-4N#-12ER	60	178	299	170	38.8	6.3	8
1 1/2"	2500	SMF-ONN-4N#-12FR	66	203	324	182	44.8	6.3	12
2"	150	SMF-ONN-4N#-16AR	60	152	273	157	38.1	1.6	6
2"	300	SMF-ONN-4N#-16BR	60	165	286	163	38.1	1.6	7
2"	600	SMF-ONN-4N#-16CR	60	165	286	163	41.3	6.3	7
2"	900/1500	SMF-ONN-4N#-16ER	62	216	337	189	40.8	6.3	12
2"	2500	SMF-ONN-4N#-16FR	73	235	356	198	51.3	6.3	17

Metric / mm

# Ø5SMF Monoflange Product Type (cont'd)

## 5MM BORE, NEEDLE, NEEDLE, NEEDLE RTJ MONOFLANGE, FLANGE X SCREW

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1/2"	300	SMF-NNN-4N#-4BRJ	55	65	214	104	34.5	5.56	2
	1/2"	600	SMF-NNN-4N#-4CRJ	55	65	214	104	34.5	5.56	2
	1/2"	900/1500	SMF-NNN-4N#-4ERJ	55	121	240	117	33.8	6.30	3
	1/2"	2500	SMF-NNN-4N#-4FRJ	60	133	253	124	38.8	6.30	5
	3/4"	300	SMF-NNN-4N#-6BRJ	55	118	237	117	33.8	6.30	3
	3/4"	600	SMF-NNN-4N#-6CRJ	55	118	237	117	33.8	6.30	3
	3/4"	900/1500	SMF-NNN-4N#-6ERJ	57	130	250	122	35.8	6.30	4
	3/4"	2500	SMF-NNN-4N#-6FRJ	60	140	259	127	38.8	6.30	5
	1"	150	SMF-NNN-4N#-8ARJ	55	108	227	112	33.8	6.30	3
	1"	300	SMF-NNN-4N#-8BRJ	55	124	243	120	33.8	6.30	4
	1"	600	SMF-NNN-4N#-8CRJ	55	124	243	120	33.8	6.30	4
	1"	900/1500	SMF-NNN-4N#-8ERJ	57	149	270	132	35.8	6.30	5
	1"	2500	SMF-NNN-4N#-8FRJ	60	159	279	137	38.8	6.30	6
	1 1/2"	150	SMF-NNN-4N#-12ARJ	55	127	247	122	33.8	6.30	4
	1 1/2"	300	SMF-NNN-4N#-12BRJ	57	156	277	137	35.8	6.30	6
	1 1/2"	600	SMF-NNN-4N#-12CRJ	57	156	277	137	35.8	6.30	6
	1 1/2"	900/1500	SMF-NNN-4N#-12ERJ	60	178	299	148	38.8	6.30	8
	1 1/2"	2500	SMF-NNN-4N#-12FRJ	68	203	324	160	45.2	7.92	J
	2"	150	SMF-NNN-4N#-16ARJ	57	152	273	136	35.8	6.30	6
	2"	300	SMF-NNN-4N#-16BRJ	60	165	286	142	37.2	7.92	6
2"	600	SMF-NNN-4N#-16CRJ	60	165	286	142	37.2	7.92	6	
2"	900/1500	SMF-NNN-4N#-16ERJ	65	216	337	168	42.2	7.92	J	
2"	2500	SMF-NNN-4N#-16FRJ	74	235	356	174	51.2	7.92	17	

# Ø5SMF Monoflange Product Type (cont'd)

## 5MM BORE, OSY NEEDLE, NEEDLE, NEEDLE RTJ MONOFLANGE, FLANGE X SCREW

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1/2"	300	SMF-NNN-4N#-4BR	55	95	214	126	34.5	5.56	3
	1/2"	600	SMF-NNN-4N#-4CR	55	95	214	126	34.5	5.56	3
	1/2"	900/1500	SMF-NNN-4N#-4ER	55	121	240	138	33.8	6.30	4
	1/2"	2500	SMF-NNN-4N#-4FR	60	133	253	145	38.8	6.30	5
	3/4"	300	SMF-NNN-4N#-6BR	55	118	237	138	33.8	6.30	4
	3/4"	600	SMF-NNN-4N#-6CR	55	118	237	138	33.8	6.30	4
	3/4"	900/1500	SMF-NNN-4N#-6ER	57	130	250	144	35.8	6.30	4
	3/4"	2500	SMF-NNN-4N#-6FR	60	140	259	149	38.8	6.30	5
	1"	150	SMF-NNN-4N#-8AR	55	108	227	133	33.8	6.30	3
	1"	300	SMF-NNN-4N#-8BR	55	124	243	141	33.8	6.30	4
	1"	600	SMF-NNN-4N#-8CR	55	124	243	141	33.8	6.30	4
	1"	900/1500	SMF-NNN-4N#-8ER	57	149	270	152	35.8	6.30	6
	1"	2500	SMF-NNN-4N#-8FR	60	159	279	159	38.8	6.30	7
	1 1/2"	150	SMF-NNN-4N#-12AR	55	128	247	143	33.8	6.30	5
	1 1/2"	300	SMF-NNN-4N#-12BR	57	156	277	158	35.8	6.30	6
	1 1/2"	600	SMF-NNN-4N#-12CR	57	156	277	158	35.8	6.30	6
	1 1/2"	900/1500	SMF-NNN-4N#-12ER	60	178	299	170	38.8	6.30	8
	1 1/2"	2500	SMF-NNN-4N#-12FR	68	203	324	182	45.2	7.92	10
	2"	150	SMF-NNN-4N#-16AR	57	152	273	157	35.8	6.30	6
	2"	300	SMF-NNN-4N#-16BR	60	165	286	163	37.2	7.92	7
2"	600	SMF-NNN-4N#-16CR	60	165	286	163	37.2	7.92	7	
2"	900/1500	SMF-NNN-4N#-16ER	65	216	337	189	42.2	7.92	12	
2"	2500	SMF-NNN-4N#-16FR	74	235	356	198	51.2	7.92	17	

# V Series Flange x Screw Product Type

## 10MM V RANGE ONE PIECE - RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	150	D1V4N#-4AR (4AJ)	188	90	10.1	12.1	N/A	3
	1/2"	300	D1V4N#-4BR (4BJ)	188	95	13.2	15.2	19.6	3
	1/2"	600	D1V4N#-4CR (4CJ)	188	95	14.8	21.8	21.2	3
	1/2"	900/1500	D1V4N#-4ER (4EJ)	188	120	22.8	29.8	29.2	4
	1/2"	2500	D1V4N#-4FR (4FJ)	198	135	30.7	37.7	37.1	5
	3/4"	150	D1VN#-6AR (6AJ)	188	100	11.7	13.7	N/A	3
	3/4"	300	D1VN#-6BR (6BJ)	188	115	14.8	16.8	21.2	4
	3/4"	600	D1V4N#-6CR (6CJ)	188	115	16.4	23.4	22.8	4
	3/4"	900/1500	D1V4N#-6ER (6EJ)	198	130	25.9	32.9	32.3	5
	3/4"	2500	D1V4N#-6FR (6FJ)	198	140	32.3	39.3	38.7	6
	1"	150	D1V4N#-8AR (8AJ)	188	110	13.2	15.2	19.6	4
	1"	300	D1V4N#-8BR (8BJ)	188	125	16.4	18.4	22.8	4
	1"	600	D1V4N#-8CR (8CJ)	188	125	18.0	25.0	24.4	4
	1"	900/1500	D1V4N#-8ER (8EJ)	198	150	29.1	36.1	35.5	6
	1"	2500	D1V4N#-8FR (8FJ)	198	160	35.5	42.5	41.9	6
	1 1/2"	150	D1V4N#-12AR (12AJ)	188	125	16.4	18.4	22.8	5
	1 1/2"	300	D1V4N#-12BR (12BJ)	188	155	19.6	21.6	26.0	6
	1 1/2"	600	D1V4N#-12CR (12CJ)	198	155	22.8	29.8	29.2	6
	1 1/2"	900/1500	D1V4N#-12ER (12EJ)	198	180	32.3	39.3	38.7	9
	1 1/2"	2500	D1V4N#-12FR (12FJ)	213	205	45.0	52.0	52.9	13
2"	150	D1V4N#-16AR (16AJ)	198	150	18.0	20.0	24.4	5	
2"	300	D1V4N#-16BR (16BJ)	198	165	21.2	23.2	29.1	6	
2"	600	D1V4N#-16CR (16CJ)	198	165	25.9	32.9	33.8	7	
2"	900/1500	D1V4N#-16ER (16EJ)	213	215	38.6	45.6	46.5	13	
2"	2500	D1V4N#-16FR (16FJ)	213	235	51.4	58.4	59.3	18	

# V Series Flange x Screw Product Type (cont'd)

## 13MM V RANGE ONE PIECE - RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	150	13D1V4N#-4AR (4AJ)	183	90	10.1	12.1	N/A	4
	1/2"	300	13D1V4N#-4BR (4BJ)	183	95	13.2	15.2	19.6	5
	1/2"	600	13D1V4N#-4CR (4CJ)	183	95	14.8	21.8	21.2	5
	1/2"	900/1500	13D1V4N#-4ER (4EJ)	203	120	22.8	29.8	29.2	6
	1/2"	2500	13D1V4N#-4FR (4FJ)	203	135	30.7	37.7	37.1	7
	3/4"	150	13D1V4N#-6AR (6AJ)	183	100	11.7	13.7	N/A	5
	3/4"	300	13D1V4N#-6BR (6BJ)	183	115	14.8	16.8	21.2	5
	3/4"	600	13D1V4N#-6CR (6CJ)	183	115	16.4	23.4	22.8	5
	3/4"	900/1500	13D1V4N#-6ER (6EJ)	203	130	25.9	32.9	32.3	6
	3/4"	2500	13D1V4N#-6FR (6FJ)	203	140	32.3	39.3	38.7	8
	1"	150	13D1V4N#-8AR (8AJ)	183	110	13.2	15.2	19.6	5
	1"	300	13D1V4N#-8BR (8BJ)	183	125	16.4	18.4	22.8	6
	1"	600	13D1V4N#-8CR (8CJ)	183	125	18.0	25	24.4	6
	1"	900/1500	13D1V4N#-8ER (8EJ)	203	150	29.1	36.1	35.5	8
	1"	2500	13D1V4N#-8FR (8FJ)	203	160	35.5	42.5	41.9	9
	1 1/2"	150	13D1V4N#-12AR (12AJ)	183	125	16.4	18.4	22.8	6
	1 1/2"	300	13D1V4N#-12BR (12BJ)	183	155	19.6	21.6	26.0	7
	1 1/2"	600	13D1V4N#-12CR (12CJ)	203	155	22.8	29.8	29.2	8
	1 1/2"	900/1500	13D1V4N#-12ER (12EJ)	203	180	32.3	39.3	38.7	10
	1 1/2"	2500	13D1V4N#-12FR (12FJ)	203	205	45.0	52	52.9	15
2"	150	13D1V4N#-16AR (16AJ)	183	150	18.0	20	24.4	7	
2"	300	13D1V4N#-16BR (16BJ)	183	165	21.2	23.2	29.1	7	
2"	600	13D1V4N#-16CR (16CJ)	203	165	25.9	32.9	33.8	9	
2"	900/1500	13D1V4N#-16ER (16EJ)	203	215	38.6	45.6	46.5	14	
2"	2500	13D1V4N#-16FR (16FJ)	203	235	51.4	58.4	59.3	20	

# OB Series Flange x Screw Product Type

## 13MM OB RANGE ONE PIECE - RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	300	13DOV4N#-4BR (4BJ)	183	90	10.1	12.1	16.5	4
	1/2"	600	13DOV4N#-4CR (4CJ)	183	95	13.2	15.2	19.6	4
	1/2"	900/1500	13DOV4N#-4ER (4EJ)	183	95	14.8	21.8	21.2	5
	1/2"	2500	13DOV4N#-4FR (4FJ)	203	120	22.8	29.8	29.2	6
	3/4"	300	13DOV4N#-6BR (6BJ)	203	135	30.7	37.7	37.1	4
	3/4"	600	13DOV4N#-6CR (6CJ)	183	100	11.7	13.7	18.1	4
	3/4"	900/1500	13DOV4N#-6ER (6EJ)	183	115	14.8	16.8	21.2	5
	3/4"	2500	13DOV4N#-6FR (6FJ)	183	115	16.4	23.4	22.8	6
	1"	150	13DOV4N#-8AR (8AJ)	203	130	25.9	32.9	32.3	4
	1"	300	13DOV4N#-8BR (8BJ)	203	140	32.3	39.3	38.7	5
	1"	600	13DOV4N#-8CR (8CJ)	183	110	13.2	15.2	19.6	5
	1"	900/1500	13DOV4N#-8ER (8EJ)	183	125	16.4	18.4	22.8	6
	1"	2500	13DOV4N#-8FR (8FJ)	183	125	18.0	25.0	24.4	7
	1 1/2"	150	13DOV4N#-12AR (12AJ)	203	150	29.1	36.1	35.5	5
	1 1/2"	300	13DOV4N#-12BR (12BJ)	203	160	35.5	42.5	41.9	6
	1 1/2"	600	13DOV4N#-12CR (12CJ)	183	125	16.4	18.4	22.8	6
	1 1/2"	900/1500	13DOV4N#-12ER (12EJ)	183	155	19.6	21.6	26.0	9
	1 1/2"	2500	13DOV4N#-12FR (12FJ)	203	155	22.8	29.8	29.2	13
	2"	150	13DOV4N#-16AR (16AJ)	203	180	32.3	39.3	38.7	6
	2"	300	13DOV4N#-16BR (16BJ)	203	205	45.0	52.0	52.9	7
2"	600	13DOV4N#-16CR (16CJ)	183	150	18.0	20.0	24.4	7	
2"	900/1500	13DOV4N#-16ER (16EJ)	183	165	21.2	23.2	29.1	13	
2"	2500	13DOV4N#-16FR (16FJ)	203	165	25.9	32.9	33.8	19	

# DE Series Flange x Screw Product Type

## 10MM DE RANGE ONE PIECE - RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	DRF(mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	150	DE4N#-4AR (4AJ)	188	90	10.1	12.1	N/A	3
	1/2"	300	DE4N#-4BR (4BJ)	188	95	13.2	15.2	19.6	3
	1/2"	600	DE4N#-4CR (4CJ)	188	95	14.8	21.8	21.2	3
	1/2"	900/1500	DE4N#-4ER (4EJ)	188	120	22.8	29.8	29.2	4
	1/2"	2500	DE4N#-4FR (4FJ)	198	135	30.7	37.7	37.1	5
	3/4"	150	DEN#-6AR (6AJ)	188	100	11.7	13.7	N/A	3
	3/4"	300	DEN#-6BR (6BJ)	188	115	14.8	16.8	21.2	4
	3/4"	600	DE4N#-6CR (6CJ)	188	115	16.4	23.4	22.8	4
	3/4"	900/1500	DE4N#-6ER (6EJ)	198	130	25.9	32.9	32.3	5
	3/4"	2500	DE4N#-6FR (6FJ)	198	140	32.3	39.3	38.7	6
	1"	150	DE4N#-8AR (8AJ)	188	110	13.2	15.2	19.6	4
	1"	300	DE4N#-8BR (8BJ)	188	125	16.4	18.4	22.8	4
	1"	600	DE4N#-8CR (8CJ)	188	125	18.0	25.0	24.4	4
	1"	900/1500	DE4N#-8ER (8EJ)	198	150	29.1	36.1	35.5	6
	1"	2500	DE4N#-8FR (8FJ)	198	160	35.5	42.5	41.9	6
	1 1/2"	150	DE4N#-12AR (12AJ)	188	125	16.4	18.4	22.8	5
	1 1/2"	300	DE4N#-12BR (12BJ)	188	155	19.6	21.6	26.0	6
	1 1/2"	600	DE4N#-12CR (12CJ)	198	155	22.8	29.8	29.2	6
	1 1/2"	900/1500	DE4N#-12ER (12EJ)	198	180	32.3	39.3	38.7	9
	1 1/2"	2500	DE4N#-12FR (12FJ)	213	205	45.0	52.0	52.9	13
2"	150	DE4N#-16AR (16AJ)	198	150	18.0	20.0	24.4	5	
2"	300	DE4N#-16BR (16BJ)	198	165	21.2	23.2	29.1	6	
2"	600	DE4N#-16CR (16CJ)	198	165	25.9	32.9	33.8	7	
2"	900/1500	DE4N#-16ER (16EJ)	213	215	38.6	45.6	46.5	13	
2"	2500	DE4N#-16FR (16FJ)	213	235	51.4	58.4	59.3	18	

# DE Series Flange x Screw Product Type (cont'd)

## 13MM DE RANGE ONE PIECE - RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	DRF(mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	150	13DE4N#-4AR (4AJ)	183	90	10.1	12.1	N/A	4
	1/2"	300	13DE4N#-4BR (4BJ)	183	95	13.2	15.2	19.6	5
	1/2"	600	13DE4N#-4CR (4CJ)	183	95	14.8	21.8	21.2	5
	1/2"	900/1500	13DE4N#-4ER (4EJ)	203	120	22.8	29.8	29.2	6
	1/2"	2500	13DE4N#-4FR (4FJ)	203	135	30.7	37.7	37.1	7
	3/4"	150	13DE4N#-6AR (6AJ)	183	100	11.7	13.7	N/A	5
	3/4"	300	13DE4N#-6BR (6BJ)	183	115	14.8	16.8	21.2	5
	3/4"	600	13DE4N#-6CR (6CJ)	183	115	16.4	23.4	22.8	5
	3/4"	900/1500	13DE4N#-6ER (6EJ)	203	130	25.9	32.9	32.3	6
	3/4"	2500	13DE4N#-6FR (6FJ)	203	140	32.3	39.3	38.7	8
	1"	150	13DE4N#-8AR (8AJ)	183	110	13.2	15.2	19.6	5
	1"	300	13DE4N#-8BR (8BJ)	183	125	16.4	18.4	22.8	6
	1"	600	13DE4N#-8CR (8CJ)	183	125	18.0	25.0	24.4	6
	1"	900/1500	13DE4N#-8ER (8EJ)	203	150	29.1	36.1	35.5	8
	1"	2500	13DE4N#-8FR (8FJ)	203	160	35.5	42.5	41.9	9
	1 1/2"	150	13DE4N#-12AR (12AJ)	183	125	16.4	18.4	22.8	6
	1 1/2"	300	13DE4N#-12BR (12BJ)	183	155	19.6	21.6	26.0	7
	1 1/2"	600	13DE4N#-12CR (12CJ)	203	155	22.8	29.8	29.2	8
	1 1/2"	900/1500	13DE4N#-12ER (12EJ)	203	180	32.3	39.3	38.7	10
	1 1/2"	2500	13DE4N#-12FR (12FJ)	203	205	45.0	52.0	52.9	15
2"	150	13DE4N#-16AR (16AJ)	183	150	18.0	20.0	24.4	7	
2"	300	13DE4N#-16BR (16BJ)	183	165	21.2	23.2	29.1	7	
2"	600	13DE4N#-16CR (16CJ)	203	165	25.9	32.9	33.8	9	
2"	900/1500	13DE4N#-16ER (16EJ)	203	215	38.6	45.6	46.5	14	
2"	2500	13DE4N#-16FR (16FJ)	203	235	51.4	58.4	59.3	20	



# BQ Series Flange x Screw Product Type

## 10MM DQ RANGE ONE PIECE - RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	DRF(mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	150	D1A#-4AR (4AJ)	158	90	10.1	12.1	N/A	3
	1/2"	300	D1A#-4BR (4BJ)	158	95	13.2	15.2	19.6	3
	1/2"	600	D1A#-4CR (4CJ)	158	95	14.8	21.8	21.2	3
	1/2"	900/1500	D1A#-4ER (4EJ)	158	120	22.8	29.8	29.2	4
	1/2"	2500	D1A#-4FR (4FJ)	178	135	30.7	37.7	37.1	5
	3/4"	150	D1A#-6AR (6AJ)	158	100	11.7	13.7	N/A	3
	3/4"	300	D1A#-6BR (6BJ)	158	115	14.8	16.8	21.2	4
	3/4"	600	D1A#-6CR (6CJ)	158	115	16.4	23.4	22.8	4
	3/4"	900/1500	D1A#-6ER (6EJ)	178	130	25.9	32.9	32.3	5
	3/4"	2500	D1A#-6FR (6FJ)	178	140	32.3	39.3	38.7	6
	1"	150	D1A#-8AR (8AJ)	158	110	13.2	15.2	19.6	4
	1"	300	D1A#-8BR (8BJ)	158	125	16.4	18.4	22.8	4
	1"	600	D1A#-8CR (8CJ)	158	125	18.0	25.0	24.4	4
	1"	900/1500	D1A#-8ER (8EJ)	178	150	29.1	36.1	35.5	6
	1"	2500	D1A#-8FR (8FJ)	178	160	35.5	42.5	41.9	6
	1 1/2"	150	D1A#-12AR (12AJ)	158	125	16.4	18.4	22.8	5
	1 1/2"	300	D1A#-12BR (12BJ)	158	155	19.6	21.6	26.0	6
	1 1/2"	600	D1A#-12CR (12CJ)	178	155	22.8	29.8	29.2	6
	1 1/2"	900/1500	D1A#-12ER (12EJ)	178	180	32.3	39.3	38.7	9
	1 1/2"	2500	D1A#-12FR (12FJ)	193	205	45.0	52.0	52.9	13
2"	150	D1A#-16AR (16AJ)	178	150	18.0	20.0	24.4	5	
2"	300	D1A#-16BR (16BJ)	178	165	21.2	23.2	29.1	6	
2"	600	D1A#-16CR (16CJ)	178	165	25.9	32.9	33.8	7	
2"	900/1500	D1A#-16ER (16EJ)	193	215	38.6	45.6	46.5	13	
2"	2500	D1A#-16FR (16FJ)	193	235	51.4	58.4	59.3	18	

# V Series Flange x Flange Product Type

## 10MM V RANGE ONE PIECE - RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D RF(mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	150	DD1V4N#-4AR (4AJ)	175	90	10.1	12.1	16.5	4
	1/2"	300	DD1V4N#-4BR (4BJ)	175	95	13.2	15.2	19.6	4
	1/2"	600	DD1V4N#-4CR (4CJ)	200	95	14.8	21.8	21.2	5
	1/2"	900/1500	DD1V4N#-4ER (4EJ)	225	120	22.8	29.8	29.2	7
	1/2"	2500	DD1V4N#-4FR (4FJ)	225	135	30.7	37.7	37.1	9
	3/4"	150	DD1V4N#-6AR (6AJ)	175	100	11.7	13.7	18.1	4
	3/4"	300	DD1VN#-6BR (6BJ)	175	115	14.8	16.8	21.2	5
	3/4"	600	DD1V4N#-6CR (6CJ)	200	115	16.4	23.4	22.8	6
	3/4"	900/1500	DD1V4N#-6ER (6EJ)	244	130	25.9	32.9	32.3	8
	3/4"	2500	DD1V4N#-6FR (6FJ)	244	140	32.3	39.3	38.7	11
	1"	150	DD1V4N#-8AR (8AJ)	175	110	13.2	15.2	19.6	5
	1"	300	DD1V4N#-8BR (8BJ)	200	125	16.4	18.4	22.8	6
	1"	600	DD1V4N#-8CR (8CJ)	200	125	18.0	25.0	24.4	6
	1"	900/1500	DD1V4N#-8ER (8EJ)	244	150	29.1	36.1	35.5	11
	1"	2500	DD1V4N#-8FR (8FJ)	244	160	35.5	42.5	41.9	14
	1 1/2"	150	DD1V4N#-12AR (12AJ)	175	125	16.4	18.4	22.8	6
	1 1/2"	300	DD1V4N#-12BR (12BJ)	200	155	19.6	21.6	26.0	9
	1 1/2"	600	DD1V4N#-12CR (12CJ)	225	155	22.8	29.8	29.2	8
	1 1/2"	900/1500	DD1V4N#-12ER (12EJ)	244	180	32.3	39.3	38.7	16
	1 1/2"	2500	DD1V4N#-12FR (12FJ)	244	205	45.0	52.0	52.9	25
2"	150	DD1V4N#-16AR (16AJ)	175	150	18.0	20.0	24.4	8	
2"	300	DD1V4N#-16BR (16BJ)	200	165	21.2	23.2	29.1	10	
2"	600	DD1V4N#-16CR (16CJ)	225	165	25.9	32.9	33.8	12	
2"	900/1500	DD1V4N#-16ER (16EJ)	244	215	38.6	45.6	46.5	24	
2"	2500	DD1V4N#-16FR (16FJ)	244	235	51.4	58.4	59.3	35	

# V Series Flange x Flange Product Type (cont'd)

## 13MM V RANGE ONE PIECE - RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D RF(mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	150	13DD1V4N#-4AR (4AJ)	192	90	10.1	12.1	16.5	5
	1/2"	300	13DD1V4N#-4BR (4BJ)	192	95	13.2	15.2	19.6	6
	1/2"	600	13DD1V4N#-4CR (4CJ)	192	95	14.8	21.8	21.2	6
	1/2"	900/1500	13DD1V4N#-4ER (4EJ)	236	120	22.8	29.8	29.2	8
	1/2"	2500	13DD1V4N#-4FR (4FJ)	236	135	30.7	37.7	37.1	10
	3/4"	150	13DD1V4N#-4AR (4AJ)	192	100	11.7	13.7	18.1	6
	3/4"	300	13DD1V4N#-6BR (6BJ)	192	115	14.8	16.8	21.2	7
	3/4"	600	13DD1V4N#-6CR (6CJ)	192	115	16.4	23.4	22.8	7
	3/4"	900/1500	13DD1V4N#-6ER (6EJ)	236	130	25.9	32.9	32.3	9
	3/4"	2500	13DD1V4N#-6FR (6FJ)	236	140	32.3	39.3	38.7	11
	1"	150	13DD1V4N#-8AR (8AJ)	192	110	13.2	15.2	19.6	6
	1"	300	13DD1V4N#-8BR (8BJ)	192	125	16.4	18.4	22.8	7
	1"	600	13DD1V4N#-8CR (8CJ)	192	125	18	25	24.4	7
	1"	900/1500	13DD1V4N#-8ER (8EJ)	236	150	29.1	36.1	35.5	13
	1"	2500	13DD1V4N#-8FR (8FJ)	236	160	35.5	42.5	41.9	15
	1 1/2"	150	13DD1V4N#-12AR (12AJ)	192	125	16.4	18.4	22.8	8
	1 1/2"	300	13DD1V4N#-12BR (12BJ)	192	155	19.6	21.6	26.0	11
	1 1/2"	600	13DD1V4N#-12CR (12CJ)	236	155	22.8	29.8	29.2	13
	1 1/2"	900/1500	13DD1V4N#-12ER (12EJ)	236	180	32.3	39.3	38.7	17
	1 1/2"	2500	13DD1V4N#-12FR (12FJ)	273	205	45	52	52.9	28
	2"	150	13DD1V4N#-16AR (16AJ)	192	150	18	20	24.4	11
	2"	300	13DD1V4N#-16BR (16BJ)	236	165	21.2	23.2	29.1	15
	2"	600	13DD1V4N#-16CR (16CJ)	236	165	25.9	32.9	33.8	16
	2"	900/1500	13DD1V4N#-16ER (16EJ)	273	215	38.6	45.6	46.5	25
	2"	2500	13DD1V4N#-16FR (16FJ)	273	235	51.4	58.4	59.3	36

# Y Series Flange x Flange Product Type

## 10MM Y RANGE ONE PIECE - RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D RF(mm)	D RTJ (mm)	Nominal weight
Metric / mm	1/2"	150	DD1V4N#-4AR (4AJ)	175	90	10.1	12.1	16.5	4
	1/2"	300	DD1V4N#-4BR (4BJ)	175	95	13.2	15.2	19.6	4
	1/2"	600	DD1V4N#-4CR (4CJ)	200	95	14.8	21.8	21.2	4
	1/2"	900/1500	DD1V4N#-4ER (4EJ)	225	120	22.8	29.8	29.2	6
	1/2"	2500	DD1V4N#-4FR (4FJ)	225	135	30.7	37.7	37.1	9
	3/4"	150	DD1V4N#-6AR (6AJ)	175	100	11.7	13.7	18.1	4
	3/4"	300	DD1VN#-6BR (6BJ)	175	115	14.8	16.8	21.2	5
	3/4"	600	DD1V4N#-6CR (6CJ)	200	115	16.4	23.4	22.8	5
	3/4"	900/1500	DD1V4N#-6ER (6EJ)	244	130	25.9	32.9	32.3	8
	3/4"	2500	DD1V4N#-6FR (6FJ)	244	140	32.3	39.3	38.7	10
	1"	150	DD1V4N#-8AR (8AJ)	175	110	13.2	15.2	19.6	5
	1"	300	DD1V4N#-8BR (8BJ)	200	125	16.4	18.4	22.8	6
	1"	600	DD1V4N#-8CR (8CJ)	200	125	18	25.0	24.4	6
	1"	900/1500	DD1V4N#-8ER (8EJ)	244	150	29.1	36.1	35.5	11
	1"	2500	DD1V4N#-8FR (8FJ)	244	160	35.5	42.5	41.9	13
	1 1/2"	150	DD1V4N#-12AR (12AJ)	175	125	16.4	18.4	22.8	6
	1 1/2"	300	DD1V4N#-12BR (12BJ)	200	155	19.6	21.6	26.0	9
	1 1/2"	600	DD1V4N#-12CR (12CJ)	225	155	22.8	29.8	29.2	10
	1 1/2"	900/1500	DD1V4N#-12ER (12EJ)	244	180	32.3	39.3	38.7	15
	1 1/2"	2500	DD1V4N#-12FR (12FJ)	244	205	45	52.0	52.9	24
2"	150	DD1V4N#-16AR (16AJ)	175	150	18	20.0	24.4	8	
2"	300	DD1V4N#-16BR (16BJ)	200	165	21.2	23.2	29.1	10	
2"	600	DD1V4N#-16CR (16CJ)	225	165	25.9	32.9	33.8	12	
2"	900/1500	DD1V4N#-16ER (16EJ)	244	215	38.6	45.6	46.5	23	
2"	2500	DD1V4N#-16FR (16FJ)	244	235	51.4	58.4	59.3	34	

# V Series Flange x Flange Product Type

## 10MM V SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1/2"	150	DD1VB4N#-4AR (4ARJ)	279	N/A	90	10.1	12.1	N/A	92	120	7
	1/2"	300	DD1VB4N#-4BR (4BRJ)	285	292	95	13.2	15.2	19.6	92	120	8
	1/2"	600	DD1VB4N#-4CR (4CRJ)	298	298	95	14.8	21.8	21.2	92	120	8
	1/2"	900/1500	DD1VB4N#-4ER (4ERJ)	331	331	120	22.8	29.8	29.2	92	120	10
	1/2"	2500	DD1VB4N#-4FR (4FRJ)	348	348	135	30.7	37.7	37.1	92	120	13
	3/4"	150	DD1VB4N#-6AR (6ARJ)	282	N/A	100	11.7	13.7	N/A	92	120	8
	3/4"	300	DD1VB4N#-6BR (6BRJ)	296	305	115	14.8	16.8	21.2	92	120	9
	3/4"	600	DD1VB4N#-6CR (6CRJ)	309	309	115	16.4	23.4	22.8	92	120	9
	3/4"	900/1500	DD1VB4N#-6ER (6ERJ)	337	337	130	25.9	32.9	32.3	92	120	12
	3/4"	2500	DD1VB4N#-6FR (6FRJ)	350	350	140	32.3	39.3	38.7	92	120	14
	1"	150	DD1VB4N#-8AR (8ARJ)	285	294	110	13.2	15.2	19.6	92	120	9
	1"	300	DD1VB4N#-8BR (8BRJ)	299	308	125	16.4	18.4	22.8	92	120	10
	1"	600	DD1VB4N#-8CR (8CRJ)	312	312	125	18.0	25.0	24.4	92	120	10
	1"	900/1500	DD1VB4N#-8ER (8ERJ)	342	342	150	29.1	36.1	35.5	92	120	14
	1"	2500	DD1VB4N#-8FR (8FRJ)	366	366	160	35.5	42.5	41.9	92	120	17
	1 1/2"	150	DD1VB4N#-12AR (12ARJ)	291	300	125	16.4	18.4	22.8	120	148	10
	1 1/2"	300	DD1VB4N#-12BR (12BRJ)	314	323	155	19.6	21.6	26.0	120	148	13
	1 1/2"	600	DD1VB4N#-12CR (12CRJ)	331	331	155	22.8	29.8	29.2	120	148	14
	1 1/2"	900/1500	DD1VB4N#-12ER (12ERJ)	365	365	180	32.3	39.3	38.7	120	148	19
	1 1/2"	2500	DD1VB4N#-12FR (12FRJ)	342	342	205	45.0	52.0	52.9	120	148	28
2"	150	DD1VB4N#-16AR (16ARJ)	302	311	150	18.0	20.0	24.4	120	148	12	
2"	300	DD1VB4N#-16BR (16BRJ)	284	293	165	21.2	23.2	29.1	120	148	13	
2"	600	DD1VB4N#-16CR (16CRJ)	303	303	165	25.9	32.9	33.8	120	148	15	
2"	900/1500	DD1VB4N#-16ER (16ERJ)	329	329	215	38.6	45.6	46.5	148	178	27	
2"	2500	DD1VB4N#-16FR (16FRJ)	354	354	235	51.4	58.4	59.3	148	178	38	

# V Series Flange x Flange Product Type (cont'd)

## 13MM V SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
1/2"	150	13DD1V4N#-4AR (4ARJ)	287	N/A	90	10.1	12.1	N/A	92	120	10
1/2"	300	13DD1V4N#-4BR (4BRJ)	293	302	95	13.2	15.2	19.6	92	120	10
1/2"	600	13DD1V4N#-4CR (4CRJ)	306	306	95	14.8	21.8	21.2	92	120	10
1/2"	900/1500	13DD1V4N#-4ER (4ERJ)	339	339	120	22.8	29.8	29.2	92	120	13
1/2"	2500	13DD1V4N#-4FR (4FRJ)	355	355	135	30.7	37.7	37.1	92	120	15
3/4"	150	13DD1V4N#-6AR (6ARJ)	290	N/A	100	11.7	13.7	N/A	92	120	10
3/4"	300	13DD1V4N#-6BR (6BRJ)	304	312	115	14.8	16.8	21.2	92	120	11
3/4"	600	13DD1V4N#-6CR (6CRJ)	317	317	115	16.4	23.4	22.8	92	120	12
3/4"	900/1500	13DD1V4N#-6ER (6ERJ)	345	345	130	25.9	32.9	32.3	92	120	14
3/4"	2500	13DD1V4N#-6FR (6FRJ)	358	358	140	32.3	39.3	38.7	92	120	16
1"	150	13DD1V4N#-8AR (8ARJ)	293	293	110	13.2	15.2	19.6	92	120	11
1"	300	13DD1V4N#-8BR (8BRJ)	306	314	125	16.4	18.4	22.8	92	120	12
1"	600	13DD1V4N#-8CR (8CRJ)	321	321	125	18.0	25	24.4	92	120	12
1"	900/1500	13DD1V4N#-8ER (8ERJ)	360	360	150	29.1	36.1	35.5	92	120	16
1"	2500	13DD1V4N#-8FR (8FRJ)	372	374	160	35.5	42.5	41.9	92	120	20
1 1/2"	150	13DD1V4N#-12AR (12ARJ)	300	300	125	16.4	18.4	22.8	120	148	12
1 1/2"	300	13DD1V4N#-12BR (12BRJ)	322	332	155	19.6	21.6	26.0	120	148	15
1 1/2"	600	13DD1V4N#-12CR (12CRJ)	338	338	155	22.8	29.8	29.2	120	148	16
1 1/2"	900/1500	13DD1V4N#-12ER (12ERJ)	374	374	180	32.3	39.3	38.7	120	148	22
1 1/2"	2500	13DD1V4N#-12FR (12FRJ)	397	397	205	45.0	52	52.9	120	148	31
2"	150	13DD1V4N#-16AR (16ARJ)	301	301	150	18.0	20	24.4	120	148	14
2"	300	13DD1V4N#-16BR (16BRJ)	292	302	165	21.2	23.2	29.1	120	148	15
2"	600	13DD1V4N#-16CR (16CRJ)	311	311	165	25.9	32.9	33.8	120	148	17
2"	900/1500	13DD1V4N#-16ER (16ERJ)	337	337	215	38.6	45.6	46.5	148	178	29
2"	2500	13DD1V4N#-16FR (16FRJ)	362	362	235	51.4	58.4	59.3	148	178	40

Metric / mm

# V Series Flange x Flange Product Type (cont'd)

## 19MM V SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	3/4"	150	19DDV4N#-6AR (6ARJ)	304	N/A	100	11.7	13.7	18.1	92	120	11
	3/4"	300	19DDV4N#-6BR (6BRJ)	332	332	115	14.8	16.8	21.2	92	120	12
	3/4"	600	19DDV4N#-6CR (6CRJ)	334	334	115	16.4	23.4	22.8	92	120	12
	3/4"	900/1500	19DDV4N#-6ER (6ERJ)	366	366	130	25.9	32.9	32.3	92	120	15
	3/4"	2500	19DDV4N#-6FR (6FRJ)	366	359	140	32.3	39.3	38.7	92	120	17
	1"	150	19DDV4N#-8AR (8ARJ)	308	318	110	13.2	15.2	19.6	92	120	11
	1"	300	19DDV4N#-8BR (8BRJ)	324	332	125	16.4	18.4	22.8	92	120	13
	1"	600	19DDV4N#-8CR (8CRJ)	330	330	125	18.0	25.0	24.4	92	120	13
	1"	900/1500	19DDV4N#-8ER (8ERJ)	386	386	150	29.1	36.1	35.5	92	120	17
	1"	2500	19DDV4N#-8FR (8FRJ)	394	394	160	35.5	42.5	41.9	92	120	20
	1 1/2"	150	19DDV4N#-12AR (12ARJ)	334	334	125	16.4	18.4	22.8	120	148	13
	1 1/2"	300	19DDV4N#-12BR (12BRJ)	334	334	155	19.6	21.6	26.0	120	148	16
	1 1/2"	600	19DDV4N#-12CR (12CRJ)	338	338	155	22.8	29.8	29.2	120	148	16
	1 1/2"	900/1500	19DDV4N#-12ER (12ERJ)	386	398	180	32.3	39.3	38.7	120	148	22
	1 1/2"	2500	19DDV4N#-12FR (12FRJ)	352	362	205	45.0	52.0	52.9	120	148	30
	2"	150	19DDV4N#-16AR (16ARJ)	285	294	150	18.0	20.0	24.4	120	148	14
	2"	300	19DDV4N#-16BR (16BRJ)	292	304	165	21.2	23.2	29.1	120	148	16
	2"	600	19DDV4N#-16CR (16CRJ)	312	314	165	25.9	32.9	33.8	120	148	18
	2"	900/1500	19DDV4N#-16ER (16ERJ)	336	339	215	38.6	45.6	46.5	148	178	30
	2"	2500	19DDV4N#-16FR (16FRJ)	366	362	235	51.4	58.4	59.3	148	178	41

## 25MM V SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1"	150	25DDV4N#-8AR (8ARJ)	296	306	110	13.2	15.2	19.6	92	120	12
	1"	300	25DDV4N#-8BR (8BRJ)	316	316	125	16.4	18.4	22.8	92	120	13
	1"	600	25DDV4N#-8CR (8CRJ)	324	324	125	18.0	25.0	24.4	92	120	14
	1"	900/1500	25DDV4N#-8ER (8ERJ)	356	356	150	29.1	36.1	35.5	92	120	18
	1"	2500	25DDV4N#-8FR (8FRJ)	396	396	160	35.5	42.5	41.9	92	120	25
	1 1/2"	150	25DDV4N#-12AR (12ARJ)	300	310	125	16.4	18.4	22.8	120	148	14
	1 1/2"	300	25DDV4N#-12BR (12BRJ)	335	335	155	19.6	21.6	26.0	120	148	16
	1 1/2"	600	25DDV4N#-12CR (12CRJ)	351	351	155	22.8	29.8	29.2	120	148	17
	1 1/2"	900/1500	25DDV4N#-12ER (12ERJ)	386	386	180	32.3	39.3	38.7	120	148	22
	1 1/2"	2500	25DDV4N#-12FR (12FRJ)	452	440	205	45.0	52.0	52.9	120	148	36
	2"	150	25DDV4N#-16AR (16ARJ)	292	302	150	18.0	20.0	24.4	120	148	15
	2"	300	25DDV4N#-16BR (16BRJ)	284	296	165	21.2	23.2	29.1	120	148	17
	2"	600	25DDV4N#-16CR (16CRJ)	296	300	165	25.9	32.9	33.8	120	148	18
	2"	900/1500	25DDV4N#-16ER (16ERJ)	351	354	215	38.6	45.6	46.5	148	178	23
	2"	2500	25DDV4N#-16FR (16FRJ)	452	383	235	51.4	58.4	59.3	148	178	47

# V Series Flange x Flange Product Type (cont'd)

## 38MM V SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1 1/2"	150	38DDV4N#-12AR (12ARJ)	347	357	125	16.4	18.4	22.8	120	148	36
	1 1/2"	300	38DDV4N#-12BR (12BRJ)	377	387	155	19.6	21.6	26.0	120	148	39
	1 1/2"	600	38DDV4N#-12CR (12CRJ)	397	398	155	22.8	29.8	29.2	120	148	40
	1 1/2"	900/1500	38DDV4N#-12ER (12ERJ)	415	415	180	32.3	39.3	38.7	120	148	46
	1 1/2"	2500	38DDV4N#-12FR (12FRJ)	501	504	205	45.0	52.0	52.9	120	148	92
	2"	150	38DDV4N#-16AR (16ARJ)	363	373	150	18.0	20.0	24.4	120	148	39
	2"	300	38DDV4N#-16BR (16BRJ)	381	395	165	21.2	23.2	29.1	120	148	41
	2"	600	38DDV4N#-16CR (16CRJ)	397	400	165	25.9	32.9	33.8	120	148	43
	2"	900/1500	38DDV4N#-16ER (16ERJ)	445	450	215	38.6	45.6	46.5	148	178	57
	2"	2500	38DDV4N#-16FR (16FRJ)	514	518	235	51.4	58.4	59.3	148	178	92

## 50MM V SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	2"	150	50DDV4N#-16AR (16ARJ)	340	349	150	18.0	20.0	24.4	120	148	43
	2"	300	50DDV4N#-16BR (16BRJ)	350	356	165	21.2	23.2	29.1	120	148	44
	2"	600	50DDV4N#-16CR (16CRJ)	366	369	165	25.9	32.9	33.8	120	148	47
	2"	900/1500	50DDV4N#-16ER (16ERJ)	516	519	215	38.6	45.6	46.5	148	178	97
	2"	2500	50DDV4N#-16FR (16FRJ)	543	551	235	51.4	58.4	59.3	148	178	108



# OB Series Flange x Flange Product Type

## 10MM OB SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1/2"	150	DD10VB4N#-4AR (4ARJ)	279	N/A	90	10.1	12.1	N/A	92	120	7
	1/2"	300	DD10VB4N#-4BR (4BRJ)	285	292	95	13.2	15.2	19.6	92	120	8
	1/2"	600	DD10VB4N#-4CR (4CRJ)	298	298	95	14.8	21.8	21.2	92	120	8
	1/2"	900/1500	DD10VB4N#-4ER (4ERJ)	331	331	120	22.8	29.8	29.2	92	120	10
	1/2"	2500	DD10VB4N#-4FR (4FRJ)	348	348	135	30.7	37.7	37.1	92	120	13
	3/4"	150	DD10VB4N#-6AR (6ARJ)	282	N/A	100	11.7	13.7	N/A	92	120	8
	3/4"	300	DD10VB4N#-6BR (6BRJ)	296	305	115	14.8	16.8	21.2	92	120	9
	3/4"	600	DD10VB4N#-6CR (6CRJ)	309	309	115	16.4	23.4	22.8	92	120	9
	3/4"	900/1500	DD10VB4N#-6ER (6ERJ)	337	337	130	25.9	32.9	32.3	92	120	12
	3/4"	2500	DD10VB4N#-6FR (6FRJ)	350	350	140	32.3	39.3	38.7	92	120	14
	1"	150	DD10VB4N#-8AR (8ARJ)	285	294	110	13.2	15.2	19.6	92	120	9
	1"	300	DD10VB4N#-8BR (8BRJ)	299	308	125	16.4	18.4	22.8	92	120	10
	1"	600	DD10VB4N#-8CR (8CRJ)	312	312	125	18	25.0	24.4	92	120	10
	1"	900/1500	DD10VB4N#-8ER (8ERJ)	342	342	150	29.1	36.1	35.5	92	120	14
	1"	2500	DD10VB4N#-8FR (8FRJ)	366	366	160	35.5	42.5	41.9	92	120	17
	1 1/2"	150	DD10VB4N#-12AR (12ARJ)	291	300	125	16.4	18.4	22.8	120	148	10
	1 1/2"	300	DD10VB4N#-12BR (12BRJ)	314	323	155	19.6	21.6	26.0	120	148	13
	1 1/2"	600	DD10VB4N#-12CR (12CRJ)	331	331	155	22.8	29.8	29.2	120	148	14
	1 1/2"	900/1500	DD10VB4N#-12ER (12ERJ)	365	365	180	32.3	39.3	38.7	120	148	19
	1 1/2"	2500	DD10VB4N#-12FR (12FRJ)	342	342	205	45	52.0	52.9	120	148	28
2"	150	DD10VB4N#-16AR (16ARJ)	302	311	150	18	20.0	24.4	120	148	12	
2"	300	DD10VB4N#-16BR (16BRJ)	284	293	165	21.2	23.2	29.1	120	148	13	
2"	600	DD10VB4N#-16CR (16CRJ)	303	303	165	25.9	32.9	33.8	120	148	15	
2"	900/1500	DD10VB4N#-16ER (16ERJ)	329	329	215	38.6	45.6	46.5	148	178	27	
2"	2500	DD10VB4N#-16FR (16FRJ)	354	354	235	51.4	58.4	59.3	148	178	38	

# OB Series Flange x Flange Product Type (cont'd)

## 10MM OB SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1/2"	150	13DD10VB4N#-4AR(4ARJ)	287	N/A	90	10.1	12.1	N/A	92	120	10
	1/2"	300	13DD10VB4N#-4BR(4BRJ)	293	302	95	13.2	15.2	19.6	92	120	10
	1/2"	600	13DD10VB4N#-4CR(4CRJ)	306	306	95	14.8	21.8	21.2	92	120	10
	1/2"	900/1500	13DD10VB4N#-4ER(4ERJ)	339	339	120	22.8	29.8	29.2	92	120	13
	1/2"	2500	13DD10VB4N#-4FR(4FRJ)	355	355	135	30.7	37.7	37.1	92	120	15
	3/4"	150	13DD10VB4N#-6AR(6ARJ)	290	N/A	100	11.7	13.7	N/A	92	120	10
	3/4"	300	13DD10VB4N#-6BR(6BRJ)	304	312	115	14.8	16.8	21.2	92	120	11
	3/4"	600	13DD10VB4N#-6CR(6CRJ)	317	317	115	16.4	23.4	22.8	92	120	12
	3/4"	900/1500	13DD10VB4N#-6ER(6ERJ)	345	345	130	25.9	32.9	32.3	92	120	14
	3/4"	2500	13DD10VB4N#-6FR(6FRJ)	358	358	140	32.3	39.3	38.7	92	120	16
	1"	150	13DD10VB4N#-8AR(8ARJ)	293	293	110	13.2	15.2	19.6	92	120	11
	1"	300	13DD10VB4N#-8BR(8BRJ)	306	314	125	16.4	18.4	22.8	92	120	12
	1"	600	13DD10VB4N#-8CR(8CRJ)	321	321	125	18	25	24.4	92	120	12
	1"	900/1500	13DD10VB4N#-8ER(8ERJ)	360	360	150	29.1	36.1	35.5	92	120	16
	1"	2500	13DD10VB4N#-8FR(8FRJ)	372	374	160	35.5	42.5	41.9	92	120	20
	1 1/2"	150	13DD10VB4N#-12AR(12ARJ)	300	300	125	16.4	18.4	22.8	120	148	12
	1 1/2"	300	13DD10VB4N#-12BR(12BRJ)	322	332	155	19.6	21.6	26.0	120	148	15
	1 1/2"	600	13DD10VB4N#-12CR(12CRJ)	338	338	155	22.8	29.8	29.2	120	148	16
	1 1/2"	900/1500	13DD10VB4N#-12ER(12ERJ)	374	374	180	32.3	39.3	38.7	120	148	22
	1 1/2"	2500	13DD10VB4N#-12FR(12FRJ)	397	397	205	45	52	52.9	120	148	31
2"	150	13DD10VB4N#-16AR(16ARJ)	301	301	150	18	20	24.4	120	148	14	
2"	300	13DD10VB4N#-16BR(16BRJ)	292	302	165	21.2	23.2	29.1	120	148	15	
2"	600	13DD10VB4N#-16CR(16CRJ)	311	311	165	25.9	32.9	33.8	120	148	17	
2"	900/1500	13DD10VB4N#-16ER(16ERJ)	337	337	215	38.6	45.6	46.5	148	178	29	
2"	2500	13DD10VB4N#-16FR(16FRJ)	362	362	235	51.4	58.4	59.3	148	178	40	

# OB Series Flange x Flange Product Type (cont'd)

## 19MM OB SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	3/4"	150	19DDOVB4N#-6AR (6ARJ)	304	N/A	100	11.7	13.7	18.1	92	120	11
	3/4"	300	19DDOVB4N#-6BR (6BRJ)	332	332	115	14.8	16.8	21.2	92	120	12
	3/4"	600	19DDOVB4N#-6CR (6CRJ)	334	334	115	16.4	23.4	22.8	92	120	12
	3/4"	900/1500	19DDOVB4N#-6ER (6ERJ)	366	366	130	25.9	32.9	32.3	92	120	15
	3/4"	2500	19DDOVB4N#-6FR (6FRJ)	366	359	140	32.3	39.3	38.7	92	120	17
	1"	150	19DDOVB4N#-8AR (8ARJ)	308	318	110	13.2	15.2	19.6	92	120	11
	1"	300	19DDOVB4N#-8BR (8BRJ)	324	332	125	16.4	18.4	22.8	92	120	13
	1"	600	19DDOVB4N#-8CR (8CRJ)	330	330	125	18.0	25.0	24.4	92	120	13
	1"	900/1500	19DDOVB4N#-8ER (8ERJ)	386	386	150	29.1	36.1	35.5	92	120	17
	1"	2500	19DDOVB4N#-8FR (8FRJ)	394	394	160	35.5	42.5	41.9	92	120	20
	1 1/2"	150	19DDOVB4N#-12AR (12ARJ)	334	334	125	16.4	18.4	22.8	120	148	13
	1 1/2"	300	19DDOVB4N#-12BR (12BRJ)	334	334	155	19.6	21.6	26.0	120	148	16
	1 1/2"	600	19DDOVB4N#-12CR (12CRJ)	338	338	155	22.8	29.8	29.2	120	148	16
	1 1/2"	900/1500	19DDOVB4N#-12ER (12ERJ)	386	398	180	32.3	39.3	38.7	120	148	22
	1 1/2"	2500	19DDOVB4N#-12FR (12FRJ)	352	362	205	45.0	52.0	52.9	120	148	30
	2"	150	19DDOVB4N#-16AR (16ARJ)	285	294	150	18.0	20.0	24.4	120	148	14
	2"	300	19DDOVB4N#-16BR (16BRJ)	292	304	165	21.2	23.2	29.1	120	148	16
	2"	600	19DDOVB4N#-16CR (16CRJ)	312	314	165	25.9	32.9	33.8	120	148	18
	2"	900/1500	19DDOVB4N#-16ER (16ERJ)	336	339	215	38.6	45.6	46.5	148	178	30
	2"	2500	19DDOVB4N#-16FR (16FRJ)	366	362	235	51.4	58.4	59.3	148	178	41

## 25MM OB SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A (RF mm)	A (RTJ mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1"	150	25DDOVB4N#-8AR (8ARJ)	296	306	110	13.2	15.2	19.6	92	120	12
	1"	300	25DDOVB4N#-8BR (8BRJ)	316	316	125	16.4	18.4	22.8	92	120	13
	1"	600	25DDOVB4N#-8CR (8CRJ)	324	324	125	18	25.0	24.4	92	120	14
	1"	900/1500	25DDOVB4N#-8ER (8ERJ)	356	356	150	29.1	36.1	35.5	92	120	18
	1"	2500	25DDOVB4N#-8FR (8FRJ)	396	396	160	35.5	42.5	41.9	92	120	25
	1 1/2"	150	25DDOVB4N#-12AR (12ARJ)	300	310	125	16.4	18.4	22.8	120	148	14
	1 1/2"	300	25DDOVB4N#-12BR (12BRJ)	335	335	155	19.6	21.6	26.0	120	148	16
	1 1/2"	600	25DDOVB4N#-12CR (12CRJ)	351	351	155	22.8	29.8	29.2	120	148	17
	1 1/2"	900/1500	25DDOVB4N#-12ER (12ERJ)	386	386	180	32.3	39.3	38.7	120	148	22
	1 1/2"	2500	25DDOVB4N#-12FR (12FRJ)	452	440	205	45	52.0	52.9	120	148	36
	2"	150	25DDOVB4N#-16AR (16ARJ)	292	302	150	18	20.0	24.4	120	148	15
	2"	300	25DDOVB4N#-16BR (16BRJ)	284	296	165	21.2	23.2	29.1	120	148	17
	2"	600	25DDOVB4N#-16CR (16CRJ)	296	300	165	25.9	32.9	33.8	120	148	18
	2"	900/1500	25DDOVB4N#-16ER (16ERJ)	351	354	215	38.6	45.6	46.5	148	178	23
	2"	2500	25DDOVB4N#-16FR (16FRJ)	452	383	235	51.4	58.4	59.3	148	178	47

PRODUCT DATA TABLES

# OB Series Flange x Flange Product Type (cont'd)

## 38MM OB SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1 1/2"	150	38DDOVB4N#-12AR (12ARJ)	347	357	125	16.4	18.4	22.8	120	148	36
	1 1/2"	300	38DDOVB4N#-12BR (12BRJ)	377	387	155	19.6	21.6	26.0	120	148	39
	1 1/2"	600	38DDOVB4N#-12CR (12CRJ)	397	398	155	22.8	29.8	29.2	120	148	40
	1 1/2"	900/1500	38DDOVB4N#-12ER (12ERJ)	415	415	180	32.3	39.3	38.7	120	148	46
	1 1/2"	2500	38DDOVB4N#-12FR (12FRJ)	501	504	205	45	52.0	52.9	120	148	92
	2"	150	38DDOVB4N#-16AR (16ARJ)	363	373	150	18	20.0	24.4	120	148	39
	2"	300	38DDOVB4N#-16BR (16BRJ)	381	395	165	21.2	23.2	29.1	120	148	41
	2"	600	38DDOVB4N#-16CR (16CRJ)	397	400	165	25.9	32.9	33.8	120	148	43
	2"	900/1500	38DDOVB4N#-16ER (16ERJ)	445	450	215	38.6	45.6	46.5	148	178	57
	2"	2500	38DDOVB4N#-16FR (16FRJ)	514	518	235	51.4	58.4	59.3	148	178	92

## 50MM OB SERIES THREE PIECE RF/RTJ FLANGE X RF/RTJ FLANGE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	2"	150	50DDOVB4N#-16AR (16ARJ)	340	349	150	18.0	20.0	24.4	120	148	43
	2"	300	50DDOVB4N#-16BR (16BRJ)	350	356	165	21.2	23.2	29.1	120	148	44
	2"	600	50DDOVB4N#-16CR (16CRJ)	366	369	165	25.9	32.9	33.8	120	148	47
	2"	900/1500	50DDOVB4N#-16ER (16ERJ)	516	519	215	38.6	45.6	46.5	148	178	97
	2"	2500	50DDOVB4N#-16FR (16FRJ)	543	551	235	51.4	58.4	59.3	148	178	108

# V Series Flange x Screw Product Type

## 10MM V SERIES THREE PIECE RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	F (mm)	Nominal weight
Metric / mm	1/2"	150	D1VB84N#-4AR (4AJ)	279	N/A	90	10.1	12.1	N/A	92	120	7
	1/2"	300	D1VB84N#-4BR (4BJ)	285	292	95	13.2	15.2	19.6	92	120	8
	1/2"	600	D1VB84N#-4CR (4CJ)	298	298	95	14.8	21.8	21.2	92	120	8
	1/2"	900/1500	D1VB84N#-4ER (4EJ)	331	331	120	22.8	29.8	29.2	92	120	10
	1/2"	2500	D1VB84N#-4FR (4FJ)	348	348	135	30.7	37.7	N/A	92	120	13
	3/4"	150	D1VB84N#-6AR (6AJ)	282	N/A	100	11.7	13.7	18.1	92	120	8
	3/4"	300	D1VB84N#-6BR (6BJ)	296	305	115	14.8	16.8	21.2	92	120	9
	3/4"	600	D1VB84N#-6CR (6CJ)	309	309	115	16.4	23.4	22.8	92	120	9
	3/4"	900/1500	D1VB84N#-6ER (6EJ)	337	337	130	25.9	32.9	32.3	92	120	12
	3/4"	2500	D1VB84N#-6FR (6FJ)	350	350	140	32.3	39.3	38.7	92	120	14
	1"	150	D1VB84N#-8AR (8AJ)	285	294	110	13.2	15.2	19.6	92	120	8
	1"	300	D1VB84N#-8BR (8BJ)	299	308	125	16.4	18.4	22.8	92	120	10
	1"	600	D1VB84N#-8CR (8CJ)	312	312	125	18.0	25.0	24.4	92	120	10
	1"	900/1500	D1VB84N#-8ER (8EJ)	342	342	150	29.1	36.1	35.5	92	120	14
	1"	2500	D1VB84N#-8FR (8FJ)	366	366	160	35.5	42.5	41.9	92	120	17
	1 1/2"	150	D1VB84N#-12AR (12AJ)	291	300	125	16.4	18.4	22.8	120	148	10
	1 1/2"	300	D1VB84N#-12BR (12BJ)	314	323	155	19.6	21.6	26.0	120	148	12
	1 1/2"	600	D1VB84N#-12CR (12CJ)	331	331	155	22.8	29.8	29.2	120	148	14
	1 1/2"	900/1500	D1VB84N#-12ER (12EJ)	365	365	180	32.3	39.3	38.7	120	148	19
	1 1/2"	2500	D1VB84N#-12FR (12FJ)	342	342	205	45.0	52.0	52.9	148	178	28
2"	150	D1VB84N#-16AR (16AJ)	302	311	150	18.0	20.0	24.4	120	148	12	
2"	300	D1VB84N#-16BR (16BJ)	284	293	165	21.2	23.2	29.1	120	148	13	
2"	600	D1VB84N#-16CR (16CJ)	303	303	165	25.9	32.9	33.8	120	148	15	
2"	900/1500	D1VB84N#-16ER (16EJ)	329	329	215	38.6	45.6	46.5	148	178	27	
2"	2500	D1VB84N#-16FR (16FJ)	354	354	235	51.4	58.4	59.3	148	178	38	

# V Series Flange x Screw Product Type (cont'd)

## 13MM V SERIES THREE PIECE RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	Nominal weight
Metric / mm	1/2"	150	13D1VB84N#-4AR (4AJ)	287	N/A	90	10.1	12.1	N/A	91	10
	1/2"	300	13D1VB84N#-4BR (4BJ)	293	302	95	13.2	15.2	19.6	91	10
	1/2"	600	13D1VB84N#-4CR (4CJ)	306	306	95	14.8	21.8	21.2	91	10
	1/2"	900/1500	13D1VB84N#-4ER (4EJ)	339	339	120	22.8	29.8	29.2	126	13
	1/2"	2500	13D1VB84N#-4FR (4FJ)	355	355	135	30.7	37.7	37.1	126	15
	3/4"	150	13D1VB84N#-6AR (6AJ)	290	N/A	100	11.7	13.7	N/A	91	10
	3/4"	300	13D1VB84N#-6BR (6BJ)	304	312	115	14.8	16.8	21.2	126	11
	3/4"	600	13D1VB84N#-6CR (6CJ)	317	317	115	16.4	23.4	22.8	126	11
	3/4"	900/1500	13D1VB84N#-6ER (6EJ)	345	345	130	25.9	32.9	32.3	126	14
	3/4"	2500	13D1VB84N#-6FR (6FJ)	358	358	140	32.3	39.3	38.7	126	16
	1"	150	13D1VB84N#-8AR (8AJ)	293	293	110	13.2	15.2	19.6	126	11
	1"	300	13D1VB84N#-8BR (8BJ)	306	314	125	16.4	18.4	22.8	126	12
	1"	600	13D1VB84N#-8CR (8CJ)	321	321	125	18.0	25	24.4	126	12
	1"	900/1500	13D1VB84N#-8ER (8EJ)	360	360	150	29.1	36.1	35.5	126	16
	1"	2500	13D1VB84N#-8FR (8FJ)	372	372	160	35.5	42.5	41.9	126	19
	1 1/2"	150	13D1VB84N#-12AR (12AJ)	300	300	125	16.4	18.4	22.8	126	12
	1 1/2"	300	13D1VB84N#-12BR (12BJ)	322	332	155	19.6	21.6	26.0	126	15
	1 1/2"	600	13D1VB84N#-12CR (12CJ)	338	338	155	22.8	29.8	29.2	126	16
	1 1/2"	900/1500	13D1VB84N#-12ER (12EJ)	374	374	180	32.3	39.3	38.7	161	22
	1 1/2"	2500	13D1VB84N#-12FR (12FJ)	397	397	205	45.0	52	52.9	161	31
2"	150	13D1VB84N#-16AR (16AJ)	301	301	150	18.0	20	24.4	126	14	
2"	300	13D1VB84N#-16BR (16BJ)	282	302	165	21.2	23.2	29.1	126	15	
2"	600	13D1VB84N#-16CR (16CJ)	311	311	165	25.9	32.9	33.8	126	17	
2"	900/1500	13D1VB84N#-16ER (16EJ)	337	337	215	38.6	45.6	46.5	161	29	
2"	2500	13D1VB84N#-16FR (16FJ)	362	362	235	51.4	58.4	59.3	161	40	

# V Series Flange x Screw Product Type (cont'd)

## 19MM V SERIES THREE PIECE RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	Nominal weight
Metric / mm	3/4"	150	19DV4B8N#-4AR (4AJ)	304	N/A	100	11.7	13.7	N/A	134	11
	3/4"	300	19DV4B8N#-6BR (6BJ)	332	332	115	14.8	16.8	21.2	134	12
	3/4"	600	19DVB84N#-6CR (6CJ)	334	334	115	16.4	23.4	22.8	134	12
	3/4"	900/1500	19DVB84N#-6ER (6EJ)	366	366	130	25.9	32.9	32.3	134	15
	3/4"	2500	19DVB84N#-6FR (6FJ)	366	359	140	32.3	39.3	38.7	169	17
	1"	150	19DVB84N#-8AR (8AJ)	308	318	110	13.2	15.2	19.6	134	11
	1"	300	19DVB84N#-8BR (8BJ)	324	332	125	16.4	18.4	22.8	169	13
	1"	600	19DVB84N#-8CR (8CJ)	330	330	125	18.0	25.0	24.4	169	13
	1"	900/1500	19DVB84N#-8ER (8EJ)	386	386	150	29.1	36.1	35.5	169	18
	1"	2500	19DVB84N#-8FR (8FJ)	394	394	160	35.5	42.5	41.9	169	20
	1 1/2"	150	19DVB84N#-12AR (12AJ)	334	334	125	16.4	18.4	22.8	134	13
	1 1/2"	300	19DVB84N#-12BR (12BJ)	334	334	155	19.6	21.6	26.0	169	16
	1 1/2"	600	19DVB84N#-12CR (12CJ)	338	338	155	22.8	29.8	29.2	169	16
	1 1/2"	900/1500	19DVB84N#-12ER (12EJ)	386	398	180	32.3	39.3	38.7	169	22
	1 1/2"	2500	19DVB84N#-12FR (12FJ)	352	362	205	45.0	52.0	52.9	204	30
	2"	150	19DV84N#-16AR (16AJ)	285	294	150	18.0	20.0	24.4	169	14
	2"	300	19DVB84N#-16BR (16BJ)	292	304	165	21.2	23.2	29.1	169	16
	2"	600	19DVB84N#-16CR (16CJ)	312	314	165	25.9	32.9	33.8	169	18
	2"	900/1500	19DVB84N#-16ER (16EJ)	336	339	215	38.6	45.6	46.5	204	30
	2"	2500	19DVB84N#-16FR (16FJ)	366	362	235	51.4	58.4	59.3	204	41

## 25MM V SERIES THREE PIECE RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	Nominal weight
Metric / mm	1"	150	25DVB84N#-8AR (8ARJ)	296	306	110	13.2	15.2	19.6	143	12
	1"	300	25DVB84N#-8BR (8BRJ)	316	316	125	16.4	18.4	22.8	143	13
	1"	600	25DVB84N#-8CR (8CRJ)	324	324	125	18.0	25.0	24.4	143	14
	1"	900/1500	25DVB84N#-8ER (8ERJ)	356	356	150	29.1	36.1	35.5	147	18
	1"	2500	25DVB84N#-8FR (8FRJ)	396	396	160	35.5	42.5	41.9	147	25
	1 1/2"	150	25DVB84N#-12AR (12ARJ)	300	310	125	16.4	18.4	22.8	143	14
	1 1/2"	300	25DVB84N#-12BR (12BRJ)	335	335	155	19.6	21.6	26.0	143	16
	1 1/2"	600	25DVB84N#-12CR (12CRJ)	351	351	155	22.8	29.8	29.2	143	17
	1 1/2"	900/1500	25DVB84N#-12ER (12ERJ)	386	386	180	32.3	39.3	38.7	147	22
	1 1/2"	2500	25DVB84N#-12FR (12FRJ)	452	440	205	45.0	52.0	52.9	147	36
	2"	150	25DV84N#-16AR (16ARJ)	292	302	150	18.0	20.0	24.4	143	15
	2"	300	25DVB84N#-16BR (16BRJ)	284	296	165	21.2	23.2	29.1	143	17
	2"	600	25DVB84N#-16CR (16CRJ)	296	300	165	25.9	32.9	33.8	143	19
	2"	900/1500	25DVB84N#-16ER (16ERJ)	351	354	215	38.6	45.6	46.5	147	23
	2"	2500	25DVB84N#-16FR (16FRJ)	382	383	235	51.4	58.4	59.3	197	46

# V Series Flange x Screw Product Type (cont'd)

## 38MM V SERIES THREE PIECE RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	Nominal weight
Metric / mm	1 1/2"	150	38DDV4N#-12AR (12ARJ)	347	357	125	16.4	18.4	22.8	120	36.1
	1 1/2"	300	38DDV4N#-12BR (12BRJ)	377	387	155	19.6	21.6	26.0	120	39.2
	1 1/2"	600	38DDV4N#-12CR (12CRJ)	397	398	155	22.8	29.8	29.2	120	40.1
	1 1/2"	900/1500	38DDV4N#-12ER (12ERJ)	415	415	180	32.3	39.3	38.7	120	45.9
	1 1/2"	2500	38DDV4N#-12FR (12FRJ)	501	504	205	45.0	52.0	52.9	120	92.0
	2"	150	38DDV4N#-16AR (16ARJ)	363	373	150	18.0	20.0	24.4	120	39.0
	2"	300	38DDV4N#-16BR (16BRJ)	381	395	165	21.2	23.2	29.1	120	41.3
	2"	600	38DDV4N#-16CR (16CRJ)	397	400	165	25.9	32.9	33.8	120	42.6
	2"	900/1500	38DDV4N#-16ER (16ERJ)	445	450	215	38.6	45.6	46.5	148	57.0
	2"	2500	38DDV4N#-16FR (16FRJ)	514	518	235	51.4	58.4	59.3	148	92.1

## 50MM V SERIES THREE PIECE RF/RTJ FLANGE X 1/2" NPT FEMALE

	Size	Rating	Valve Part No.	A RF (mm)	A RTJ (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	E (mm)	Nominal weight
Metric / mm	2"	150	50DDV4N#-16AR (16ARJ)	340	349	150	18.0	20.0	24.4	120	43
	2"	300	50DDV4N#-16BR (16BRJ)	350	356	165	21.2	23.2	29.1	120	44
	2"	600	50DDV4N#-16CR (16CRJ)	366	369	165	25.9	32.9	33.8	120	47
	2"	900/1500	50DDV4N#-16ER (16ERJ)	516	519	215	38.6	45.6	46.5	148	97
	2"	2500	50DDV4N#-16FR (16FRJ)	543	551	235	51.4	58.4	59.3	148	108

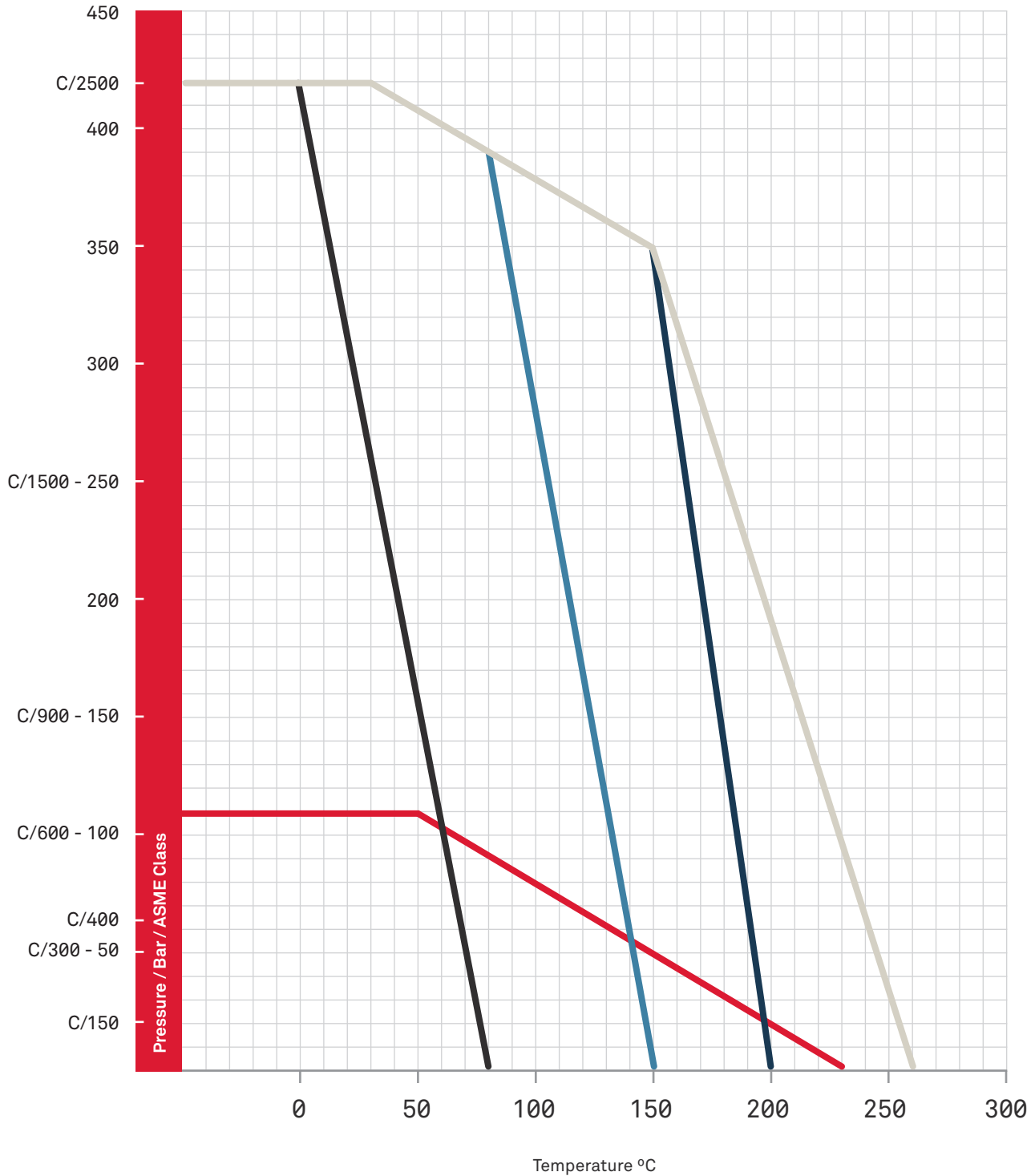


# TB Twin Blok II Product Type

## 19MM TB SERIES - RF/RTJ FLANGE X RF/RTJ FLANGE

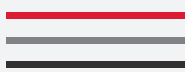
	Size	Rating	Valve Part No.	A (mm)	ØB (mm)	C (mm)	D RF (mm)	D RTJ (mm)	Nominal weight
Metric / mm	3/4"	150	19TBDV4N#-6AR (6AJ)	28	100	11.7	13.7	18.1	3
	3/4"	300	19TBDV4N#-6BR (6BJ)	28	115	14.8	16.8	21.2	4
	3/4"	600	19TBDV4N#-6CR (6CJ)	28	115	16.4	23.4	22.8	4
	3/4"	900/1500	19TBDV4N#-6ER (6EJ)	28	130	25.9	32.9	32.3	5
	3/4"	2500	19TBDV4N#-6FR (6FJ)	28	140	32.3	39.3	38.7	6
	1"	150	19TBDV4N#-8AR (8AJ)	28	110	13.2	15.2	19.6	4
	1"	300	19TBDV4N#-8BR (8BJ)	28	125	16.4	18.4	22.8	4
	1"	600	19TBDV4N#-8CR (8CJ)	28	125	18.0	25.0	24.4	4
	1"	900/1500	19TBDV4N#-8ER (8EJ)	28	150	29.1	36.1	35.5	6
	1"	2500	19TBDV4N#-8FR (8FJ)	28	160	35.5	42.5	41.9	6
	1 1/2"	150	19TBDV4N#-12AR (12AJ)	28	125	16.4	18.4	22.8	5
	1 1/2"	300	19TBDV4N#-12BR (12BJ)	28	155	19.6	21.6	26.0	6
	1 1/2"	600	19TBDV4N#-12CR (12CJ)	28	155	22.8	29.8	29.2	6
	1 1/2"	900/1500	19TBDV4N#-12ER (12EJ)	28	180	32.3	39.3	38.7	9
	1 1/2"	2500	19TBDV4N#-12FR (12FJ)	28	205	45.0	52.0	52.9	13
	2"	150	19TBDV4N#-16AR (16AJ)	28	150	18.0	20.0	24.4	5
	2"	300	19TBDV4N#-16BR (16BJ)	28	165	21.2	23.2	29.1	6
	2"	600	19TBDV4N#-16CR (16CJ)	28	165	25.9	32.9	33.8	7
	2"	900/1500	19TBDV4N#-16ER (16EJ)	28	215	38.6	45.6	46.5	13
	2"	2500	19TBDV4N#-16FR (16FJ)	28	235	51.4	58.4	59.3	18

# Pressure vs Temperature Graph

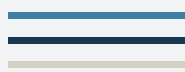


**KEY**

Delrin  
PTFE  
PVDF

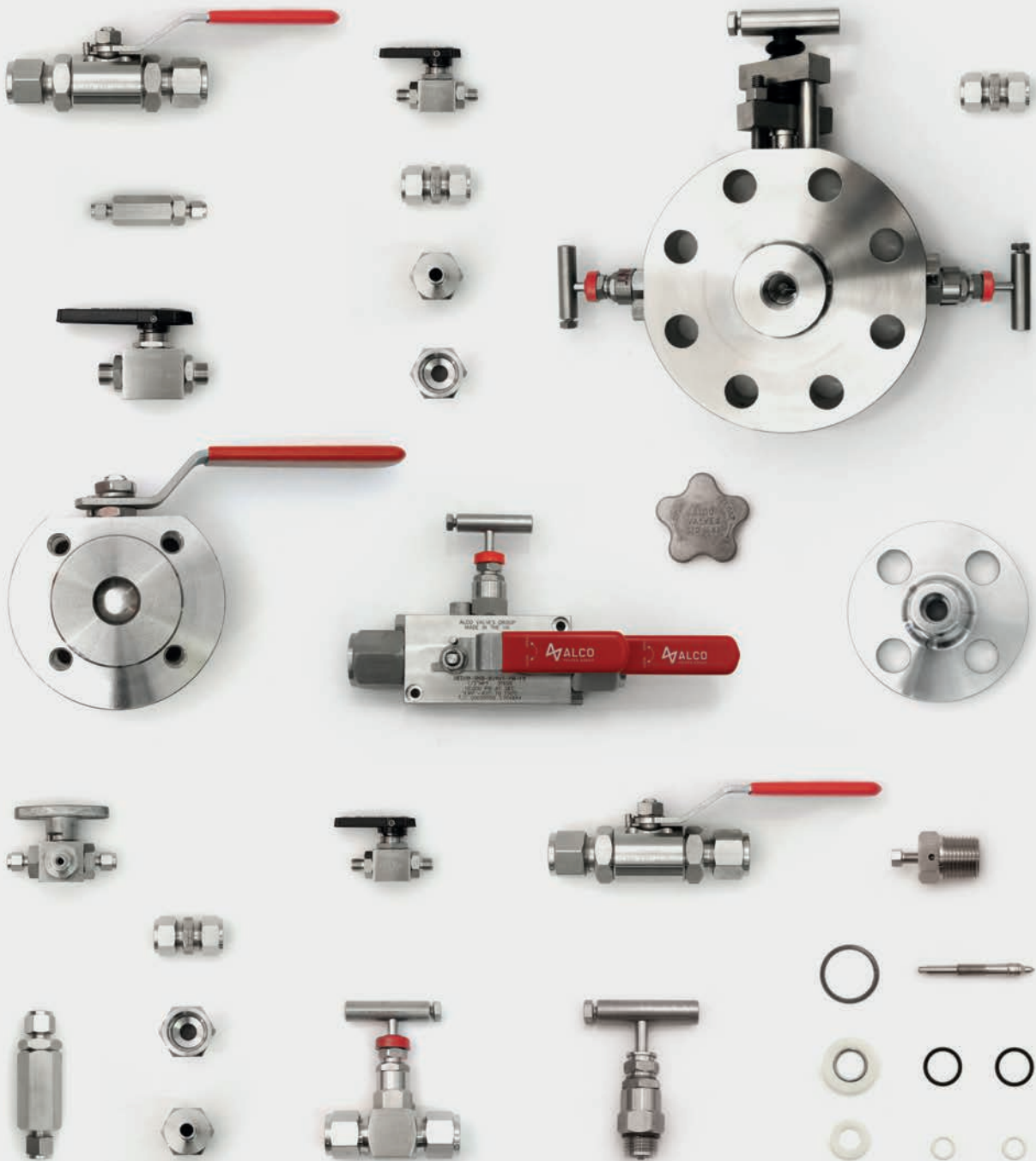


Devlon  
PEEK  
PEEK Compound 2



**O Ring Temperature Limitation Notes**

HNBR 90 O Ring -40°C to +150°C  
Endura V91A O Ring -46°C to +225°C



## ALCO VALVES APPROVED

# Accessories

The Alco Valves Group's range of approved accessories ensure that the fittings offer lasting optimum performance in the field. By installing genuine Alco Valves Group parts, customers can be assured that products are restored to the same exacting standards as were originally purchased.



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For further information please contact:  
Alco Valves Group Ltd  
Gooder Lane, Brighouse HD6 1HB United Kingdom  
Phone +44 (0) 1484 710 511 Email [uk@alco-valves.co.uk](mailto:uk@alco-valves.co.uk)

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