



API 6D & 6A Trunnion Mounted Side Entry, Welded Body, & Top Entry Ball Valves



Experience In Motion



Contents

Profile 2

Product range 3 – 6

Manufacturing capabilities 7

Engineered solutions 8

Machinery and equipment 9

Trunnion-mounted ball valve features10 – 17

Bolted body side-entry ball valve 6" and larger18

Bolted body side-entry ball valve 4" and smaller19

Welded body ball valve 20

Top-entry ball valve 21

Dimensions and weights 22 – 67

Photos 68 – 71

Engineering data 72 – 73

Material specifications 73 – 74

Spare parts 75 – 76

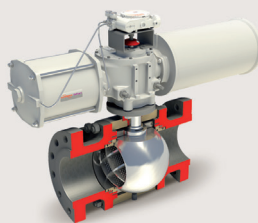


Product range

Core products



API 6D/6A
Side Entry (Up to 64")



Trunnion Mounted
Control Ball Valve



API 6D/6A
Top Entry (Up to 56")



API 6D/6A
Welded Body (Up to 64")

TRUNNION MOUNTED BALLVALVES

API 6D & 6A

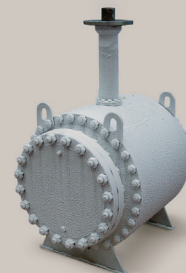
Sizes: 1" - 64"

Pressure class:

150# - 2500#

API 2000 - API 15000

Special Applications



Cryogenic



Subsea

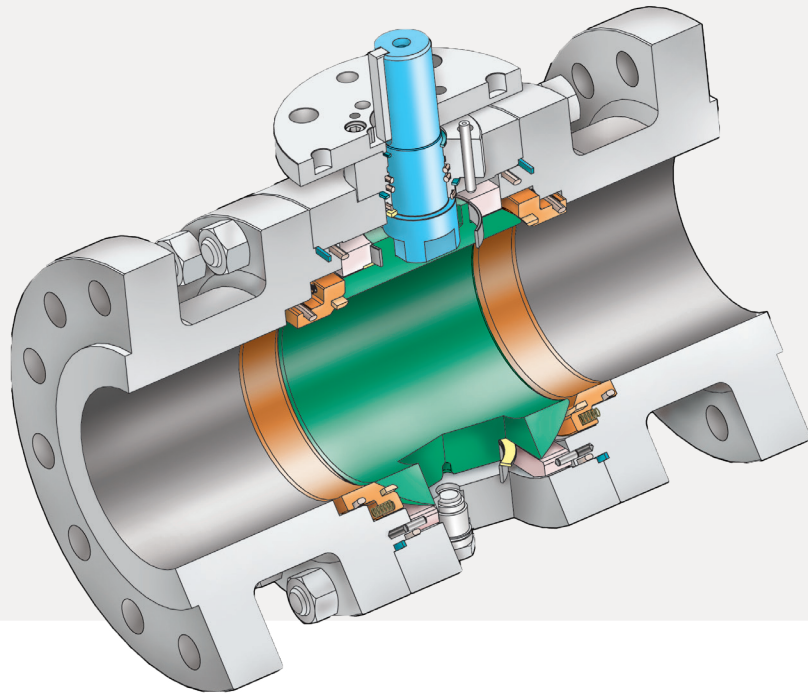


Double Block & Bleed

API 6D & 6A Trunnion Mounted Side Entry,
Welded Body, & Top Entry Ball Valves

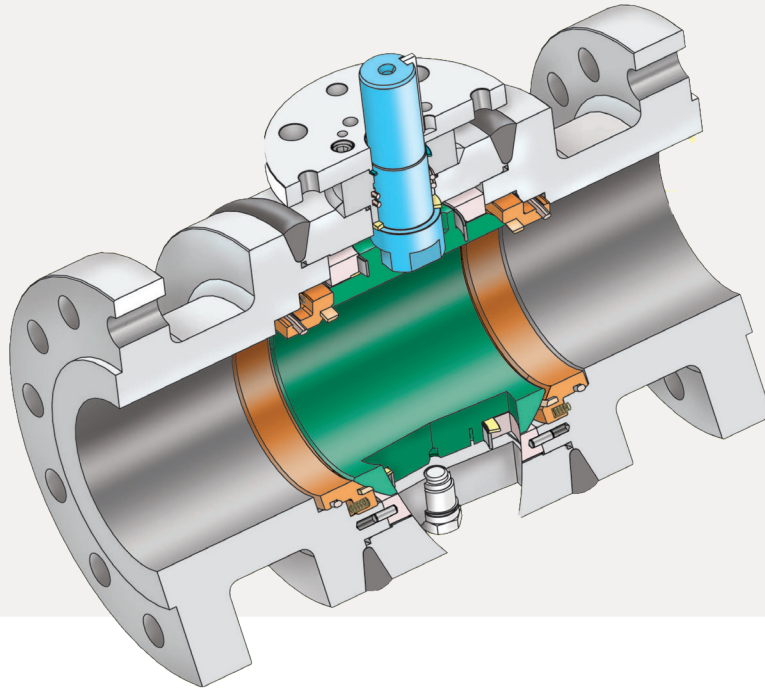
Side-Entry

The Side-Entry design is the most popular.



Service	API 6D				API 6A			
	Size (in/mm) – Pressure Range				Size (in/mm) – Pressure Range			
	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600
SIDE ENTRY - MOD. VB2/VB3								
Standard -29°C to 220°C / -20°F to 428°F	1" - 64" 25 - 1600	1" - 56" 25 - 1400	1" - 42" 25 - 1050	1" - 24" 25 - 600	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280
Low temperature -46°C / -50°F	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600
Cryogenic -47°C to -196°C / -52°F to -320°F	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600
Sub sea	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600
Underground	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600
High temperature Above 220°C / 428°F	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600	1" - 24" 25 - 600

Welded body
No leak path through
the body.

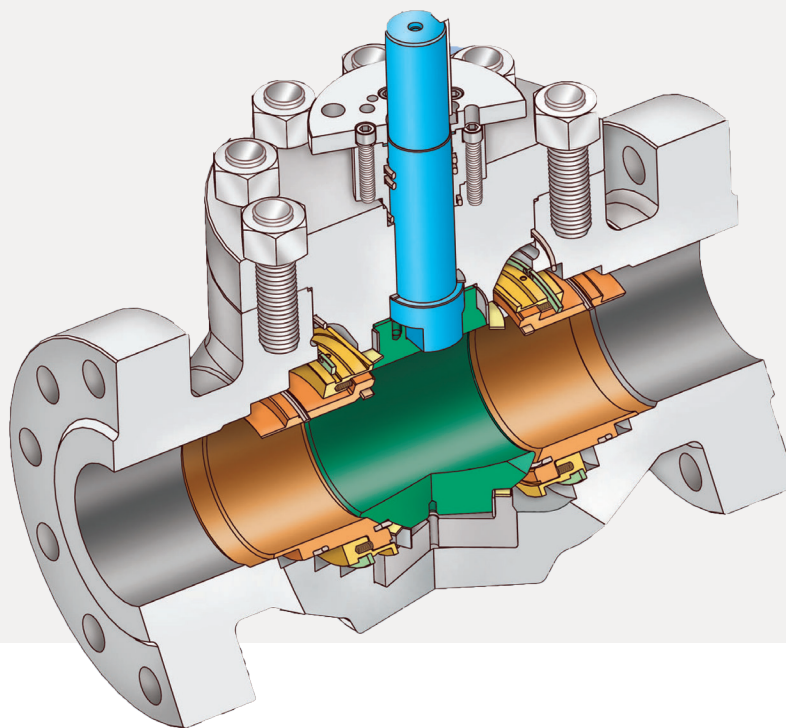


Service	API 6D			
	Size (in/mm) – Pressure Range			
	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600
WELDED BODY - MOD. VW1				
Standard -29°C to 220°C / -20°F to 428°F	2" - 64" 50 - 1600	2" - 56" 50 - 1400	2" - 42" 50 - 1050	(1)
Low temperature -46°C / -50°F	2" - 64" 50 - 1600	2" - 56" 50 - 1400	2" - 42" 50 - 1050	(1)
Sub sea	2" - 64" 50 - 1600	2" - 56" 50 - 1400	2" - 42" 50 - 1050	(1)
Underground	2" - 64" 50 - 1600	2" - 56" 50 - 1400	2" - 42" 50 - 1050	(1)

(1) - Please consult manufacturer. For higher sizes and/or higher pressure ratings, please consult manufacturer

Top-entry

Design for easy in-line maintenance.



Service	API 6D				API 6A			
	Size (in/mm) – Pressure Range				Size (in/mm) – Pressure Range			
	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600	ASME 150 - 600
TOP ENTRY - MOD. VT1								
Standard -29°C to 220°C / -20°F to 428°F	2" - 64" 50 - 1600	2" - 56" 50 - 1400	2" - 42" 50 - 1050	2" - 24" 50 - 600	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280
Low temperature -46°C / -50°F	2" - 64" 50 - 1600	2" - 56" 50 - 1400	2" - 42" 50 - 1050	2" - 24" 50 - 600	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280
Cryogenic -47°C to -196°C / -52°F to -320°F	2" - 36" 50 - 900	2" - 36" 50 - 900	2" - 24" 50 - 600	2" - 12" 50 - 300	(1)	(1)	(1)	(1)
Sub sea	2" - 64" 50 - 1600	2" - 56" 50 - 1400	2" - 42" 50 - 1050	2" - 24" 50 - 600	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280
Underground	2" - 64" 50 - 1600	2" - 56" 50 - 1400	2" - 42" 50 - 1050	2" - 24" 50 - 600	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280
High temperature Above 220°C / 428°F	2" - 36" 50 - 900	2" - 36" 50 - 900	2" - 24" 50 - 600	2" - 12" 50 - 300	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280	1" - 11" 25 - 280

(1) - Please consult manufacturer. For higher sizes and/or higher pressure ratings, please consult manufacturer

Manufacturing capabilities

We are a world leader in industrial valve manufacturing with a group of professional engineers with long standing experience in ball valve design and manufacturing.

Contents

Flowserve's R&D facilities provide the company with extensive testing capabilities such as qualification tests to determine reliability and service life under critical operating conditions and pressure testing in accordance with the ASME code as well as the other industry standards (see page 32 for details).

In-house capabilities

We have a machining and welding shop in house.

The welding facility is equipped with hi-tech SAW robots operated by fully qualified welders.

The NDT examinations of the weld bevels and beams are carried out by our qualified QC personnel using our own ultrasonic, magnetic particle, and dye penetrant equipment.

Certification and approvals

The quality program is fully compliant with the industry's most stringent standards.

Inventory of finished components

Flowserve facilities have inventory of finished components stored in our workshop facility that are identified with a code number. The storage area will keep expanding along with our company's growth.



In-house testing rigs and facilities



In-house testing facilities for valves up to 1600 mm (64")

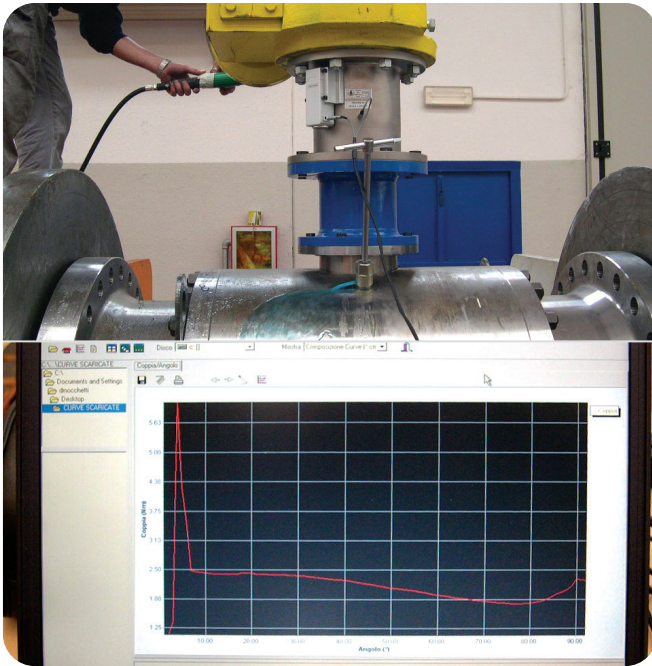
**API 6D & 6A Trunnion Mounted Side Entry,
Welded Body, & Top Entry Ball Valves**

Engineered solutions

Flowserve has a strong Engineering Design Group with extensive experience in critical applications and hands-on expertise using advanced software and technology that meet the most demanding performance requirements. Our R&D and testing facilities enable us to run the most comprehensive testing programs and accommodate valves up to 64" (1600 mm) in diameter and 40 tons in weight. In addition, given our strong relationships with major university and testing laboratories, we're well positioned to handle any extremely specialized tests – such as the hyperbaric test for sub-sea valves – that cannot be done in house.



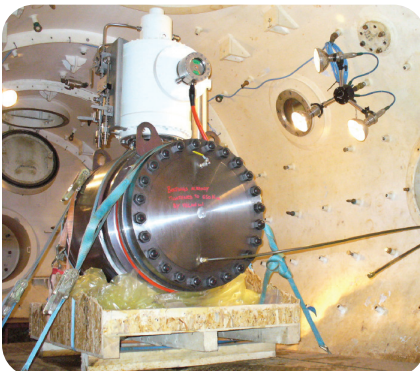
Cryogenic testing on a 16" (400 mm) Class 1500 Top Entry Ball Valve



Torque measuring device with computerized results.



Hydraulic Shell & Seat Test on a 18" (450 mm) Class 2500 Uprated valve



Hyperbaric testing through external subcontractor

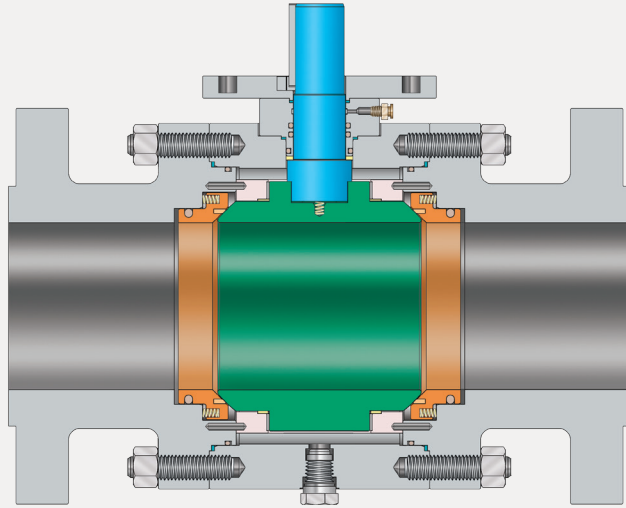


High temperature valve testing



High Pressure System for Gas Testing

Standard trunnion-mounted ball valves offer increased value by incorporating advanced design features.



Trunnion-mounted ball valve design features

1 Independent ball and stem

The ball and stem are independent to minimize the effect of the side thrust generated by the pressure acting on the ball.

2 Trunnion-mounted ball

The ball is fixed and the seat rings are floating, free to move along the valve axis.

Side load generated by the pressure acting on the ball is absorbed by bearings.

At low pressure, the seat sealing action is achieved by the thrust of the springs acting on the seat rings.

As the pressure increases, the fluid pressure pushes the seat rings against the ball.

3 Anti-blowout stem

Stem is retained by the stem cover (other designs available on request). stringent standards.

4 Anti-static design

The electrical continuity between all the metallic components is guaranteed and certified.

5 Floating self-relieving seat rings

Two independent floating seat rings assure the bi-directional tightness of the valve. The seats are carefully designed to

minimize the torque required to operate the valves without losing sealing power, which is assured from zero differential pressure to the valve's maximum rated pressure.

Self-relieving seats are supplied as a standard feature.

Double piston or combination seats (self-relieving/ upstream, double piston/down-stream) can be supplied upon request.

6 Emergency sealant injection

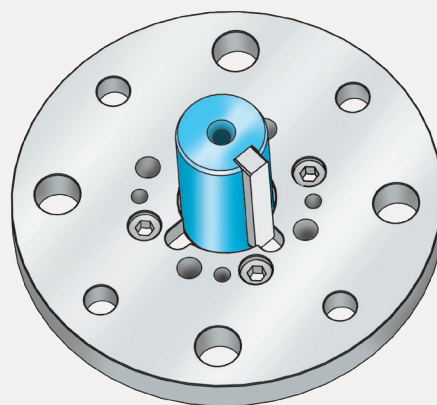
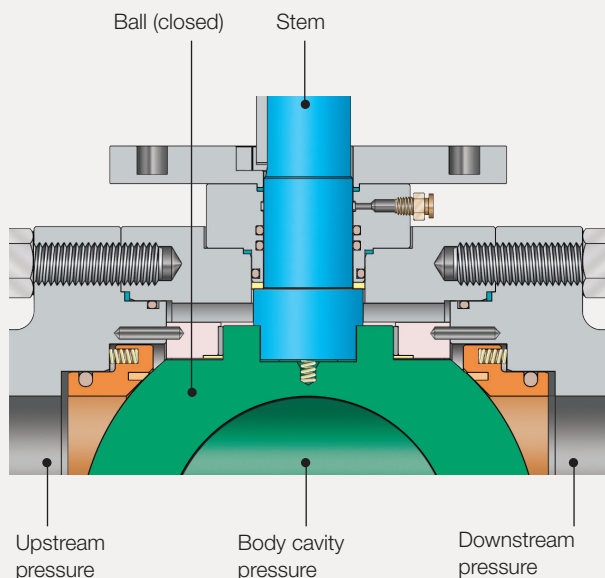
Each valve is supplied complete with emergency sealant injection feature located between the upper

O-rings and the graphite gasket. An emergency sealant injection feature on seats is available upon request only, for 6" full port and larger.

Emergency grease injection features are not recommended on low-and high-temperature valves.

Low emission valves

Accurate machining of stem and bonnet sealing surfaces ensures compliance with the most severe pollution-control regulations.



Ball seat alignment

Mechanical stops ensure control over ball rotation.

Double Block and Bleed

All trunnion-mounted ball valves are designed and manufactured to seal off both seats at the same time and allow bleeding of the entrapped cavity pressure (DBB) with the ball in the closed position to verify that the seats are sealing properly.

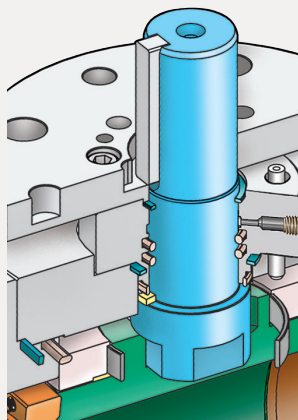
Both seats hold their respective pressures independent of the body cavity pressure. The double block and bleed feature makes it possible to do such things as flush the valve under pressure and verify that the seats are sealing properly.

Stem Sealing

Stem sealing is ensured by two o-rings, while the top graphite gasket ensures fire resistance.

The graphite gasket can be replaced while the valve is under pressure, provided that the ball is in the fully closed position with the body cavity vented.

With no pressure in line, it is also possible to remove the gland plate for replacement of the two o-rings.



Body Sealing

The double sealing action of O-rings and graphite gaskets in all the static joints of the body components ensures zero leakage and the Fire Safe feature.

Extended Bonnet

Valve designs are available with extended bonnets for applications in extreme temperature service.

Extended bonnets are recommended for service at temperatures below -50°C (-58°F) or above 220°C (428°F).



Soft-seated valves (primary metal, secondary soft)

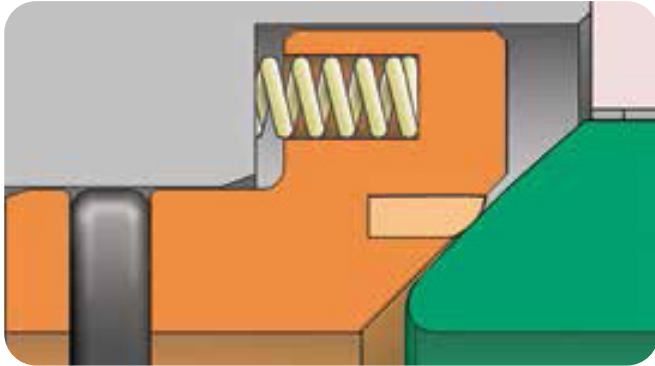


Figure 1 – Soft seat with thermoplastic insert

Metal-seated valves

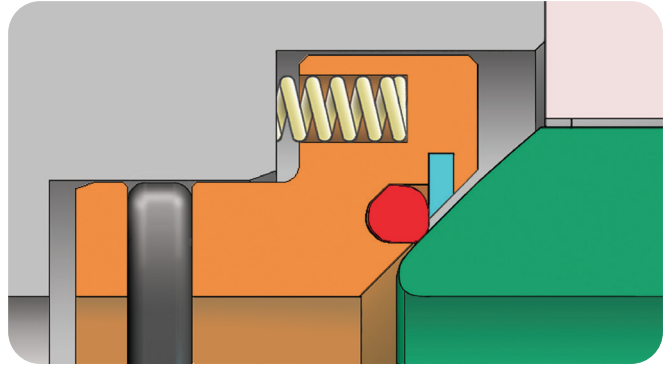


Figure 2 – Soft seat with elastomer (Primary metal secondary soft)

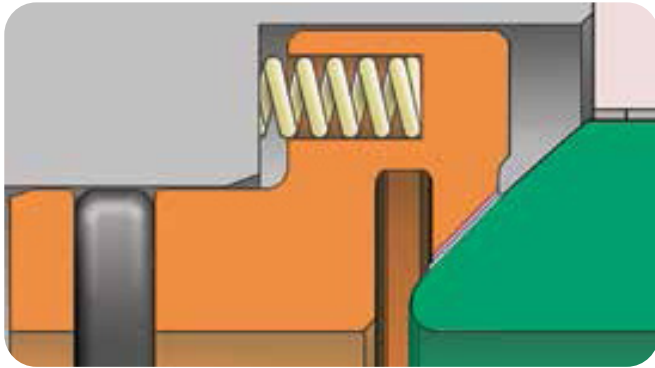
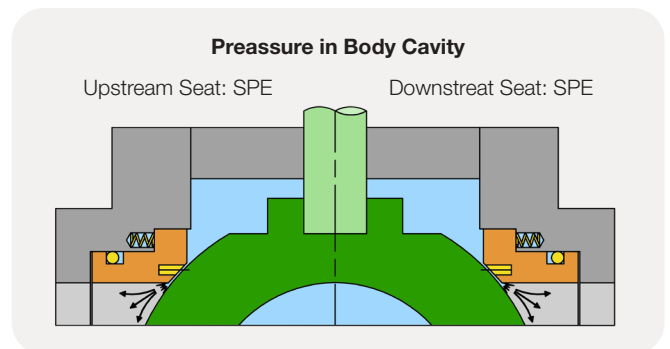
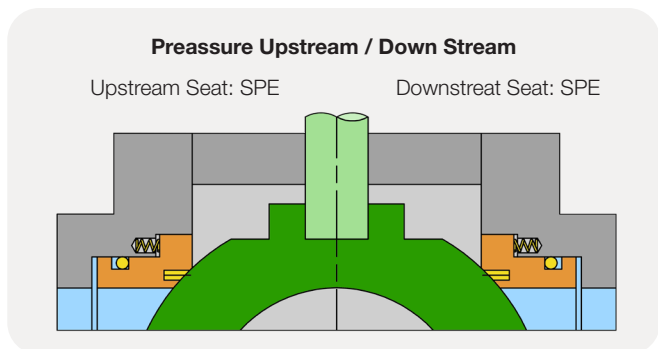


Figure 3 – Metal to metal seat

In standard services, soft seats are used. The soft sealing between the seats and the ball is obtained with a thermoplastic insert (figure 1) or an elastomeric o-ring (figure 2). While the thermoplastic design (figure 1) is a fully soft contact, the elastomeric design (figure 2) grants a primary metal secondary soft seal.

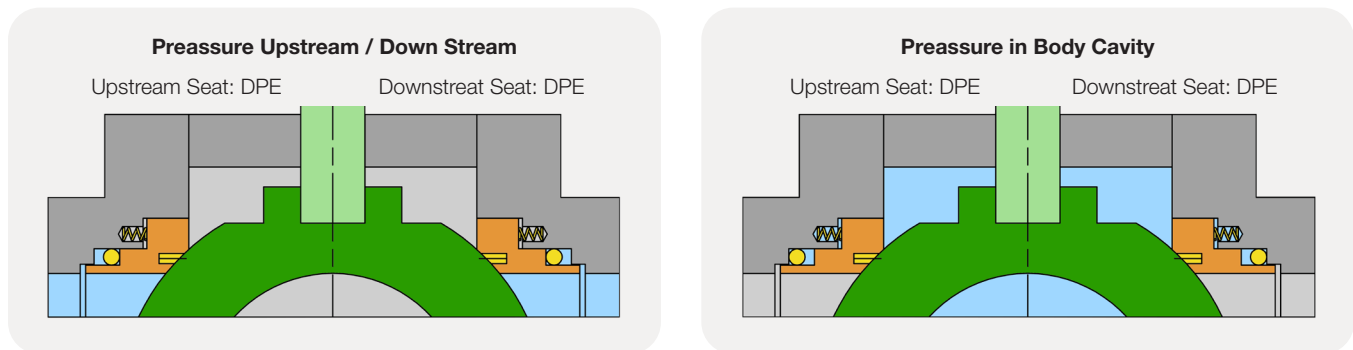
Standard Seat Configuration Single Piston Effect (SPE-SPE)



When pressure acts from upstream/downstream side, SPE seats are pushed against the ball by the piston effect, ensuring tight shutoff. When pressure acts from body cavity, SPE seats are designed to be pushed away from the ball, relieving cavity pressure in line. For such reason, SPE seats are also known as “self relieving”. With SPE-SPE configurations, cavity relief always takes place through lower pressure side.

Typical application: Pipeline ball valves in liquid services, to prevent pressure buildup in body cavity due to change in temperatures.

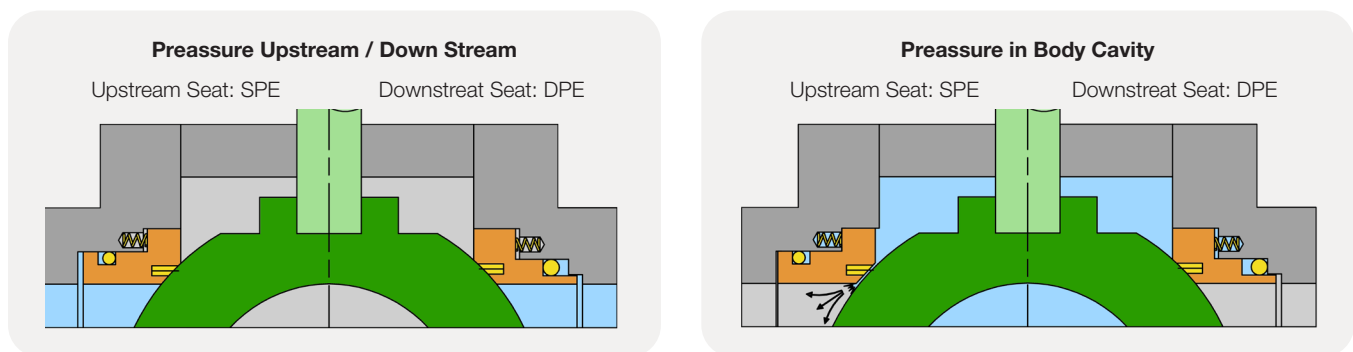
Optional Seat Configuration Double Piston Effect (DPE-DPE)



DPE seats are designed to be pushed against the ball in both cases, whether pressure comes from body cavity or from upstream/downstream side. Valve with DPE seats cannot perform cavity relief. For such reason -in liquid services- the use of a relief valve is recommended.

Typical application: Pipeline ball valves in liquid services, to prevent pressure buildup in body cavity due to change in temperatures.

Optional Seat Configuration Combined SPE-DPE



Upstream SPE seat ensures self relieving capability, while downstream DPE seat grants the double barrier in case of upstream seat damage. This configuration involves a preferred direction of installation with SPE seat facing upstream. With SPE-DPE configurations, cavity relief always takes place through SPE seat.

Typical application: Riser valves, pig launchers/receivers. DPE seat gives double isolation to the pig trap, allowing automatic relief of body cavity at the same time in case of pressure buildup.

Fire safe

Trunnion-mounted ball valves are designed and certified Fire Safe to API 6FA, API 607, and ISO 10497.

Extended stem

Valves installed underground or in remote locations can be operated with an optional extended stem.

All the drain, vent, and emergency sealant connections can be operated using extended connecting pipes firmly attached to the stem protective cover.

Ends

Valve ends can be manufactured to several configurations to comply with customer requests, such as:

Flanged RF or RTJ to ASME B16.5 up to 24" (MSS SP-44 for 22") and B16.47A for 26" and larger. Other flange designs are available on request.

Butt-weld ends to ASME B16.25. Others types of weld ends are available upon request.

Hub ends for clamped connections are available as per customer specification.

Actuation

Hand-operated valves are supplied either with a lever or gear operator.

The use of a wrench is limited to valves equal to or smaller than:

Trunnion-mounted ball valves are designed and certified Fire Safe to API 6FA, API 607, and ISO 10497.

- 4" – Class 150
- 4" – Class 300
- 3" – Class 600
- 3" – Class 900
- 2" – Class 1500
- 1" – Class 2500

Actuated valves can be supplied with:

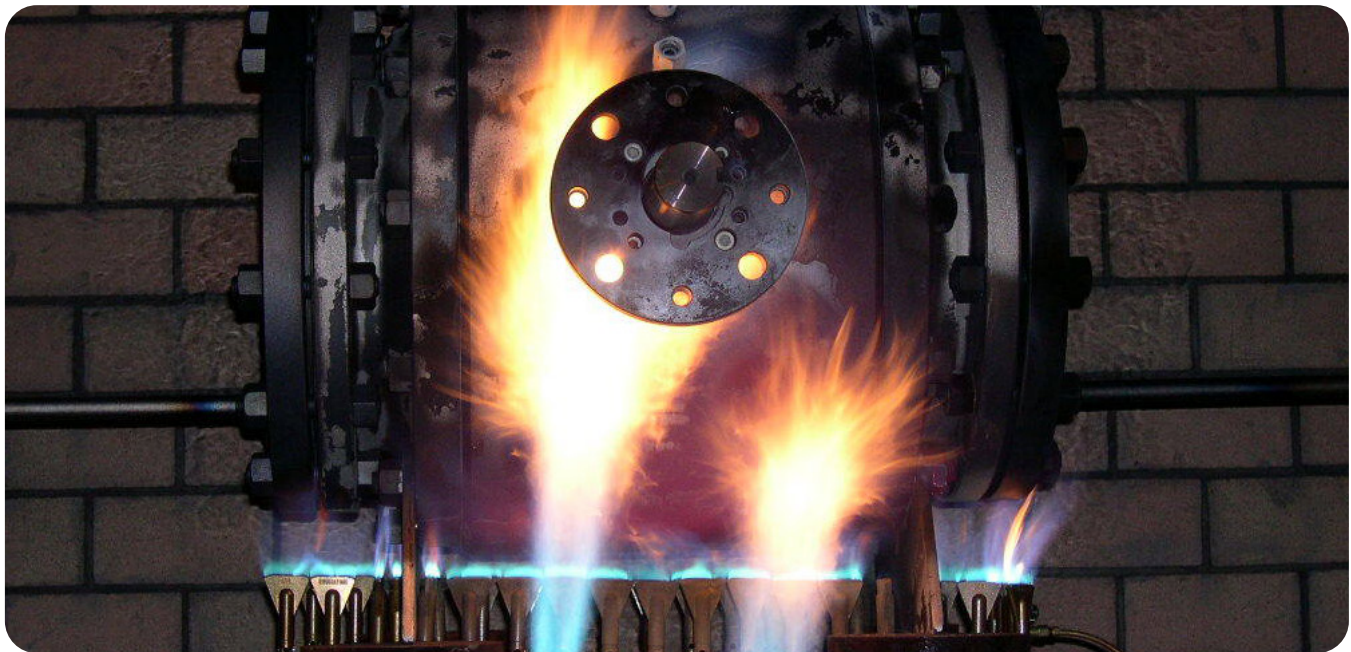
- Electric actuators
- Pneumatic actuators
- Hydraulic actuators
- Gas over oil actuators for ESDV, SDV, BDV, MOV, GOV, and HIPPS services



Actuated valves for testing in the in-house valve automation centre



Welded body valve with extended stem



Fire safe testing

Mounting operators valve automation center

Operator mounting should be made at the Flowserve Valve Automation Center before shipment.

If the operators will be assembled on site, the mounting will be carried out before installing the valves in line.

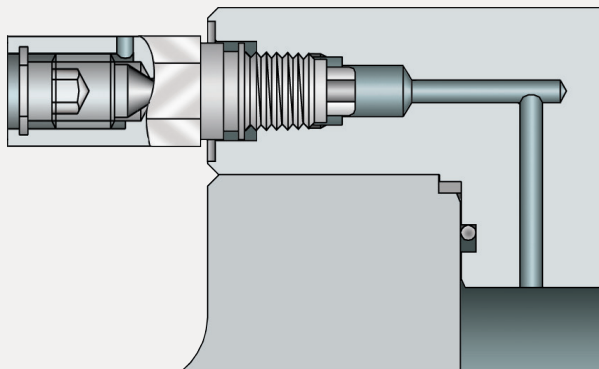
Mounting of operators on valves already installed in line is not recommended and will be performed only under supervision.

Operator mounting flanges are in accordance with ISO 5211-FF.

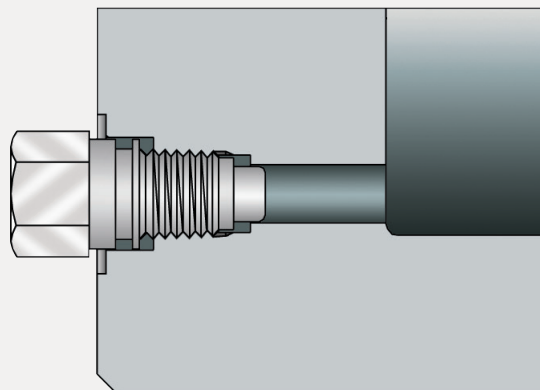
Vent valve and drain plug

Each valve 6" and larger is supplied complete with a NPT vent bleeder valve located in the upper part of the body and complete with a drain plug located in the lower part of the body.

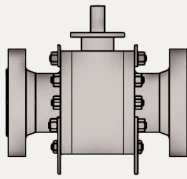
Each valve 6" x 4" and smaller is supplied complete with a 1/2" NPT vent/drain bleeder valve located in the lower part of the body.



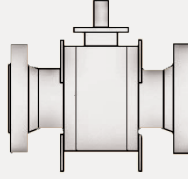
1/2" NPT vent valve bleeder



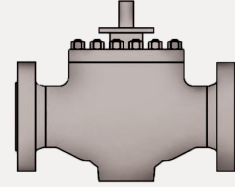
1/2" NPT vent/drain plug



VB2/VB3



VW1

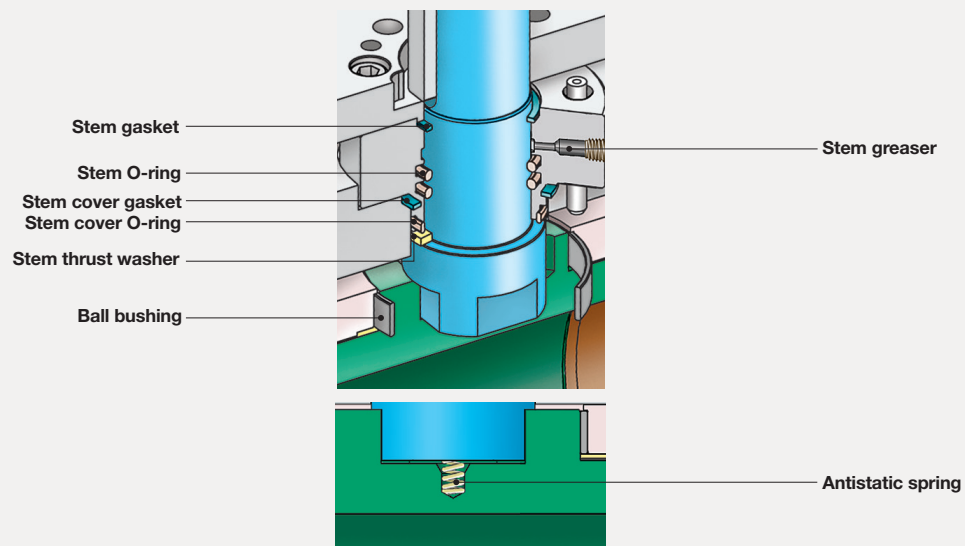
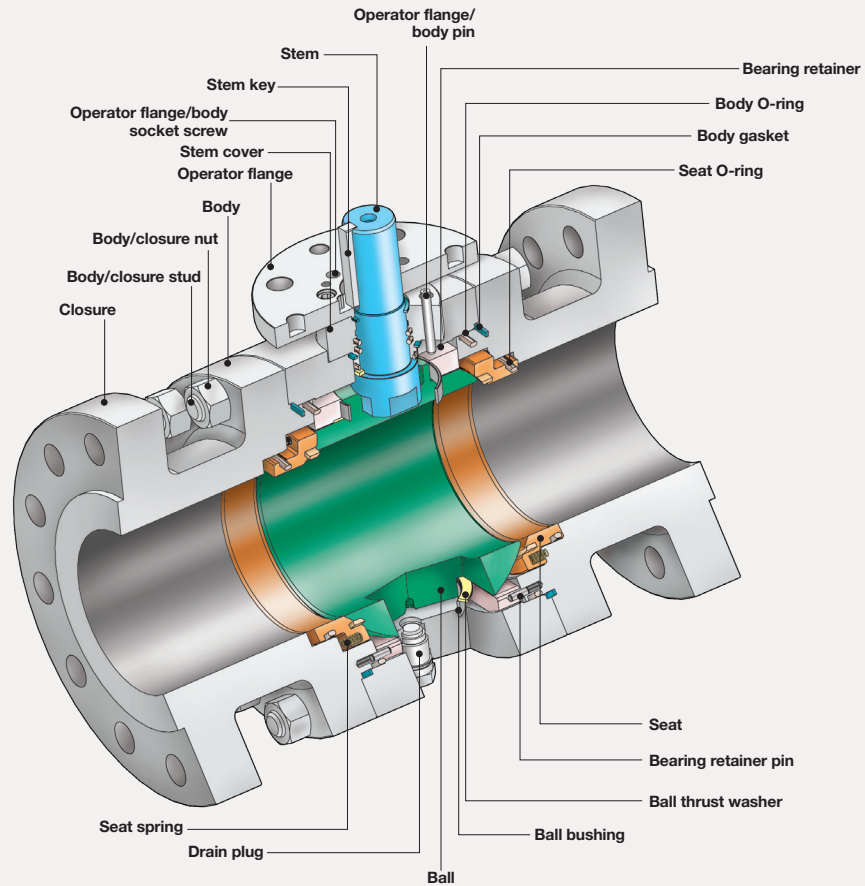


VT1

Features	Side-Entry (VB2/VB3)	Welded Body (VW1)	Top-Entry (VT1)
Trunnion-mounted	Standard	Standard	Standard
Independent stem and ball	Standard	Standard	Standard
Independent floating seats	Standard	Standard	Standard
Primary soft seat	Standard	Standard	Standard
Primary metal seat - secondary soft seat	On request	On request	On request
Metal-to-metal seat	On request	On request	On request
Self relieving seats	Standard	Standard	Standard
Single piston seat effect	Standard	Standard	Standard
Double piston seat effect	On request	On request	On request
Combination (self relieving/double piston) seats	On request	On request	On request
API 6a or API 6d design and construction	As required	As required	As required
Face-to-face dimensions to API 6d and ANSI B16.10	Standard	Standard	Standard
Fire safe design to API 6fa - API 607 - BS 6755 part 2	Standard	Standard	Standard
Full, reduced or venturi port	As required	As required	As required
Flanged ends - welded ends - hub ends	As required	As required	As required
Transition pups for welded end valves	On request	On request	On request
Antistatic	Standard	Standard	Standard
Anti-blowout stem	Standard	Standard	Standard
Double block and bleed test	As required	As required	As required
Possibility to check seat integrity in line with ball in closed position	Standard	Standard	Standard
Double body seals	Standard	N/A	Standard
Triple stem seals	Standard	Standard	Standard
Drain plug	Standard	Standard	Standard
Drain valve	On request	On request	On request
Vent valve (on 6" and larger)	Standard	Standard	Standard

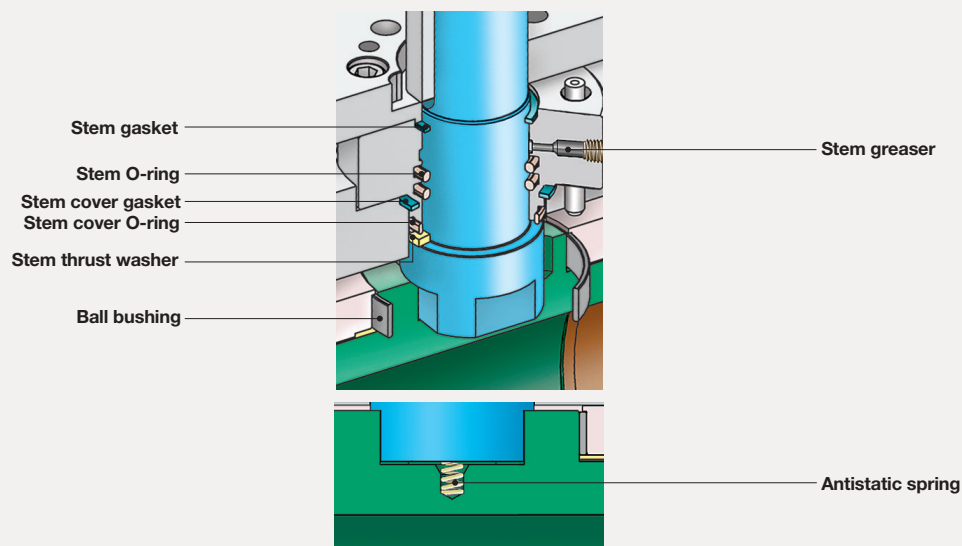
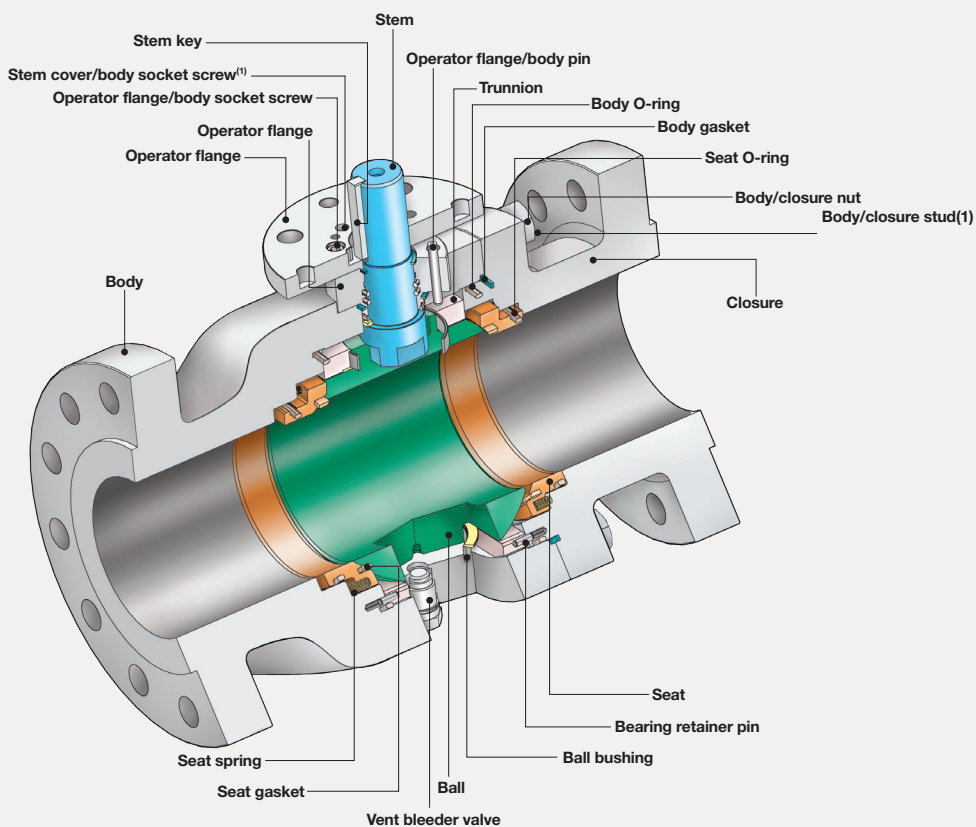
Features	Side-Entry (VB2/VB3)	Welded Body (VW1)	Top-Entry (VT1)
Emergency sealant injection on stem	Standard	Standard	Standard
Emergency sealant injection on seats (on 6" and larger)	On request	On request	On request
Stem and seat pocket overlay	On request	On request	On request
All seal areas overlay	On request	On request	On request
All wetted parts overlay	On request	On request	On request
Body internal lining	On request	N/A	N/A
Extended stem for underground installation	As required	As required	As required
Extended bonnet for low or high temperature	As required	N/A	As required
Locking device	On request	On Request	On Request
Lifting lugs	Standard On 6" and larger	Standard On 6" and larger	Standard On 6" and larger
Supporting feet	Standard On 6" and larger	Standard On 6" and larger	Standard On 6" and larger
Manual or motorized operation	As required	As required	As required
In-line maintenance	N/A	N/A	Yes
On site maintenance	Yes	On stem & ancillaries only	Yes

Bolted body side-entry 6" and larger - Mod VB3



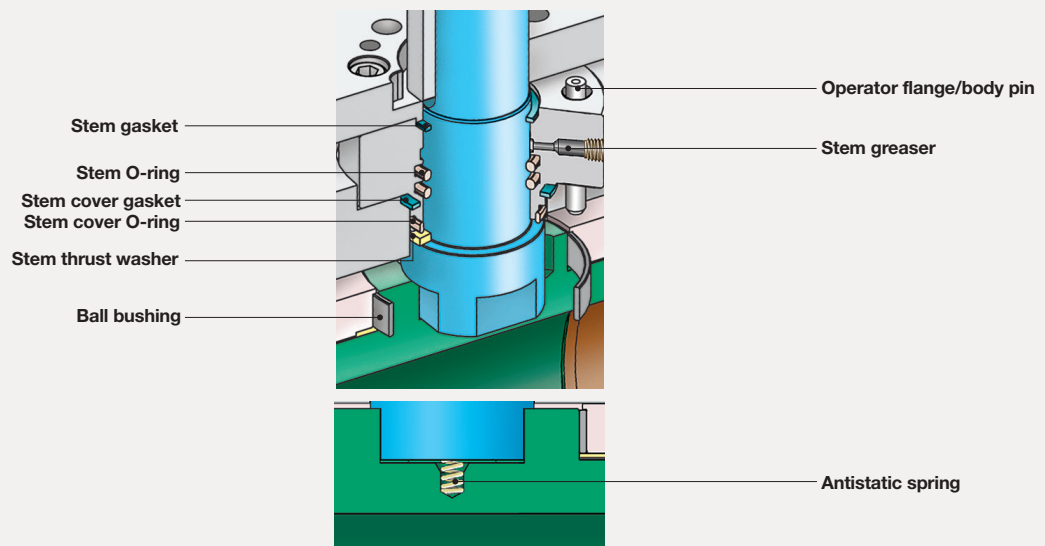
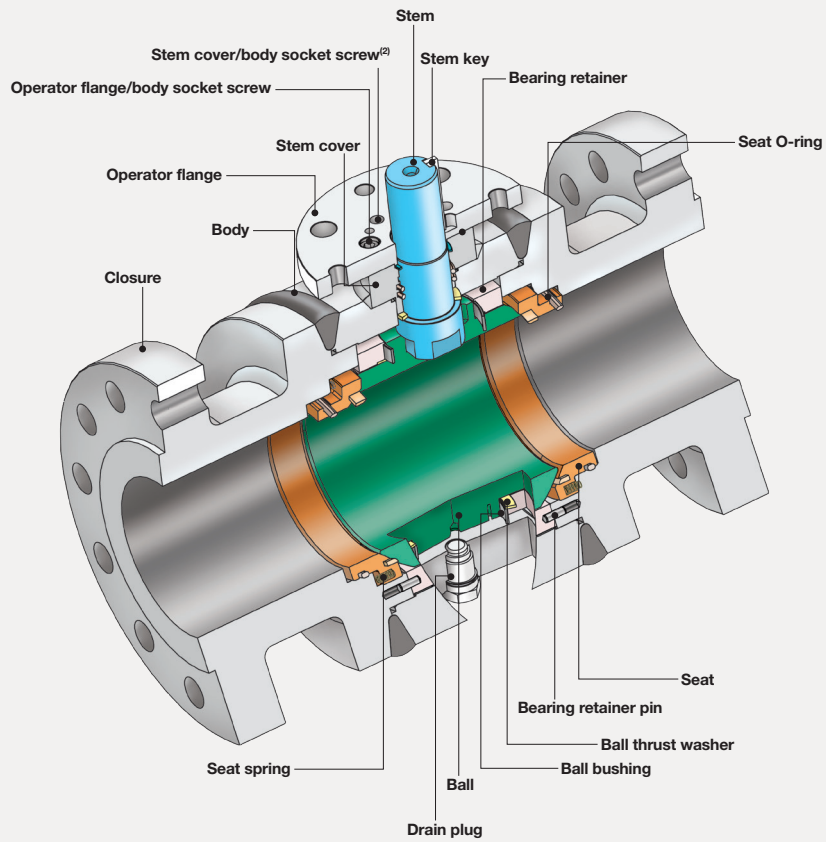
(1) Only for DN > 8" (2) Not visible in drawing opposite.

Bolted body side-entry 4" and smaller - Mod VB2



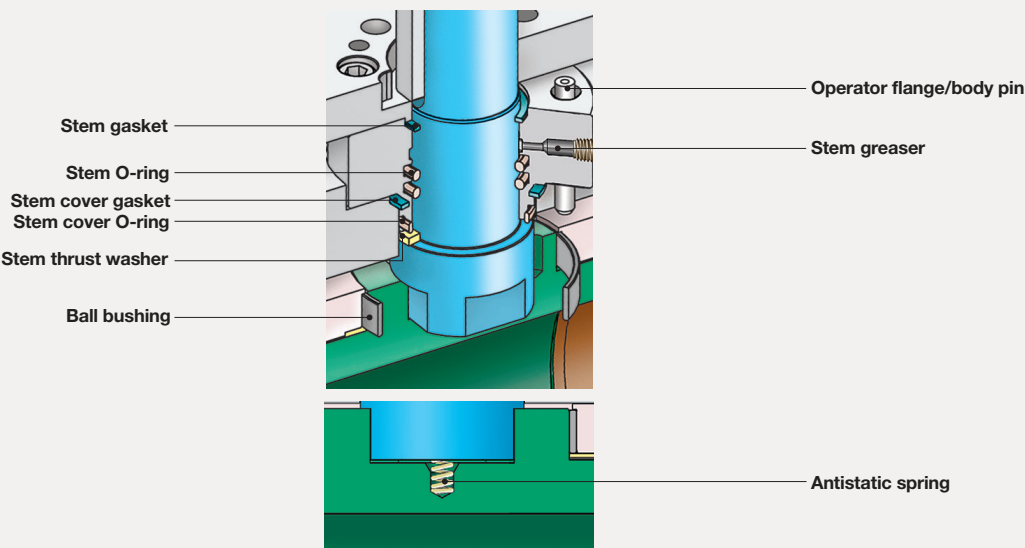
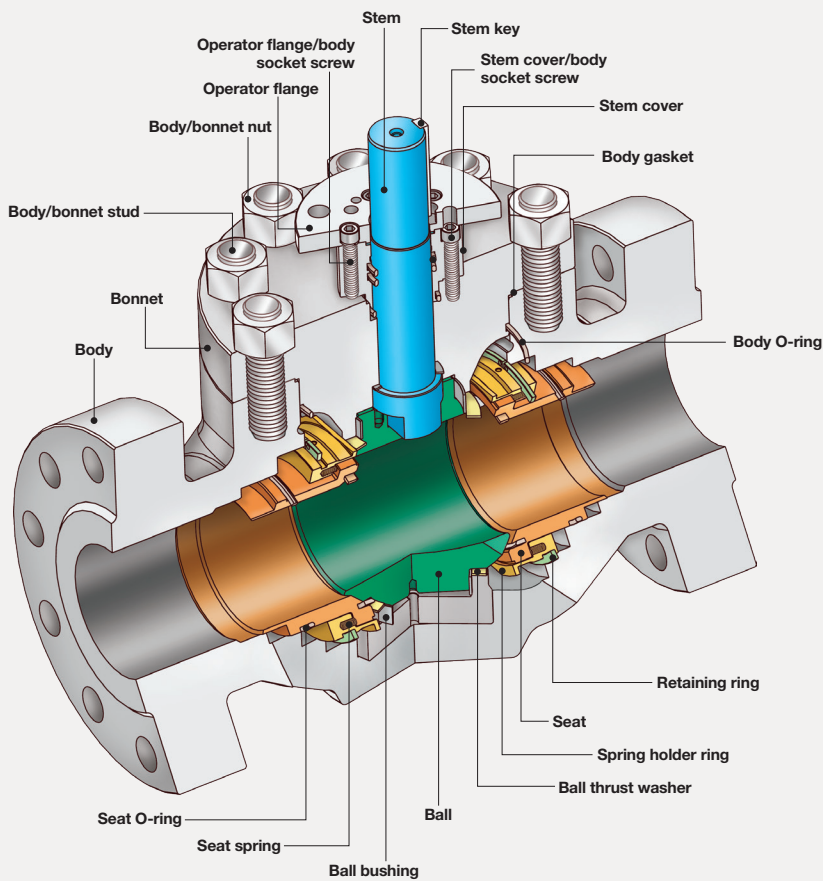
(1) Not visible in drawing opposite.

Welded body - Mod VW1



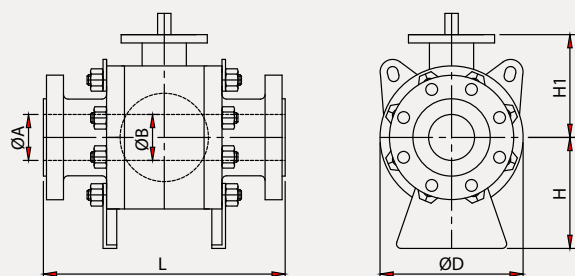
(1) Only for DN > 8" (2) Not visible in drawing opposite.

Top-entry - Mod VT1

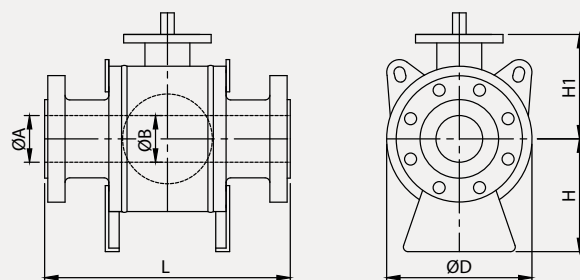


(1) Not visible in drawing opposite.

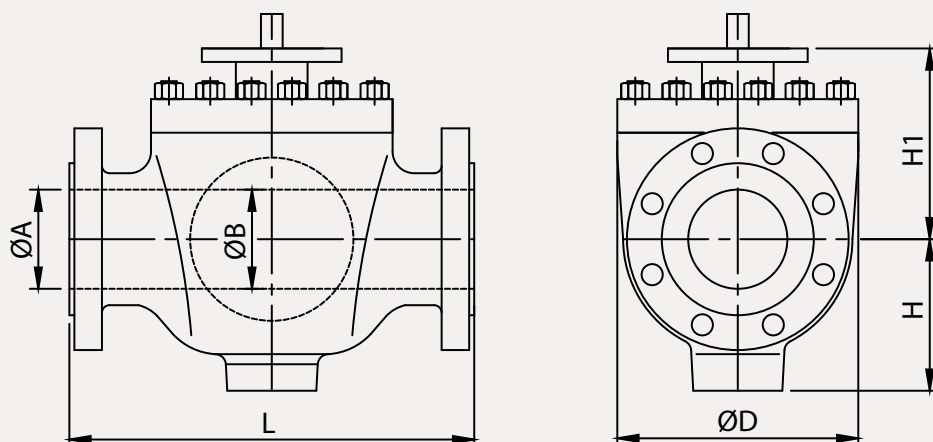
Dimensions and weights



VB2/VB3



VW1



VT1

ASME Class 150 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	150	178	-	216	49	38	160	113	131	19
50	150	178	-	216	49	49	170	118	136	20
80 x 50	150	203	-	283	74	49	170	118	136	27
80	150	203	-	283	74	74	198	136	154	32
100 x 80	150	229	-	305	100	74	198	136	154	49
100	150	229	-	305	100	100	245	154	182	73
150 x 100	150	394	-	457	150	100	245	154	182	100
150	150	394	-	457	150	150	325	220	227	154
200 x 150	150	457	-	521	201	150	325	220	227	191
200	150	457	-	521	201	201	402	265	267	256
250 x 200	150	533	-	559	252	201	402	265	267	304
250	150	533	-	559	252	252	472	315	301	385

API 6D & 6A Trunnion Mounted Side Entry,
Welded Body, & Top Entry Ball Valves

ASME Class 150 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
300 x 250	150	610	-	635	303	252	472	315	301	467
350 x 250	150	686	-	762	334	252	472	315	301	475
300	150	610	-	635	303	303	581	370	369	656
350 x 300	150	686	-	762	334	303	581	370	369	664
400 x 300	150	762	-	838	385	303	581	370	369	834
350	150	686	-	762	334	334	610	380	383	725
400 x 350	150	762	-	838	385	334	610	380	383	893
450 x 350	150	864	-	914	436	334	610	380	383	1000
400	150	762	-	838	385	385	684	445	421	1130
450 x 400	150	864	-	914	436	385	684	445	421	1238
500 x 400	150	914	-	991	487	385	684	445	421	1374
450	150	864	-	914	436	436	772	480	467	1562
500 x 450	150	914	-	991	487	436	772	480	467	1698
500	150	914	-	991	487	487	846	530	500	2015
600 x 500	150	1067	-	1143	589	487	846	530	500	2369
550	150	991	-	1092	538	538	924	590	545	2543
600	150	1067	-	1143	589	589	998	620	582	3118
750 x 600	150	1295	-	1397	735	589	998	620	582	3896
650	150	1143	-	1245	633	633	1099	670	654	4170
700	150	1245	-	1346	684	684	1185	770	676	4990
750	150	1295	-	1397	735	735	1245	760	707	5850
900 x 750	150	1524	-	1727	874	735	1245	760	707	6922
800	150	1372	-	1524	779	779	1320	798	744	6937
850	150	1473	-	1626	830	830	1405	853	806	8466
900	150	1524	-	1727	874	874	1470	885	838	9523
1000	150	1753	-	1956	976	976	1605	990	950	12560
1050	150	1790	-	2083	1020	1020	1692	1025	930	14052
1200	150	1995	-	2288	1166	1166	1920	1200	1079	21900
1400	150	2489	-	2489	1360	1360	2270	1370	1250	34100

ASME Class 150 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	150	178	-	216	49	38	160	113	131	(1)
50	150	178	-	216	49	49	170	118	136	(1)
80 x 50	150	203	-	283	74	49	170	118	136	(1)
80	150	203	-	283	74	74	198	136	154	(1)
100 x 80	150	229	-	305	100	74	198	136	154	(1)
100	150	229	-	305	100	100	245	154	182	(1)
150 x 100	150	394	-	457	150	100	245	154	182	(1)
150	150	394	-	457	150	150	325	260	227	(1)
200 x 150	150	457	-	521	201	150	325	220	227	(1)

ASME Class 150 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
200	150	457	-	521	201	201	402	310	267	(1)
250 x 200	150	533	-	559	252	201	402	310	267	(1)
250	150	533	-	559	252	252	472	315	301	(1)
300 x 250	150	610	-	635	303	252	472	315	301	(1)
350 x 250	150	686	-	762	334	252	472	315	301	(1)
300	150	610	-	635	303	303	581	370	369	(1)
350 x 300	150	686	-	762	334	303	581	370	369	(1)
400 x 300	150	762	-	838	385	303	581	370	369	(1)
350	150	686	-	762	334	334	602	460	378	(1)
400 x 350	150	762	-	838	385	334	602	460	378	(1)
450 x 350	150	864	-	914	436	334	602	460	378	(1)
400	150	762	-	838	385	385	684	503	421	(1)
450 x 400	150	864	-	914	436	385	684	503	421	(1)
500 x 400	150	914	-	991	487	385	684	503	421	(1)
450	150	864	-	914	436	436	772	480	467	(1)
500 x 450	150	914	-	991	487	436	772	480	467	(1)
500	150	914	-	991	487	487	846	583	500	(1)
600 x 500	150	1067	-	1143	589	487	846	583	500	(1)
550	150	991	-	1092	538	538	924	590	545	(1)
600	150	1067	-	1143	589	589	998	620	582	(1)
750 x 600	150	1295	-	1397	735	589	998	620	582	(1)
650	150	1143	-	1245	633	633	1099	670	654	(1)
700	150	1245	-	1346	684	684	1185	770	676	(1)
750	150	1295	-	1397	735	735	1245	760	707	(1)
900 x 750	150	1524	-	1727	874	735	1245	760	707	(1)
800	150	1372	-	1524	779	779	1320	798	744	(1)
850	150	1473	-	1626	830	830	1405	853	806	(1)
900	150	1524	-	1727	874	874	1470	885	838	(1)
1000	150	1753	-	1956	976	976	1605	990	950	(1)
1050	150	1790	-	2083	1020	1020	1692	1025	930	(1)
1200	150	1995	-	2288	1166	1166	1920	1200	1079	(1)
1400	150	2489	-	2489	1360	1360	2270	1370	1250	(1)

ASME Class 150 (Metric)

Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	150	292	-	292	49	38	170	85	200	25
50	150	292	-	292	49	49	200	85	200	28
80 x 50	150	356	-	356	74	49	200	118	200	35
80	150	356	-	356	74	74	245	114	223	55
100 x 80	150	432	-	432	100	74	245	114	223	70
100	150	432	-	432	100	100	290	140	280	100

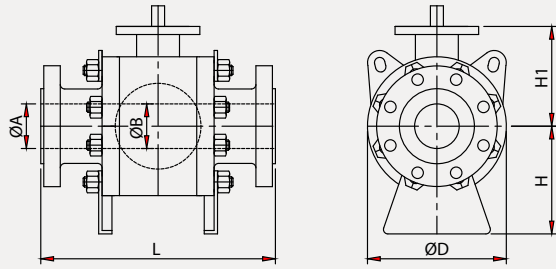
API 6D & 6A Trunnion Mounted Side Entry,
Welded Body, & Top Entry Ball Valves

ASME Class 150 (Metric)

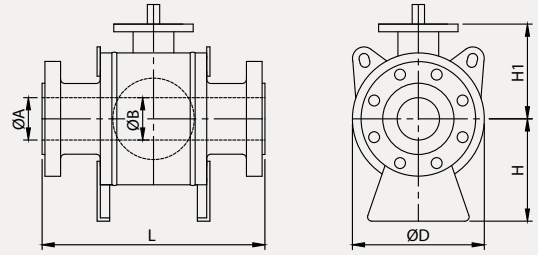
Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
150 x 100	150	559	-	559	150	100	290	140	280	130
150	150	559	-	559	150	150	334	219	275	210
200 x 150	150	660	-	660	201	150	334	219	275	250
200	150	660	-	660	201	201	410	265	321	407
250 x 200	150	787	-	787	252	201	410	265	321	455
250	150	787	-	787	252	252	500	315	355	510
300 x 250	150	838	-	838	303	252	500	315	355	549
350 x 250	150	889	-	889	334	252	500	315	355	640
300	150	838	-	838	303	303	570	405	470	710
350 x 300	150	889	-	889	334	303	570	405	470	790
400 x 300	150	991	-	991	385	303	570	405	470	880
350	150	889	-	889	334	334	660	432	455	760
400 x 350	150	991	-	991	385	334	660	432	455	910
450 x 350	150	1092	-	1092	436	334	660	432	455	1060
400	150	991	-	991	385	385	676	451	460	1100
450 x 400	150	1092	-	1092	436	385	676	451	460	1250
500 x 400	150	1194	-	1194	487	385	676	451	460	1502
450	150	1092	-	1092	436	436	800	472	503	1556
500 x 450	150	1194	-	1194	487	436	800	472	503	1740
500	150	1194	-	1194	487	487	890	560	560	1930
600 x 500	150	1397	-	1397	589	487	890	560	560	2378
550	150	1295	-	1295	538	538	970	578	602	2750
600	150	1397	-	1397	589	589	1050	600	610	3200
750 x 600	150	1651	-	1651	735	589	1050	600	610	4008
650	150	1448	-	1448	633	633	1130	632	670	3800
700	150	1549	-	1549	684	684	1220	710	730	4600
750	150	1651	-	1651	735	735	1270	790	800	5630
900 x 750	150	2083	-	2083	874	735	1270	790	800	7048
800	150	1778	-	1778	779	779	1340	830	846	7100
850	150	1930	-	1930	830	830	1425	870	890	7800
900	150	2083	-	2083	874	874	1490	933	935	9100
1000	150	2300	-	2300	976	976	1760	1012	1030	12800
1050	150	2400	-	2400	1020	1020	1830	1065	1065	15100
1200	150	2700	-	2700	1166	1166	2120	1340	1230	22600
1400	150	3000	-	3000	1360	1360	2600	1340	1510	33500

General Notes

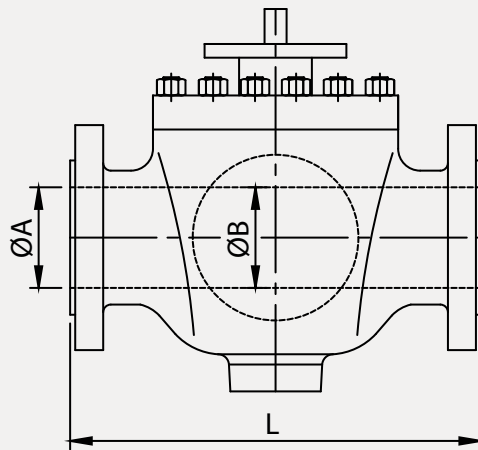
(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



VB2/VB3



VW1



VT1

ASME Class 150 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	150	7.01	-	8.50	1.93	1.50	6.69	4.45	5.16	42
2	150	7.01	-	8.50	1.93	1.93	6.69	4.65	5.35	44
3 x 2	150	7.99	-	11.14	2.91	1.93	6.69	4.65	5.35	60
3	150	7.99	-	11.14	2.91	2.91	7.80	5.35	6.06	71
4 x 3	150	9.02	-	12.01	3.94	2.91	7.80	5.35	6.06	107
4	150	9.02	-	12.01	3.94	3.94	9.65	6.06	7.17	161
6 x 4	150	15.51	-	17.99	5.91	3.94	9.65	6.06	7.17	220
6	150	15.51	-	17.99	5.91	5.91	12.80	8.66	8.94	340
8 x 6	150	17.99	-	20.51	7.91	5.91	12.80	8.66	8.94	421
8	150	17.99	-	20.51	7.91	7.91	15.83	10.43	10.51	564
10 x 8	150	20.98	-	22.01	9.92	7.91	15.83	10.43	10.51	670
10	150	20.98	-	22.01	9.92	9.92	18.58	12.40	11.85	849
12 x 10	150	24.02	-	25.00	11.93	9.92	18.58	12.40	11.85	1030
14 x 10	150	27.01	-	30.00	13.15	9.92	18.58	12.40	11.85	1047

ASME Class 150 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
12	150	24.02	-	25.00	11.93	11.93	22.87	14.57	14.53	1446
14 x 12	150	27.01	-	30.00	13.15	11.93	22.87	14.57	14.53	1446
16 x 12	150	30.00	-	32.99	15.16	11.93	22.87	14.57	14.53	1839
14	150	27.01	-	30.00	13.15	13.15	24.02	14.96	15.08	1598
16 x 14	150	30.00	-	32.99	15.16	13.15	24.02	14.96	15.08	1969
18 x 14	150	34.02	-	35.98	17.17	13.15	24.02	14.96	15.08	2205
16	150	30.00	-	32.99	15.16	15.16	26.93	17.52	16.57	2491
18 x 16	150	34.02	-	35.98	17.17	15.16	26.93	17.52	16.57	2729
20 x 16	150	35.98	-	39.02	19.17	15.16	26.93	17.52	16.57	3029
18	150	34.02	-	35.98	17.17	17.17	30.39	18.90	18.39	3444
20 x 18	150	35.98	-	39.02	19.17	17.17	30.39	18.90	18.39	3743
20	150	35.98	-	39.02	19.17	19.17	33.31	20.87	19.69	4442
24 x 20	150	42.01	-	45.00	23.19	19.17	33.31	20.87	19.69	5223
22	150	39.02	-	42.99	21.18	21.18	36.38	23.23	21.46	5606
24	150	42.01	-	45.00	23.19	23.19	39.29	24.41	22.91	6874
30 x 24	150	50.98	-	55.00	28.94	23.19	39.29	24.41	22.91	8589
26	150	45.00	-	49.02	24.92	24.92	43.27	26.38	25.75	9193
28	150	49.02	-	52.99	26.93	26.93	46.65	30.31	26.61	11001
30	150	50.98	-	55.00	28.94	28.94	49.02	29.92	27.81	12897
36 x 30	150	60.00	-	67.99	34.41	28.94	49.02	29.92	27.83	15260
32	150	54.02	-	60.00	30.67	30.67	51.97	31.42	29.29	15293
34	150	57.99	-	64.02	32.68	32.68	55.31	33.58	31.73	18664
36	150	60.00	-	67.99	34.41	34.41	57.87	34.84	32.99	20995
40	150	69.02	-	77.01	38.43	38.43	63.19	38.98	37.40	27690
42	150	70.47	-	82.01	40.16	40.16	66.61	40.35	36.61	30979
48	150	78.54	-	90.08	45.91	45.91	75.59	47.24	42.48	48281
56	150	97.99	-	97.99	53.54	53.54	89.37	53.94	49.21	75178

ASME Class 150 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	150	7.01	-	8.50	1.93	1.50	6.69	4.45	5.16	(1)
2	150	7.01	-	8.50	1.93	1.93	6.69	4.65	5.35	(1)
3 x 2	150	7.99	-	11.14	2.91	1.93	6.69	4.65	5.35	(1)
3	150	7.99	-	11.14	2.91	2.91	7.80	5.35	6.06	(1)
4 x 3	150	9.02	-	12.01	3.94	2.91	7.80	5.35	6.06	(1)
4	150	9.02	-	12.01	3.94	3.94	9.65	6.06	7.17	(1)
6 x 4	150	15.51	-	17.99	5.91	3.94	9.65	6.06	7.17	(1)
6	150	15.51	-	17.99	5.91	5.91	12.80	10.24	8.94	(1)
8 x 6	150	17.99	-	20.51	7.91	5.91	12.80	8.66	8.94	(1)
8	150	17.99	-	20.51	7.91	7.91	15.94	12.20	10.51	(1)
10 x 8	150	20.98	-	22.01	9.92	7.91	15.94	12.20	10.51	(1)

ASME Class 150 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
10	150	20.98	-	22.01	9.92	9.92	18.58	12.40	11.85	(1)
12 x 10	150	24.02	-	25.00	11.93	9.92	18.58	12.40	11.85	(1)
14 x 10	150	27.01	-	30.00	13.15	9.92	18.58	12.40	11.85	(1)
12	150	24.02	-	25.00	11.93	11.93	22.87	14.57	14.53	(1)
14 x 12	150	27.01	-	30.00	13.15	11.93	22.87	14.57	14.53	(1)
16 x 12	150	30.00	-	32.99	15.16	11.93	22.87	14.57	14.53	(1)
14	150	27.01	-	30.00	13.15	13.15	23.70	18.11	14.88	(1)
16 x 14	150	30.00	-	32.99	15.16	13.15	23.70	18.11	14.88	(1)
18 x 14	150	34.02	-	35.98	17.17	13.15	23.70	18.11	14.88	(1)
16	150	30.00	-	32.99	15.16	15.16	26.93	19.80	16.57	(1)
18 x 16	150	34.02	-	35.98	17.17	15.16	26.93	19.80	16.57	(1)
20 x 16	150	35.98	-	39.02	19.17	15.16	26.93	19.80	16.57	(1)
18	150	34.02	-	35.98	17.17	17.17	30.39	18.90	18.39	(1)
20 x 18	150	35.98	-	39.02	19.17	17.17	30.39	18.90	18.39	(1)
20	150	35.98	-	39.02	19.17	19.17	33.31	22.95	19.69	(1)
24 x 20	150	42.01	-	45.00	23.19	19.17	33.31	22.95	19.69	(1)
22	150	39.02	-	42.99	21.18	21.18	36.38	23.23	21.46	(1)
24	150	42.01	-	45.00	23.19	23.19	39.29	24.41	22.91	(1)
30 x 24	150	50.98	-	55.00	28.94	23.19	39.29	24.41	22.91	(1)
26	150	45.00	-	49.02	24.92	24.92	43.27	26.38	25.75	(1)
28	150	49.02	-	52.99	26.93	26.93	46.65	30.31	26.61	(1)
30	150	50.98	-	55.00	28.94	28.94	49.02	29.92	27.81	(1)
36 x 30	150	60.00	-	67.99	34.41	28.94	49.02	29.92	27.83	(1)
32	150	54.02	-	60.00	30.67	30.67	51.97	31.42	29.29	(1)
34	150	57.99	-	64.02	32.68	32.68	55.31	33.58	31.73	(1)
36	150	60.00	-	67.99	34.41	34.41	57.87	34.84	32.99	(1)
40	150	69.02	-	77.01	38.43	38.43	63.19	38.98	37.40	(1)
42	150	70.47	-	82.01	40.16	40.16	66.61	40.35	36.61	(1)
48	150	78.54	-	90.08	45.91	45.91	75.59	47.24	42.48	(1)
56	150	97.99	-	97.99	53.54	53.54	89.37	53.94	49.21	(1)

ASME Class 150 (Imperial)

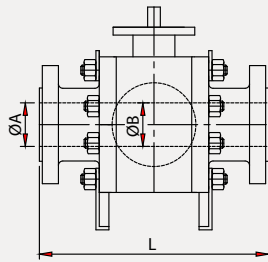
Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	150	11.50	-	11.50	1.93	1.50	6.69	3.35	7.87	55
2	150	11.50	-	11.50	1.93	1.93	7.87	3.35	7.87	62
3 x 2	150	14.02	-	14.02	2.91	1.93	7.87	3.35	7.87	77
3	150	14.02	-	14.02	2.91	2.91	9.65	4.49	8.78	121
4 x 3	150	17.01	-	17.01	3.94	2.91	9.65	4.49	8.78	154
4	150	17.01	-	17.01	3.94	3.94	11.42	5.51	11.02	220

ASME Class 150 (Imperial)

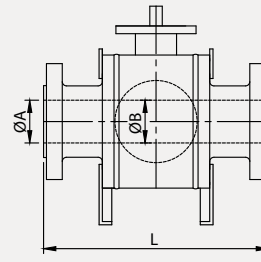
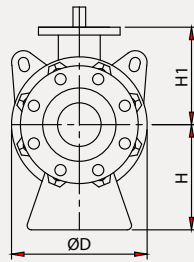
Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
6 x 4	150	22.01	-	22.01	5.91	3.94	11.42	5.51	11.02	287
6	150	22.01	-	22.01	5.91	5.91	13.15	8.62	10.83	463
8 x 6	150	25.98	-	25.98	7.91	5.91	13.15	8.62	10.83	551
8	150	25.98	-	25.98	7.91	7.91	16.14	10.43	12.64	897
10 x 8	150	30.98	-	30.98	9.92	7.91	16.14	10.43	12.64	1003
10	150	30.98	-	30.98	9.92	9.92	19.69	12.40	13.98	1124
12 x 10	150	32.99	-	32.99	11.93	9.92	19.69	12.40	13.98	1210
14 x 10	150	35.00	-	35.00	13.15	9.92	19.69	12.40	13.98	1411
12	150	32.99	-	32.99	11.93	11.93	22.44	15.94	18.50	1565
14 x 12	150	35.00	-	35.00	13.15	11.93	22.44	15.94	18.50	1742
16 x 12	150	39.02	-	39.02	15.16	11.93	22.44	15.94	18.50	1940
14	150	35.00	-	35.00	13.15	13.15	25.98	17.01	17.91	1676
16 x 14	150	39.02	-	39.02	15.16	13.15	25.98	17.01	17.91	2006
18 x 14	150	42.99	-	42.99	17.17	13.15	25.98	17.01	17.91	2337
16	150	39.02	-	39.02	15.16	15.16	26.61	17.76	18.11	2425
18 x 16	150	42.99	-	42.99	17.17	15.16	26.61	17.76	18.11	2756
20 x 16	150	47.01	-	47.01	19.17	15.16	26.61	17.76	18.11	3311
18	150	42.99	-	42.99	17.17	17.17	31.50	18.58	19.80	3430
20 x 18	150	47.01	-	47.01	19.17	17.17	31.50	18.58	19.80	3836
20	150	47.01	-	47.01	19.17	19.17	35.04	22.05	22.05	4255
24 x 20	150	55.00	-	55.00	23.19	19.17	35.04	22.05	22.05	5243
22	150	50.98	-	50.98	21.18	21.18	38.19	22.76	23.70	6063
24	150	55.00	-	55.00	23.19	23.19	41.34	23.62	24.02	7055
30 x 24	150	65.00	-	65.00	28.94	23.19	41.34	23.62	24.02	8836
26	150	57.01	-	57.01	24.92	24.92	44.49	24.88	26.38	8378
28	150	60.98	-	60.98	26.93	26.93	48.03	27.95	28.74	10141
30	150	65.00	-	65.00	28.94	28.94	50.00	31.10	31.50	12412
36 x 30	150	82.01	-	82.01	34.41	28.94	50.00	31.10	31.50	15538
32	150	70.00	-	70.00	30.67	30.67	52.76	32.68	33.31	15653
34	150	75.98	-	75.98	32.68	32.68	56.10	34.25	35.04	17196
36	150	82.01	-	82.01	34.41	34.41	58.66	36.73	36.81	20062
40	150	90.55	-	90.55	38.43	38.43	69.29	39.84	40.55	28219
42	150	94.49	-	94.49	40.16	40.16	72.05	41.93	41.93	33290
48	150	106.30	-	106.30	45.91	45.91	83.46	48.43	48.43	49824
56	150	118.11	-	118.11	53.54	53.54	102.36	52.76	59.45	73855

General Notes

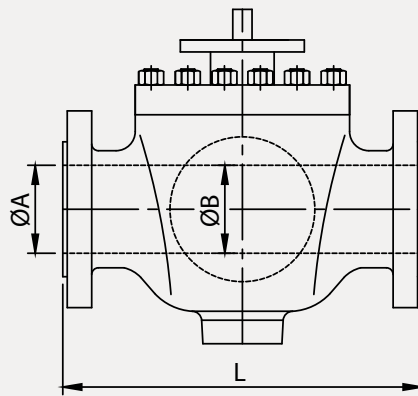
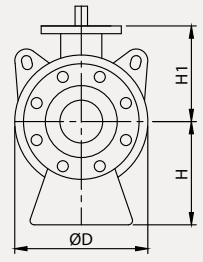
(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



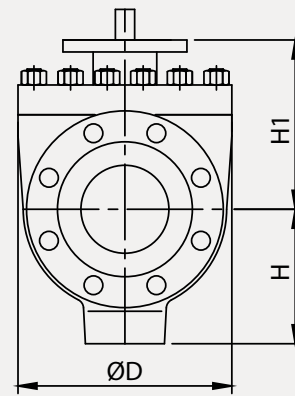
VB2/VB3



VW1



VT1



ASME Class 300 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	300	216	-	216	49	38	157	113	131	25
50	300	216	-	216	49	49	166	118	136	30
80 x 50	300	283	-	283	74	49	166	118	136	46
80	300	283	-	283	74	74	220	143	167	53
100 x 80	300	305	-	305	100	74	220	143	167	74
100	300	305	-	305	100	100	254	159	186	100
150 x 100	300	403	-	419	150	100	254	159	186	138
150	300	403	-	419	150	150	324	235	277	171
200 x 150	300	502	-	521	201	150	324	235	277	235
200	300	502	-	521	201	201	404	280	277	312
250 x 200	300	568	-	559	252	201	404	280	277	367
250	300	568	-	559	252	252	497	343	327	485
300 250	300	648	-	635	303	252	497	343	327	579

ASME Class 300 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
350 x 250	300	762	-	762	334	252	497	343	327	678
300	300	648	-	635	303	303	581	370	369	723
350 x 300	300	762	-	762	334	303	581	370	369	822
400 x 300	300	838	-	838	385	303	581	370	369	974
350	300	762	-	762	334	334	610	390	383	918
400 x 350	300	838	-	838	385	334	610	390	383	1070
450 x 350	300	914	-	914	436	334	610	390	383	1239
400	300	838	-	838	385	385	696	458	428	1341
450 x 400	300	914	-	914	436	385	696	458	428	1511
500 x 400	300	991	-	991	487	385	696	458	428	1705
450	300	914	-	914	436	436	778	500	515	1801
500 x 450	300	991	-	991	487	436	778	500	467	1995
500	300	991	-	991	487	487	867	535	515	2380
600 x 500	300	1143	-	1143	589	487	867	535	515	2873
550	300	1092	-	1092	538	538	943	600	553	3065
600	300	1143	-	1143	589	589	1024	635	596	3745
750 x 600	300	1397	-	1397	735	589	1024	635	596	4860
650	300	1245	-	1245	633	633	1103	720	656	4830
700	300	1346	-	1346	684	684	1180	720	693	5922
750	300	1397	-	1397	735	735	1271	775	741	6980
900 x 750	300	1727	-	1727	874	735	1271	775	741	8675
800	300	1524	-	1524	779	779	1340	810	755	8188
850	300	1626	-	1626	830	830	1430	870	783	9992
900	300	1727	-	1727	874	874	1496	900	829	11432
1000	300	1750	-	1750	976	976	1660	1020	940	13775
1050	300	1780	-	1780	1020	1020	1727	1040	981	15600
1200	300	2070	-	2070	1166	1166	1960	1210	1084	21796
1400	300	2570	-	2570	1360	1360	2320	1410	1290	38155

ASME Class 300 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	300	216	-	216	49	38	157	113	131	(1)
50	300	216	-	216	49	49	168	118	136	(1)
80 x 50	300	283	-	283	74	49	168	118	136	(1)
80	300	283	-	283	74	74	216	143	167	(1)
100 x 80	300	305	-	305	100	74	216	143	167	(1)
100	300	305	-	305	100	100	254	159	186	(1)
150 x 100	300	403	-	419	150	100	254	159	186	(1)
150	300	403	-	419	150	150	324	268	277	(1)
200 x 150	300	502	-	521	201	150	324	268	277	(1)
200	300	502	-	521	201	201	404	335	277	(1)

ASME Class 300 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
250 x 200	300	568	-	559	252	201	404	335	277	(1)
250	300	568	-	559	252	252	491	398	321	(1)
300 250	300	648	-	635	303	252	497	398	321	(1)
350 x 250	300	762	-	762	334	252	497	398	321	(1)
300	300	648	-	635	303	303	581	420	369	(1)
350 x 300	300	762	-	762	334	303	581	420	369	(1)
400 x 300	300	838	-	838	385	303	581	420	369	(1)
350	300	762	-	762	334	334	602	460	378	(1)
400 x 350	300	838	-	838	385	334	602	460	378	(1)
450 x 350	300	914	-	914	436	334	602	460	378	(1)
400	300	838	-	838	385	385	696	506	428	(1)
450 x 400	300	914	-	914	436	385	696	506	428	(1)
500 x 400	300	991	-	991	487	385	696	506	428	(1)
450	300	914	-	914	436	436	778	540	467	(1)
500 x 450	300	991	-	991	487	436	778	540	467	(1)
500	300	991	-	991	487	487	867	590	515	(1)
600 x 500	300	1143	-	1143	589	487	867	590	515	(1)
550	300	1092	-	1092	538	538	943	600	553	(1)
600	300	1143	-	1143	589	589	1024	666	596	(1)
750 x 600	300	1397	-	1397	735	589	1024	666	596	(1)
650	300	1245	-	1245	633	633	1103	720	656	(1)
700	300	1346	-	1346	684	684	1180	720	693	(1)
750	300	1397	-	1397	735	735	1271	775	741	(1)
900 x 750	300	1727	-	1727	874	735	1271	775	741	(1)
800	300	1524	-	1524	779	779	1340	810	755	(1)
850	300	1626	-	1626	830	830	1430	870	783	(1)
900	300	1727	-	1727	874	874	1496	945	829	(1)
1000	300	1750	-	1750	976	976	1660	1020	940	(1)
1050	300	1780	-	1780	1020	1020	1727	1040	962	(1)
1200	300	2070	-	2070	1166	1166	1960	1210	1084	(1)
1400	300	2570	-	2570	1360	1360	2320	1410	1290	(1)

ASME Class 300 (Metric)

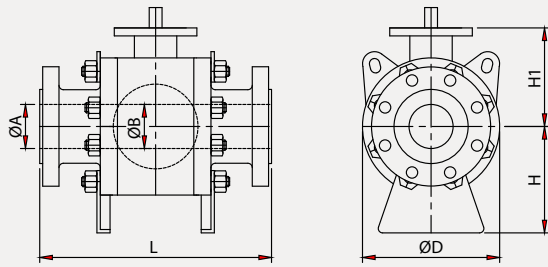
Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	300	292	-	292	49	38	170	85	200	29
50	300	292	-	292	49	49	200	85	200	32
80 x 50	300	356	-	356	74	49	200	85	200	40
80	300	356	-	356	74	74	245	114	223	63
100 x 80	300	432	-	432	100	74	245	114	223	81
100	300	432	-	432	100	100	290	140	280	115
150 x 100	300	559	-	559	150	100	290	140	280	150

ASME Class 300 (Metric)

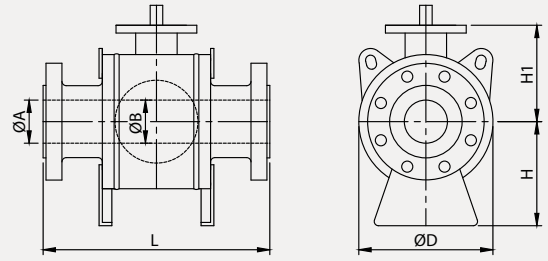
Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
150	300	559	-	559	150	150	334	219	275	242
200 x 150	300	660	-	660	201	150	334	219	275	288
200	300	660	-	660	201	201	410	265	321	468
250 x 200	300	787	-	787	252	201	410	265	321	523
250	300	787	-	787	252	252	515	315	355	587
300 250	300	838	-	838	303	252	515	315	355	631
350 x 250	300	889	-	889	334	252	515	315	355	736
300	300	838	-	838	303	303	570	405	470	817
350 x 300	300	889	-	889	334	303	570	405	470	909
400 x 300	300	991	-	991	385	303	570	405	470	1012
350	300	889	-	889	334	334	665	432	455	874
400 x 350	300	991	-	991	385	334	665	432	455	1047
450 x 350	300	1092	-	1092	436	334	665	432	455	1219
400	300	991	-	991	385	385	720	451	460	1265
450 x 400	300	1092	-	1092	436	385	720	451	460	1438
500 x 400	300	1194	-	1194	487	385	720	451	460	1727
450	300	1092	-	1092	436	436	810	472	503	1789
500 x 450	300	1194	-	1194	487	436	810	472	503	2001
500	300	1194	-	1194	487	487	890	560	560	2220
600 x 500	300	1397	-	1397	589	487	890	560	560	2735
550	300	1295	-	1295	538	538	970	578	602	3163
600	300	1397	-	1397	589	589	1050	600	610	3680
750 x 600	300	1651	-	1651	735	589	1050	600	610	4609
650	300	1448	-	1448	633	633	1130	637	678	4370
700	300	1549	-	1549	684	684	1220	715	738	5290
750	300	1651	-	1651	735	735	1300	795	811	6475
900 x 750	300	2083	-	2083	874	735	1300	795	811	8105
800	300	1778	-	1778	779	779	1370	835	850	8165
850	300	1930	-	1930	830	830	1460	877	885	8970
900	300	2083	-	2083	874	874	1515	938	942	10465
1000	300	2300	-	2300	976	976	1780	1020	1036	14720
1050	300	2400	-	2400	1020	1020	1860	1070	1081	17365
1200	300	2700	-	2700	1166	1166	2120	1230	1230	25990
1400	300	3000	-	3000	1360	1360	2650	1340	1510	38525

General Notes

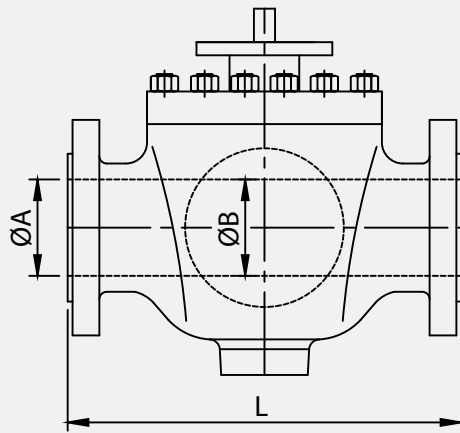
(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



VB2/VB3



VW1



VT1

ASME Class 300 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	300	8.50	-	8.50	1.93	1.50	6.18	4.45	5.16	55
2	300	8.50	-	8.50	1.93	1.93	6.54	4.65	5.35	66
3 x 2	300	11.14	-	11.14	2.91	1.93	6.54	4.65	5.35	101
3	300	11.14	-	11.14	2.91	2.91	8.66	5.63	6.57	117
4 x 3	300	12.01	-	12.01	3.94	2.91	8.66	5.63	6.57	163
4	300	12.01	-	12.01	3.94	3.94	10.00	6.26	7.32	220
6 x 4	300	15.87	-	16.50	5.91	3.94	10.00	6.26	7.32	304
6	300	15.87	-	16.50	5.91	5.91	12.76	9.25	8.94	377
8 x 6	300	19.76	-	20.51	7.91	5.91	12.76	9.25	8.94	518
8	300	19.76	-	20.51	7.91	7.91	15.91	11.02	10.91	688
10 x 8	300	22.36	-	22.01	9.92	7.91	15.91	11.02	10.91	809
10	300	22.36	-	22.01	9.92	9.92	19.57	13.50	12.87	1069
12 x 10	300	25.51	-	25.00	11.93	9.92	19.57	13.50	12.87	1276

ASME Class 300 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
14 x 10	300	30.00	-	30.00	13.15	9.92	19.57	13.50	12.87	1495
12	300	25.51	-	25.00	11.93	11.93	22.87	14.57	14.53	1594
14 x 12	300	30.00	-	30.00	13.15	11.93	22.87	14.57	14.53	1812
16 x 12	300	32.99	-	32.99	15.16	11.93	22.87	14.57	14.53	2147
14	300	30.00	-	30.00	13.15	13.15	24.02	15.35	15.06	2024
16 x 14	300	32.99	-	32.99	15.16	13.15	24.02	15.35	15.08	2359
18 x 14	300	35.98	-	35.98	17.17	13.15	24.02	15.35	15.08	2732
16	300	32.99	-	32.99	15.16	15.16	27.40	18.03	16.85	2956
18 x 16	300	35.98	-	35.98	17.17	15.16	27.40	18.03	16.85	3331
20 x 16	300	39.02	-	39.02	19.17	15.16	27.40	18.03	16.85	3759
18	300	35.98	-	35.98	17.17	17.17	30.63	19.69	18.39	3971
20 x 18	300	39.02	-	39.02	19.17	17.17	30.63	19.69	18.39	4398
20	300	39.02	-	39.02	19.17	19.17	34.13	21.06	20.28	5247
24 x 20	300	45.00	-	45.00	23.19	19.17	34.13	21.06	20.28	6334
22	300	42.99	-	42.99	21.18	21.18	37.13	23.62	21.77	6757
24	300	45.00	-	45.00	23.19	23.19	40.31	25.00	23.46	8256
30 x 24	300	55.00	-	55.00	28.94	23.19	40.31	25.00	23.46	10714
26	300	49.02	-	49.02	24.92	24.92	43.43	28.35	25.83	10648
28	300	52.99	-	52.99	26.93	26.93	46.46	30.31	27.26	13056
30	300	55.00	-	55.00	28.94	28.94	50.04	30.31	29.15	15388
36 x 30	300	67.99	-	67.99	34.41	28.94	50.04	30.31	29.17	19125
32	300	60.00	-	60.00	30.67	30.67	52.76	31.89	29.72	18051
34	300	64.02	-	64.02	32.68	32.68	56.30	34.25	30.83	22029
36	300	67.99	-	67.99	34.41	34.41	58.90	35.43	32.64	25203
40	300	68.90	-	68.90	38.43	38.43	65.35	40.16	37.01	30369
42	300	70.08	-	70.08	40.16	40.16	67.99	40.94	38.62	34392
48	300	81.50	-	81.50	45.91	45.91	77.17	47.64	42.68	48052
56	300	101.18	-	101.18	53.54	53.54	91.34	55.51	50.79	84117

ASME Class 300 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	300	8.50	-	8.50	1.93	1.50	6.18	4.45	5.16	(1)
2	300	8.50	-	8.50	1.93	1.93	6.61	4.65	5.35	(1)
3 x 2	300	11.14	-	11.14	2.91	1.93	6.61	4.65	5.35	(1)
3	300	11.14	-	11.14	2.91	2.91	8.50	5.63	6.57	(1)
4 x 3	300	12.01	-	12.01	3.94	2.91	8.50	5.63	6.57	(1)
4	300	12.01	-	12.01	3.94	3.94	10.00	6.26	7.32	(1)
6 x 4	300	15.87	-	16.50	5.91	3.94	10.00	6.26	7.32	(1)
6	300	15.87	-	16.50	5.91	5.91	12.76	10.55	8.94	(1)
8 x 6	300	19.76	-	20.51	7.91	5.91	12.76	10.55	8.94	(1)
8	300	19.76	-	20.51	7.91	7.91	15.91	13.19	10.91	(1)

ASME Class 300 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
10 x 8	300	22.36	-	22.01	9.92	7.91	15.91	13.19	10.91	(1)
10	300	22.36	-	22.01	9.92	9.92	19.33	15.67	12.64	(1)
12 x 10	300	25.51	-	25.00	11.93	9.92	19.57	15.67	12.64	(1)
14 x 10	300	30.00	-	30.00	13.15	9.92	19.57	15.67	12.64	(1)
12	300	25.51	-	25.00	11.93	11.93	22.87	16.54	14.53	(1)
14 x 12	300	30.00	-	30.00	13.15	11.93	22.87	16.54	14.53	(1)
16 x 12	300	32.99	-	32.99	15.16	11.93	22.87	16.54	14.53	(1)
14	300	30.00	-	30.00	13.15	13.15	23.70	18.11	14.88	(1)
16 x 14	300	32.99	-	32.99	15.16	13.15	23.70	18.11	14.88	(1)
18 x 14	300	35.98	-	35.98	17.17	13.15	23.70	18.11	14.88	(1)
16	300	32.99	-	32.99	15.16	15.16	27.40	19.92	16.85	(1)
18 x 16	300	35.98	-	35.98	17.17	15.16	27.40	19.92	16.85	(1)
20 x 16	300	39.02	-	39.02	19.17	15.16	27.40	19.92	16.85	(1)
18	300	35.98	-	35.98	17.17	17.17	30.63	21.26	18.39	(1)
20 x 18	300	39.02	-	39.02	19.17	17.17	30.63	21.26	18.39	(1)
20	300	39.02	-	39.02	19.17	19.17	34.13	23.23	20.28	(1)
24 x 20	300	45.00	-	45.00	23.19	19.17	34.13	23.23	20.28	(1)
22	300	42.99	-	42.99	21.18	21.18	37.13	23.62	21.77	(1)
24	300	45.00	-	45.00	23.19	23.19	40.31	26.22	23.46	(1)
30 x 24	300	55.00	-	55.00	28.94	23.19	40.31	26.22	23.46	(1)
26	300	49.02	-	49.02	24.92	24.92	43.43	28.35	25.83	(1)
28	300	52.99	-	52.99	26.93	26.93	46.46	30.51	27.26	(1)
30	300	55.00	-	55.00	28.94	28.94	50.04	30.51	29.15	(1)
36 x 30	300	67.99	-	67.99	34.41	28.94	50.04	30.51	29.17	(1)
32	300	60.00	-	60.00	30.67	30.67	52.76	31.89	29.72	(1)
34	300	64.02	-	64.02	32.68	32.68	56.30	34.25	30.83	(1)
36	300	67.99	-	67.99	34.41	34.41	58.90	37.20	32.64	(1)
40	300	68.90	-	68.90	38.43	38.43	65.35	40.16	37.01	(1)
42	300	70.08	-	70.08	40.16	40.16	65.20	40.94	37.87	(1)
48	300	81.50	-	81.50	45.91	45.91	77.17	47.64	42.68	(1)
56	300	101.18	-	101.18	53.54	53.54	91.34	55.51	50.79	(1)

ASME Class 300 (Imperial)

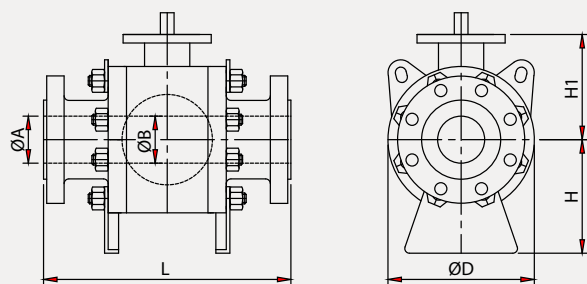
Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	300	11.50	-	11.50	1.93	1.50	6.69	3.35	7.87	63
2	300	11.50	-	11.50	1.93	1.93	7.87	3.35	7.87	71
3 x 2	300	14.02	-	14.02	2.91	1.93	7.87	3.35	7.87	89
3	300	14.02	-	14.02	2.91	2.91	9.65	4.49	8.78	139
4 x 3	300	17.01	-	17.01	3.94	2.91	9.65	4.49	8.78	177
4	300	17.01	-	17.01	3.94	3.94	11.42	5.51	11.02	254
6 x 4	300	22.01	-	22.01	5.91	3.94	11.42	5.51	11.02	330

ASME Class 300 (Imperial)

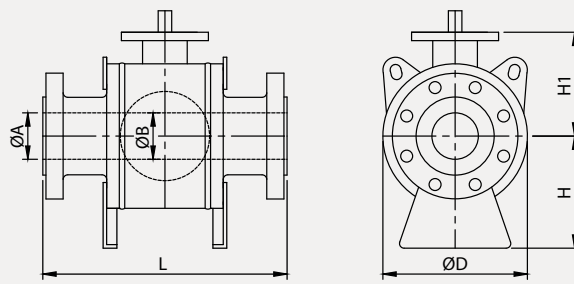
Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
6	300	22.01	-	22.01	5.91	5.91	13.15	8.62	10.83	532
8 x 6	300	25.98	-	25.98	7.91	5.91	13.15	8.62	10.83	634
8	300	25.98	-	25.98	7.91	7.91	16.14	10.43	12.64	1032
10 x 8	300	30.98	-	30.98	9.92	7.91	16.14	10.43	12.64	1154
10	300	30.98	-	30.98	9.92	9.92	20.28	12.40	13.98	1293
12 x 10	300	32.99	-	32.99	11.93	9.92	20.28	12.40	13.98	1392
14 x 10	300	35.00	-	35.00	13.15	9.92	20.28	12.40	13.98	1623
12	300	32.99	-	32.99	11.93	11.93	22.44	15.94	18.50	1800
14 x 12	300	35.00	-	35.00	13.15	11.93	22.44	15.94	18.50	2003
16 x 12	300	39.02	-	39.02	15.16	11.93	22.44	15.94	18.50	2231
14	300	35.00	-	35.00	13.15	13.15	26.18	17.01	17.91	1927
16 x 14	300	39.02	-	39.02	15.16	13.15	26.18	17.01	17.91	2307
18 x 14	300	42.99	-	42.99	17.17	13.15	26.18	17.01	17.91	2687
16	300	39.02	-	39.02	15.16	15.16	28.35	17.76	18.11	2789
18 x 16	300	42.99	-	42.99	17.17	15.16	28.35	17.76	18.11	3169
20 x 16	300	47.01	-	47.01	19.17	15.16	28.35	17.76	18.11	3808
18	300	42.99	-	42.99	17.17	17.17	31.89	18.58	19.80	3945
20 x 18	300	47.01	-	47.01	19.17	17.17	31.89	18.58	19.80	4411
20	300	47.01	-	47.01	19.17	19.17	35.04	22.05	22.05	4893
24 x 20	300	55.00	-	55.00	23.19	19.17	35.04	22.05	22.05	6029
22	300	50.98	-	50.98	21.18	21.18	38.19	22.76	23.70	6972
24	300	55.00	-	55.00	23.19	23.19	41.34	23.62	24.02	8113
30 x 24	300	65.00	-	65.00	28.94	23.19	41.34	23.62	24.02	10162
26	300	57.01	-	57.01	24.92	24.92	44.49	25.08	26.69	9634
28	300	60.98	-	60.98	26.93	26.93	48.03	28.15	29.06	11662
30	300	65.00	-	65.00	28.94	28.94	51.18	31.30	31.93	14274
36 x 30	300	82.01	-	82.01	34.41	28.94	51.18	31.30	31.93	17869
32	300	70.00	-	70.00	30.67	30.67	53.94	32.87	33.46	18001
34	300	75.98	-	75.98	32.68	32.68	57.48	34.53	34.84	19775
36	300	82.01	-	82.01	34.41	34.41	59.65	36.93	37.09	23071
40	300	90.55	-	90.55	38.43	38.43	70.08	40.16	40.79	32452
42	300	94.49	-	94.49	40.16	40.16	73.23	42.13	42.56	38283
48	300	106.30	-	106.30	45.91	45.91	83.46	48.43	48.43	57298
56	300	118.11	-	118.11	53.54	53.54	104.33	52.76	59.45	84933

General Notes

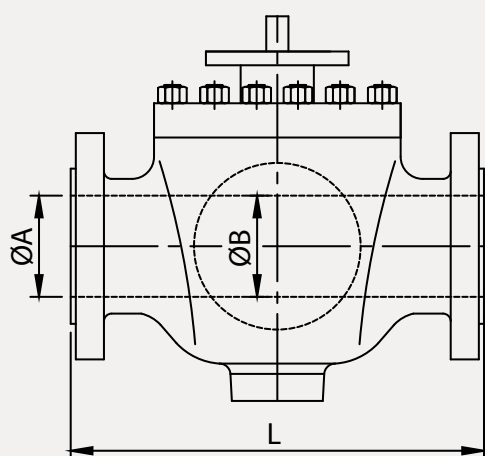
(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



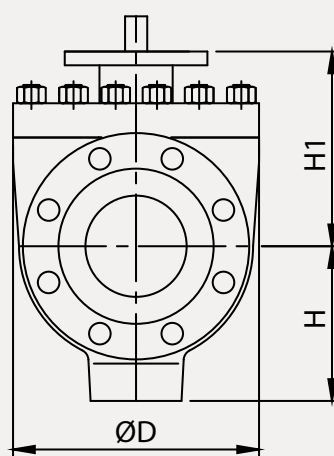
VB2/VB3



VW1



VT1



ASME Class 600 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	600	292	295	292	49	38	157	113	131	34
50	600	292	295	292	49	49	165	118	136	37
80 x 50	600	356	359	356	74	49	165	118	136	52
80	600	356	359	356	74	74	216	143	167	70
100 x 80	600	432	435	432	100	74	216	143	167	75
100	600	432	435	432	100	100	254	159	186	110
150 x 100	600	559	562	559	150	100	254	178	186	160
150	600	559	562	559	150	150	329	245	227	251
200 x 150	600	660	664	660	201	150	329	245	227	332
200	600	660	664	660	201	201	406	280	277	406
250 x 200	600	787	791	787	252	201	406	280	277	566
250	600	787	791	787	252	252	512	343	331	688
300 x 250	600	838	841	838	303	252	512	343	331	789

ASME Class 600 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
350 x 250	600	889	892	889	334	252	512	343	331	891
300	600	838	841	838	303	303	610	395	384	935
350 x 300	600	889	892	889	334	303	610	395	384	1037
400 x 300	600	991	994	991	385	303	610	395	384	1301
350	600	889	892	889	334	334	622	400	390	1206
400 x 350	600	991	994	991	385	334	622	400	390	1470
450 x 350	600	1092	1095	1092	436	334	622	400	390	1761
400	600	991	994	991	385	385	712	465	482	1751
450 x 400	600	1092	1095	1092	436	385	712	465	482	2042
500 x 400	600	1194	1200	1194	487	385	712	465	482	2383
450	600	1092	1095	1092	436	436	809	515	482	2431
500 x 450	600	1194	1200	1194	487	436	809	515	482	2772
500	600	1194	1200	1194	487	487	893	550	530	3186
600 x 500	600	1397	1407	1397	589	487	893	550	530	4108
550	600	1295	1305	1295	538	538	980	620	590	4115
600	600	1397	1407	1397	589	589	1060	655	630	5151
750 x 600	600	1651	1664	1651	735	589	1060	655	630	6535
650	600	1448	1461	1448	633	633	1148	715	675	6364
700	600	1549	1562	1549	684	684	1215	770	715	7758
750	600	1651	1664	1651	735	735	1280	820	771	8681
900 x 750	600	2083	2099	2083	874	735	1280	820	771	11668
800	600	1778	1794	1778	779	779	1400	850	815	11227
850	600	1930	1946	1930	830	830	1482	900	857	13199
900	600	2083	2099	2083	874	874	1535	995	899	15110
1000	600	2080	2096	2080	976	976	1716	1048	976	18548
1050	600	2175	2175	2175	1020	1020	1825	1162	1031	20903
1200	600	2435	2435	2435	1166	1166	2075	1265	1182	31681
1400	600	2710	2710	2710	1360	1360	2380	1450	1306	46858

ASME Class 600 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	600	292	295	292	49	38	157	113	131	(1)
50	600	292	295	292	49	49	165	118	136	(1)
80 x 50	600	356	359	356	74	49	165	118	136	(1)
80	600	356	359	356	74	74	216	143	167	(1)
100 x 80	600	432	435	432	100	74	216	143	167	(1)
100	600	432	435	432	100	100	254	159	186	(1)
150 x 100	600	559	562	559	150	100	254	178	186	(1)
150	600	559	562	559	150	150	330	268	227	(1)
200 x 150	600	660	664	660	201	150	330	268	277	(1)
200	600	660	664	660	201	201	406	335	277	(1)

ASME Class 600 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
250 x 200	600	787	791	787	252	201	406	335	277	(1)
250	600	787	791	787	252	252	512	398	331	(1)
300 x 250	600	838	841	838	303	252	512	398	331	(1)
350 x 250	600	889	892	889	334	252	512	398	331	(1)
300	600	838	841	838	303	303	592	395	374	(1)
350 x 300	600	889	892	889	334	303	592	395	374	(1)
400 x 300	600	991	994	991	385	303	592	395	374	(1)
350	600	889	892	889	334	334	622	460	390	(1)
400 x 350	600	991	994	991	385	334	622	460	390	(1)
450 x 350	600	1092	1095	1092	436	334	622	460	390	(1)
400	600	991	994	991	385	385	696	507	428	(1)
450 x 400	600	1092	1095	1092	436	385	696	507	428	(1)
500 x 400	600	1194	1200	1194	487	385	696	507	428	(1)
450	600	1092	1095	1092	436	436	809	555	482	(1)
500 x 450	600	1194	1200	1194	487	436	809	555	482	(1)
500	600	1194	1200	1194	487	487	893	630	530	(1)
600 x 500	600	1397	1407	1397	589	487	893	630	530	(1)
550	600	1295	1305	1295	538	538	980	620	590	(1)
600	600	1397	1407	1397	589	589	1024	666	615	(1)
750 x 600	600	1651	1664	1651	735	589	1024	666	615	(1)
650	600	1448	1461	1448	633	633	1120	730	655	(1)
700	600	1549	1562	1549	684	684	1215	770	715	(1)
750	600	1651	1664	1651	735	735	1280	795	771	(1)
900 x 750	600	2083	2099	2083	874	735	1280	795	771	(1)
800	600	1778	1794	1778	779	779	1400	850	815	(1)
850	600	1930	1946	1930	830	830	1450	900	838	(1)
900	600	2083	2099	2083	874	874	1504	995	884	(1)
1000	600	2080	2096	2080	976	976	1716	1048	976	(1)
1050	600	2175	2175	2175	1020	1020	1825	1162	1031	(1)
1200	600	2435	2435	2435	1166	1166	2075	1265	1182	(1)
1400	600	2710	2710	2710	1360	1360	2380	1450	1306	(1)

ASME Class 600 (Metric)

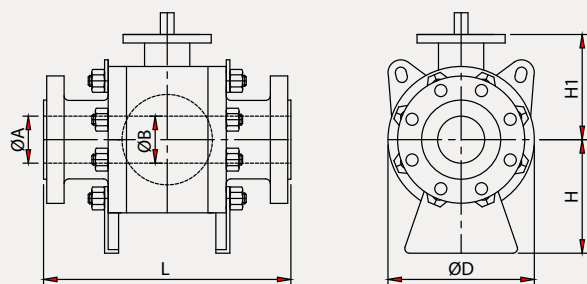
Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	600	292	295	292	49	38	170	85	200	35
50	600	292	295	292	49	49	200	85	200	41
80 x 50	600	356	359	356	74	49	200	85	200	48
80	600	356	359	356	74	74	245	114	223	70
100 x 80	600	432	435	432	100	74	245	114	223	150
100	600	432	435	432	100	100	310	140	280	140
150 x 100	600	559	562	559	150	100	310	140	280	180

ASME Class 600 (Metric)

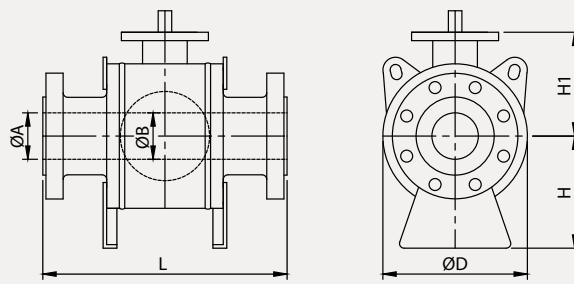
Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
150	600	559	562	559	150	150	360	219	275	300
200 x 150	600	660	664	660	201	150	360	219	275	340
200	600	660	664	660	201	201	475	265	321	510
250 x 200	600	787	791	787	252	201	475	265	321	600
250	600	787	791	787	252	252	530	315	335	775
300 x 250	600	838	841	838	303	252	530	315	355	825
350 x 250	600	889	892	889	334	252	530	315	355	991
300	600	838	841	838	303	303	600	405	470	1055
350 x 300	600	889	892	889	334	303	600	405	470	1203
400 x 300	600	991	994	991	385	303	600	405	470	1390
350	600	889	892	889	334	334	670	432	455	1180
400 x 350	600	991	994	991	385	334	670	432	455	1480
450 x 350	600	1092	1095	1092	436	334	670	432	455	1780
400	600	991	994	991	385	385	720	451	460	1505
450 x 400	600	1092	1095	1092	436	385	720	451	460	1705
500 x 400	600	1194	1200	1194	487	385	720	451	460	1910
450	600	1092	1095	1092	436	436	820	472	503	2380
500 x 450	600	1194	1200	1194	487	436	820	472	503	2680
500	600	1194	1200	1194	487	487	905	560	560	2565
600 x 500	600	1397	1407	1397	589	487	905	560	560	3650
550	600	1295	1305	1295	538	538	990	578	602	4200
600	600	1397	1407	1397	589	589	1075	600	610	5195
750 x 600	600	1651	1664	1651	735	589	1075	610	622	6195
650	600	1448	1461	1448	633	633	1165	640	682	5990
700	600	1549	1562	1549	684	684	1235	722	742	7130
750	600	1651	1664	1651	735	735	1310	795	811	8150
900 x 750	600	2083	2099	2083	874	735	1310	795	811	11500
800	600	1778	1794	1778	779	779	1410	840	855	10800
850	600	1930	1946	1930	830	830	1500	890	893	11850
900	600	2083	2099	2083	874	874	1570	944	947	13850
1000	600	2300	2300	2300	976	976	1800	1025	1041	18500
1050	600	2400	2400	2400	1020	1020	1860	1075	1086	22402
1200	600	2700	2700	2700	1166	1166	2220	1240	1374	34500
1400	600	3000	3000	3000	1360	1360	2700	1340	1510	49550

General Notes

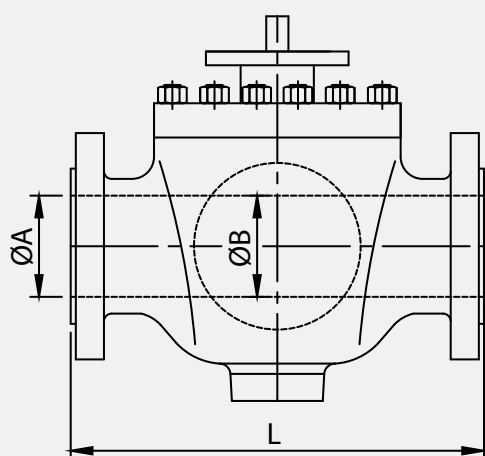
(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



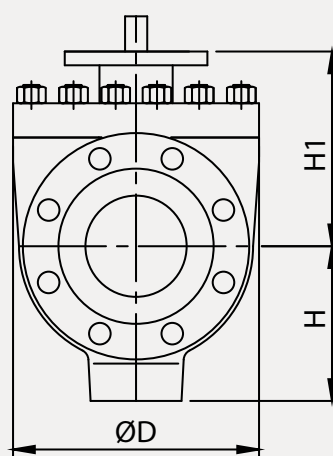
VB2/VB3



VW1



VT1



ASME Class 600 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	600	11.50	11.61	11.50	1.93	1.50	6.18	4.45	5.16	75
2	600	11.50	11.61	11.50	1.93	1.93	6.50	4.65	5.35	82
3 x 2	600	14.02	14.13	14.02	2.91	1.93	6.50	4.65	5.35	115
3	600	14.02	14.13	14.02	2.91	2.91	8.50	5.63	6.57	154
4 x 3	600	17.01	17.13	17.01	3.94	2.91	8.50	5.63	6.57	165
4	600	17.01	17.13	17.01	3.94	3.94	10.00	6.26	7.32	243
6 x 4	600	22.01	22.13	22.01	5.91	3.94	10.00	7.01	7.32	353
6	600	22.01	22.13	22.01	5.91	5.91	12.95	9.65	8.94	553
8 x 6	600	25.98	26.14	25.98	7.91	5.91	12.95	9.65	8.94	732
8	600	25.98	26.14	25.98	7.91	7.91	15.98	11.02	10.91	895
10 x 8	600	30.98	31.14	30.98	9.92	7.91	15.98	11.02	10.91	1248
10	600	30.98	31.14	30.98	9.92	9.92	20.16	13.50	13.03	1517
12 x 10	600	32.99	33.11	32.99	11.93	9.92	20.16	13.50	13.03	1739

ASME Class 600 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
14 x 10	600	35.00	35.12	35.00	13.15	9.92	20.16	13.50	13.03	1964
12	600	32.99	33.11	32.99	11.93	11.93	24.02	15.55	15.12	2061
14 x 12	600	35.00	35.12	35.00	13.15	11.93	24.02	15.55	15.12	2286
16 x 12	600	39.02	39.13	39.02	15.16	11.93	24.02	15.55	15.12	2868
14	600	35.00	35.12	35.00	13.15	13.15	24.49	15.75	15.35	2659
16 x 14	600	39.02	39.13	39.02	15.16	13.15	24.49	15.75	15.35	3241
18 x 14	600	42.99	43.11	42.99	17.17	13.15	24.49	15.75	15.35	3882
16	600	39.02	39.13	39.02	15.16	15.16	28.03	18.31	16.85	3860
18 x 16	600	42.99	43.11	42.99	17.17	15.16	28.03	18.31	16.85	4502
20 x 16	600	47.01	47.24	47.01	19.17	15.16	28.03	18.31	16.85	5254
18	600		43.11	42.99	17.17	17.17	31.85	20.28	18.98	5359
20 x 18	600	47.01	47.24	47.01	19.17	17.17	31.85	20.28	18.98	6111
20	600	47.01	47.24	47.01	19.17	19.17	35.16	21.65	20.87	7024
24 x 20	600	55.00	55.39	55.00	23.19	19.17	35.16	21.65	20.87	9057
22	600	50.98	51.38	50.98	21.18	21.18	38.58	24.41	23.23	9072
24	600	55.00	55.39	55.00	23.19	23.19	41.73	25.79	24.80	11356
30 x 24	600	65.00	65.51	65.00	28.94	23.19	41.73	25.79	24.80	14407
26	600	57.01	57.52	57.01	24.92	24.92	45.20	28.15	26.57	14030
28	600	60.98	61.50	60.98	26.93	26.93	47.83	30.31	28.15	17103
30	600	65.00	65.51	65.00	28.94	28.94	50.39	32.28	30.35	19138
36 x 30	600	82.01	82.64	82.01	34.41	28.94	50.39	32.28	30.35	25724
32	600	70.00	70.63	70.00	30.67	30.67	55.12	33.46	32.09	24750
34	600	75.98	76.61	75.98	32.68	32.68	58.35	35.43	33.74	29099
36	600	82.01	82.64	82.01	34.41	34.41	60.43	39.17	35.39	33312
40	600	81.89	82.52	81.89	38.43	38.43	67.56	41.26	38.43	40891
42	600	85.63	85.63	85.63	40.16	40.16	71.85	45.75	40.59	46083
48	600	95.87	95.87	95.87	45.91	45.91	81.69	49.80	46.54	69845
56	600	106.69	106.69	106.69	53.54	53.54	93.70	57.09	51.42	103304

ASME Class 600 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	600	11.50	11.61	11.50	1.93	1.50	6.18	4.45	5.16	(1)
2	600	11.50	11.61	11.50	1.93	1.93	6.50	4.65	5.35	(1)
3 x 2	600	14.02	14.13	14.02	2.91	1.93	6.50	4.65	5.35	(1)
3	600	14.02	14.13	14.02	2.91	2.91	8.50	5.63	6.57	(1)
4 x 3	600	17.01	17.13	17.01	3.94	2.91	8.50	5.63	6.57	(1)
4	600	17.01	17.13	17.01	3.94	3.94	10.00	6.26	7.32	(1)
6 x 4	600	22.01	22.13	22.01	5.91	3.94	10.00	7.01	7.32	(1)
6	600	22.01	22.13	22.01	5.91	5.91	12.99	10.55	8.94	(1)
8 x 6	600	25.98	26.14	25.98	7.91	5.91	12.99	10.55	8.94	(1)

ASME Class 600 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
8	600	25.98	26.14	25.98	7.91	7.91	15.98	13.19	10.91	(1)
10 x 8	600	30.98	31.14	30.98	9.92	7.91	15.98	13.19	10.91	(1)
10	600	30.98	31.14	30.98	9.92	9.92	20.16	15.67	13.03	(1)
12 x 10	600	32.99	33.11	32.99	11.93	9.92	20.16	15.67	13.03	(1)
14 x 10	600	35.00	35.12	35.00	13.15	9.92	20.16	15.67	13.03	(1)
12	600	32.99	33.11	32.99	11.93	11.93	23.31	15.55	14.72	(1)
14 x 12	600	35.00	35.12	35.00	13.15	11.93	23.31	15.55	14.72	(1)
16 x 12	600	39.02	39.13	39.02	15.16	11.93	23.31	15.55	14.72	(1)
14	600	35.00	35.12	35.00	13.15	13.15	24.49	18.11	15.35	(1)
16 x 14	600	39.02	39.13	39.02	15.16	13.15	24.49	18.11	15.35	(1)
18 x 14	600	42.99	43.11	42.99	17.17	13.15	24.49	18.11	15.35	(1)
16	600	39.02	39.13	39.02	15.16	15.16	27.40	19.96	16.85	(1)
18 x 16	600	42.99	43.11	42.99	17.17	15.16	27.40	19.96	16.85	(1)
20 x 16	600	47.01	47.24	47.01	19.17	15.16	27.40	19.96	16.85	(1)
18	600		43.11	42.99	17.17	17.17	31.85	21.85	18.98	(1)
20 x 18	600	47.01	47.24	47.01	19.17	17.17	31.85	21.85	18.98	(1)
20	600	47.01	47.24	47.01	19.17	19.17	35.16	24.80	20.87	(1)
24 x 20	600	55.00	55.39	55.00	23.19	19.17	35.16	24.80	20.87	(1)
22	600	50.98	51.38	50.98	21.18	21.18	38.58	24.41	23.23	(1)
24	600	55.00	55.39	55.00	23.19	23.19	40.31	26.22	24.21	(1)
30 x 24	600	65.00	65.51	65.00	28.94	23.19	40.31	26.22	24.21	(1)
26	600	57.01	57.52	57.01	24.92	24.92	44.09	28.74	25.79	(1)
28	600	60.98	61.50	60.98	26.93	26.93	47.83	30.31	28.15	(1)
30	600	65.00	65.51	65.00	28.94	28.94	50.39	31.30	30.35	(1)
36 x 30	600	82.01	82.64	82.01	34.41	28.94	50.39	31.30	30.35	(1)
32	600	70.00	70.63	70.00	30.67	30.67	55.12	33.46	32.09	(1)
34	600	75.98	76.61	75.98	32.68	32.68	57.09	35.43	34.80	(1)
36	600	82.01	82.64	82.01	34.41	34.41	59.21	37.20	38.43	(1)
40	600	81.89	82.52	81.89	38.43	38.43	67.56	41.26	38.43	(1)
42	600	85.63	85.63	85.63	40.16	40.16	71.85	45.75	40.59	(1)
48	600	95.87	95.87	95.87	45.91	45.91	81.69	49.80	46.54	(1)
56	600	106.69	106.69	106.69	53.54	53.54	93.70	57.09	51.42	(1)

ASME Class 600 (Imperial)

Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	600	11.50	11.61	11.50	1.93	1.50	6.69	3.35	7.87	77
2	600	11.50	11.61	11.50	1.93	1.93	7.87	3.35	7.87	90
3 x 2	600	14.02	14.13	14.02	2.91	1.93	7.87	3.35	7.87	106
3	600	14.02	14.13	14.02	2.91	2.91	9.65	4.49	8.78	154
4 x 3	600	17.01	17.13	17.01	3.94	2.91	9.65	4.49	8.78	331
4	600	17.01	17.13	17.01	3.94	3.94	12.20	5.51	11.02	309

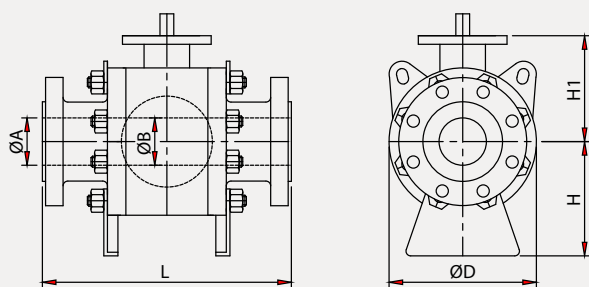
API 6D & 6A Trunnion Mounted Side Entry,
Welded Body, & Top Entry Ball Valves

ASME Class 600 (Imperial)

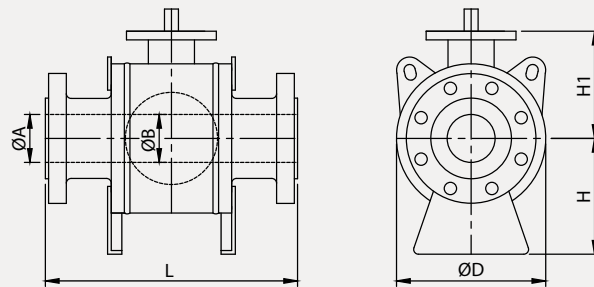
Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
6 x 4	600	22.01	22.13	22.01	5.91	3.94	12.20	5.51	11.02	397
6	600	22.01	22.13	22.01	5.91	5.91	14.17	8.62	10.83	661
8 x 6	600	25.98	26.14	25.98	7.91	5.91	14.17	8.62	10.83	750
8	600	25.98	26.14	25.98	7.91	7.91	18.70	10.43	12.64	1124
10 x 8	600	30.98	31.14	30.98	9.92	7.91	18.70	10.43	12.64	1323
10	600	30.98	31.14	30.98	9.92	9.92	20.87	12.40	13.98	1709
12 x 10	600	32.99	33.11	32.99	11.93	9.92	20.87	12.40	13.98	1819
14 x 10	600	35.00	35.12	35.00	13.15	9.92	20.87	12.40	13.98	2185
12	600	32.99	33.11	32.99	11.93	11.93	23.62	15.94	18.50	2326
14 x 12	600	35.00	35.12	35.00	13.15	11.93	23.62	15.94	18.50	2652
16 x 12	600	39.02	39.13	39.02	15.16	11.93	23.62	15.94	18.50	3064
14	600	35.00	35.12	35.00	13.15	13.15	26.38	17.01	17.91	2601
16 x 14	600	39.02	39.13	39.02	15.16	13.15	26.38	17.01	17.91	3263
18 x 14	600	42.99	43.11	42.99	17.17	13.15	26.38	17.01	17.91	3924
16	600	39.02	39.13	39.02	15.16	15.16	28.35	17.76	18.11	3318
18 x 16	600	42.99	43.11	42.99	17.17	15.16	28.35	17.76	18.11	3759
20 x 16	600	47.01	47.24	47.01	19.17	15.16	28.35	17.76	18.11	4211
18	600		43.11	42.99	17.17	17.17	32.28	18.58	19.80	5247
20 x 18	600	47.01	47.24	47.01	19.17	17.17	32.28	18.58	19.80	5908
20	600	47.01	47.24	47.01	19.17	19.17	35.63	22.05	22.05	5655
24 x 20	600	55.00	55.39	55.00	23.19	19.17	35.63	22.05	22.05	8047
22	600	50.98	51.38	50.98	21.18	21.18	38.98	22.76	23.70	9259
24	600	55.00	55.39	55.00	23.19	23.19	42.32	23.62	24.02	11453
30 x 24	600	65.00	65.51	65.00	28.94	23.19	42.32	24.02	24.49	13658
26	600	57.01	57.52	57.01	24.92	24.92	45.87	25.20	26.85	13206
28	600	60.98	61.50	60.98	26.93	26.93	48.62	28.43	29.21	15719
30	600	65.00	65.51	65.00	28.94	28.94	51.57	31.30	31.93	17968
36 x 30	600	82.01	82.64	82.01	34.41	28.94	51.57	31.30	31.93	25353
32	600	70.00	70.63	70.00	30.67	30.67	55.51	31.30	33.66	23810
34	600	75.98	76.61	75.98	32.68	32.68	59.06	35.04	35.16	26125
36	600	82.01	82.64	82.01	34.41	34.41	61.81	37.17	37.28	30534
40	600	90.55	90.55	90.55	38.43	38.43	70.87	40.35	40.98	40785
42	600	94.49	94.49	94.49	40.16	40.16	73.23	42.32	42.76	49388
48	600	106.30	106.30	106.30	45.91	45.91	87.40	48.82	54.09	76059
56	600	118.11	118.11	118.11	53.54	53.54	106.30	52.76	59.45	109239

General Notes

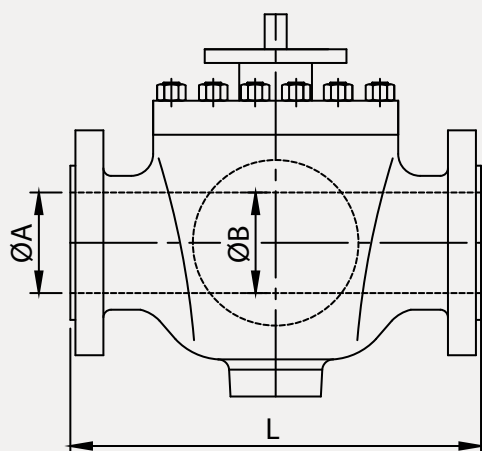
(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



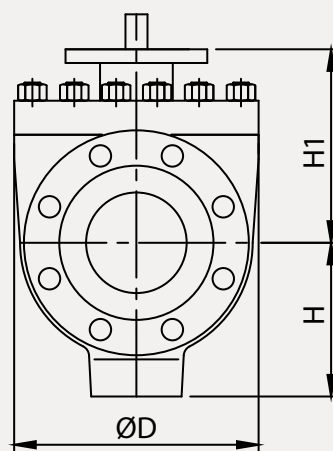
VB2/VB3



VW1



VT1



ASME Class 900 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	900	368	371	368	49	38	160	113	131	53
50	900	368	371	368	49	49	168	113	136	60
80 x 50	900	381	384	381	74	49	168	121	136	65
80	900	381	384	381	74	74	215	143	167	90
100 x 80	900	457	460	457	100	74	215	146	167	124
100	900	457	460	457	100	100	275	170	199	150
150 x 100	900	610	613	610	150	100	275	191	199	214
150	900	610	613	610	150	150	360	263	253	329
200 x 150	900	737	740	737	201	150	360	263	253	466
200	900	737	740	737	201	201	470	305	310	555
250 x 200	900	838	841	838	252	201	470	305	310	701
250	900	838	841	838	252	252	530	378	339	803
300 x 250	900	965	968	965	303	252	530	378	339	1020

ASME Class 900 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
350 x 250	900	1029	1038	1029	322	252	530	378	339	1220
300	900	965	968	965	303	303	615	395	387	1225
350 x 300	900	1029	1038	1029	322	303	615	395	387	1425
400 x 300	900	1130	1140	1130	373	303	615	395	387	1724
350	900	1029	1038	1029	322	322	655	433	406	1650
400 x 350	900	1130	1140	1130	373	322	655	433	406	1949
450 x 350	900	1219	1232	1219	423	322	655	433	406	2436
400	900	1130	1140	1130	373	373	750	485	456	2328
450 x 400	900	1219	1232	1219	423	373	750	485	456	3115
500 x 400	900	1321	1334	1321	471	373	750	485	456	3363
450	900	1219	1232	1219	423	423	843	550	505	3323
500 x 450	900	1321	1334	1321	471	423	843	550	505	3871
500	900	1321	1334	1321	471	471	949	600	577	4610
600 x 500	900	1549	1568	1549	570	471	949	600	577	6059
600	900	1549	1568	1549	570	570	1137	695	694	7341
750 x 600	900	1880	1902	1880	712	570	1137	695	694	8582
700	900	1713	1726	1713	665	665	1282	770	761	9600
750	900	1880	1902	1880	712	712	1360	850	839	11072
900 x 750	900	2286	2315	2286	855	712	1360	850	839	15836
800	900	2032	2054	2032	760	760	1380	900	855	15200
850	900	2159	2188	2159	808	808	1490	900	870	17170
900	900	2286	2315	2286	855	855	1605	1000	894	19142

ASME Class 900 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	900	368	371	368	49	38	160	113	131	(1)
50	900	368	371	368	49	49	166	118	136	(1)
80 x 50	900	381	384	381	74	49	166	118	136	(1)
80	900	381	384	381	74	74	215	143	167	(1)
100 x 80	900	457	460	457	100	74	215	146	167	(1)
100	900	457	460	457	100	100	273	170	199	(1)
150 x 100	900	610	613	610	150	100	273	191	199	(1)
150	900	610	613	610	150	150	358	268	253	(1)
200 x 150	900	737	740	737	201	150	358	268	253	(1)
200	900	737	740	737	201	201	434	350	293	(1)
250 x 200	900	838	841	838	252	201	434	350	293	(1)
250	900	838	841	838	252	252	505	378	329	(1)
300 x 250	900	965	968	965	303	252	505	378	329	(1)
350 x 250	900	1029	1038	1029	322	252	505	378	329	(1)
300	900	965	968	965	303	303	593	395	363	(1)
350 x 300	900	1029	1038	1029	322	303	593	395	363	(1)

ASME Class 900 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
350 x 250	900	1029	1038	1029	322	252	505	378	329	(1)
300	900	965	968	965	303	303	593	395	363	(1)
350 x 300	900	1029	1038	1029	322	303	593	395	363	(1)
400 x 300	900	1130	1140	1130	373	303	593	395	363	(1)
350	900	1029	1038	1029	322	322	655	433	406	(1)
400 x 350	900	1130	1140	1130	373	322	655	433	406	(1)
450 x 350	900	1219	1232	1219	423	322	655	433	406	(1)
400	900	1130	1140	1130	373	373	750	525	451	(1)
450 x 400	900	1219	1232	1219	423	373	750	525	451	(1)
500 x 400	900	1321	1334	1321	471	373	750	525	451	(1)
450	900	1219	1232	1219	423	423	843	550	505	(1)
500 x 450	900	1321	1334	1321	471	423	843	550	505	(1)
500	900	1321	1334	1321	471	471	953	600	577	(1)
600 x 500	900	1549	1568	1549	570	471	953	600	577	(1)
600	900	1549	1568	1549	570	570	1137	695	679	(1)
750 x 600	900	1880	1902	1880	712	570	1137	695	679	(1)
700	900	1713	1726	1713	665	665	1282	770	761	(1)
750	900	1880	1902	1880	712	712	1360	945	839	(1)
900 x 750	900	2286	2315	2286	855	712	1360	945	839	(1)
800	900	2032	2054	2032	760	760	1380	900	855	(1)
850	900	2159	2188	2159	808	808	1490	950	870	(1)
900	900	2286	2315	2286	855	855	1605	1000	894	(1)

ASME Class 900 (Metric)

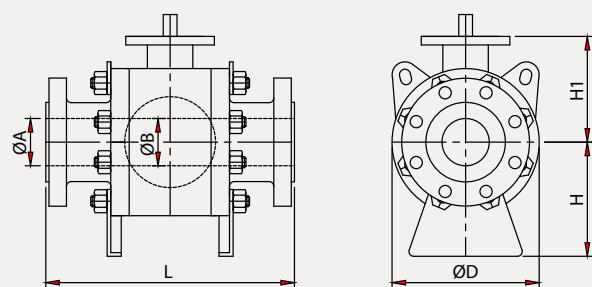
Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	900	368	371	368	49	38	190	85	210	49
50	900	368	371	368	49	49	215	95	210	52
80 x 50	900	381	384	381	74	49	215	95	210	75
80	900	381	384	381	74	74	255	113	227	110
100 x 80	900	457	460	457	100	74	255	113	227	140
100	900	457	460	457	100	100	325	145	280	200
150 x 100	900	610	613	610	150	100	325	145	280	273
150	900	610	613	610	150	150	380	223	280	450
200 x 150	900	737	740	737	201	150	380	223	280	570
200	900	737	740	737	201	201	480	290	350	702
250 x 200	900	838	841	838	252	201	480	290	350	906
250	900	838	841	838	252	252	585	320	380	1090
300 x 250	900	965	968	965	303	252	585	320	380	1090
350 x 250	900	1029	1038	1029	322	252	585	320	380	1495
300	900	965	968	965	303	303	705	418	507	1350

ASME Class 900 (Metric)

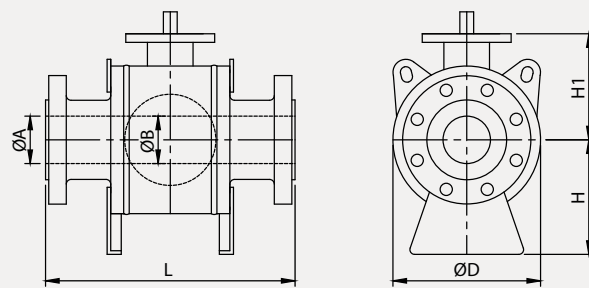
Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
350 x 300	900	1029	1038	1029	322	303	705	418	507	1800
400 x 300	900	1130	1140	1130	373	303	705	418	507	1994
350	900	1029	1038	1029	322	322	710	443	520	1760
400 x 350	900	1130	1140	1130	373	322	710	443	520	2350
450 x 350	900	1219	1232	1219	423	322	710	443	520	2650
400	900	1130	1140	1130	373	373	810	463	538	2649
450 x 400	900	1219	1232	1219	423	373	810	463	538	2837
500 x 400	900	1321	1334	1321	471	373	810	463	538	3515
450	900	1219	1232	1219	423	423	870	487	580	3400
500 x 450	900	1321	1334	1321	471	423	870	487	580	3875
500	900	1321	1334	1321	471	471	986	605	625	4450
600 x 500	900	1549	1568	1549	570	471	986	605	625	5695
600	900	1549	1568	1549	570	570	1180	625	690	7460
750 x 600	900	1880	1902	1880	712	570	1180	625	690	9000
700	900	1713	1726	1713	665	665	1345	723	820	10400
750	900	1880	1902	1880	712	712	1455	800	880	12875
900 x 750	900	2286	2315	2286	855	712	1455	800	880	15235
800	900	2032	2054	2032	760	760	1540	870	938	15950
850	900	2159	2188	2159	808	808	1655	920	982	17500
900	900	2286	2315	2286	855	855	1760	990	1050	20600

General Notes

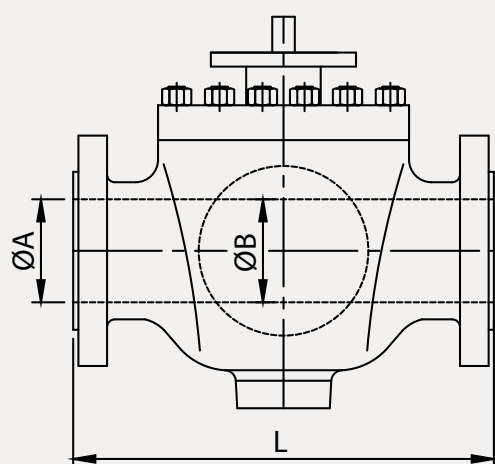
(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



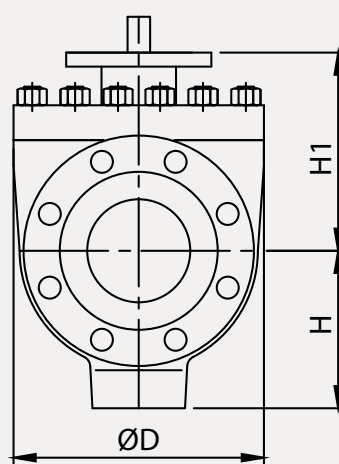
VB2/VB3



VW1



VT1



ASME Class 900 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	900	14.49	14.61	14.49	1.93	1.50	6.30	4.45	5.16	117
2	900	14.49	14.61	14.49	1.93	1.93	6.61	4.65	5.35	132
3 x 2	900	15.00	15.12	15.00	2.91	1.93	6.61	4.76	5.35	143
3	900	15.00	15.12	15.00	2.91	2.91	8.46	5.63	6.57	198
4 x 3	900	17.99	18.11	17.99	3.94	2.91	8.46	5.75	6.57	273
4	900	17.99	18.11	17.99	3.94	3.94	10.83	6.69	7.83	331
6 x 4	900	24.02	24.13	24.02	5.91	3.94	10.83	7.50	7.83	472
6	900	24.02	24.13	24.02	5.91	5.91	14.17	10.35	9.96	724
8 x 6	900	29.02	29.13	29.02	7.91	5.91	14.17	10.35	9.96	1027
8	900	29.02	29.13	29.02	7.91	7.91	18.50	12.01	12.20	1224
10 x 8	900	32.99	33.11	32.99	9.92	7.91	18.50	12.01	12.20	1545
10	900	32.99	33.11	32.99	9.92	9.92	20.87	14.88	13.35	1769
12 x 10	900	37.99	38.11	37.99	11.93	9.92	20.87	14.88	13.35	2249

ASME Class 900 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
14 x 10	900	40.51	40.87	40.51	12.68	9.92	20.87	14.88	13.35	2690
12	900	37.99	38.11	37.99	11.93	11.93	24.21	15.55	15.24	2701
14 x 12	900	40.51	40.87	40.51	12.68	11.93	24.21	15.55	15.24	3142
16 x 12	900	44.49	44.88	44.49	14.69	11.93	24.21	15.55	15.24	3801
14	900	40.51	40.87	40.51	12.68	12.68	25.79	17.05	15.98	3638
16 x 14	900	44.49	44.88	44.49	14.69	12.68	25.79	17.05	15.98	4297
18 x 14	900	47.99	48.50	47.99	16.65	12.68	25.79	17.05	15.98	5370
16	900	44.49	44.88	44.49	14.69	14.69	29.53	19.09	17.95	5132
18 x 16	900	47.99	48.50	47.99	16.65	14.69	29.53	19.09	17.95	6867
20 x 16	900	52.01	52.52	52.01	18.54	14.69	29.53	19.09	17.95	7414
18	900	47.99	48.50	47.99	16.65	16.65	33.19	21.65	19.88	7326
20 x 18	900	52.01	52.52	52.01	18.54	16.65	33.19	21.65	19.88	8534
20	900	52.01	52.52	52.01	18.54	18.54	37.36	23.62	22.72	10163
24 x 20	900	60.98	61.73	60.98	22.44	18.54	37.36	23.62	22.72	13358
24	900	60.98	61.73	60.98	22.44	22.44	44.76	27.36	27.32	16184
30 x 24	900	74.02	74.88	74.02	28.03	22.44	44.76	27.36	27.32	18920
28	900	67.44	67.95	67.44	26.18	26.18	50.47	30.31	29.96	21164
30	900	74.02	74.88	74.02	28.03	28.03	53.54	33.46	33.03	24410
36 x 30	900	90.00	91.14	90.00	33.66	28.03	53.54	33.46	33.03	34912
32	900	80.00	80.87	80.00	29.92	29.92	54.33	35.43	33.66	33510
34	900	85.00	86.14	85.00	31.81	31.81	58.66	37.40	34.25	37853
36	900	90.00	91.14	90.00	33.66	33.66	63.19	39.37	35.20	42201

ASME Class 900 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	900	14.49	14.61	14.49	1.93	1.50	6.30	4.45	5.16	(1)
2	900	14.49	14.61	14.49	1.93	1.93	6.54	4.65	5.35	(1)
3 x 2	900	15.00	15.12	15.00	2.91	1.93	6.54	4.65	5.35	(1)
3	900	15.00	15.12	15.00	2.91	2.91	8.46	5.63	6.57	(1)
4 x 3	900	17.99	18.11	17.99	3.94	2.91	8.46	5.75	6.57	(1)
4	900	17.99	18.11	17.99	3.94	3.94	10.75	6.69	7.83	(1)
6 x 4	900	24.02	24.13	24.02	5.91	3.94	10.75	7.50	7.83	(1)
6	900	24.02	24.13	24.02	5.91	5.91	14.09	10.55	9.96	(1)
8 x 6	900	29.02	29.13	29.02	7.91	5.91	14.09	10.55	9.96	(1)
8	900	29.02	29.13	29.02	7.91	7.91	17.09	13.78	11.54	(1)
10 x 8	900	32.99	33.11	32.99	9.92	7.91	17.09	13.78	11.54	(1)
10	900	32.99	33.11	32.99	9.92	9.92	19.88	14.88	12.95	(1)
12 x 10	900	37.99	38.11	37.99	11.93	9.92	19.88	14.88	12.95	(1)
14 x 10	900	40.51	40.87	40.51	12.68	9.92	19.88	14.88	12.95	(1)
12	900	37.99	38.11	37.99	11.93	11.93	23.35	15.55	14.29	(1)
14 x 12	900	40.51	40.87	40.51	12.68	11.93	23.35	15.55	14.29	(1)

ASME Class 900 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
16 x 12	900	44.49	44.88	44.49	14.69	11.93	23.35	15.55	14.29	(1)
14	900	40.51	40.87	40.51	12.68	12.68	25.79	17.05	15.98	(1)
16 x 14	900	44.49	44.88	44.49	14.69	12.68	25.79	17.05	15.98	(1)
18 x 14	900	47.99	48.50	47.99	16.65	12.68	25.79	17.05	15.98	(1)
16	900	44.49	44.88	44.49	14.69	14.69	29.53	20.67	17.76	(1)
18 x 16	900	47.99	48.50	47.99	16.65	14.69	29.53	20.67	17.76	(1)
20 x 16	900	52.01	52.52	52.01	18.54	14.69	29.53	20.67	17.76	(1)
18	900	47.99	48.50	47.99	16.65	16.65	33.19	21.65	19.88	(1)
20 x 18	900	52.01	52.52	52.01	18.54	16.65	33.19	21.65	19.88	(1)
20	900	52.01	52.52	52.01	18.54	18.54	37.52	23.62	22.72	(1)
24 x 20	900	60.98	61.73	60.98	22.44	18.54	37.52	23.62	22.72	(1)
24	900	60.98	61.73	60.98	22.44	22.44	44.76	27.36	26.73	(1)
30 x 24	900	74.02	74.88	74.02	28.03	22.44	44.76	27.36	26.73	(1)
28	900	67.44	67.95	67.44	26.18	26.18	50.47	30.31	29.96	(1)
30	900	74.02	74.88	74.02	28.03	28.03	53.54	37.20	33.03	(1)
36 x 30	900	90.00	91.14	90.00	33.66	28.03	53.54	37.20	33.03	(1)
32	900	80.00	80.87	80.00	29.92	29.92	54.33	35.43	33.66	(1)
34	900	85.00	86.14	85.00	31.81	31.81	58.66	37.40	34.25	(1)
36	900	90.00	91.14	90.00	33.66	33.66	63.19	39.37	35.20	(1)

ASME Class 900 (Imperial)

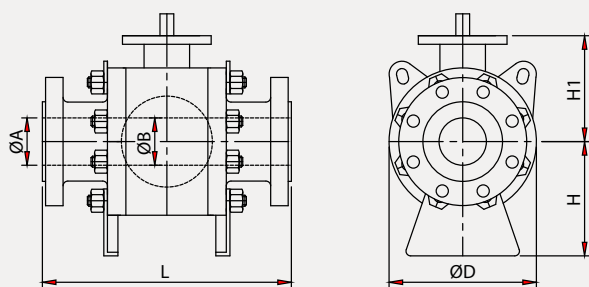
Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	900	14.49	14.61	14.49	1.93	1.50	7.48	3.35	8.27	108
2	900	14.49	14.61	14.49	1.93	1.93	8.46	3.74	8.27	115
3 x 2	900	15.00	15.12	15.00	2.91	1.93	8.46	3.74	8.27	165
3	900	15.00	15.12	15.00	2.91	2.91	10.04	4.45	8.94	243
4 x 3	900	17.99	18.11	17.99	3.94	2.91	10.04	4.45	8.94	309
4	900	17.99	18.11	17.99	3.94	3.94	12.80	5.71	11.02	441
6 x 4	900	24.02	24.13	24.02	5.91	3.94	12.80	5.71	11.02	602
6	900	24.02	24.13	24.02	5.91	5.91	14.96	8.78	11.02	992
8 x 6	900	29.02	29.13	29.02	7.91	5.91	14.96	8.78	11.02	1257
8	900	29.02	29.13	29.02	7.91	7.91	18.90	11.42	13.78	1548
10 x 8	900	32.99	33.11	32.99	9.92	7.91	18.90	11.42	13.78	1997
10	900	32.99	33.11	32.99	9.92	9.92	23.03	12.60	14.96	2403
12 x 10	900	37.99	38.11	37.99	11.93	9.92	23.03	12.60	14.96	2403
14 x 10	900	40.51	40.87	40.51	12.68	9.92	23.03	12.60	14.96	3296
12	900	37.99	38.11	37.99	11.93	11.93	27.76	16.46	19.96	2976
14 x 12	900	40.51	40.87	40.51	12.68	11.93	27.76	16.46	19.96	3968
16 x 12	900	44.49	44.88	44.49	14.69	11.93	27.76	16.46	19.96	4396
14	900	40.51	40.87	40.51	12.68	12.68	27.95	17.44	20.47	3880
16 x 14	900	44.49	44.88	44.49	14.69	12.68	27.95	17.44	20.47	5181

ASME Class 900 (Imperial)

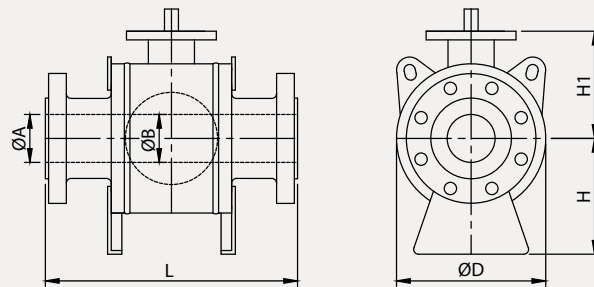
Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
18 x 14	900	47.99	48.50	47.99	16.65	12.68	27.95	17.44	20.47	5842
16	900	44.49	44.88	44.49	14.69	14.69	31.89	18.23	21.18	5840
18 x 16	900	47.99	48.50	47.99	16.65	14.69	31.89	18.23	21.18	6255
20 x 16	900	52.01	52.52	52.01	18.54	14.69	31.89	18.23	21.18	7749
18	900	47.99	48.50	47.99	16.65	16.65	34.25	19.17	22.83	7496
20 x 18	900	52.01	52.52	52.01	18.54	16.65	34.25	19.17	22.83	8543
20	900	52.01	52.52	52.01	18.54	18.54	38.82	23.82	24.61	9811
24 x 20	900	60.98	61.73	60.98	22.44	18.54	38.82	23.82	24.61	12555
24	900	60.98	61.73	60.98	22.44	22.44	46.46	24.61	27.17	16446
30 x 24	900	74.02	74.88	74.02	28.03	22.44	46.46	24.61	27.17	19842
28	900	67.44	67.95	67.44	26.18	26.18	52.95	28.46	32.28	22928
30	900	74.02	74.88	74.02	28.03	28.03	57.28	31.50	34.65	28384
36 x 30	900	90.00	91.14	90.00	33.66	28.03	57.28	31.50	34.65	33587
32	900	80.00	80.87	80.00	29.92	29.92	60.63	34.25	36.93	35164
34	900	85.00	86.14	85.00	31.81	31.81	65.16	36.22	36.93	38581
36	900	90.00	91.14	90.00	33.66	33.66	69.29	38.98	41.34	45415

General Notes

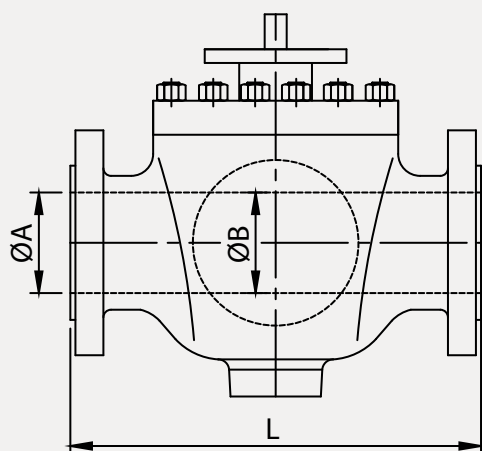
(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



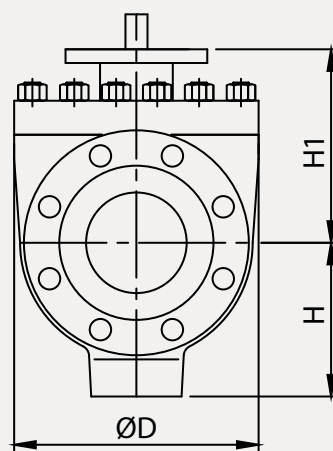
VB2/VB3



VW1



VT1



ASME Class 1500 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	1500	368	371	368	49	38	160	113	131	53
50	1500	368	371	368	49	49	168	118	136	60
80 x 50	1500	470	473	470	74	49	168	134	136	82
80	1500	470	473	470	74	74	216	143	167	110
100 x 80	1500	546	549	546	100	74	216	156	167	140
100	1500	546	549	546	100	100	273	169	199	200
150 x 100	1500	705	711	705	144	100	273	197	199	310
150	1500	705	711	705	144	144	430	295	304	490
200 x 150	1500	832	841	832	192	144	430	295	304	650
200	1500	832	841	832	192	192	537	350	339	957
250 x 200	1500	991	1000	991	239	192	537	350	339	1180
250	1500	991	1000	991	239	239	600	400	371	1490
300 x 250	1500	1130	1146	1130	287	239	600	400	371	1850

ASME Class 1500 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
350 x 250	1500	1257	1276	1257	315	239	600	400	371	2145
300	1500	1130	1146	1130	287	287	675	453	411	2167
350 x 300	1500	1257	1276	1257	315	287	675	453	411	2620
400 x 300	1500	1384	1407	1384	360	287	675	453	411	2860
350	1500	1257	1276	1257	315	315	755	515	461	3000
400 x 350	1500	1384	1407	1384	360	315	755	515	461	3450
450 x 350	1500	1537	1559	1537	406	315	755	515	461	3800
400	1500	1384	1407	1384	360	360	860	570	514	4255
450 x 400	1500	1537	1559	1537	406	360	860	570	514	4970
500 x 400	1500	1664	1686	1664	454	360	860	570	514	5135
450	1500	1537	1559	1537	406	406	949	612	587	5515
500 x 450	1500	1664	1686	1664	454	406	949	612	587	6450
500	1500	1664	1686	1664	454	454	1070	680	670	7540
600 x 500	1500	1943	1972	1943	546	454	1070	680	670	10875
600	1500	1943	1972	1943	546	546	1305	750	720	14550

ASME Class 1500 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	1500	368	371	368	49	38	160	113	131	(1)
50	1500	368	371	368	49	49	166	118	136	(1)
80 x 50	1500	470	473	470	74	49	166	118	136	(1)
80	1500	470	473	470	74	74	216	143	167	(1)
100 x 80	1500	546	549	546	100	74	216	156	167	(1)
100	1500	546	549	546	100	100	273	169	199	(1)
150 x 100	1500	705	711	705	144	100	273	197	199	(1)
150	1500	705	711	705	144	144	397	305	304	(1)
200 x 150	1500	832	841	832	192	144	397	305	299	(1)
200	1500	832	841	832	192	192	513	400	299	(1)
250 x 200	1500	991	1000	991	239	192	513	400	327	(1)
250	1500	991	1000	991	239	239	550	410	327	(1)
300 x 250	1500	1130	1146	1130	287	239	550	410	343	(1)
350 x 250	1500	1257	1276	1257	315	239	550	410	343	(1)
300	1500	1130	1146	1130	287	287	675	473	411	(1)
350 x 300	1500	1257	1276	1257	315	287	675	473	411	(1)
400 x 300	1500	1384	1407	1384	360	287	675	473	411	(1)
350	1500	1257	1276	1257	315	315	744	505	455	(1)
400 x 350	1500	1384	1407	1384	360	315	744	505	455	(1)
450 x 350	1500	1537	1559	1537	406	315	744	505	455	(1)
400	1500	1384	1407	1384	360	360	810	545	475	(1)
450 x 400	1500	1537	1559	1537	406	360	810	545	475	(1)
500 x 400	1500	1664	1686	1664	454	360	810	545	475	(1)

ASME Class 1500 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
450	1500	1537	1559	1537	406	406	934	612	580	(1)
500 x 450	1500	1664	1686	1664	454	406	934	612	580	(1)
500	1500	1664	1686	1664	454	454	1070	680	670	(1)
600 x 500	1500	1943	1972	1943	546	454	1070	680	670	(1)
600	1500	1943	1972	1943	546	546	1260	760	698	(1)

ASME Class 1500 (Metric)

Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	1500	368	371	368	49	38	190	85	210	50
50	1500	368	371	368	49	49	215	95	210	56
80 x 50	1500	470	473	470	74	49	215	95	210	98
80	1500	470	473	470	74	74	270	118	236	153
100 x 80	1500	546	549	546	100	74	270	118	236	203
100	1500	546	549	546	100	100	340	150	295	278
150 x 100	1500	705	711	705	144	100	340	150	295	376
150	1500	705	711	705	144	144	450	236	303	600
200 x 150	1500	832	841	832	192	144	450	236	303	703
200	1500	832	841	832	192	192	540	285	354	1100
250 x 200	1500	991	1000	991	239	192	540	285	354	1273
250	1500	991	1000	991	239	239	625	333	398	1438
300 x 250	1500	1130	1146	1130	287	239	625	333	398	1535
350 x 250	1500	1257	1276	1257	315	239	625	333	398	2100
300	1500	1130	1146	1130	287	287	750	427	530	2017
350 x 300	1500	1257	1276	1257	315	287	750	427	530	2698
400 x 300	1500	1384	1407	1384	360	287	750	427	530	3100
350	1500	1257	1276	1257	315	315	850	456	550	2612
400 x 350	1500	1384	1407	1384	360	315	850	456	550	3200
450 x 350	1500	1537	1559	1537	406	315	850	456	550	3750
400	1500	1384	1407	1384	360	360	955	487	565	3990
450 x 400	1500	1537	1559	1537	406	360	955	487	565	4360
500 x 400	1500	1664	1686	1664	454	360	955	487	565	4560
450	1500	1537	1559	1537	406	406	908	527	592	5150
500 x 450	1500	1664	1686	1664	454	406	908	527	592	5850
500	1500	1664	1686	1664	454	454	1125	630	650	6678
600 x 500	1500	1943	1972	1943	546	454	1125	630	650	9200
600	1500	1943	1972	1943	546	546	1330	640	800	11700

ASME Class 2500 (Metric)

Side Entry (VB2/VB3)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	2500	451	454	451	42	38	174	128	149	105
50	2500	451	454	451	42	42	213	150	174	125
80 x 50	2500	578	584	578	62	42	213	153	174	185
80	2500	578	584	578	62	62	305	196	219	240
100 x 80	2500	673	683	673	87	62	305	196	219	388
100	2500	673	683	673	87	87	375	220	272	388
150 x 100	2500	914	927	914	131	87	375	242	272	700
150	2500	914	927	914	131	131	525	340	353	1042
200 x 150	2500	1022	1038	1022	179	131	525	340	353	1230
200	2500	1022	1038	1022	179	179	650	400	415	1685
250 x 200	2500	1270	1292	1270	223	179	650	400	415	2450
250	2500	1270	1292	1270	223	223	800	490	489	3236
300 x 250	2500	1422	1445	1422	265	223	800	490	489	3750
300	2500	1422	1445	1422	265	265	870	555	531	4504

ASME Class 2500 (Metric)

Welded Body (VW1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	2500	451	454	451	42	38	174	128	149	(1)
50	2500	451	454	451	42	42	213	150	174	(1)
80 x 50	2500	578	584	578	62	42	213	153	174	(1)
80	2500	578	584	578	62	62	305	196	219	(1)
100 x 80	2500	673	683	673	87	62	305	196	219	(1)
100	2500	673	683	673	87	87	375	220	272	(1)
150 x 100	2500	914	927	914	131	87	375	242	272	(1)
150	2500	914	927	914	131	131	525	340	353	(1)
200 x 150	2500	1022	1038	1022	179	131	525	340	353	(1)
200	2500	1022	1038	1022	179	179	650	400	415	(1)
250 x 200	2500	1270	1292	1270	223	179	650	400	415	(1)
250	2500	1270	1292	1270	223	223	800	490	489	(1)
300 x 250	2500	1422	1445	1422	265	223	800	490	489	(1)
300	2500	1422	1445	1422	265	265	870	555	531	(1)

ASME Class 2500 (Metric)

Top Entry (VT1)										
DN (mm)	Pressure Class	Face To Face (mm)			ØA (mm)	ØB (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		RF	RTJ	BW						
50 x 40	2500	451	454	451	42	38	231	95	215	80
50	2500	451	454	451	42	42	260	100	215	120
80 x 50	2500	578	584	578	62	42	260	100	215	160
80	2500	578	584	578	62	62	290	122	243	246
100 x 80	2500	673	683	673	87	62	290	122	243	300
100	2500	673	683	673	87	87	450	165	300	470
150 x 100	2500	914	927	914	131	87	450	165	300	670
150	2500	914	927	914	131	131	488	243	355	937
200 x 150	2500	1022	1038	1022	179	131	488	243	355	1150
200	2500	1022	1038	1022	179	179	586	292	424	1550
250 x 200	2500	1270	1292	1270	223	179	586	292	424	2250
250	2500	1270	1292	1270	223	223	800	352	503	2600
300 x 250	2500	1422	1445	1422	265	223	800	352	503	3300
300	2500	1422	1445	1422	265	265	960	436	588	4200

ASME Class 1500 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	1500	14.49	14.61	14.49	1.93	1.50	6.30	4.45	5.16	117
2	1500	14.49	14.61	14.49	1.93	1.93	6.61	4.65	5.35	132
3 x 2	1500	18.50	18.62	18.50	2.91	1.93	6.61	5.28	5.35	181
3	1500	18.50	18.62	18.50	2.91	2.91	8.50	5.63	6.57	243
4 x 3	1500	21.50	21.61	21.50	3.94	2.91	8.50	6.12	6.57	309
4	1500	21.50	21.61	21.50	3.94	3.94	10.75	6.65	7.83	441
6 x 4	1500	27.76	27.99	27.76	5.67	3.94	10.75	7.76	7.83	683
6	1500	27.76	27.99	27.76	5.67	5.67	16.93	11.61	11.97	1080
8 x 6	1500	32.76	33.11	32.76	7.56	5.67	16.93	11.61	11.97	1433
8	1500	32.76	33.11	32.76	7.56	7.56	21.14	13.78	13.35	2110
10 x 8	1500	39.02	39.37	39.02	9.41	7.56	21.14	13.78	13.35	2601
10	1500	39.02	39.37	39.02	9.41	9.41	23.62	15.75	14.61	3285
12 x 10	1500	44.49	45.12	44.49	11.30	9.41	23.62	15.75	14.61	4079
14 x 10	1500	49.49	50.24	49.49	12.40	9.41	23.62	15.75	14.61	4729
12	1500	44.49	45.12	44.49	11.30	11.30	26.57	17.83	16.18	4777
14 x 12	1500	49.49	50.24	49.49	12.40	11.30	26.57	17.83	16.18	5776
16 x 12	1500	54.49	55.39	54.49	14.17	11.30	26.57	17.83	16.18	6305
14	1500	49.49	50.24	49.49	12.40	12.40	29.72	20.28	18.15	6614
16 x 14	1500	54.49	55.39	54.49	14.17	12.40	29.72	20.28	18.15	7606
18 x 14	1500	60.51	61.38	60.51	15.98	12.40	29.72	20.28	18.15	8378
16	1500	54.49	55.39	54.49	14.17	14.17	33.86	22.44	20.24	9381
18 x 16	1500	60.51	61.38	60.51	15.98	14.17	33.86	22.44	20.24	10957
20 x 16	1500	65.51	66.38	65.51	17.87	14.17	33.86	22.44	20.24	11321

ASME Class 1500 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
18	1500	60.51	61.38	60.51	15.98	15.98	37.36	24.09	23.11	12158
20 x 18	1500	65.51	66.38	65.51	17.87	15.98	37.36	24.09	23.11	14220
20	1500	65.51	66.38	65.51	17.87	17.87	42.13	26.77	26.38	16623
24 x 20	1500	76.50	77.64	76.50	21.50	17.87	42.13	26.77	26.38	23975
24	1500	76.50	77.64	76.50	21.50	21.50	51.38	29.53	28.35	32077

ASME Class 1500 (Imperial)

Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	1500	14.49	14.61	14.49	1.93	1.50	6.30	4.45	5.16	(1)
2	1500	14.49	14.61	14.49	1.93	1.93	6.54	4.65	5.35	(1)
3 x 2	1500	18.50	18.62	18.50	2.91	1.93	6.54	4.65	5.35	(1)
3	1500	18.50	18.62	18.50	2.91	2.91	8.50	5.63	6.57	(1)
4 x 3	1500	21.50	21.61	21.50	3.94	2.91	8.50	6.12	6.57	(1)
4	1500	21.50	21.61	21.50	3.94	3.94	10.75	6.65	7.83	(1)
6 x 4	1500	27.76	27.99	27.76	5.67	3.94	10.75	7.76	7.83	(1)
6	1500	27.76	27.99	27.76	5.67	5.67	15.63	12.01	11.77	(1)
8 x 6	1500	32.76	33.11	32.76	7.56	5.67	15.63	12.01	11.77	(1)
8	1500	32.76	33.11	32.76	7.56	7.56	20.20	15.75	12.87	(1)
10 x 8	1500	39.02	39.37	39.02	9.41	7.56	20.20	15.75	12.87	(1)
10	1500	39.02	39.37	39.02	9.41	9.41	21.65	16.14	13.50	(1)
12 x 10	1500	44.49	45.12	44.49	11.30	9.41	21.65	16.14	13.50	(1)
14 x 10	1500	49.49	50.24	49.49	12.40	9.41	21.65	16.14	13.50	(1)
12	1500	44.49	45.12	44.49	11.30	11.30	26.57	18.62	16.18	(1)
14 x 12	1500	49.49	50.24	49.49	12.40	11.30	26.57	18.62	16.18	(1)
16 x 12	1500	54.49	55.39	54.49	14.17	11.30	26.57	18.62	16.18	(1)
14	1500	49.49	50.24	49.49	12.40	12.40	29.29	19.88	17.91	(1)
16 x 14	1500	54.49	55.39	54.49	14.17	12.40	29.29	19.88	17.91	(1)
18 x 14	1500	60.51	61.38	60.51	15.98	12.40	29.29	19.88	17.91	(1)
16	1500	54.49	55.39	54.49	14.17	14.17	31.89	21.46	18.70	(1)
18 x 16	1500	60.51	61.38	60.51	15.98	14.17	31.89	21.46	18.70	(1)
20 x 16	1500	65.51	66.38	65.51	17.87	14.17	31.89	21.46	18.70	(1)
18	1500	60.51	61.38	60.51	15.98	15.98	36.77	24.09	22.83	(1)
20 x 18	1500	65.51	66.38	65.51	17.87	15.98	36.77	24.09	22.83	(1)
20	1500	65.51	66.38	65.51	17.87	17.87	42.13	26.77	26.38	(1)
24 x 20	1500	76.50	77.64	76.50	21.50	17.87	42.13	26.77	26.38	(1)
24	1500	76.50	77.64	76.50	21.50	21.50	49.61	29.92	27.48	(1)

ASME Class 1500 (Imperial)

Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	1500	14.49	14.61	14.49	1.93	1.50	7.48	3.35	8.27	110
2	1500	14.49	14.61	14.49	1.93	1.93	8.46	3.74	8.27	123
3 x 2	1500	18.50	18.62	18.50	2.91	1.93	8.46	3.74	8.27	216
3	1500	18.50	18.62	18.50	2.91	2.91	10.63	4.65	9.29	337
4 x 3	1500	21.50	21.61	21.50	3.94	2.91	10.63	4.65	9.29	448
4	1500	21.50	21.61	21.50	3.94	3.94	13.39	5.91	11.61	613
6 x 4	1500	27.76	27.99	27.76	5.67	3.94	13.39	5.91	11.61	829
6	1500	27.76	27.99	27.76	5.67	5.67	17.72	9.29	11.93	1323
8 x 6	1500	32.76	33.11	32.76	7.56	5.67	17.72	9.29	11.93	1550
8	1500	32.76	33.11	32.76	7.56	7.56	21.26	11.22	13.94	2425
10 x 8	1500	39.02	39.37	39.02	9.41	7.56	21.26	11.22	13.94	2806
10	1500	39.02	39.37	39.02	9.41	9.41	24.61	13.11	15.67	3170
12 x 10	1500	44.49	45.12	44.49	11.30	9.41	24.61	13.11	15.67	3384
14 x 10	1500	49.49	50.24	49.49	12.40	9.41	24.61	13.11	15.67	4630
12	1500	44.49	45.12	44.49	11.30	11.30	29.53	16.81	20.87	4447
14 x 12	1500	49.49	50.24	49.49	12.40	11.30	29.53	16.81	20.87	5948
16 x 12	1500	54.49	55.39	54.49	14.17	11.30	29.53	16.81	20.87	6834
14	1500	49.49	50.24	49.49	12.40	12.40	33.46	17.95	21.65	5758
16 x 14	1500	54.49	55.39	54.49	14.17	12.40	33.46	17.95	21.65	7055
18 x 14	1500	60.51	61.38	60.51	15.98	12.40	33.46	17.95	21.65	8267
16	1500	54.49	55.39	54.49	14.17	14.17	37.60	19.17	22.24	8796
18 x 16	1500	60.51	61.38	60.51	15.98	14.17	37.60	19.17	22.24	9612
20 x 16	1500	65.51	66.38	65.51	17.87	14.17	37.60	19.17	22.24	10053
18	1500	60.51	61.38	60.51	15.98	15.98	35.75	20.75	23.31	11354
20 x 18	1500	65.51	66.38	65.51	17.87	15.98	35.75	20.75	23.31	12897
20	1500	65.51	66.38	65.51	17.87	17.87	44.29	24.80	25.59	14722
24 x 20	1500	76.50	77.64	76.50	21.50	17.87	44.29	24.80	25.59	20283
24	1500	76.50	77.64	76.50	21.50	21.50	52.36	25.20	31.50	25794

ASME Class 2500 (Imperial)

Side Entry (VB2/VB3)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	2500	17.76	17.87	17.76	1.65	1.50	6.85	5.04	5.87	231
2	2500	17.76	17.87	17.76	1.65	1.65	8.39	5.91	6.85	276
3 x 2	2500	22.76	22.99	22.76	2.44	1.65	8.39	6.00	6.85	408
3	2500	22.76	22.99	22.76	2.44	2.44	12.01	7.72	8.62	529
4 x 3	2500	26.50	26.89	26.50	3.43	2.44	12.01	7.72	8.62	855
4	2500	26.50	26.89	26.50	3.43	3.43	14.76	8.66	10.71	855
6 x 4	2500	35.98	36.50	35.98	5.16	3.43	14.76	9.51	10.71	1543
6	2500	35.98	36.50	35.98	5.16	5.16	20.67	13.39	13.90	2297
8 x 6	2500	40.24	40.87	40.24	7.05	5.16	20.67	13.39	13.90	2712
8	2500	40.24	40.87	40.24	7.05	7.05	25.59	15.75	16.32	3715
10 x 8	2500	50.00	50.87	50.00	8.78	7.05	25.59	15.75	16.32	5401
10	2500	50.00	50.87	50.00	8.78	8.78	31.50	19.29	19.25	7134
12 x 10	2500	55.98	56.89	55.98	10.43	8.78	31.50	19.29	19.25	8267
12	2500	55.98	56.89	55.98	10.43	10.43	34.25	21.85	20.91	9930

ASME Class 2500 (Imperial)

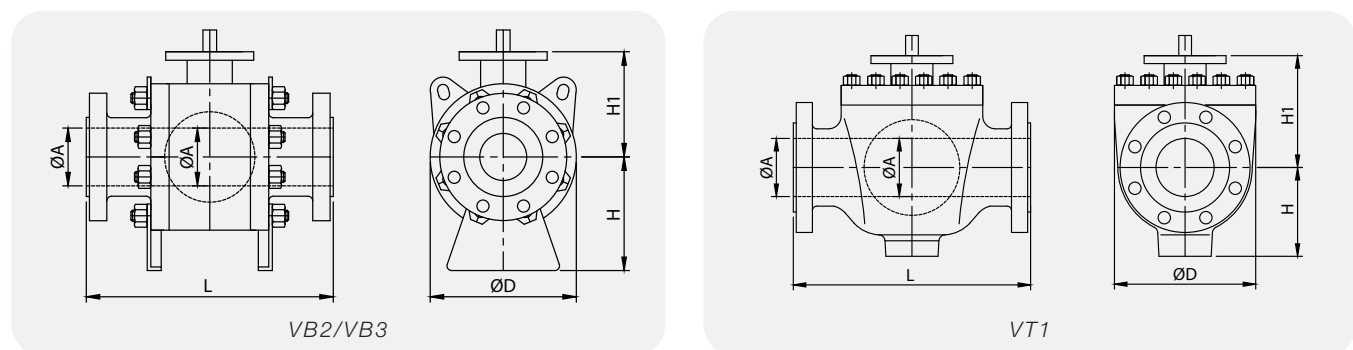
Welded Body (VW1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	2500	17.76	17.87	17.76	1.65	1.50	6.85	5.04	5.87	(1)
2	2500	17.76	17.87	17.76	1.65	1.65	8.39	5.91	6.85	(1)
3 x 2	2500	22.76	22.99	22.76	2.44	1.65	8.39	6.00	6.85	(1)
3	2500	22.76	22.99	22.76	2.44	2.44	12.01	7.72	8.62	(1)
4 x 3	2500	26.50	26.89	26.50	3.43	2.44	12.01	7.72	8.62	(1)
4	2500	26.50	26.89	26.50	3.43	3.43	14.76	8.66	10.71	(1)
6 x 4	2500	35.98	36.50	35.98	5.16	3.43	14.76	9.51	10.71	(1)
6	2500	35.98	36.50	35.98	5.16	5.16	20.67	13.39	13.90	(1)
8 x 6	2500	40.24	40.87	40.24	7.05	5.16	20.67	13.39	13.90	(1)
8	2500	40.24	40.87	40.24	7.05	7.05	25.59	15.75	16.32	(1)
10 x 8	2500	50.00	50.87	50.00	8.78	7.05	25.59	15.75	16.32	(1)
10	2500	50.00	50.87	50.00	8.78	8.78	31.50	19.29	19.25	(1)
12 x 10	2500	55.98	56.89	55.98	10.43	8.78	31.50	19.29	19.25	(1)
12	2500	55.98	56.89	55.98	10.43	10.43	34.25	21.85	20.91	(1)

ASME Class 2500 (Imperial)

Top Entry (VT1)										
DN (in)	Pressure Class	Face To Face (in)			ØA (in)	ØB (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		RF	RTJ	BW						
2 x 1,5	2500	17.76	17.87	17.76	1.65	1.50	9.09	3.74	8.46	176
2	2500	17.76	17.87	17.76	1.65	1.65	10.24	3.94	8.46	265
3 x 2	2500	22.76	22.99	22.76	2.44	1.65	10.24	3.94	8.46	353
3	2500	22.76	22.99	22.76	2.44	2.44	11.42	4.80	9.57	542
4 x 3	2500	26.50	26.89	26.50	3.43	2.44	11.42	4.80	9.57	661
4	2500	26.50	26.89	26.50	3.43	3.43	17.72	6.50	11.81	1036
6 x 4	2500	35.98	36.50	35.98	5.16	3.43	17.72	6.50	11.81	1477
6	2500	35.98	36.50	35.98	5.16	5.16	19.21	9.57	13.98	2066
8 x 6	2500	40.24	40.87	40.24	7.05	5.16	19.21	9.57	13.98	2535
8	2500	40.24	40.87	40.24	7.05	7.05	23.07	11.50	16.69	3417
10 x 8	2500	50.00	50.87	50.00	8.78	7.05	23.07	11.50	16.69	4960
10	2500	50.00	50.87	50.00	8.78	8.78	31.50	13.86	19.80	5732
12 x 10	2500	55.98	56.89	55.98	10.43	8.78	31.50	13.86	19.80	7275
12	2500	55.98	56.89	55.98	10.43	10.43	37.80	17.17	23.15	9259

General Notes

(1) Please consult manufacturer weight values are relevant to flanged end valves. For dimensions and weights in larger sizes consult the factory. Dimensions D, H, H1 and weights may be subject to change without notice. Face to face dimensions not listed in industry standards may be subject to change without notice.



API Class 3000 (Metric)

Side Entry (VB2/VB3)							
DN (mm)	Pressure Class	Face To Face (mm)	ØA(2) (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		Flanged 6BX					
50	3000	370	52.5	163	118	136	(1)
70	3000	384	65.5	210	143	167	(1)
80	3000	422	78	210	143	167	(1)
100	3000	460	103.5	275	170	199	(1)
150	3000	613	130.5	360	263	253	(1)
200	3000	740	179.5	435	305	310	(1)
250	3000	1000	229	600	400	371	(1)
300	3000	1146	280	675	453	411	(1)

API 6D & 6A Trunnion Mounted Side Entry,
Welded Body, & Top Entry Ball Valves

API Class 3000 (Metric)

Top Entry (VT1)							
DN (mm)	Pressure Class	Face To Face (mm)	ØA(2) (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		Flanged 6BX					
50	3000	371	52.5	163	112	150	(1)
70	3000	384	62.5	210	136	184	(1)
80	3000	384	78	210	136	184	(1)
100	3000	460	103.5	275	162	219	(1)
150	3000	613	130.5	360	250	278	(1)
200	3000	740	179.5	435	290	341	(1)
250	3000	1000	229	600	380	408	(1)
300	3000	1146	280	675	430	452	(1)

API Class 5000 (Metric)

Side Entry (VB2/VB3)							
DN (mm)	Pressure Class	Face To Face (mm)	ØA(2) (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		Flanged 6BX					
50	5000	371	52.5	208	150	154	(1)
70	5000	473	65.5	305	200	200	(1)
80	5000	473	78	375	219	240	(1)
100	5000	549	103.5	415	280	296	(1)
150	5000	711	130.5	455	340	352	(1)
200	5000	841	179.5	630	400	400	(1)
250	5000	1292	229	800	490	489	(1)
300	5000	1600	280	870	555	551	(1)

API Class 5000 (Metric)

Top Entry (VT1)							
DN (mm)	Pressure Class	Face To Face (mm)	ØA(2) (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		Flanged 6BX					
50	5000	371	52.5	208	143	169	(1)
70	5000	473	65.5	305	190	220	(1)
80	5000	473	78	375	208	264	(1)
100	5000	549	103.5	415	266	326	(1)
150	5000	711	130.5	455	323	387	(1)
200	5000	841	179.5	630	380	440	(1)
250	5000	1292	229	800	466	538	(1)
300	5000	1600	280	870	527	584	(1)

API Class 10000 (Metric)

Side Entry (VB2/VB3)							
DN (mm)	Pressure Class	Face To Face (mm)	ØA(2) (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		Flanged 6BX					
40	10000	464	46	300	211	218	(1)
50	10000	521	52.5	300	211	218	(1)
70	10000	565	65.5	335	335	247	(1)
80	10000	619	78	435	310	312	(1)
100	10000	670	103.5	460	310	326	(1)
150	10000	737	130.5	565	390	393	(1)
200	10000	889	179.5	842	546	556	(1)
250	10000	1292	229	900	618	607	(1)
300	10000	1600	280	1060	774	677	(1)

API Class 10000 (Metric)

Top Entry (VT1)							
DN (mm)	Pressure Class	Face To Face (mm)	ØA(2) (mm)	ØD (mm)	H (mm)	H1 (mm)	Weight (kg)
		Flanged 6BX					
40	10000	464	46	300	200	240	(1)
50	10000	521	52.5	300	200	240	(1)
70	10000	565	65.5	335	223	272	(1)
80	10000	619	78	435	295	343	(1)
100	10000	670	103.5	460	295	359	(1)
150	10000	737	130.5	565	371	432	(1)
200	10000	889	179.5	842	519	612	(1)
250	10000	1292	229	900	587	668	(1)
300	10000	1600	280	1060	735	745	(1)

Notes

(1) Please consult manufacturer.

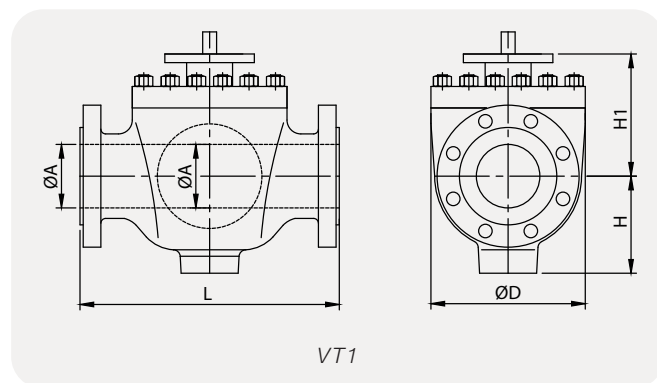
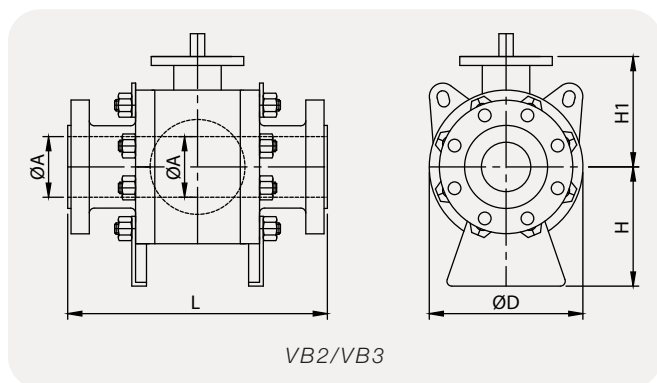
(2) Maximum bore. Some bore values may need to be reduced to stay within face to face dimension.

General Notes

For dimensions in larger sizes consult manufacturer.

Dimensions D, H, H1 and weights may be subject to change without notice.

Face to face dimensions not listed in industry standards may be subject to change without notice.



API Class 3000 (Imperial)

Side Entry (VB2/VB3)							
DN (in)	Pressure Class	Face To Face (in)	ØA(2) (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		Flanged 6BX					
2" 1/16	3000	14.61	2.07	6.42	4.65	5.35	(1)
2" 9/16	3000	15.12	2.58	8.27	5.63	6.57	(1)
3" 1/8	3000	16.61	3.07	8.27	5.63	6.57	(1)
4" 1/16	3000	18.11	4.07	10.83	6.69	7.83	(1)
5" 1/8	3000	24.13	5.14	14.17	10.35	9.96	(1)
7" 1/16	3000	29.13	7.07	17.13	12.01	12.20	(1)
9"	3000	39.37	9.02	23.62	15.75	14.61	(1)
11"	3000	45.12	11.02	26.57	17.83	16.18	(1)

API Class 3000 (Imperial)

Top Entry (VT1)							
DN (in)	Pressure Class	Face To Face (in)	ØA(2) (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		Flanged 6BX					
2" 1/16	3000	14.61	2.07	6.42	4.41	5.89	(1)
2" 9/16	3000	15.12	2.58	8.27	5.35	7.23	(1)
3" 1/8	3000	15.12	3.07	8.27	5.35	7.23	(1)
4" 1/16	3000	18.11	4.07	10.83	6.36	8.62	(1)
5" 1/8	3000	24.13	5.14	14.17	9.84	10.96	(1)
7" 1/16	3000	29.13	7.07	17.13	11.41	13.43	(1)
9"	3000	39.37	9.02	23.62	14.96	16.07	(1)
11"	3000	45.12	11.02	26.57	16.94	17.80	(1)

API Class 5000 (Imperial)

Side Entry (VB2/VB3)							
DN (in)	Pressure Class	Face To Face (in)	ØA(2) (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		Flanged 6BX					
2" 1/16	5000	14.61	2.07	8.19	5.91	6.06	(1)
2" 9/16	5000	18.62	2.58	12.01	7.87	7.87	(1)
3" 1/8	5000	18.62	3.07	14.76	8.62	9.45	(1)
4" 1/16	5000	21.61	4.07	16.34	11.00	11.00	(1)
5" 1/8	5000	27.99	5.14	17.91	13.39	13.39	(1)
7" 1/16	5000	33.11	7.07	24.80	15.75	15.75	(1)
9"	5000	50.87	9.02	31.50	19.29	19.29	(1)
11"	5000	62.99	11.02	34.25	21.85	20.91	(1)

API Class 5000 (Imperial)

Top Entry (VT1)							
DN (in)	Pressure Class	Face To Face (in)	ØA(2) (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		Flanged 6BX					
2" 1/16	5000	14.61	2.07	8.19	5.61	6.67	(1)
2" 9/16	5000	18.62	2.58	12.01	7.48	8.66	(1)
3" 1/8	5000	18.62	3.07	14.76	8.19	10.36	(1)
4" 1/16	5000	21.61	4.07	16.34	10.45	12.82	(1)
5" 1/8	5000	27.99	5.14	17.91	12.72	15.24	(1)
7" 1/16	5000	33.11	7.07	24.80	14.96	17.32	(1)
9"	5000	50.87	9.02	31.50	18.33	21.18	(1)
11"	5000	62.99	11.02	34.25	20.76	23.00	(1)

API Class 5000 (Imperial)

Side Entry (VB2/VB3)							
DN (in)	Pressure Class	Face To Face (in)	ØA(2) (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		Flanged 6BX					
1" 3/16	10000	18.27	1.81	11.81	8.31	8.58	(1)
2" 1/16	10000	20.51	2.07	11.81	8.31	8.58	(1)
2" 9/16	10000	22.24	2.58	13.19	9.25	9.72	(1)
3" 1/16	10000	24.37	3.07	17.13	12.20	12.28	(1)
4" 1/16	10000	26.38	4.07	18.11	12.20	12.83	(1)
5" 1/8	10000	29.02	5.14	22.24	15.35	15.47	(1)
7" 1/16	10000	35.00	7.07	33.15	21.50	21.89	(1)
9"	10000	50.87	9.02	35.43	24.33	23.90	(1)
11"	10000	62.99	11.02	41.73	30.47	26.65	(1)

API Class 5000 (Imperial)

Top Entry (VT1)							
DN (in)	Pressure Class	Face To Face (in)	ØA(2) (in)	ØD (in)	H (in)	H1 (in)	Weight (lb)
		Flanged 6BX					
1" 3/16	10000	18.27	1.81	11.81	7.89	9.44	(1)
2" 1/16	10000	20.51	2.07	11.81	7.89	9.44	(1)
2" 9/16	10000	22.24	2.58	13.19	8.79	10.70	(1)
3" 1/16	10000	24.37	3.07	17.13	11.59	13.51	(1)
4" 1/16	10000	26.38	4.07	18.11	11.59	14.12	(1)
5" 1/8	10000	29.02	5.14	22.24	14.59	17.02	(1)
7" 1/16	10000	35.00	7.07	33.15	20.42	24.08	(1)
9"	10000	50.87	9.02	35.43	23.11	26.29	(1)
11"	10000	62.99	11.02	41.73	28.95	29.32	(1)

Notes

(1) Please consult manufacturer.

(2) Maximum bore. Some bore values may need to be reduced to stay within face to face dimension.

General Notes

For dimensions in larger sizes consult manufacturer.

Dimensions D, H, H1 and weights may be subject to change without notice.

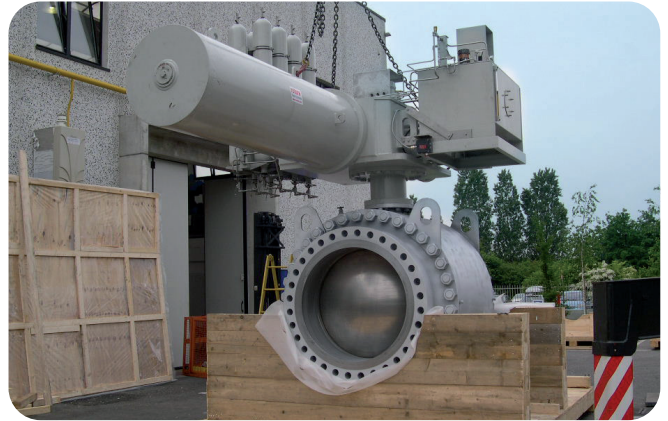
Face to face dimensions not listed in industry standards may be subject to change without notice.

API 6D & 6A trunnion-mounted ball valves

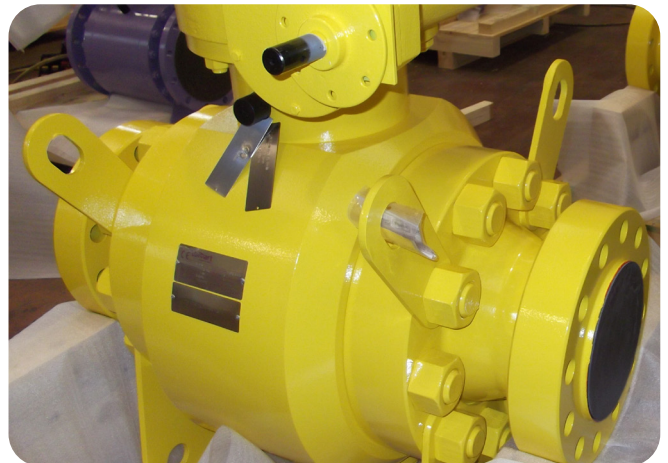
Bolted body side entry | Welded body | Top entry



24" (600 mm) Class 2500 Side Entry Valve with special vent & drain connections



48" (1200 mm) Class 600 valve with Electrohydraulic actuator



11" (250 mm) Class 10000 API 6A Ball Valve

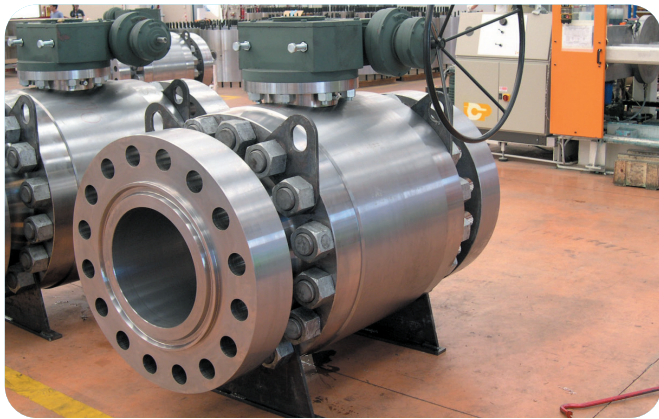


56" (1400 mm) Fully Welded, Class 600 valve



24" (600 mm) Class 1500 Ball Valves with Gas Over Oil actuators

API 6D & 6A Trunnion Mounted Side Entry, Welded Body, & Top Entry Ball Valves



24" (600 mm) class 1500 side-entry



56" (1400 mm) Fully Welded valve



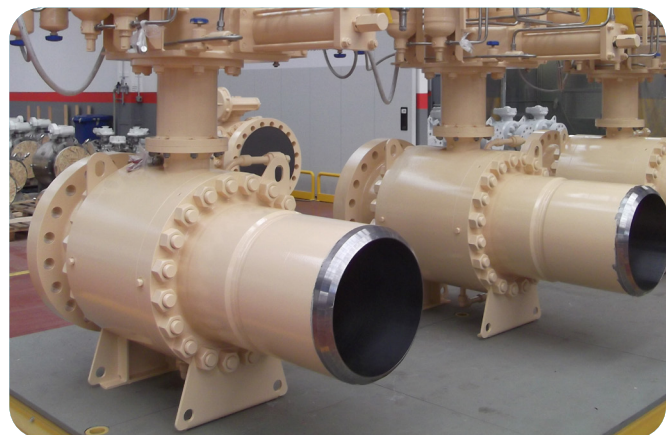
36" (900 mm) class 600 top-entry ball valves



34" Class 1500 Top Entry Ball Valve



20" (500 mm) class 300 side entry valves



GOV Actuated bolted body valves with RF and BW ends with pup piece

Engineered products for specialized applications

Control ball valve | Twin ball double block & bleed | Cryogenic | Subsea



24" (600 mm) Class 900# Top Entry Ball valve for Cryogenic service



12" (300 mm) Class 1500 Twin Ball Double Block & Bleed Valve

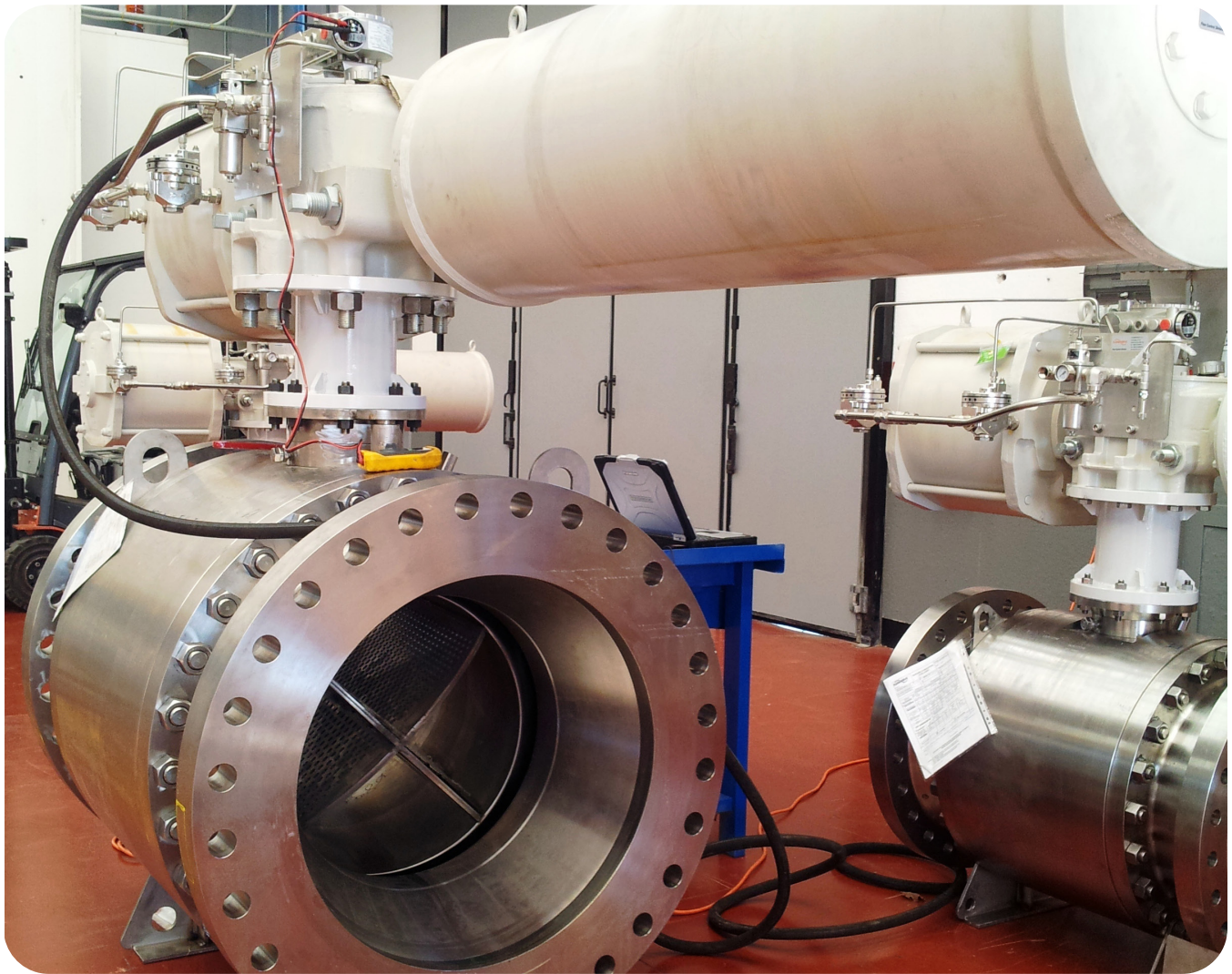


10" (250 mm) Class 150 actuated control ball valve with noise reduction trim



48" (1200 mm) class 300 ball valve for subsea service

API 6D & 6A Trunnion Mounted Side Entry,
Welded Body, & Top Entry Ball Valves



30" (750 mm) Class 300 actuated control ball valve with anti cavitation trim



20" (500 mm) Class 600 Twin Ball, Double Block & Bleed Valve



30" (750 mm) Class 600 Trunnion Control Ball Valve

Engineering data

Valve testing

100% of valves manufactured by Flowserve are tested in excess of API 6D requirements, prior to shipping.

Standard performance tests

- Visual and dimensional check
- High-pressure hydrostatic shell test
- High-pressure hydrostatic seats test
- Low-pressure air seats test
- Stem torque check

Leakage rates

HP Gas @ 1.1 rating pressure	Seat Test Type		
	HP Hydrostatic @1.1 rating pressure	LP Pneumatic @ 6 bars	HP Gas @ 1.1 rating pressure
Soft Seated valves	Rate A	Rate A	Rate A
Metal Seated valves	Rate D	Rate B	Rate D

Above mentioned leakage rates are standard. More stringent requirements are achievable upon request.

Testing Pressures

ASME Class	Rating ⁽¹⁾			Body Test			H.P. seat test			Air Seat Test		
	psi	bar	kg/cm ²	psi	bar	kg/cm ²	psi	bar	kg/cm ²	psi	bar	kg/cm ²
150	275	19	19.3	413	28.5	29	303	20.9	21	100	6	7
300	720	50	51	1080	75	77	792	55	56	100	6	7
600	1440	99	101	2160	148.5	152	1584	108.9	111	100	6	7
900	2160	149	152	3240	232.5	228	2376	163.9	167	100	6	7
1500	3600	248	253	5400	372	380	3960	272.8	278	100	6	7
2500	5988	413	421	8982	619.5	632	6587	454.3	463	100	6	7
API 3000	3000	207	210	4500	310.5	315	3000	207	210	100	6	7
API 5000	5000	345	352	7500	517.5	528	5000	345	352	100	6	7
API 10000	10000	690	703	15000	1035	1055	10000	690	703	100	6	7

(1) Typical only - rating pressure may change for different materials.

Conversion factors 1 bar = 14.50 psi and 1 bar = 0,981 kg/cm² and 1 bar = 100 kpa 1 kg/cm² = 14.22 psi 1°F = (1.8 x °C) +32 and 1°C = (°F -32) / 1.8

Quality standards

American Petroleum Institute – API

**API 6D | API 6D SS | API 6FA | API 598 |
API 6A | API 607 | API 605**

American Society of Mechanical Engineers – ASME

**ASME B 16.5 | ASME B 16.10 | ASME B 16.25 |
ASME B 16.34 | ASME B 31.3 | ASME B31.8 |
ASME B 46.1 | ASME B 16.47**

International Organization for Standardisation – ISO

ISO 9001:2000 | ISO 14313 | ISO 14001

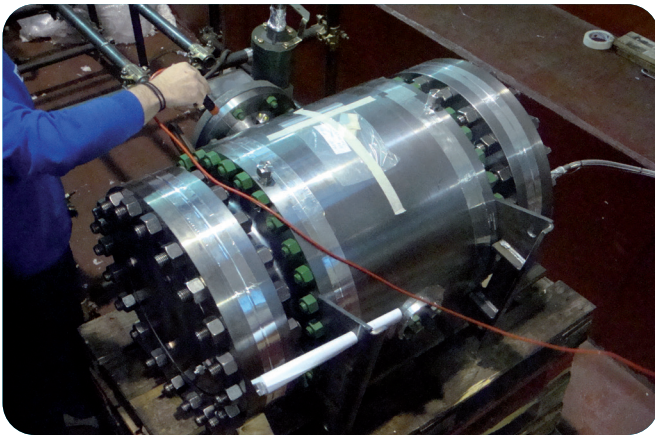
British Standards

**BS EN 10222 | BS EN 9000 | BS 1560 | BS EN 10213 |
BS 4504 | BS EN 12266 | BS 5351**

Manufacturers Standardization Society – MSS

**MSS SP 6 MSS SP 25 | MSS SP 44 MSS SP 45
MSS SP 55 MSS SP 61 | MSS SP 72**

Compliant to CSA Z245



Fugitive emission testing



Valves in packing area after being tested

Materials

Body and trim material

Carbon Steel

A105N A216 | WCB A216 | WCC

Low temperature Carbon steel

A350 LF2 | A352 LCB | A352 LCC

Low alloy steel

**AISI 4140 | A694 F65 | A694 F52 |
A694 F60 | A350 LF3 | API 6A 60K
(A694 F60 Mod)**

Martensitic Stainless Steel

**A182 F6A | A182 F6NM |
A217 CA15 | A487 CA6NM**

Austenitic Stainless Steel

**A182 F316 | A182 F316L | A182 F316LN-Mod. |
A182 F347 | A182 F44 (6% Mo) (UNS S31254) |
A182 FXM-19 (Nitronic 50) | A351 CF8M | A351 CF3 |
A351 CF3M**

Precipitation Hardening Stainless Steel

A564 Gr 630 H1150M (UNS S17400)

Duplex Stainless Steel

**A181 F51 (UNS S31803) | A182 F53 (UNS S31750) |
A182 F55 (UNS S31760) | A890-4A (UNS S31803) |
A890-6A (UNS S32760)**

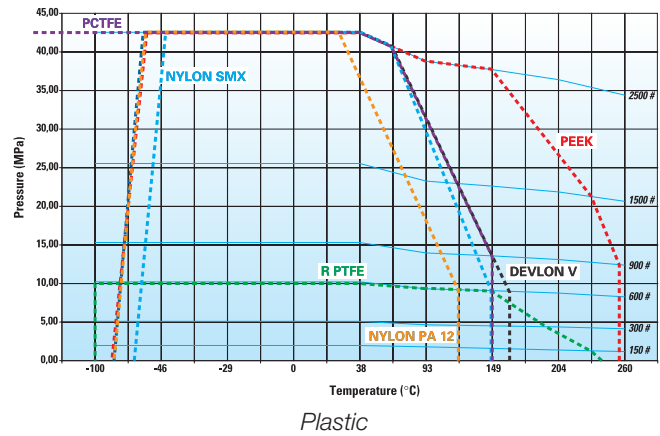
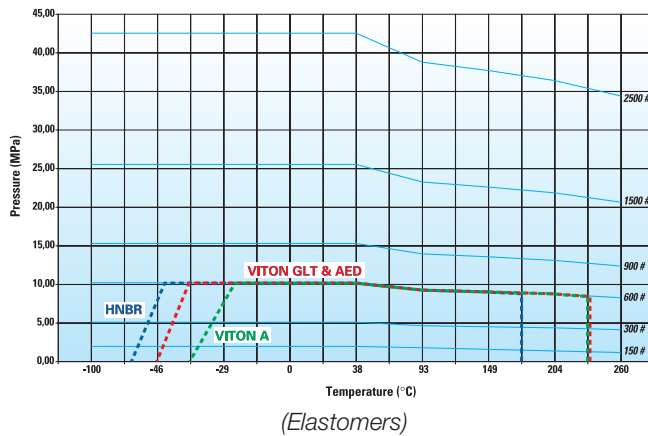
Nickel Alloys

**Incoloy 825 (UNS N08825) | Incoloy 925 (UNS N09925) |
Inconel 625 (UNS N06625) | Inconel 718 (UNS N07718) |
Inconel 750 (UNS N07750) | Monel 400 | Monel K500**

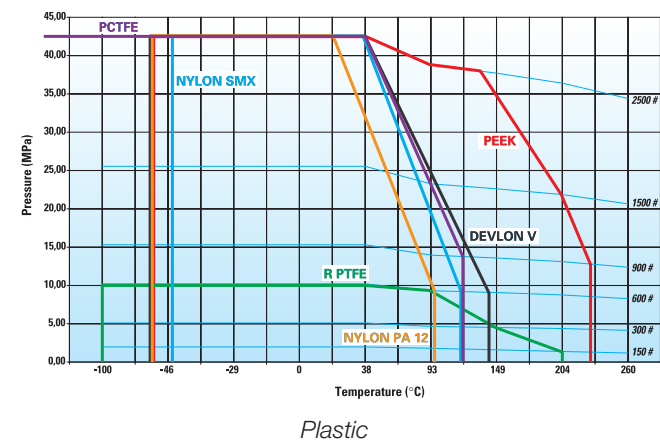
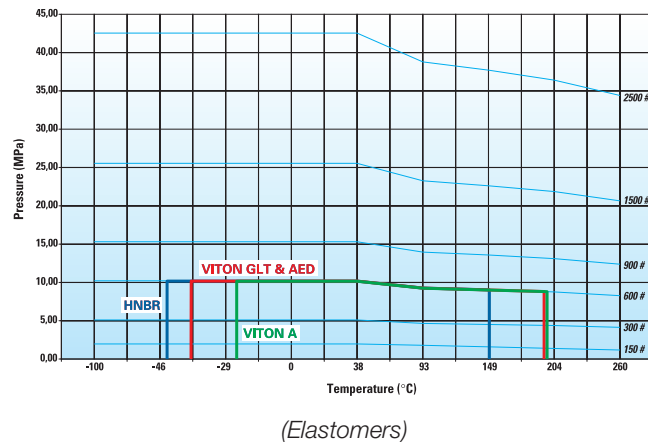
Seat Insert and Seals Materials Operating (Dynamic) Limits*

Material	Temp. °C		Pressure Class		Size	
	Min.	Max.	Seat Insert	Seal	Seat Insert	Seal
Nylon SMX	-40	120	2500	N/A	64"	N/A
Lauramid (Nylon 12G)	-60	100	2500	N/A	64"	N/A
Devlon (Nylon 6)	-60	140	2500	N/A	64"	N/A
Peek	-60	220	2500	N/A	36"	N/A
PTFE Glass Filled (25%)	-100	200	600	N/A	24"	N/A
PTFE Carbon Filled (25%)	-100	180	300	N/A	24"	N/A
PCTFE	-196	150	2500	N/A	36"	N/A
HNBR-Therban	-40	150	600	2500	64"	64"
FKM A (Viton A)	-29	180	600	2500	64"	64"
FKM GLT (Viton GLT)	-40	180	600	2500	64"	64"
FKM AED	-29	180	600	2500	64"	64"
PTFE + Elgiloy Springs	-196	200	N/A	2500	N/A	36"

Seat Inserts – Static/Short Period*



Seat Inserts – Operating Condition*



*Given as reference only.

Spare parts list



Side-Entry - MOD VB2/VB3

Part #	Part	DN < 4" (1) Spare parts quantity Part		DN 4" (1) Spare parts quantity Part		DN > 4" (1) Spare parts quantity Part	
		Start up	2 years op.	Start up	2 years op.	Start up	2 years op.
4	Seat	--	(3)	--	(3)	--	(3)
10a	Body gasket	(2)	(3)	(2)	(3)	(2)	(3)
10b	Stem gasket	(2)	(3)	(2)	(3)	(2)	(3)
10c	Stem cover gasket	(2)	(3)	(2)	(3)	(2)	(3)
10d	Seat gasket	(2)	(3)	(2)	(3)	Not applicable	Not applicable
10e	Trunnion gasket	(2)	(3)	Not applicable	Not applicable	Not applicable	Not applicable
11a	Body O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11b	Stem O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11c	Stem cover O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11d	Seat O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11e	Trunnion O-ring	(2)	(3)	Not applicable	Not applicable	Not applicable	Not applicable

Welded Body - MOD VW1

Part #	Part	DN < 4" (1) Spare parts quantity Part		DN 4" (1) Spare parts quantity Part		DN > 4" (1) Spare parts quantity Part	
		Start up	2 years op.	Start up	2 years op.	Start up	2 years op.
10b	Stem gasket	(2)	(3)	(2)	(3)	(2)	(3)
10c	Stem cover gasket	(2)	(3)	(2)	(3)	(2)	(3)
10e	Trunnion gasket	(2)	(3)	Not applicable	Not applicable	Not applicable	Not applicable
11b	Stem O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11c	Stem cover O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11e	Trunnion O-ring	(2)	(3)	Not applicable	Not applicable	Not applicable	Not applicable

Top Entry - MOD VT1

Part #	Part	DN < 4" (1) Spare parts quantity Part		DN 4" (1) Spare parts quantity Part		DN > 4" (1) Spare parts quantity Part	
		Start up	2 years op.	Start up	2 years op.	Start up	2 years op.
4	Seat	--	(3)	--	(3)	--	(3)
10a	Body gasket	(2)	(3)	(2)	(3)	(2)	(3)
10b	Stem gasket	(2)	(3)	(2)	(3)	(2)	(3)
10c	Stem cover gasket	(2)	(3)	(2)	(3)	(2)	(3)
10d	Seat gasket	(2)	(3)	(2)	(3)	Not applicable	Not applicable
10e	Trunnion gasket	(2)	(3)	Not applicable	Not applicable	Not applicable	Not applicable
10h	Spring holder ring gasket	(2)	(3)	(2)	(3)	Not applicable	Not applicable
11a	Body O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11b	Stem O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11c	Stem cover O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11d	Seat O-ring	(2)	(3)	(2)	(3)	(2)	(3)
11e	Trunnion O-ring	(2)	(3)	Not applicable	Not applicable	Not applicable	Not applicable

NOTES: (1) Reference to nominal port size - (2) One set per 10 valves - (3) One set per 1 valve

How to avoid problems

- Ball valves should be transported and stored with the ball in the fully open position
- Flanged ends and welded ends should be protected
- End protection should be removed only when the valve is installed in the line
- Valves should be handled using the proper lifting lugs
- Valves should be stored according to Flowserve storage procedures. Long-term storage should be avoided
- In case of long storage, valves should be flushed and cycled a few times
- For welded-end valves, Flowserve should be informed of any post-weld heat treatment (transition pups may be necessary to avoid damages to seals)
- The line should be flushed and cleaned before valve operation
- Make sure no line-testing fluid is left in the line and/or the valve body
- Avoid leaving the valve body filled with salt water to prevent internal corrosion
- During line-testing, valves will be left in the partially open position for the minimum possible amount of time
- Standard ball valves will be used for on-off service only. Throttling service (use of the valve with the ball partially open) can damage the seats
- Actual service conditions should be taken into consideration while selecting materials for O-rings and seat inserts
- Always specify anti-explosive decompression material for valves to be used in high-pressure gas service
- Make sure the selected actuator has been properly sized (an oversized actuator can be as dangerous as an undersized one)
- Advise cycle frequency to ensure proper sizing of actuator
- Do not use the actuator to lift the valve





For more information about Flowserve Corporation, visit www.flowserve.com or call USA 1 800 225 6989

Flowserve Corporation
5215 North O'Connor Blvd.
Suite 700
Irving, Texas 75039-5421 USA

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any one of its worldwide operations or offices.

VABR001281 (EN/AQ) (VBENBR1010-02) February 2024

©2024 Flowserve Corporation. All rights reserved. This document contains registered and unregistered trademarks of Flowserve Corporation. Other company, product, or service names may be trademarks or service marks of their respective companies.

flowserve.com