

# VELAN

Catalogs

## API 6D & 6A Trunnion-Mounted Ball Valves

- Bolted Body Side-Entry
- Welded Body
- Top-Entry



**Sizes: 1–64"**  
**(25–1600 mm)**

**API 6D Pressure Range:**  
**ASME 150–2500**

**API 6A Pressure Range:**  
**API 2000–15000**

# PROFILE

Velan is one of the world's leading manufacturers of industrial valves, supplying forged and cast steel gate, globe, check, ball, butterfly, knife gate and engineered severe service valves for critical applications in power, chemical and petrochemical, oil and gas, pulp and paper, mining, marine, cryogenic and general construction industries.

Founded in 1950, Velan earned a reputation for excellence as a major supplier of forged valves to nuclear power plants and the U.S. Navy. Velan has pioneered many innovative valve designs, emphasizing quality, safety, ease of operation, low emissions, simple in-line maintenance and long cycle life.

Velan's product lines are manufactured in thirteen specialized manufacturing plants, including six in Canada and U.S.A., four in Europe, and three in Asia. We have 1,425 employees, 75% of whom are located in our North American operations.

## VELAN API 6D & 6A TRUNNION-MOUNTED BALL VALVES

are designed and manufactured in Italy by Velan Srl. and in North America by Velan Inc.

Velan has been manufacturing ball valves for the oil and gas industries for over twenty years and has held API 6D approval since 1993. The establishment of Velan Srl., a new operation in Mezzago, Italy, brings together Velan's valve engineering and manufacturing leadership with Roberto Bartolena's extensive experience in the design and production of API 6D & 6A trunnion-mounted ball valves.

### CONTENTS

Manufacturing Plants .....	1
Product Range .....	2
Velan Trunnion Mounted Ball Valve Features .....	3
Design Features .....	4-8
Bolted Body Side-Entry Ball Valve .....	9
Welded Body Ball Valve .....	10
Top-Entry Ball Valve .....	11
Dimensions & Weights .....	12-23
Engineering Data .....	24-25
Material Specifications .....	26
Flow Coefficient Data (Cv) .....	27
How to Order .....	28-29

### HEAD OFFICE & PLANT 5



**MONTREAL, CANADA** 115,000 sq. ft. (10,683 m<sup>2</sup>)  
3-24" (80-600 mm) butterfly, 3/8-4" (10-100 mm) metal & resilient seated ball valves

## MANUFACTURING LOCATIONS

### CANADA

**VELAN INC.**  
**HEAD OFFICE & PLANT 5**  
7007 Côte de Liesse  
Montreal, QC H4T 1G2  
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Montreal, QC H4M 1T6  
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**PLANT 2 / 7**  
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Montreal, QC H4T 1X8  
Tel: (514) 748-7743  
Fax: (514) 341-3032

**PLANT 4 / 6**  
1010 Cowie Street  
Granby, QC J2J 1E7  
Tel: (450) 378-2305  
Fax: (450) 378-6865

**PROQUIP**  
835 Fourth Line  
Oakville, ON L6L 5B8  
Tel: (905) 842-1721  
Fax: (905) 849-0923

### U.S.A.

**VELAN VALVE CORPORATION PLANT 3**  
94 Avenue C  
Williston, VT 05495-9732  
Tel: (802) 863-2562  
Fax: (802) 862-4014

**ENGLAND**  
**VELAN VALVES LTD.**  
Unit 1, Pinfold Road  
Lakeside Business Park  
Thurmaston  
Leicester LE4 8AS  
Tel: 44-116 269-5172  
Fax: 44-116 269-3695

### ITALY

**VELAN Srl.**  
Via delle Industrie 9/5  
20050 Mezzago (Milan)  
Tel: (39) 039 62-4111  
Fax: (39) 039 688-3357

### FRANCE

**VELAN S.A.S**  
90, rue Challemeil Lacour  
F 69 367 Lyon Cedex 7  
Tel: (33) 4 78 61 67 00  
Fax: (33) 4 78 72 12 18

**PORTUGAL**  
**VELAN VÁLVULAS INDUSTRIAIS, LDA.**  
Av. Ary dos Santos  
1679-018 Famosos  
Tel: (351-21) 934-7800  
Fax: (351-21) 934-7809

Velan has sales offices and distributors located worldwide.

## GENERAL INFORMATION

**NORTH AMERICA:** Tel: (514) 748-7743 Fax: (514) 748-8635  
**INTERNATIONAL:** Tel: (39) 039 62-4111 Fax: (39) 039 688-3357

Visit the Velan website at [www.velan.com](http://www.velan.com) for an updated contact list.

## DISTRIBUTION CENTERS

### U.S.A.

**VELCAL**  
537 Stone Road, Unit "A"  
Benicia, CA 94510  
Tel: (707) 745-4507  
Fax: (707) 745-4708

**VELEAST**  
605 Commerce  
Park Drive SE  
Marietta, GA 30060  
Tel: (770) 420-2010  
Fax: (707) 420-7063

### TAIWAN

**VELAN-VALVAC**  
P.O. Box 2020  
Taichung, Taiwan  
R.O.C.  
Tel: (04) 2792649  
Fax: (886) 42750855

**KOREA**  
**VELAN LTD.**  
1060-4 Shingil-Dong  
Ansan City,  
Kyunggi-do 425-833  
Tel: (82) 31-491-2811  
Fax: (82) 31-491-2813

### GERMANY

**VELAN GmbH**  
Daimlerstrasse 8  
D-47877 Willich  
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Fax: (49) 2154/4938-99

**NOTE:** The material in this catalog is for general information. For specific performance data and proper material selection, consult your Velan representative. Although every attempt has been made to ensure that the information contained in this catalog is correct, Velan reserves the right to change designs, materials or specifications without notice.

# MANUFACTURING PLANTS AROUND THE WORLD

## PLANT 1



**MONTREAL, CANADA** 109,000 sq. ft. (10,126 m<sup>2</sup>) ¼–4" (8–100 mm) forged gate, globe & check valves, ASME 'N' stamp, ISO 9001

## PLANT 2 & 7



**MONTREAL, CANADA** 170,000 sq. ft. (15,800 m<sup>2</sup>) 2–60" (50–1500 mm) forged and cast steel gate, globe, check, ball, knife and butterfly valves 3–36" (80–700 mm) ASME 'N' stamp, ISO 9001

## PLANT 4 & 6



**GRANBY, CANADA** 186,500 sq. ft. (17,325 m<sup>2</sup>) 2–12" (50–300 mm) cast steel gate and check valves, ¼–12" (8–300 mm) ball valves, ISO 9001



**TORONTO, CANADA *Velan-Proquip*** 41,000 sq. ft. (3,800 m<sup>2</sup>) 2–48" (50–1200 mm) wafer check valves ½–24" (15–600 mm) clamp joint connectors, ISO 9001



**WILLICH, GERMANY** 12,000 sq. ft. (1,115 m<sup>2</sup>) ISO 9002



**LEICESTER, ENGLAND** 14,000 sq. ft. (1,300 m<sup>2</sup>) Steam traps, ¾–2" (10–50 mm) bonnetless globe valves, ISO 9002



**LISBON, PORTUGAL** 60,000 sq. ft. (5,600 m<sup>2</sup>) 2–12" (50–300 mm) cast steel gate, globe and check valves, ISO 9002

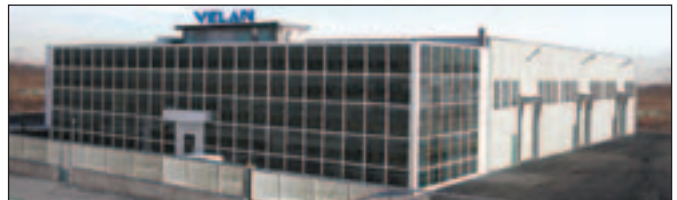
## PLANT 3



**WILLISTON, VERMONT, U.S.A.** 155,000 sq. ft. (14,400 m<sup>2</sup>) 2–24" (50–600 mm) forged and cast steel gate, globe and check valves, ASME 'N' stamp, ISO 9001



**LYON, FRANCE** 160,000 sq. ft. (14,900 m<sup>2</sup>) ¼–40" (8–1,000 mm) forged and cast steel gate, globe and butterfly valves, ISO 9001



**MEZZAGO, ITALY** 40,000 sq. ft. (3,700 m<sup>2</sup>) 1–64" (25–1600 mm) API 6D & 6A trunnion-mounted ball valves



**ANSAN CITY, SOUTH KOREA *Plant 1*** 30,000 sq. ft. (2,800 m<sup>2</sup>) components and 2-4" (50–100 mm) cast steel valves, ISO 9002



**ANSAN CITY, SOUTH KOREA *Plant 2*** 65,000 sq. ft. (5,800 m<sup>2</sup>) 2–12" (50–300 mm) cast steel gate, globe, check, ball and knife gate valves, ISO 9002



**TAICHUNG, TAIWAN *Velan-Valvac*** 20,000 sq. ft. (1,840 m<sup>2</sup>) ¼–2" (8–50 mm) ball valves, ISO 9002

# PRODUCT RANGE

## PRODUCT RANGE

## API 6D

## API 6A

Service	SIZE (in/mm) – PRESSURE RANGE				SIZE (in/mm) – PRESSURE RANGE <sup>(1)</sup>				
	ASME 150–600	ASME 900	ASME 1500	ASME 2500	API 2000	API 3000	API 5000	API 10000	API 15000

## SIDE-ENTRY

<b>Standard</b>	1–64 25–1600	1–56 25–1400	1–40 25–1000	1–32 25–800	1–18 25–450	1–18 25–450	1–18 25–450	1–18 25–450	1–12 25–300
<b>Low Temperature</b> -46°C / -50°F	1–64 25–1600	1–56 25–1400	1–40 25–1000	1–32 25–800	1–18 25–450	1–18 25–450	1–18 25–450	1–18 25–450	1–12 25–300
<b>Cryogenic</b> -47°C to -196°C / -52°F to -320°F	1–36 25–900	1–36 25–900	1–24 25–600	1–12 25–400	N/A	N/A	N/A	N/A	N/A
<b>Sub Sea</b>	1–64 25–1600	1–56 25–1400	1–40 25–1000	1–32 25–800	1–18 25–450	1–18 25–450	1–18 25–450	1–18 25–450	1–12 25–300
<b>Underground</b>	1–64 25–1600	1–56 25–1400	1–40 25–1000	1–32 25–800	1–18 25–450	1–18 25–450	1–18 25–450	1–18 25–450	1–12 25–300
<b>High Temperature</b> 280°C to 450°C / 536°F to 842°F	1–36 25–900	1–36 25–900	1–24 25–600	1–12 25–400	1–18 25–450	1–18 25–450	1–18 25–450	1–18 25–450	1–12 25–300
<b>Underground</b> - Low Temperature -46°C / -50°F	1–64 25–1600	1–56 25–1400	1–40 25–1000	1–32 25–800	1–18 25–450	1–18 25–450	1–18 25–450	1–18 25–450	1–12 25–300

## WELDED BODY

<b>Standard</b>	2–64 50–1600	2–36 50–900	2–16 50–400	N/A
<b>Low Temperature</b> -46°C / -50°F	2–64 50–1600	2–36 50–900	2–16 50–400	N/A
<b>Sub Sea</b>	2–64 50–1600	2–36 50–900	2–16 50–400	N/A
<b>Underground</b>	2–64 50–1600	2–36 50–900	2–16 50–400	N/A
<b>Underground</b> - Low Temperature -46°C / -50°F	2–64 50–1600	2–36 50–900	2–16 50–400	N/A

## TOP-ENTRY

<b>Standard</b>	2–56 50–1400	2–48 50–1200	2–30 50–750	2–16 50–400	1–8 25–200	1–8 25–200	1–8 25–200	1–8 25–200	N/A
<b>Low Temperature</b> -46°C / -50°F	2–56 50–1400	2–48 50–1200	2–30 50–750	2–16 50–400	1–8 25–200	1–8 25–200	1–8 25–200	1–8 25–200	N/A
<b>Cryogenic</b> -47°C to -196°C / -52 to -320°F	2–36 50–900	2–36 50–900	2–24 50–600	2–12 50–300	N/A	N/A	N/A	N/A	N/A
<b>Sub Sea</b>	2–56 50–1400	2–48 50–1200	2–30 50–750	2–16 50–400	1–8 25–200	1–8 25–200	1–8 25–200	1–8 25–200	N/A
<b>Underground</b>	2–56 50–1400	2–48 50–1200	2–30 50–750	2–16 50–400	1–8 25–200	1–8 25–200	1–8 25–200	1–8 25–200	N/A
<b>High Temperature</b> 280°C to 450°C / 536°F to 842°F	2–36 50–900	2–36 50–900	2–24 50–600	2–12 50–300	1–18 25–450	1–18 25–450	1–18 25–450	1–18 25–450	N/A
<b>Underground</b> - Low Temperature -46°C / -50°F	2–56 50–1400	2–48 50–1200	2–30 50–750	2–16 50–400	1–8 25–200	1–8 25–200	1–8 25–200	1–8 25–200	N/A

(1) The API designation is the actual working pressure in psi.

# FEATURES

FEATURE	SIDE-ENTRY	WELDED BODY	TOP-ENTRY
Trunnion Mounted	Standard	Standard	Standard
Independent Stem & Ball	Standard	Standard	Standard
Independent Floating Seats	Standard	Standard	Standard
Primary Soft Seat - Secondary Metal Seat	Standard	Standard	Standard
Primary Metal Seat - Secondary Soft Seat	On Request	On Request	On Request
Metal to Metal Seat	On Request	N/A	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 Ends Valves	On Request	On Request	On Request
Antistatic	Standard	Standard	Standard
Anti-Blowout Stem	Standard	Standard	Standard
Double Block and Bleed	As Required	As Required	As Required
Possibility to Check Seat Integrity In Line with Ball in Open or Closed Position	Standard	Standard	Standard
Double Body Seals	Standard	Not Required	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
Emergency Sealant Injection on Stem	Standard	Standard	Standard
Emergency Sealant Injection on Seats (on 6" & larger)	On Request	On Request	On Request
Seat Pocket Overlay	On Request	On Request	On Request
Seals Area Overlay	On Request	On Request	On Request
Wetted Parts Overlay	On Request	N/A	On Request
Body Internal Lining	On Request	N/A	On Request
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		
Supporting Feet	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	N/A	Yes

*Note: Other features are available on request.*

# VELAN TRUNNION-MOUNTED

*Velan's standard trunnion-mounted ball valves offer increased value by incorporating advanced design features.*

## 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.

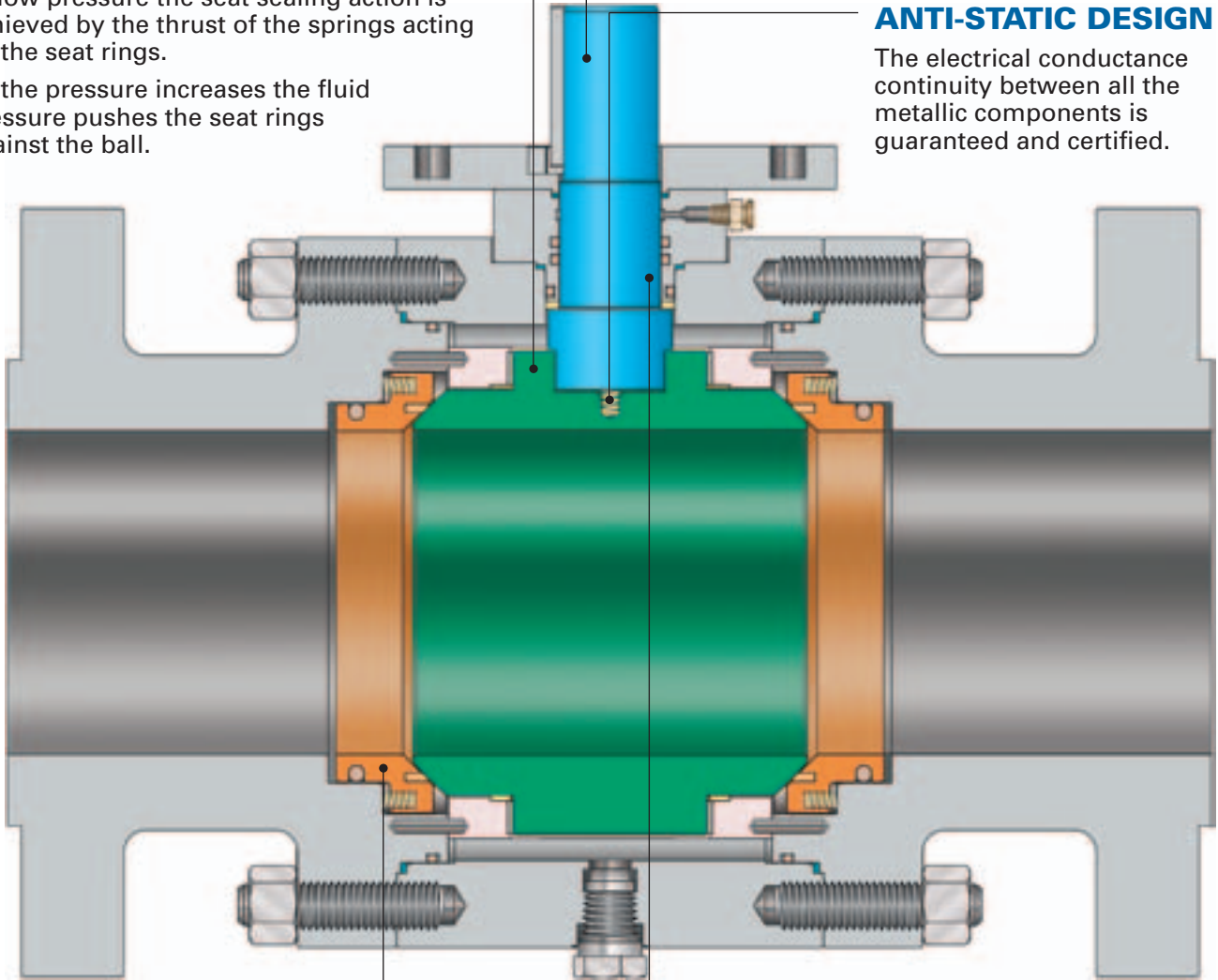
As the pressure increases the fluid pressure pushes the seat rings against the ball.

## 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.

## ANTI-STATIC DESIGN

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



## FLOATING 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.

## LOW EMISSION VALVES

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

Special "live" seals are available on request.

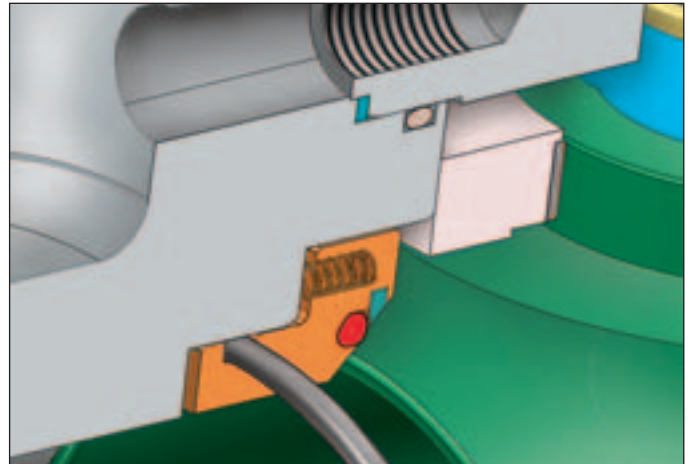
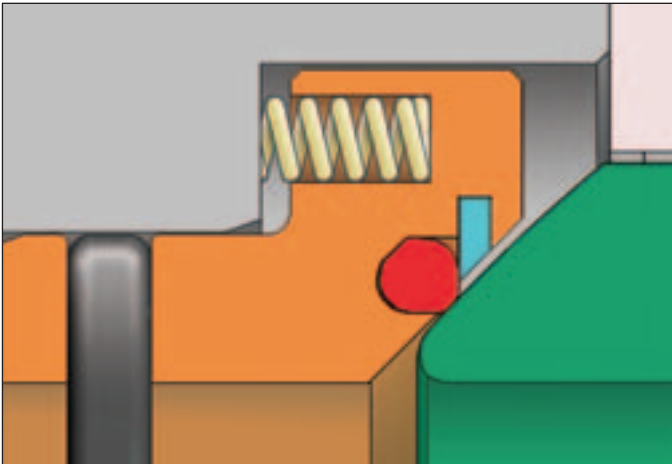
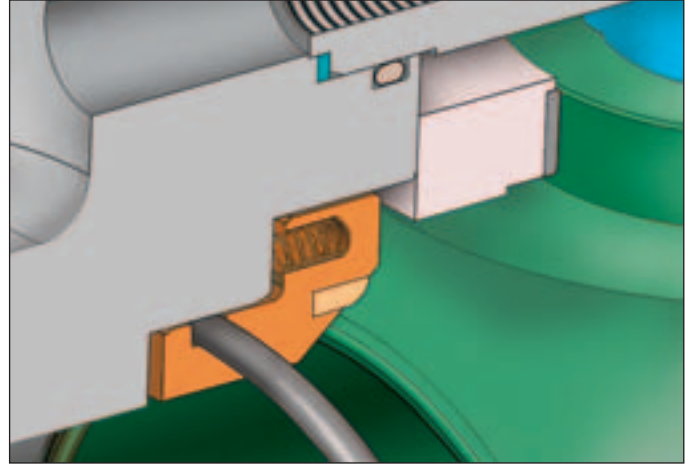
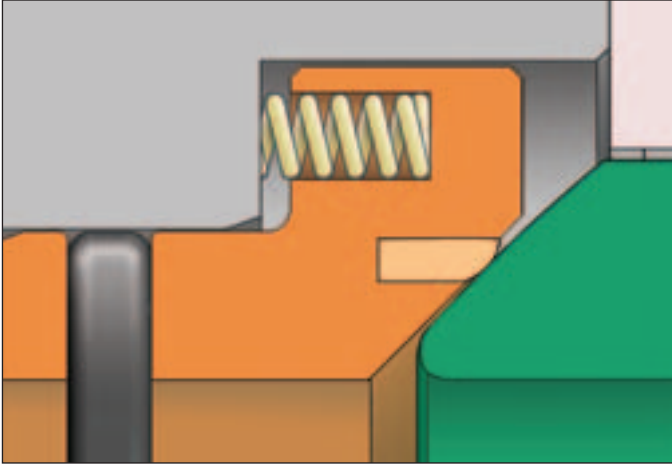
## DOUBLE BLOCK & BLEED

The double block and bleed feature, both with the ball in the fully closed or fully open position, is a standard feature.

# BALL VALVE DESIGN FEATURES

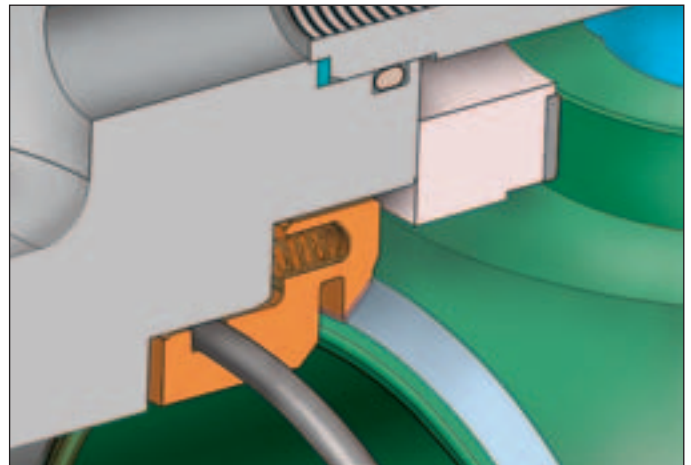
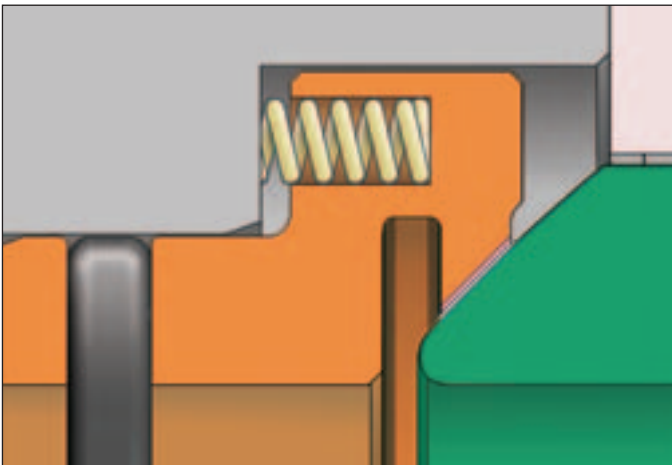
## SOFT-SEATED VALVES

In valves designed for standard service, a resilient material is inserted into the metal seat holder to provide a soft seating action in addition to the metal to metal seating between the ball and the seat rings.



## METAL-SEATED VALVES

Valves designed for abrasive service or for operation in temperatures that prohibit the use of a resilient material have seating action provided by the metal to metal contact between the ball and the seat rings. Seating faces are hardfaced.



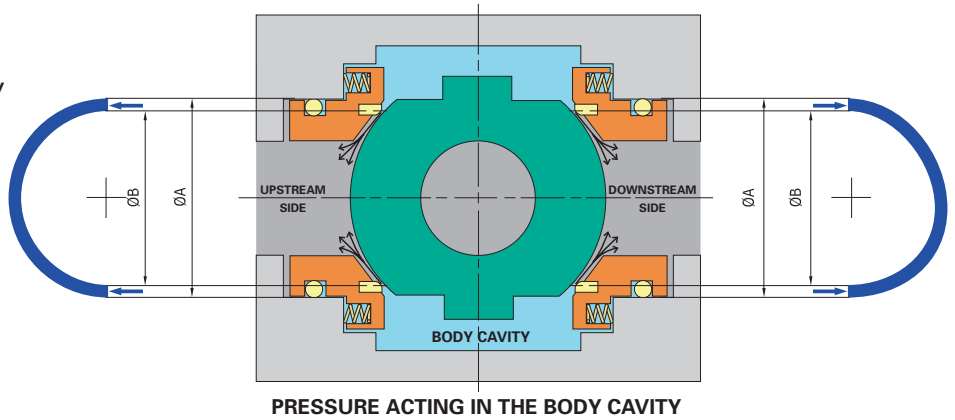
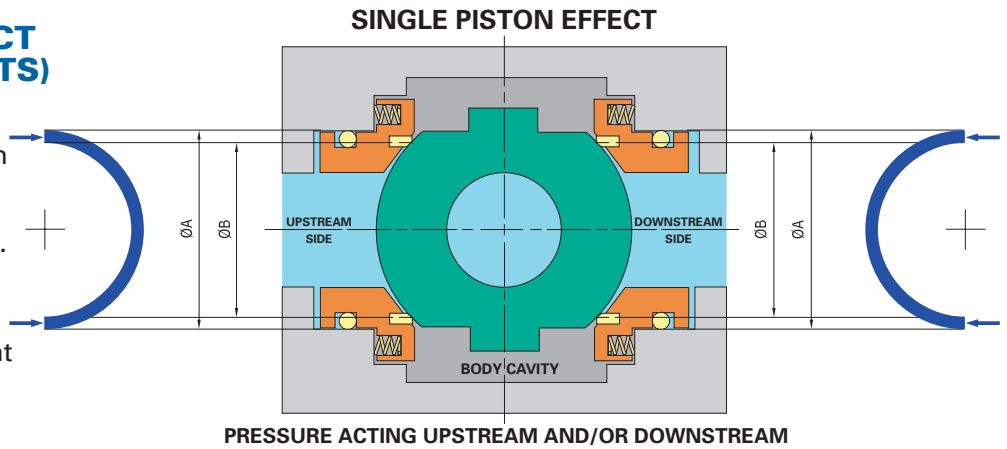
# VELAN TRUNNION-MOUNTED

## STANDARD SINGLE PISTON EFFECT (SELF-RELIEVING SEATS)

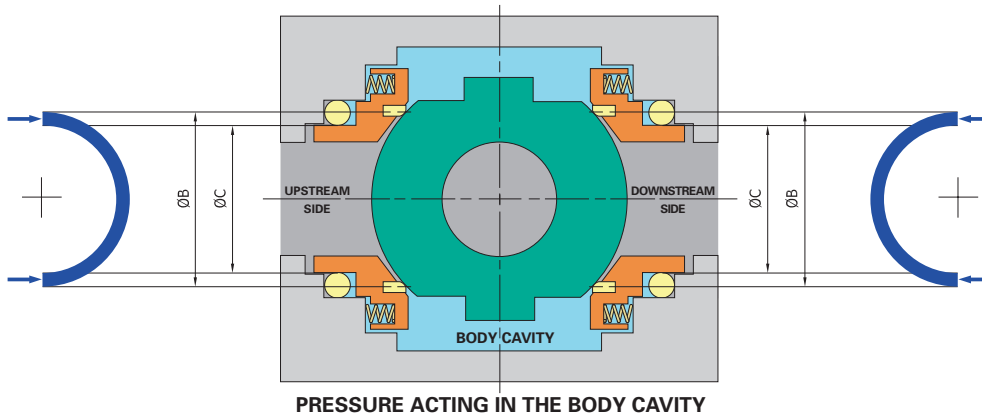
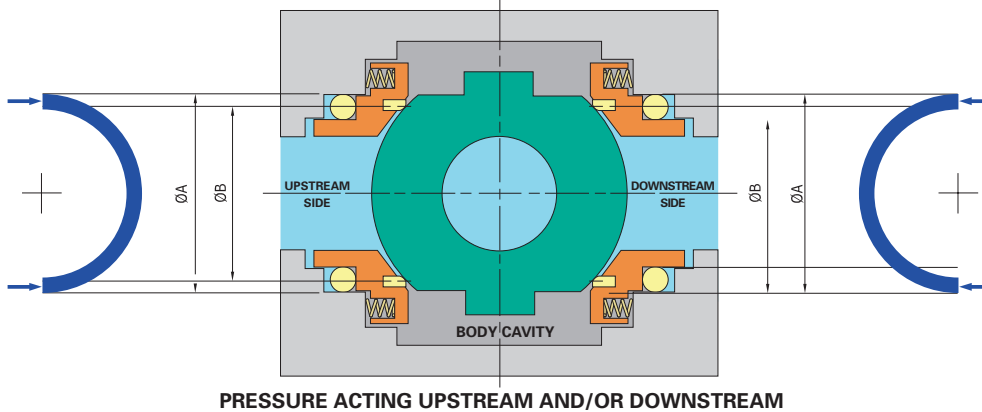
Fluid pressure, both upstream and downstream, creates a resultant thrust that pushes the seat rings against the ball.

Fluid pressure acting in the body cavity creates a resultant thrust that pushes the seat rings away from the ball.

The single piston design permits the automatic release of any overpressure in the body cavity when the valve is in the fully open or fully closed position, therefore the seat rings are "self-relieving".



## DOUBLE PISTON EFFECT



## OPTIONAL DOUBLE PISTON EFFECT

Fluid pressure, both upstream and downstream, as well as in the body cavity creates a resultant thrust that pushes the seat rings towards the ball.

Valves with double piston effect seat rings may require a relief valve in order to reduce the build-up of overpressure in the body cavity.

# BALL VALVE DESIGN FEATURES

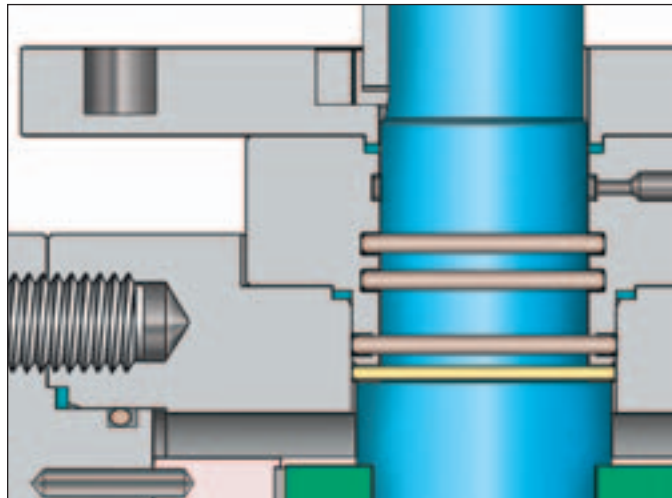
## STEM SEALING

Two O-rings and one graphite gasket, retained by the gland bushing, ensure the stem seal.

An emergency sealant injection port is located between the upper O-rings and the graphite gasket.

The graphite gasket can be replaced while the valve is under pressure and with the ball in any position. This is done by removing the gland plate, after having released through the grease-injection fitting hole, any pressure that may exist between upper O-ring and the graphite gasket.

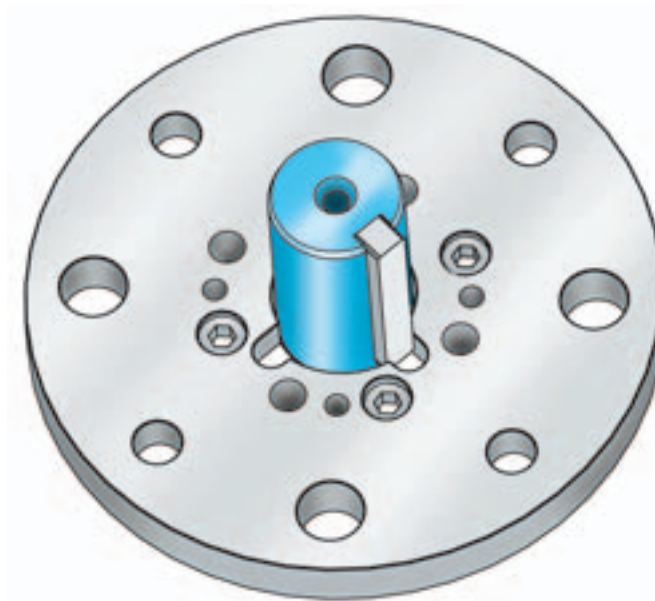
The stem seals can be replaced with the valve under pressure, when the ball is in the fully open or fully closed position, and the body cavity overpressure has been released to the atmosphere.



## BODY SEALING

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

O-rings can be replaced by lip-seal rings and/or graphite gaskets for special services.



## BALL SEAT ALIGNMENT

Mechanical stops ensure control over ball rotation and permit accurate mounting of actuators on valves in-line.

## ACTUATION

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

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

- 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

Gear operators can be easily removed in-service and replaced with actuators.

## FIRE SAFE

Velan trunnion-mounted ball valves are designed and certified Fire Safe to API 6FA, API 607, BS 6755 Part 2.



# DESIGN FEATURES

## EMERGENCY SEALANT INJECTION

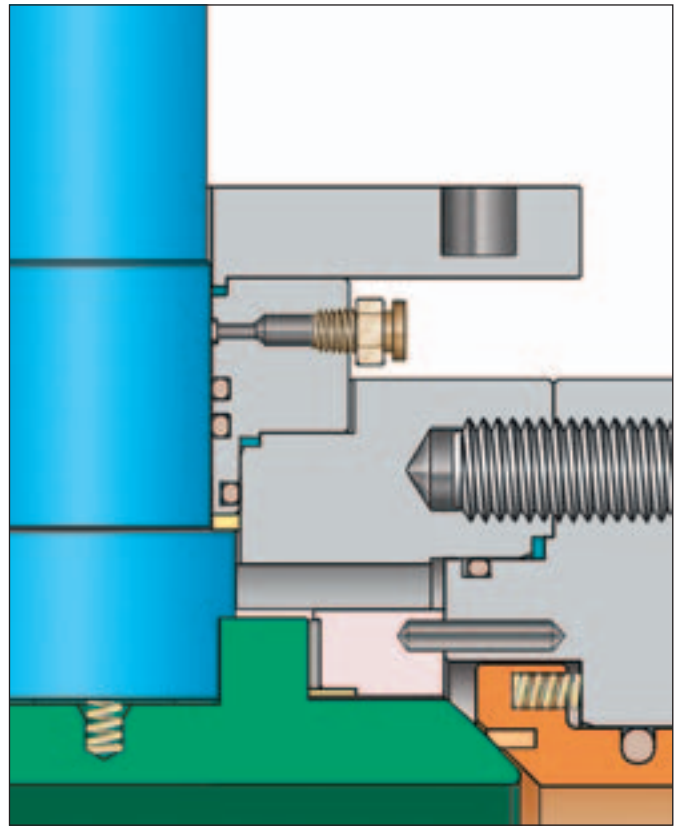
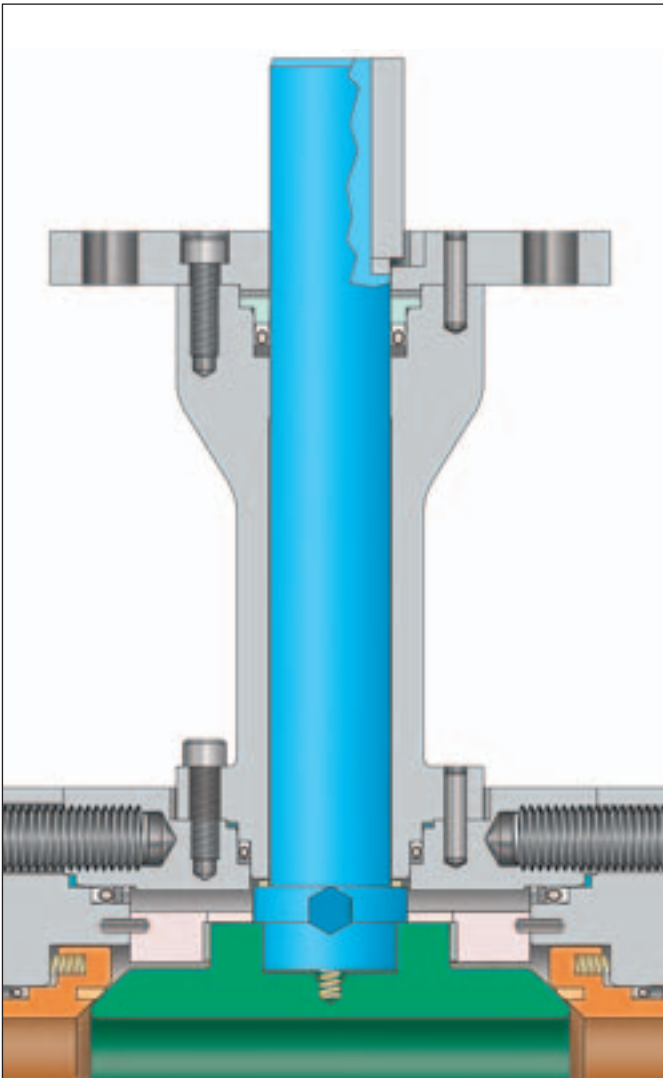
Each valve has a port for sealant injection in the stem seals area and an option for an emergency sealant injection feature in the seating area.

The emergency sealant injection feature in the seating area is available on request for valves of at least 6" nominal size.

## EXTENDED BONNET

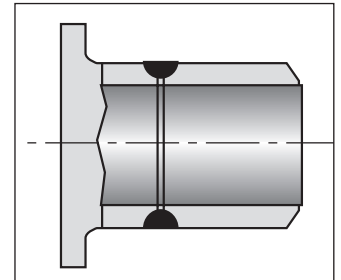
Valve designs are available with extended bonnets for applications in extreme temperature service.

Extended bonnets are recommended for service at temperatures below -50°C or above 220°C.



## TRANSITION PUPS

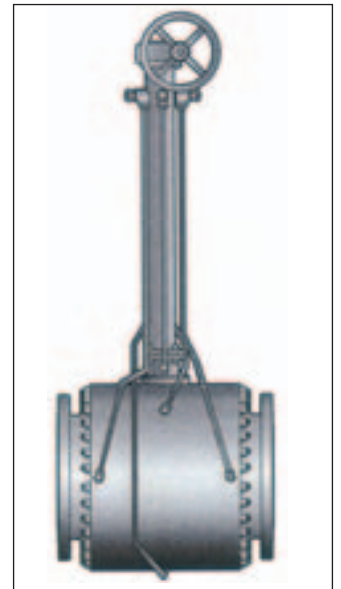
Transition pups are supplied on request for welded end valves.



## 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.



# BOLTED BODY SIDE-ENTRY

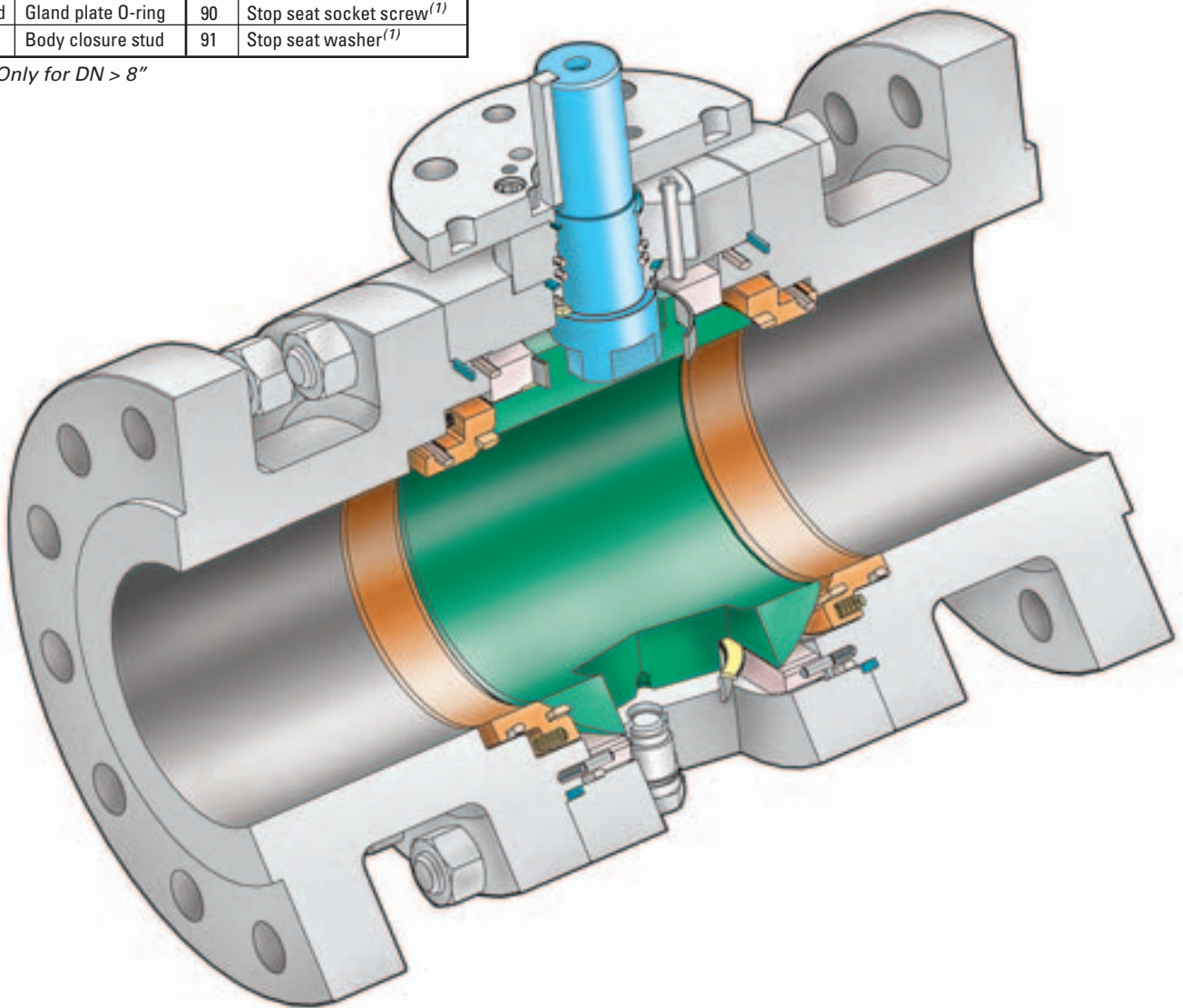
## PARTS LIST

1	Body	13	Body closure nut
2	Closure	14	Socket screw
3	Ball	15	Spring
4	Seat	15a	Antistatic spring
5	Stem	16	Seat greaser
6	Bearing retainer	17	Check valve
7	Gland plate	18	Stem greaser
8	Operator flange	19	Vent bleeder valve
9	Stem key	20	Drain plug
10	Body gasket	21	Ball bushing
10a	Stem gasket	22	Stem thrust washer
10b	Gland plate gasket	23	Ball thrust washer
11	Body O-ring	24	Pin
11a	Seat O-ring	24a	Pin
11b	Seat O-ring	30	Lifting plug
11c	Stem O-ring	31	Valve support
11d	Gland plate O-ring	90	Stop seat socket screw <sup>(1)</sup>
12	Body closure stud	91	Stop seat washer <sup>(1)</sup>

## RECOMMENDED SPARE PARTS

FOR START UP		FOR MAINTENANCE	
-		4	Seat
10	Bonnet gasket		
10a	Stem gasket		
10b	Gland plate gasket		
11	Bonnet O-ring		
11a	Seat O-ring		
11b	Seat O-ring		
11c	Stem O-ring		
11d	Gland plate O-ring		

(1) Only for DN > 8"



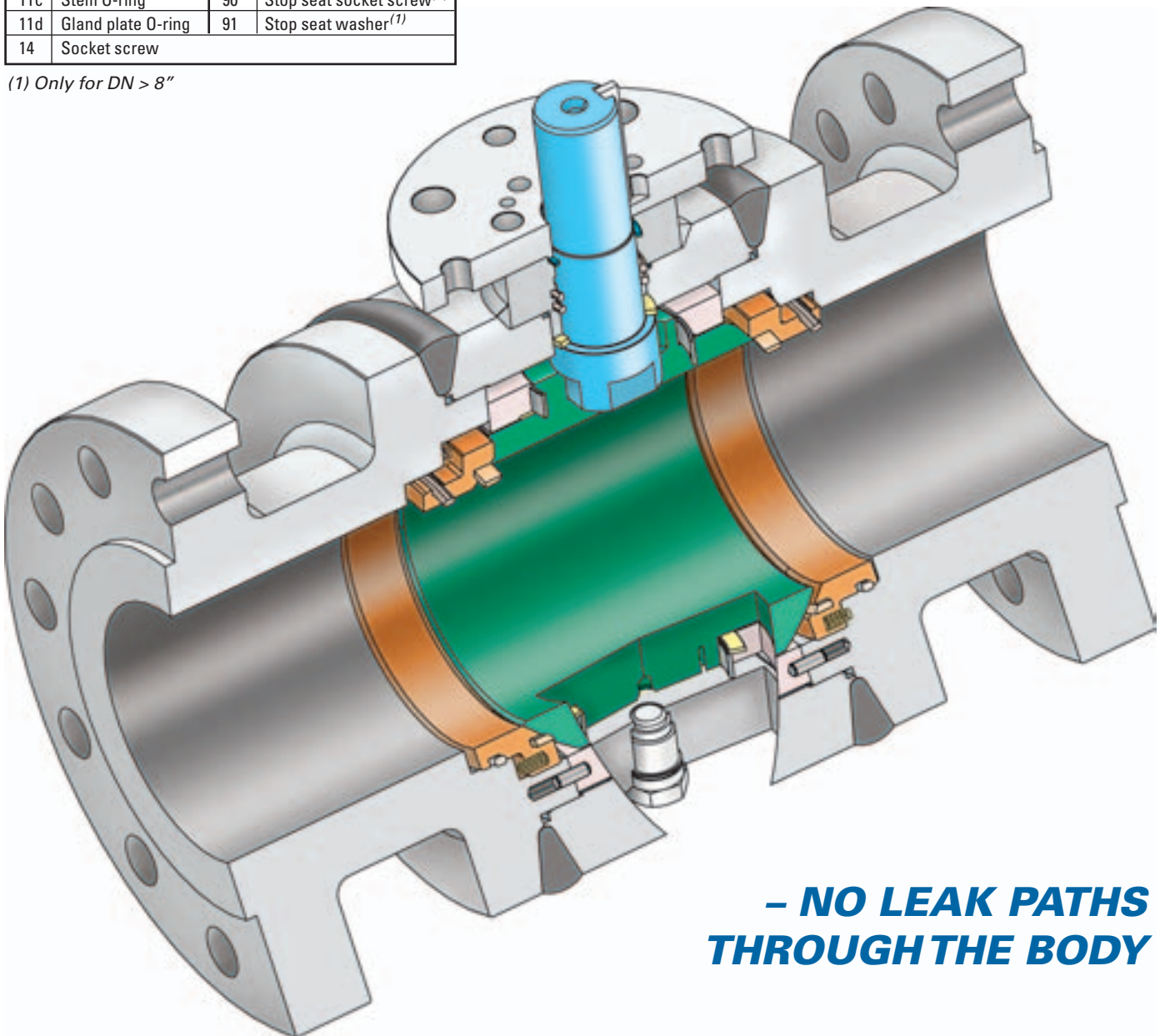
# WELDED BODY

PARTS LIST			
1	Body	15	Spring
2	Closure	15a	Antistatic spring
3	Ball	16	Seat greaser
4	Seat	17	Check valve
5	Stem	18	Stem greaser
6	Bearing retainer	19	Vent bleeder valve
7	Gland plate	20	Drain plug
8	Operator flange	21	Ball bushing
9	Stem key	22	Stem thrust washer
10	Body gasket	23	Ball thrust washer
10a	Stem gasket	24	Pin
10b	Gland plate gasket	24a	Pin
11a	Seat O-ring	30	Lifting plug
11b	Seat O-ring	31	Valve support
11c	Stem O-ring	90	Stop seat socket screw <sup>(1)</sup>
11d	Gland plate O-ring	91	Stop seat washer <sup>(1)</sup>
14	Socket screw		

## RECOMMENDED SPARE PARTS

FOR START UP AND MAINTENANCE	
10a	Stem gasket

(1) Only for DN > 8"



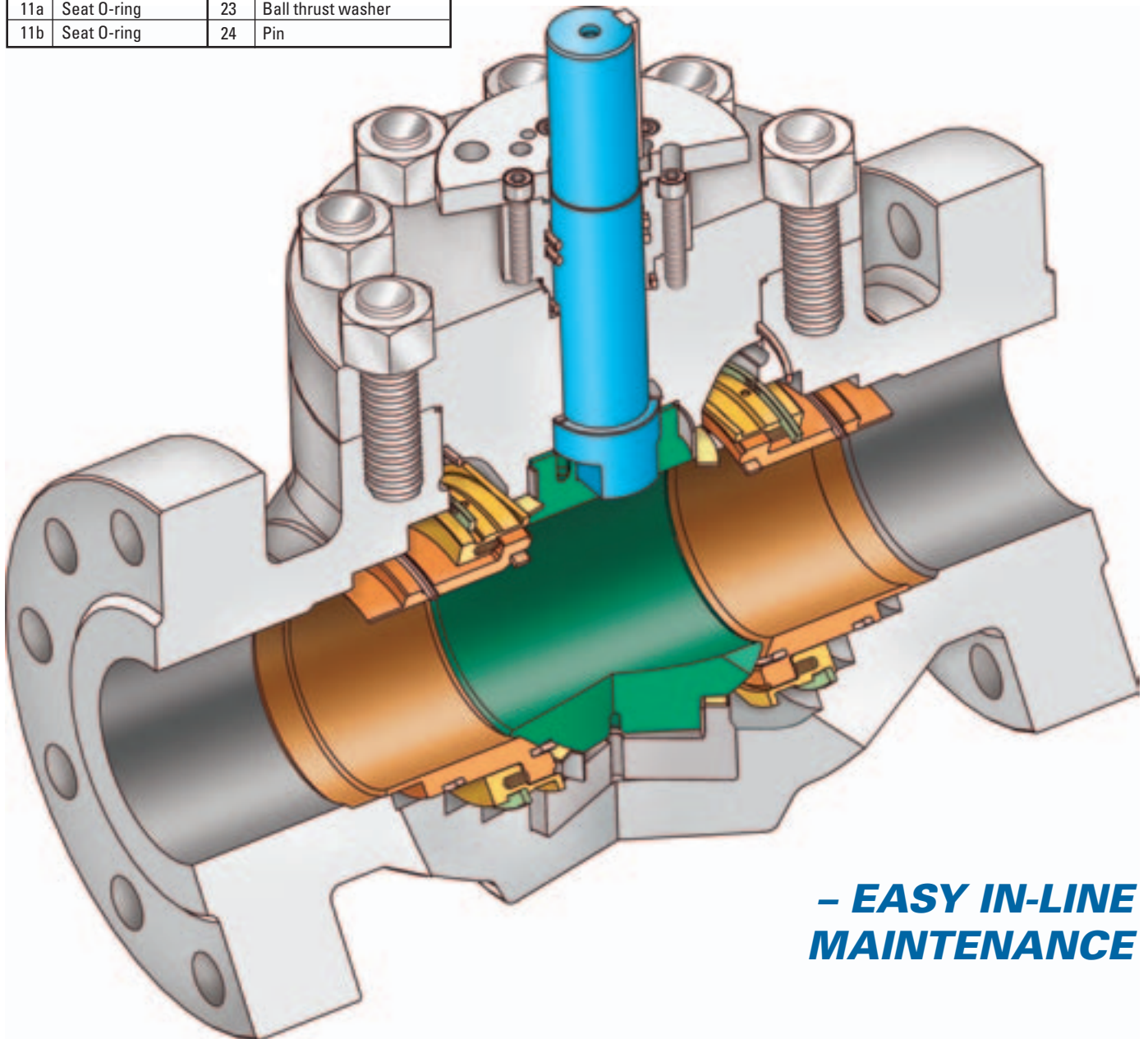
**- NO LEAK PATHS  
THROUGH THE BODY**

# TOP-ENTRY

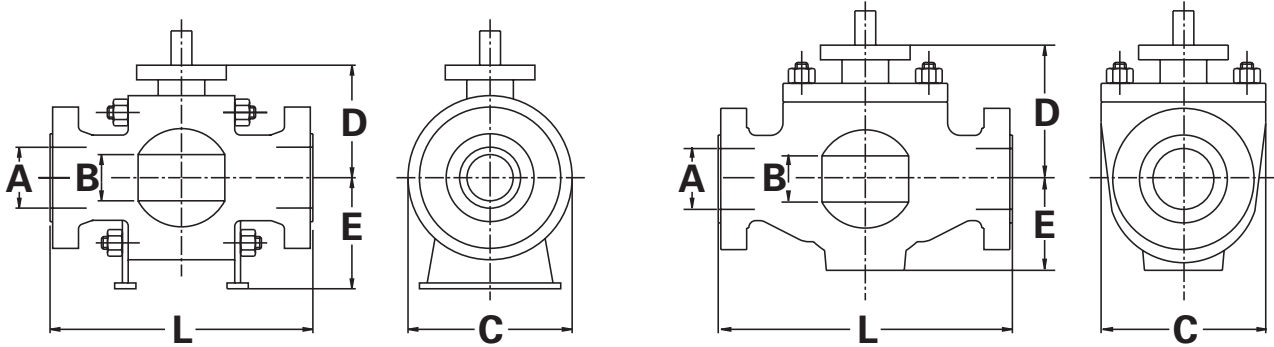
PARTS LIST			
1	Body	11c	Stem O-ring
2	Bonnet	11d	Gland plate O-ring
3	Ball	12	Body bonnet stud
4	Seat	13	Body bonnet nut
4a	Spacer	14	Socket screw
5	Stem	15	Spring
6	Bearing retainer	15a	Antistatic spring
7	Gland plate	16	Seat greaser
8	Operator flange	17	Check valve
9	Stem key	18	Stem greaser
10	Bonnet gasket	19	Vent bleeder valve
10a	Stem gasket	20	Drain plug
10b	Gland plate gasket	21	Ball bushing
11	Bonnet O-ring	22	Stem thrust washer
11a	Seat O-ring	23	Ball thrust washer
11b	Seat O-ring	24	Pin

## RECOMMENDED SPARE PARTS

FOR START UP		FOR MAINTENANCE	
-		4	Seat
10	Bonnet gasket		
10a	Stem gasket		
10b	Gland plate gasket		
11	Bonnet O-ring		
11a	Seat O-ring		
11b	Seat O-ring		
11c	Stem O-ring		
11d	Gland plate O-ring		



# DIMENSIONS & WEIGHTS



## ASME CLASS 150 FULL BORE

ALL TYPES			SIDE-ENTRY						WELDED BODY						TOP-ENTRY					
SIZE in/mm	A	B	L-RF	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-WE	C	D	E	WEIGHT lb/kg*
2	1.93	1.93	7.00	8.50	6.02	4.17	4.02	59	7	8.5	6.02	4.17	4.02	(1)	11.5	11.5	7.09	8.15	3.35	66
50	49	49	178	216	153	106	102	27	178	216	153	106	102	(1)	292	292	180	207	85	30
3	2.91	2.91	8.00	11.13	7.52	6.18	4.96	119	8	11.13	7.52	6.18	4.96	(1)	14	14	9.06	8.78	4.49	125.4
80	74	74	203	283	191	157	126	54	203	283	191	157	126	(1)	356	356	230	223	114	57
4	3.94	3.94	9	12	9.13	7.80	6.42	196	9	12	9.13	7.80	6.42	(1)	17	17	11.10	11.02	5.51	220
100	100	100	229	305	232	198	163	89	229	305	232	198	163	(1)	432	432	282	280	140	100
6	5.91	5.91	15.5	18	12.09	9.72	7.36	352	15.5	18	12.09	9.72	7.36	(1)	22	22	12.72	10.83	8.62	473
150	150	150	394	457	307	247	187	160	394	457	307	247	187	(1)	559	559	323	275	219	215
8	7.91	7.91	18	20.5	15.43	11.02	8.82	557	18	20.5	15.43	11.02	8.82	(1)	26	26	15.94	12.64	10.43	895.4
200	201	201	457	521	392	280	224	253	457	521	392	280	224	(1)	660	660	405	321	265	407
10	9.92	9.92	21	22	18.31	12.60	10.94	851	21	22	18.31	12.60	10.94	(1)	31	31	19.29	13.98	12.40	1232
250	252	252	533	559	465	320	278	387	533	559	465	320	278	(1)	787	787	490	355	315	560
12	11.93	11.93	24	25	21.38	13.27	12.05	1230	24	25	21.38	13.27	12.05	(1)	33	33	22.24	18.50	15.94	1562
300	303	303	610	635	543	337	306	559	610	635	543	337	306	(1)	838	838	565	470	405	710
14	13.15	13.15	27	30	23.94	14.72	13.15	1672	27	30	23.94	14.72	13.15	(1)	35	35	25.98	17.91	17.01	1672
350	334	334	686	762	608	374	334	760	686	762	608	374	334	(1)	889	889	660	455	432	760
16	15.16	15.16	30	33	26.57	16.06	14.09	2244	30	33	26.57	16.06	14.09	(1)	39	39	27.56	18.11	17.76	2420
400	385	385	762	838	675	408	358	1020	762	838	675	408	358	(1)	991	991	700	460	451	1100
18	17.17	17.17	34	36	25.00	17.28	15.35	2673	34	36	25.00	17.28	15.35	(1)	43	43	29.41	19.80	18.58	3326.4
450	436	436	864	914	635	439	390	1215	864	914	635	439	390	(1)	1092	1092	747	503	472	1512
20	19.17	19.17	36	39	33.43	19.37	17.09	3945	36	39	33.43	19.37	17.09	(1)	47	47	33.43	22.05	22.05	4246
500	487	487	914	991	849	492	434	1793	914	991	849	492	434	(1)	1194	1194	849	560	560	1930
22	21.18	21.18	40	43	36.81	20.79	18.78	5190	40	43	36.81	20.79	18.78	(1)	51	51	36.81	22.24	23.27	6050
550	538	538	991	1092	935	528	477	2359	991	1092	935	528	477	(1)	1296	1296	935	565	591	2750
24	23.19	23.19	42	45	39.57	23.15	20.59	6818	42	45	39.57	23.15	20.59	(1)	55	55	39.57	24.02	23.62	7040
600	589	589	1067	1143	1005	588	523	3099	1067	1143	1005	588	523	(1)	1397	1397	1005	610	600	3200
26	24.92	24.92	45	49	41.97	24.69	22.20	8107	45	49	41.97	24.69	22.20	(1)	57	57	41.97	26.38	24.88	8360
650	633	633	1143	1245	1066	627	564	3685	1143	1245	1066	627	564	(1)	1448	1448	1066	670	632	3800
28	26.93	26.93	49	53	44.72	25.35	25.91	9878	49	53	44.72	25.35	25.91	(1)	61	61	44.72	28.74	27.95	10120
700	684	684	1244	1347	1136	644	658	4490	1244	1347	1136	644	658	(1)	1549	1549	1136	730	710	4600
30	28.94	28.94	51	55	38.78	27.20	27.72	11473	51	55	38.78	27.20	27.72	(1)	65	65	49.57	31.50	31.10	12386
750	735	735	1295	1397	985	691	704	5215	1295	1397	985	691	704	(1)	1651	1651	1259	800	790	5630
32	30.67	30.67	54	60	51.18	29.21	29.37	14960	54	60	51.18	29.21	29.37	(1)	70	70	51.18	33.31	32.68	15587
800	779	779	1371	1524	1300	742	746	6800	1371	1524	1300	742	746	(1)	1778	1778	1300	846	830	7085
34	32.68	32.68	58	64	53.94	29.88	30.43	17160	58	64	53.94	29.88	30.43	(1)	76	76	55.12	34.25	34.65	17160
850	830	830	1473	1626	1370	759	773	7800	1473	1626	1370	759	773	(1)	1930	1930	1400	870	880	7800
36	34.41	34.41	60	68	56.30	31.97	31.77	19360	60	68	56.30	31.97	31.77	(1)	82	82	56.61	36.81	36.73	20020
900	874	874	1524	1728	1430	812	807	8800	1524	1728	1430	812	807	(1)	2083	2083	1438	935	933	9100
40	38.43	38.43	69	77	62.80	35.43	35.35	27632	69	77	62.80	35.43	35.35	(1)	92	92	64.96	39.84	40.55	28138
1000	976	976	1753	1956	1595	900	898	12560	1753	1956	1595	900	898	(1)	2337	2337	1650	1012	1030	12790
42	40.16	40.16	72	82	64.96	37.13	36.89	31416	72	82	64.96	37.13	36.89	(1)	96	96	66.93	42.13	41.93	33220
1050	1020	1020	1855	2083	1650	943	937	14280	1855	2083	1650	943	937	(1)	2437	2437	1700	1070	1065	15100
48	45.91	45.91	80	94	75.59	43.19	41.97	48180	80	94	75.59	43.19	41.97	(1)	100	100	76.77	46.85	48.43	49720
1200	1166	1166	2134	2388	1920	1097	1066	21900	2134	2388	1920	1097	1066	(1)	2540	2540	1950	1190	1230	22600
56	53.54	53.54	97.99	97.99	88.98	51.26	49.33	70520	97.99	97.99	88.98	51.26	49.33	(1)	TBA	TBA	TBA	TBA	TBA	TBA
1400	1360	1360	2489	2489	2260	1302	1253	34100	2489	2489	2260	1302	1253	(1)	TBA	TBA	TBA	TBA	TBA	TBA

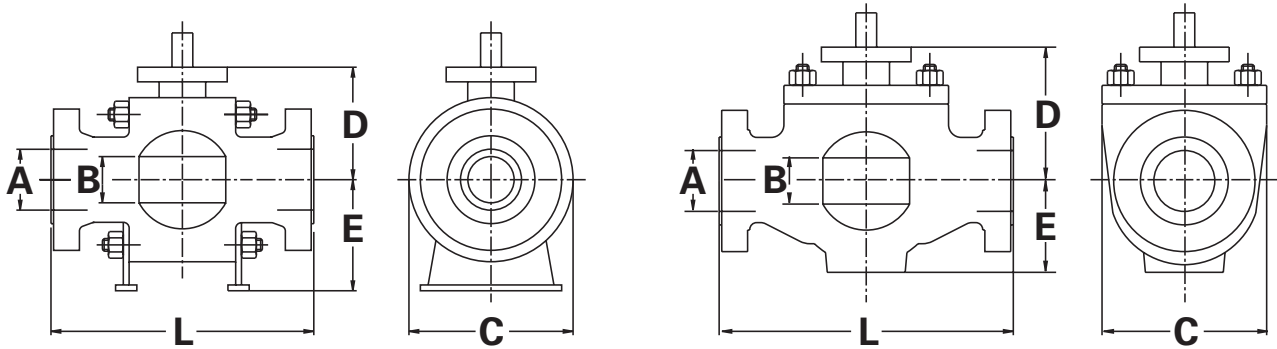
\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: For dimensions & weights in larger sizes consult the factory.

Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## ASME CLASS 150 REDUCED BORE

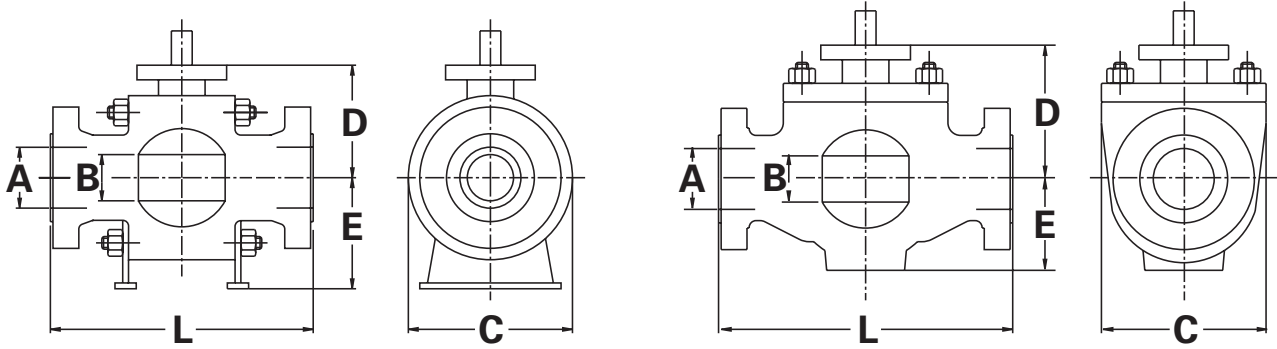
ALL TYPES			SIDE-ENTRY							WELDED BODY							TOP-ENTRY						
SIZE in/mm	A	B	L-RF	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-WE	C	D	E	WEIGHT lb/kg*			
2 × 1 1/2 50 × 40	1.93 49	1.50 38	7 178	8.5 216	5.98 152	3.70 94	3.86 98	55 25	7 178	8.5 216	5.98 152	3.70 94	3.86 98	(1)	11.50 292	11.50 292	6.89 175	8.15 207	3.35 85	55 25			
3 × 2 80 × 50	2.91 74	1.93 49	11.13 203	3.03 283	7.52 191	4.17 106	3.94 100	66 30	11.13 203	3.03 283	7.52 191	4.17 106	3.94 100	(1)	14.02 356	14.02 356	7.52 191	8.27 210	3.43 87	74.8 34			
4 × 3 100 × 80	3.94 100	2.91 74	12 229	4.02 305	9.02 229	6.06 154	5.00 127	132 60	12 229	4.02 305	9.02 229	6.06 154	5.00 127	(1)	17.01 432	17.01 432	9.06 230	8.86 225	4.33 110	154 70			
6 × 4 150 × 100	5.91 150	3.94 100	15.5 394	18 457	10.98 279	7.80 198	6.42 163	220 100	15.5 394	18 457	10.98 279	7.80 198	6.42 163	(1)	22.01 559	22.01 559	10.98 279	10.63 270	5.63 143	286 130			
8 × 6 200 × 150	7.91 201	5.91 150	18 457	20.5 521	13.50 343	9.92 252	7.36 187	407 185	18 457	20.5 521	13.50 343	9.92 252	7.36 187	(1)	25.98 660	25.98 660	13.50 343	10.83 275	8.46 215	550 250			
10 × 8 250 × 200	9.92 252	7.91 201	21 533	22 559	15.98 406	11.02 280	8.74 222	640 291	21 533	22 559	15.98 406	11.02 280	8.74 222	(1)	30.98 787	30.98 787	15.98 406	12.60 320	10.31 262	1001 455			
12 × 10 300 × 250	11.93 303	9.92 252	24 610	25 635	19.02 483	12.72 323	11.02 280	1016 462	24 610	25 635	19.02 483	12.72 323	11.02 280	(1)	32.99 838	32.99 838	19.09 485	13.98 355	12.20 310	1067 485			
14 × 10 350 × 250	13.15 334	9.92 252	27 686	30 762	21.06 535	12.76 324	10.83 275	1140 518	27 686	30 762	21.06 535	12.76 324	10.83 275	(1)	35.00 889	35.00 889	21.06 535	13.98 355	12.20 310	1463 665			
14 × 12 350 × 300	13.15 334	11.93 303	27 686	30 762	21.06 535	13.46 342	11.81 300	1342 610	27 686	30 762	21.06 535	13.46 342	11.81 300	(1)	35.00 889	35.00 889	21.06 535	18.70 475	15.55 395	1738 790			
16 × 12 400 × 300	15.16 385	11.93 303	30 762	33 838	23.43 595	13.62 346	11.93 303	1536 698	30 762	33 838	23.43 595	13.62 346	11.93 303	(1)	39.02 991	39.02 991	23.43 595	18.70 475	15.55 395	2068 940			
16 × 14 400 × 350	15.16 385	13.15 334	30 762	33 838	23.43 595	14.57 370	13.19 335	1804 820	30 762	33 838	23.43 595	14.57 370	13.19 335	(1)	39.02 991	39.02 991	25.98 660	17.72 450	16.93 430	1997.6 908			
18 × 16 450 × 400	17.17 436	15.16 385	34 864	36 914	25.00 635	16.34 415	13.70 348	2332 1060	34 864	36 914	25.00 635	16.34 415	13.70 348	(1)	42.99 1092	42.99 1092	27.56 700	18.11 460	17.72 450	2745.6 1248			
20 × 16 500 × 400	19.17 487	15.16 385	36 914	39 991	27.56 700	16.34 415	13.78 350	2420 1100	36 914	39 991	27.56 700	16.34 415	13.78 350	(1)	47.01 1194	47.01 1194	27.56 700	18.11 460	17.72 450	3392.4 1542			
20 × 18 500 × 450	19.17 487	17.17 436	36 914	39 991	27.56 700	17.28 439	15.35 390	2618 1190	36 914	39 991	27.56 700	17.28 439	15.35 390	(1)	47.01 1194	47.01 1194	29.33 745	19.49 495	18.50 470	3828 1740			
24 × 20 600 × 500	23.19 589	19.17 487	42 1067	45 1143	32.09 815	19.29 490	17.13 435	4334 1970	42 1067	45 1143	32.09 815	19.29 490	17.13 435	(1)	55.00 1397	55.00 1397	34.25 870	21.65 550	22.83 580	5231.6 2378			
30 × 24 750 × 600	28.94 735	23.19 589	51 1295	55 1397	38.78 985	23.15 588	20.28 515	7150 3250	51 1295	55 1397	38.78 985	23.15 588	20.28 515	(1)	65.00 1651	65.00 1651	40.16 1020	23.23 590	23.31 592	8817.6 4008			
36 × 30 900 × 750	34.41 874	28.94 735	60 1524	68 1728	46.06 1170	27.17 690	27.56 700	13891 6314	60 1524	68 1728	46.06 1170	27.17 690	27.56 700	(1)	82.01 2083	82.01 2083	49.21 1250	31.30 795	30.12 765	15505.6 7048			

\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: For dimensions & weights in larger sizes consult the factory.  
Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## ASME CLASS 300 FULL BORE

ALL TYPES			SIDE-ENTRY						WELDED BODY						TOP-ENTRY					
SIZE in/mm	A	B	L-RF	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-WE	C	D	E	WEIGHT lb/kg*
2	1.93	1.93	8.5	8.5	6.5	3.9	3.7	59	8.5	8.5	6.5	3.9	3.7	(1)	11.50	11.50	7.28	8.31	3.54	79
50	49	49	216	216	165	100	95	27	216	216	165	100	95	(1)	292	292	185	211	90	36
3	2.91	2.91	11.1	11.1	8.3	5.9	4.7	121	11.1	11.1	8.3	5.9	4.7	(1)	14.02	14.02	9.25	8.90	4.69	139
80	74	74	283	283	210	150	120	55	283	283	210	150	120	(1)	356	356	235	226	119	63
4	3.94	3.94	12.0	12.0	10.0	7.9	6.3	202	12.0	12.0	10.0	7.9	6.3	(1)	17.01	17.01	11.30	11.26	5.71	233
100	100	100	305	305	254	200	160	92	305	305	254	200	160	(1)	432	432	287	286	145	106
6	5.91	5.91	15.9	18.0	12.5	9.6	7.9	400	15.9	18.0	12.5	9.6	7.9	(1)	22.01	22.01	12.99	11.10	8.82	486
150	150	150	403	457	318	245	200	182	403	457	318	245	200	(1)	559	559	330	282	224	221
8	7.91	7.91	19.8	20.5	15.2	10.8	9.1	612	19.8	20.5	15.2	10.8	9.1	(1)	25.98	25.98	16.14	12.80	10.63	906
200	201	201	502	521	385	275	230	278	502	521	385	275	230	(1)	660	660	410	325	270	412
10	9.92	9.92	22.4	22.0	18.5	13.0	11.6	1100	22.4	22.0	18.5	13.0	11.6	(1)	30.98	30.98	19.69	14.17	12.60	1245
250	252	252	568	559	470	330	295	500	568	559	470	330	295	(1)	787	787	500	360	320	566
12	11.93	11.93	25.5	25.0	21.3	14.0	13.0	1613	25.5	25.0	21.3	14.0	13.0	(1)	32.99	32.99	22.44	18.70	16.14	1573
300	303	303	648	635	540	355	330	733	648	635	540	355	330	(1)	838	838	570	475	410	715
14	13.15	13.15	30.0	30.0	24.8	15.4	13.6	2264	30.0	30.0	24.8	15.4	13.6	(1)	35.00	35.00	26.18	18.11	17.20	1685
350	334	334	762	762	630	390	345	1029	762	762	630	390	345	(1)	889	889	665	460	437	766
16	15.16	15.16	33.0	33.0	27.3	16.9	15.4	3120	33.0	33.0	27.3	16.9	15.4	(1)	39.02	39.02	27.83	18.31	17.95	2433
400	385	385	838	838	693	430	390	1418	838	838	693	430	390	(1)	991	991	707	465	456	1106
18	17.17	17.17	36.0	36.0	30.3	17.9	16.1	3502	36.0	36.0	30.3	17.9	16.1	(1)	42.99	42.99	29.61	20.00	18.78	3342
450	436	436	914	914	770	455	410	1592	914	914	770	455	410	(1)	1092	1092	752	508	477	1519
20	19.17	19.17	39.0	39.0	33.5	19.7	18.3	4829	39.0	39.0	33.5	19.7	18.3	(1)	47.01	47.01	33.66	22.24	22.24	4259
500	487	487	991	991	850	500	465	2195	991	991	850	500	465	(1)	1194	1194	855	565	565	1936
22	21.18	21.18	43.0	43.0	37.0	20.7	18.9	6134	43.0	43.0	37.0	20.7	18.9	(1)	51.02	51.02	37.09	22.52	23.46	6063
550	538	538	1092	1092	940	525	480	2788	1092	1092	940	525	480	(1)	1296	1296	942	572	596	2756
24	23.19	23.19	45.0	45.0	40.2	23.2	21.5	7612	45.0	45.0	40.2	23.2	21.5	(1)	55.00	55.00	39.76	24.29	23.82	7058
600	589	589	1143	1143	1020	590	545	3460	1143	1143	1020	590	545	(1)	1397	1397	1010	617	605	3208
26	24.92	24.92	49.0	49.0	42.5	24.8	22.8	10252	49.0	49.0	42.5	24.8	22.8	(1)	57.01	57.01	42.20	26.69	25.08	8378
650	633	633	1245	1245	1080	630	580	4660	1245	1245	1080	630	580	(1)	1448	1448	1072	678	637	3808
28	26.93	26.93	53.0	53.0	45.3	25.2	26.2	12694	53.0	53.0	45.3	25.2	26.2	(1)	60.98	60.98	44.92	29.06	28.15	10135
700	684	684	1346	1346	1150	640	665	5770	1346	1346	1150	640	665	(1)	1549	1549	1141	738	715	4607
30	28.94	28.94	55.0	55.0	48.6	27.6	28.7	14498	55.0	55.0	48.6	27.6	28.7	(1)	65.00	65.00	49.80	31.93	31.30	12404
750	735	735	1397	1397	1235	700	730	6590	1397	1397	1235	700	730	(1)	1651	1651	1265	811	795	5638
32	30.67	30.67	60.0	60.0	52.0	29.3	30.1	17450	60.0	60.0	52.0	29.3	30.1	(1)	70.00	70.00	51.65	33.46	32.87	15602
800	779	779	1524	1524	1320	745	765	7932	1524	1524	1320	745	765	(1)	1778	1778	1312	850	835	7092
34	32.68	32.68	64.0	64.0	54.7	29.9	31.5	19888	64.0	64.0	54.7	29.9	31.5	(1)	75.98	75.98	55.43	34.53	34.84	17184
850	830	830	1626	1626	1390	760	800	9040	1626	1626	1390	760	800	(1)	1930	1930	1408	877	885	7811
36	34.41	34.41	68.0	68.0	56.9	31.7	32.5	22005	68.0	68.0	56.9	31.7	32.5	(1)	82.01	82.01	56.89	37.09	36.93	20046
900	874	874	1727	1727	1445	805	825	10093	1727	1727	1445	805	825	(1)	2083	2083	1445	942	938	9112
40	38.43	38.43	77.0	77.0	63.8	35.4	36.2	30305	77.0	77.0	63.8	35.4	36.2	(1)	92.01	92.01	65.47	40.16	40.79	28156
1000	976	976	1956	1956	1620	900	920	13775	1956	1956	1620	900	920	(1)	2337	2337	1663	1020	1036	12798
42	40.16	40.16	82.0	82.0	66.3	38.1	37.4	35431	82.0	82.0	66.3	38.1	37.4	(1)	95.94	95.94	67.52	42.56	42.13	33249
1050	1020	1020	2083	2083	1685	968	950	16105	2083	2083	1685	968	950	(1)	2437	2437	1715	1081	1070	15113
48	45.91	45.91	85.4	85.4	57.5	43.3	43.3	52932	85.4	85.4	57.5	43.3	43.3	(1)	100.00	100.00	77.36	47.28	48.66	49751
1200	1166	1166	2170	2170	1460	1100	1100	24060	2170	2170	1460	1100	1100	(1)	2540	2540	1965	1201	1236	22614
56	53.54	53.54	108.0	108.0	89.6	50.6	50.0	83941	108.0	108.0	89.6	50.6	50.0	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1400	1360	1360	2743	2743	2275	1285	1270	38155	2743	2743	2275	1285	1270	(1)	(1)	(1)	(1)	(1)	(1)	(1)

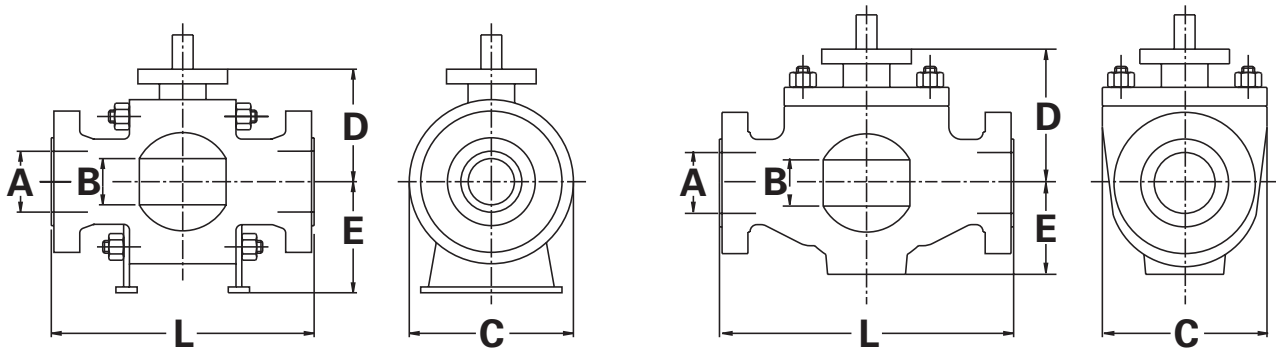
\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: For dimensions & weights in larger sizes consult the factory.

Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## ASME CLASS 300 REDUCED BORE

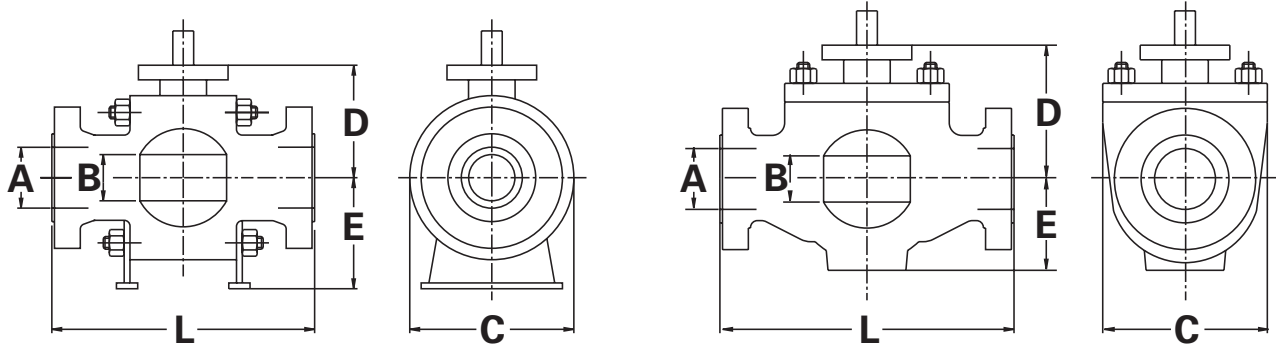
ALL TYPES			SIDE-ENTRY						WELDED BODY						TOP-ENTRY					
SIZE in/mm	A	B	L-RF	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-WE	C	D	E	WEIGHT lb/kg*
2 × 1½ 50 × 40	1.93 49	1.50 38	8.5 216	8.5 216	6.5 165	3.7 94	3.9 100	55 25	8.5 216	8.5 216	6.5 165	3.7 94	3.9 100	(1)	11.5 292	11.5 292	7.0 178	8.1 206	3.1 80	57.2 26
3 × 2 80 × 50	2.91 74	1.93 49	11.1 283	11.1 283	8.3 210	3.9 100	3.7 95	70.4 32	11.1 283	11.1 283	8.3 210	3.9 100	3.7 95	(1)	14.0 356	14.0 356	8.3 210	8.3 211	3.5 90	92.4 42
4 × 3 100 × 80	3.94 100	2.91 74	12.0 305	12.0 305	10.0 254	5.9 150	4.7 120	136.4 62	12.0 305	12.0 305	10.0 254	5.9 150	4.7 120	(1)	17.0 432	17.0 432	10.0 254	8.9 226	4.7 119	180.4 82
6 × 4 150 × 100	5.91 150	3.94 100	15.9 403	18.0 457	12.5 318	7.9 200	6.3 160	253 115	15.9 403	18.0 457	12.5 318	7.9 200	6.3 160	(1)	22.0 559	22.0 559	12.5 318	11.3 286	5.7 145	354.2 161
8 × 6 200 × 150	7.91 201	5.91 150	19.8 502	20.5 521	15.0 381	9.6 245	7.9 200	481.8 219	19.8 502	20.5 521	15.0 381	9.6 245	7.9 200	(1)	26.0 660	26.0 660	15.0 381	11.1 282	8.8 224	627 285
10 × 8 250 × 200	9.92 252	7.91 201	22.4 568	22.0 559	17.5 445	10.8 275	9.1 230	642.4 292	22.4 568	22.0 559	17.5 445	10.8 275	9.1 230	(1)	31.0 787	31.0 787	17.5 445	12.8 325	10.6 270	1179.2 536
12 × 10 300 × 250	11.93 303	9.92 252	25.5 648	25.0 635	20.5 520	13.0 330	11.6 295	1306.8 594	25.5 648	25.0 635	20.5 520	13.0 330	11.6 295	(1)	33.0 838	33.0 838	20.5 520	14.2 360	12.6 320	1258.4 572
14 × 10 350 × 250	13.15 334	9.92 252	30.0 762	30.0 762	23.0 585	13.0 330	11.6 295	1414.6 643	30.0 762	30.0 762	23.0 585	13.0 330	11.6 295	(1)	35.0 889	35.0 889	20.5 520	14.2 360	12.6 320	1718.2 781
14 × 12 350 × 300	13.15 334	11.93 303	30.0 762	30.0 762	23.0 585	14.0 355	13.0 330	1795.2 816	30.0 762	30.0 762	23.0 585	14.0 355	13.0 330	(1)	35.0 889	35.0 889	23.0 585	18.7 475	16.1 410	2015.2 916
16 × 12 400 × 300	15.16 385	11.93 303	33.0 838	33.0 838	25.6 650	14.0 355	13.0 330	2123 965	33.0 838	33.0 838	25.6 650	14.0 355	13.0 330	(1)	39.0 991	39.0 991	25.6 650	18.7 475	16.1 410	2402.4 1092
16 × 14 400 × 350	15.16 385	13.15 334	33.0 838	33.0 838	25.6 650	15.4 390	13.6 345	2475 1125	33.0 838	33.0 838	25.6 650	15.4 390	13.6 345	(1)	39.0 991	39.0 991	26.2 665	18.1 460	17.2 437	2409 1095
18 × 16 450 × 400	17.17 436	15.16 385	36.0 914	36.0 914	28.0 710	16.9 430	15.4 390	3504.6 1593	36.0 914	36.0 914	28.0 710	16.9 430	15.4 390	(1)	43.0 1092	43.0 1092	28.0 710	18.3 465	18.0 456	3216.4 1462
20 × 16 500 × 400	19.17 487	15.16 385	39.0 991	39.0 991	30.5 775	16.9 430	15.4 390	3658.6 1663	39.0 991	39.0 991	30.5 775	16.9 430	15.4 390	(1)	47.0 1194	47.0 1194	30.5 775	18.3 465	18.0 456	3979.8 1809
20 × 18 500 × 450	19.17 487	17.17 436	39.0 991	39.0 991	30.5 775	17.9 455	16.1 410	3942.4 1792	39.0 991	39.0 991	30.5 775	17.9 455	16.1 410	(1)	47.0 1194	47.0 1194	30.5 775	20.0 508	18.8 477	4450.6 2023
24 × 20 600 × 500	23.19 589	19.17 487	45.0 1143	45.0 1143	36.0 915	19.7 500	18.3 465	5854.2 2661	45.0 1143	45.0 1143	36.0 915	19.7 500	18.3 465	(1)	55.0 1397	55.0 1397	36.0 915	22.2 565	22.2 565	6102.8 2774
30 × 24 750 × 600	28.94 735	23.19 589	55.0 1397	55.0 1397	42.9 1090	23.2 590	21.5 545	9864.8 4484	55.0 1397	55.0 1397	42.9 1090	23.2 590	21.5 545	(1)	65.0 1651	65.0 1651	42.9 1090	24.3 617	23.8 605	10263 4665
36 × 30 900 × 750	34.41 874	28.94 735	68.0 1727	68.0 1727	50.0 1270	27.6 700	28.7 730	18002.6 8183	68.0 1727	68.0 1727	50.0 1270	27.6 700	28.7 730	(1)	82.0 2083	82.0 2083	50.0 1270	31.9 811	31.3 795	18255.6 8298

\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: For dimensions & weights in larger sizes consult the factory.  
Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS

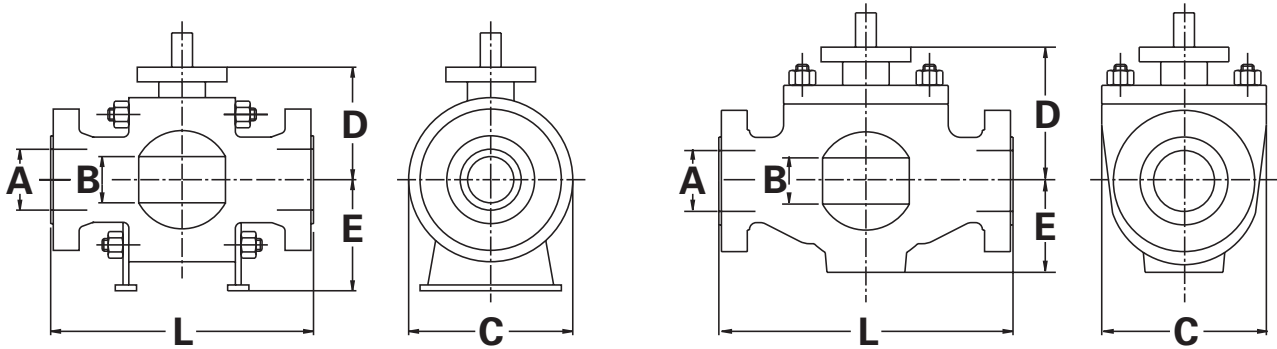


## ASME CLASS 600 FULL BORE

ALL TYPES		SIDE-ENTRY								WELDED BODY							TOP-ENTRY						
SIZE in/mm	A	B	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT <sup>+</sup> lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT <sup>+</sup> lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT <sup>+</sup> lb/kg*
2	1.93	1.93	11.5	11.63	11.5	6.5	4.0	3.9	68	11.5	11.63	11.5	6.5	4.0	3.9	(1)	11.50	11.63	11.50	7.48	8.46	3.74	90
50	49	49	292	295	292	165	102	98	31	292	295	292	165	102	98	(1)	292	295	292	190	215	95	41
3	2.91	2.91	14.0	14.13	14.0	8.3	6.5	5.0	136	14.0	14.13	14.0	8.3	6.5	5.0	(1)	14.02	14.13	14.02	9.45	9.13	4.88	147
80	74	74	356	359	356	210	165	128	62	356	359	356	210	165	128	(1)	356	359	356	240	232	124	67
4	3.94	3.94	17.0	17.13	17.0	10.7	8.3	6.3	249	17.0	17.13	17.0	10.7	8.3	6.3	(1)	17.01	17.13	17.01	11.42	11.57	5.91	242
100	100	100	432	435	432	273	210	160	113	432	435	432	273	210	160	(1)	432	435	432	290	294	150	110
6	5.91	5.91	22.0	22.13	22.0	14.0	9.8	7.9	557	22.0	22.13	22.0	14.0	9.8	7.9	(1)	22.01	22.13	22.01	13.19	11.30	5.08	497
150	150	150	559	562	559	356	250	200	253	559	562	559	356	250	200	(1)	559	562	559	335	287	129	226
8	7.91	7.91	26.0	26.13	26.0	16.5	11.3	10.0	1067	26.0	26.13	26.0	16.5	11.3	10.0	(1)	25.98	26.13	25.98	16.34	12.76	10.83	917
200	201	201	660	664	660	419	288	255	485	660	664	660	419	288	255	(1)	660	664	660	415	324	275	417
10	9.92	9.92	31.0	31.13	31.0	20.1	13.0	12.1	1668	31.0	31.13	31.0	20.1	13.0	12.1	(1)	30.98	31.13	30.98	19.88	14.37	12.80	1254
250	252	252	787	791	787	510	330	308	758	787	791	787	510	330	308	(1)	787	791	787	505	365	325	570
12	11.93	11.93	33.0	33.13	33.0	22.6	14.9	13.7	2347	33.0	33.13	33.0	22.6	14.9	13.7	(1)	32.99	33.13	32.99	22.64	18.90	16.34	1584
300	303	303	838	841	838	575	378	348	1067	838	841	838	575	378	348	(1)	838	841	838	575	480	415	720
14	13.15	13.15	35.0	35.13	35.0	24.7	15.5	14.2	2383	35.0	35.13	35.0	24.7	15.5	14.2	(1)	35.00	35.13	35.00	26.38	18.31	17.40	1694
350	334	334	889	892	889	628	394	360	1083	889	892	889	628	394	360	(1)	889	892	889	670	465	442	770
16	15.16	15.16	39.0	39.13	39.0	27.6	16.9	16.1	3355	39.0	39.13	39.0	27.6	16.9	16.1	(1)	39.02	39.13	39.02	28.03	18.50	18.15	2446
400	385	385	991	994	991	700	430	410	1525	991	994	991	700	430	410	(1)	991	994	991	712	470	461	1112
18	17.17	17.17	43.0	43.13	43.0	30.5	18.4	16.9	4609	43.0	43.13	43.0	30.5	18.4	16.9	(1)	42.99	43.13	42.99	29.80	20.16	18.98	3351
450	436	436	1092	1095	1092	774	467	430	2095	1092	1095	1092	774	467	430	(1)	1092	1095	1092	757	512	482	1523
20	19.17	19.17	47.0	47.25	47.0	34.1	19.7	19.4	5804	47.0	47.25	47.0	34.1	19.7	19.4	(1)	47.01	47.25	47.01	33.86	22.44	22.44	4268
500	487	487	1194	1200	1194	865	500	492	2638	1194	1200	1194	865	500	492	(1)	1194	1200	1194	860	570	570	1940
22	21.18	21.18	51.0	51.38	51.0	37.4	37.4	19.9	8331	51.0	51.38	51.0	37.4	37.4	19.9	(1)	51.02	51.38	51.02	37.28	22.76	23.70	6072
550	538	538	1296	1305	1296	950	950	505	3787	1296	1305	1296	950	950	505	(1)	1296	1305	1296	947	578	602	2760
24	23.19	23.19	55.0	55.38	55.0	40.5	23.4	22.4	10419	55.0	55.38	55.0	40.5	23.4	22.4	(1)	55.00	55.38	55.00	39.96	24.49	24.02	7069
600	589	589	1397	1406	1397	1028	594	570	4736	1397	1406	1397	1028	594	570	(1)	1397	1406	1397	1015	622	610	3213
26	24.92	24.92	57.0	57.50	57.0	40.0	24.8	24.3	12423	57.0	57.50	57.0	40.0	24.8	24.3	(1)	57.01	57.50	57.01	42.44	26.85	25.20	8389
650	633	633	1448	1460	1448	1015	630	618	5647	1448	1460	1448	1015	630	618	(1)	1448	1460	1448	1078	682	640	3813
28	26.93	26.93	61.0	61.50	61.0	46.1	26.2	27.2	14868	61.0	61.50	61.0	46.1	26.2	27.2	(1)	60.98	61.50	60.98	45.12	29.21	28.43	10146
700	684	684	1549	1562	1549	1172	665	692	6758	1549	1562	1549	1172	665	692	(1)	1549	1562	1549	1146	742	722	4612
30	28.94	28.94	66.3	66.50	66.3	50.8	29.2	31.5	18429	66.3	66.50	66.3	50.8	29.2	31.5	(1)	66.30	66.50	66.30	50.00	32.17	31.65	12408
750	735	735	1684	1697	1684	1290	741	800	8377	1684	1697	1684	1290	741	800	(1)	1684	1697	1684	1270	817	804	5640
32	30.67	30.67	70.0	70.72	70.0	52.4	29.8	31.7	21424	70.0	70.72	70.0	52.4	29.8	31.7	(1)	70.00	70.72	70.00	51.85	33.66	33.07	15627
800	779	779	1778	1794	1778	1330	756	804	9738	1778	1794	1778	1330	756	804	(1)	1778	1794	1778	1317	855	840	7103
34	32.68	32.68	76.0	76.52	76.0	55.1	30.8	32.2	24939	76.0	76.52	76.0	55.1	30.8	32.2	(1)	75.98	76.52	75.98	56.02	35.16	35.04	17208
850	830	830	1930	1946	1930	1400	782	817	11336	1930	1946	1930	1400	782	817	(1)	1930	1946	1930	1423	893	890	7822
36	34.41	34.41	82.0	82.63	82.0	60.9	34.2	37.2	29256	82.0	82.63	82.0	60.9	34.2	37.2	(1)	82.01	82.63	82.01	57.09	37.28	37.17	20060
900	874	874	2083	2098	2083	1546	869	945	13298	2083	2098	2083	1546	869	945	(1)	2083	2098	2083	1450	947	944	9118
40	38.43	38.43	85.4	85.43	85.4	64.8	36.1	38.6	40337	85.4	85.43	85.4	64.8	36.1	38.6	(1)	85.43	85.43	85.43	65.67	40.35	40.98	28171
1000	976	976	2170	2170	2170	1645	916	980	18335	2170	2170	2170	1645	916	980	(1)	2170	2170	2170	1668	1025	1041	12805
42	40.16	40.16	85.6	85.63	85.6	70.7	39.2	43.7	46983	85.6	85.63	85.6	70.7	39.2	43.7	(1)	85.63	85.63	85.63	67.72	42.76	42.32	33260
1050	1020	1020	2175	2175	2175	1795	995	1110	21356	2175	2175	2175	1795	995	1110	(1)	2175	2175	2175	1720	1086	1075	15118
48	45.91	45.91	95.9	95.87	95.9	81.5	44.6	49.8	68629	95.9	95.87	95.9	81.5	44.6	49.8	(1)	95.87	95.87	95.87	77.56	59.29	48.82	49762
1200	1166	1166	2435	2435	2435	2070	1132	1265	31195	2435	2435	2435	2070	1132	1265	(1)	2435	2435	2435	1970	1506	1240	22619
56	53.54	53.54	106.7	106.69	106.7	94.1	50.8	57.1	104463	106.7	106.69	106.7	94.1	50.8	57.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1400	1360	1360	2710	2710	2710	2390	1290	1450	47483	2710	2710	2710	2390	1290	1450	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

\* Weight figures are relevant to flanged end valves.  
 (1) Please consult the factory.  
 Note: For dimensions & weights in larger sizes consult the factory.  
 Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## ASME CLASS 600 REDUCED BORE

ALL TYPES		SIDE-ENTRY								WELDED BODY								TOP-ENTRY					
SIZE in/mm	A	B	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*
2 × 1½ 50 × 40	1.93 49	1.50 38	11.5 292	11.63 295	11.5 292	6.5 165	3.7 95	4.0 102	68 31	11.5 292	11.63 295	11.5 292	6.5 165	3.7 95	4.0 102	(1)	14.5 368	11.63 295	14.5 368	7.0 178	8.3 210	3.3 85	75 34
3 × 2 80 × 50	2.91 74	1.93 49	14.0 356	14.13 359	14.0 356	8.3 210	4.0 102	3.9 98	86 39	14.0 356	14.13 359	14.0 356	8.3 210	4.0 102	3.9 98	(1)	14.0 356	14.13 359	14.0 356	8.3 210	8.5 215	3.7 95	101 46
4 × 3 100 × 80	3.94 100	2.91 74	17.0 432	17.13 436	17.0 432	14.7 373	6.5 165	5.0 128	172 78	17.0 432	17.13 436	17.0 432	14.7 373	6.5 165	5.0 128	(1)	17.0 432	17.13 436	17.0 432	10.7 273	9.1 232	4.9 124	207 94
6 × 4 150 × 100	5.91 150	3.94 100	22.0 559	22.13 562	22.0 559	14.0 356	8.3 210	6.3 160	330 150	22.0 559	22.13 562	22.0 559	14.0 356	8.3 210	6.3 160	(1)	22.0 559	22.13 562	22.0 559	14.0 356	11.6 294	5.9 150	180 82
8 × 6 200 × 150	7.91 201	5.91 150	26.0 660	26.13 664	26.0 660	16.5 419	9.8 250	7.9 200	642 292	26.0 660	26.13 664	26.0 660	16.5 419	9.8 250	7.9 200	(1)	26.0 660	26.13 664	26.0 660	16.5 419	11.3 287	5.1 129	699.6 318
10 × 8 250 × 200	9.92 252	7.91 201	31.0 787	31.13 791	31.0 787	20.1 510	11.3 288	10.0 255	1210 550	31.0 787	31.13 791	31.0 787	20.1 510	11.3 288	10.0 255	(1)	31.0 787	31.13 791	31.0 787	20.1 510	12.8 324	10.8 275	1320 600
12 × 10 300 × 250	11.93 303	9.92 252	33.0 838	33.13 841	33.0 838	22.0 560	13.0 330	12.1 308	1784 811	33.0 838	33.13 841	33.0 838	22.0 560	13.0 330	12.1 308	(1)	33.0 838	33.13 841	33.0 838	22.0 560	14.4 365	12.8 325	1582 719
14 × 10 350 × 250	13.15 334	9.92 252	35.0 889	35.13 892	35.0 889	23.8 605	13.0 330	12.1 308	2006 912	35.0 889	35.13 892	35.0 889	23.8 605	13.0 330	12.1 308	(1)	35.0 889	35.13 892	35.0 889	23.8 605	14.4 365	12.8 325	2180 991
14 × 12 350 × 300	13.15 334	11.93 303	35.0 889	35.13 892	35.0 889	23.8 605	14.9 378	13.7 348	2519 1145	35.0 889	35.13 892	35.0 889	23.8 605	14.9 378	13.7 348	(1)	35.0 889	35.13 892	35.0 889	23.8 605	18.9 480	16.3 415	2620 1191
16 × 12 400 × 300	15.16 385	11.93 303	39.0 991	39.13 994	39.0 991	27.0 685	14.9 378	13.7 348	2966 1348	39.0 991	39.13 994	39.0 991	27.0 685	14.9 378	13.7 348	(1)	39.0 991	39.13 994	39.0 991	27.0 685	18.9 480	16.3 415	3104 1411
16 × 14 400 × 350	15.16 385	13.15 334	35.0 889	35.13 892	35.0 889	24.7 628	15.5 394	14.2 360	2383 1083	35.0 889	35.13 892	35.0 889	24.7 628	15.5 394	14.2 360	(1)	39.0 991	39.13 994	39.0 991	27.0 685	18.3 465	17.4 442	3029 1377
18 × 16 450 × 400	17.17 436	15.16 385	43.0 1092	43.13 1095	43.0 1092	29.3 745	16.9 430	16.1 410	3696 1680	43.0 1092	43.13 1095	43.0 1092	29.3 745	16.9 430	16.1 410	(1)	43.0 1092	43.13 1095	43.0 1092	29.3 745	18.5 470	18.1 461	4083 1856
20 × 16 500 × 400	19.17 487	15.16 385	47.0 1194	47.25 1200	47.0 1194	32.1 815	16.9 430	16.1 410	4587 2085	47.0 1194	47.25 1200	47.0 1194	32.1 815	16.9 430	16.1 410	(1)	47.0 1194	47.25 1200	47.0 1194	32.1 815	18.5 470	18.1 461	6371 2896
20 × 18 500 × 450	19.17 487	17.17 436	47.0 1194	47.25 1200	47.0 1194	32.1 815	18.4 467	16.9 430	5225 2375	47.0 1194	47.25 1200	47.0 1194	32.1 815	18.4 467	16.9 430	(1)	47.0 1194	47.25 1200	47.0 1194	32.1 815	20.2 512	19.0 482	5755 2616
24 × 20 600 × 500	23.19 589	19.17 487	55.0 1397	55.38 1406	55.0 1397	37.0 940	19.7 500	19.4 492	7146 3248	55.0 1397	55.38 1406	55.0 1397	37.0 940	19.7 500	19.4 492	(1)	55.0 1397	55.38 1406	55.0 1397	37.0 940	22.4 570	22.4 570	7740 3518
30 × 24 750 × 600	28.94 735	23.19 589	66.3 1684	65.50 1697	66.3 1684	44.5 1130	23.4 594	22.4 570	12690 5768	66.3 1684	65.50 1697	66.3 1684	44.5 1130	23.4 594	22.4 570	(1)	66.3 1684	65.50 1697	66.3 1684	44.5 1130	24.5 622	24.0 610	13130 5968
36 × 30 900 × 750	34.41 874	28.94 735	82.0 2083	82.63 2098	82.0 2083	51.8 1315	27.9 708	29.6 751	22827 10376	82.0 2083	82.63 2098	82.0 2083	51.8 1315	27.9 708	29.6 751	(1)	82.0 2083	82.63 2098	82.0 2083	51.8 1315	32.2 817	31.7 804	23258 10572

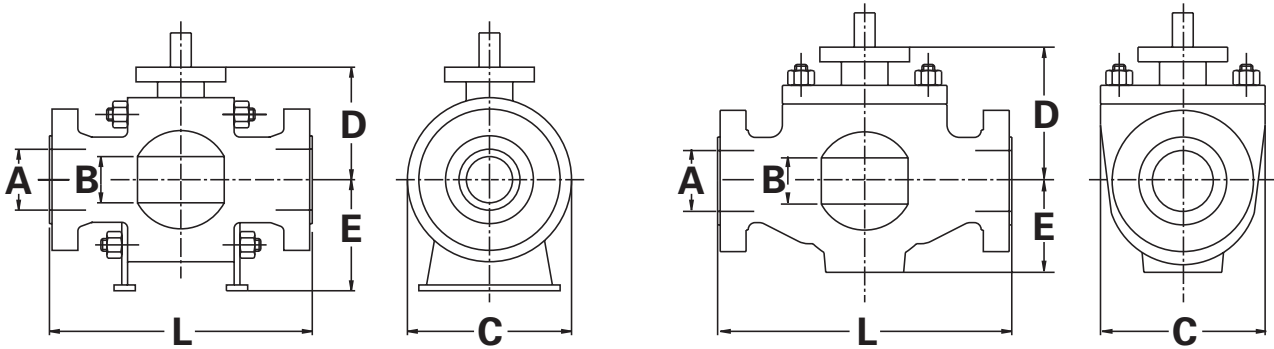
\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: For dimensions & weights in larger sizes consult the factory.

Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## ASME CLASS 900 FULL BORE

ALL TYPES			SIDE-ENTRY								WELDED BODY								TOP-ENTRY							
SIZE in/mm	A	B	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*			
2 50	1.93 49	1.93 49	14.49 368	14.61 371	14.49 368	8.50 216	4.09 104	4.06 103	106 48	14.49 368	14.61 371	14.49 368	8.50 216	4.09 104	4.06 103	(1)	14.49 368	14.61 371	14.49 368	8.50 216	4.09 104	4.06 103	114 52			
3 80	2.91 74	2.91 74	15.00 381	15.12 384	15.00 381	9.49 241	6.42 163	5.20 132	121 55	15.00 381	15.12 384	15.00 381	9.49 241	6.42 163	5.20 132	(1)	15.00 381	15.12 384	15.00 381	9.49 241	6.42 163	5.20 132	242 110			
4 100	3.94 100	3.94 100	17.99 457	18.11 460	17.99 457	11.50 292	8.31 211	6.65 169	319 145	17.99 457	18.11 460	17.99 457	11.50 292	8.31 211	6.65 169	(1)	17.99 457	18.11 460	17.99 457	11.50 292	8.31 211	6.65 169	440 200			
6 150	5.91 150	5.91 150	24.02 610	24.13 613	24.02 610	15.00 381	10.20 259	8.39 213	792 360	24.02 610	24.13 613	24.02 610	15.00 381	10.20 259	8.39 213	(1)	24.02 610	24.13 613	24.02 610	15.00 381	10.20 259	8.39 213	946 430			
8 200	7.91 201	7.91 201	29.02 737	29.13 740	29.02 737	18.50 470	11.69 297	10.39 264	1276 580	29.02 737	29.13 740	29.02 737	18.50 470	11.69 297	10.39 264	(1)	29.02 737	29.13 740	29.02 737	18.50 470	11.69 297	10.39 264	1760 800			
10 250	9.92 252	9.92 252	32.99 838	33.11 841	32.99 838	21.46 545	13.46 342	13.11 333	2222 1010	32.99 838	33.11 841	32.99 838	21.46 545	13.46 342	13.11 333	(1)	32.99 838	33.11 841	32.99 838	21.46 545	13.46 342	13.11 333	2200 1000			
12 300	11.93 303	11.93 303	37.99 965	38.11 968	37.99 965	24.02 610	15.12 384	14.92 379	3322 1510	37.99 965	38.11 968	37.99 965	24.02 610	15.12 384	14.92 379	(1)	37.99 965	38.11 968	37.99 965	24.02 610	15.12 384	14.92 379	2860 1300			
14 350	12.68 322	12.68 322	40.51 1029	40.87 1038	40.51 1029	25.20 640	15.67 398	14.49 368	3190 1450	40.51 1029	40.87 1038	40.51 1029	25.20 640	15.67 398	14.49 368	(1)	40.51 1029	40.87 1038	40.51 1029	25.20 640	15.67 398	14.49 368	3729 1695			
16 400	14.69 373	14.69 373	44.49 1130	44.88 1140	44.49 1130	27.95 710	17.17 436	17.20 437	4730 2150	44.49 1130	44.88 1140	44.49 1130	27.95 710	17.17 436	17.20 437	(1)	44.49 1130	44.88 1140	44.49 1130	27.95 710	17.17 436	17.20 437	5632 2560			
18 450	16.65 423	16.65 423	47.99 1219	48.50 1232	47.99 1219	31.50 800	19.06 484	19.57 497	6204 2820	47.99 1219	48.50 1232	47.99 1219	31.50 800	19.06 484	19.57 497	(1)	47.99 1219	48.50 1232	47.99 1219	31.50 800	19.06 484	19.57 497	7480 3400			
20 500	18.54 471	18.54 471	52.01 1321	52.48 1333	52.01 1321	35.04 890	20.94 532	19.80 503	9240 4200	52.01 1321	52.48 1333	52.01 1321	35.04 890	20.94 532	19.80 503	(1)	52.01 1321	52.48 1333	52.01 1321	35.04 890	20.94 532	19.80 503	9680 4400			
24 600	22.44 570	22.44 570	60.98 1549	61.73 1568	60.98 1549	41.69 1059	24.29 617	24.92 633	14960 6800	60.98 1549	61.73 1568	60.98 1549	41.69 1059	24.29 617	24.92 633	(1)	60.98 1549	61.73 1568	60.98 1549	41.69 1059	24.29 617	24.92 633	15840 7200			
28 700	26.18 665	26.18 665	69.02 1753	69.88 1775	69.02 1753	48.58 1234	26.54 674	27.80 706	21780 9900	69.02 1753	69.88 1775	69.02 1753	48.58 1234	26.54 674	27.80 706	(1)	69.02 1753	69.88 1775	69.02 1753	48.58 1234	26.54 674	27.80 706	22880 10400			
30 750	28.03 712	28.03 712	74.02 1880	74.88 1902	74.02 1880	51.18 1300	28.46 723	30.59 777	26796 12180	74.02 1880	74.88 1902	74.02 1880	51.18 1300	28.46 723	30.59 777	(1)	74.02 1880	74.88 1902	74.02 1880	51.18 1300	28.46 723	30.59 777	28325 12875			
32 800	29.92 760	29.92 760	80.00 2032	80.87 2054	80.00 2032	53.43 1357	30.87 784	31.85 809	26004 11820	80.00 2032	80.87 2054	80.00 2032	53.43 1357	30.87 784	31.85 809	(1)	80.00 2032	80.87 2054	80.00 2032	53.43 1357	30.87 784	31.85 809	35090 15950			
34 850	31.81 808	31.81 808	85.00 2159	86.14 2188	85.00 2159	57.80 1468	31.77 807	33.54 852	37840 17200	85.00 2159	86.14 2188	85.00 2159	57.80 1468	31.77 807	33.54 852	(1)	85.00 2159	86.14 2188	85.00 2159	57.80 1468	31.77 807	33.54 852	38500 17500			
36 900	33.66 855	33.66 855	90.00 2286	91.14 2315	90.00 2286	60.31 1532	33.39 848	35.35 898	41580 18900	90.00 2286	91.14 2315	90.00 2286	60.31 1532	33.39 848	35.35 898	(1)	90.00 2286	91.14 2315	90.00 2286	60.31 1532	33.39 848	35.35 898	45320 20600			

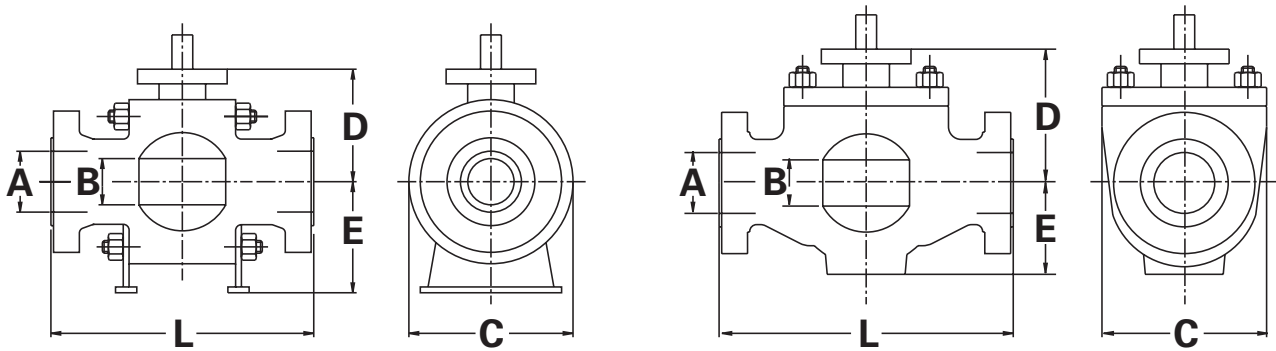
\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: For dimensions & weights in larger sizes consult the factory.

Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## ASME CLASS 900 REDUCED BORE

ALL TYPES		SIDE-ENTRY								WELDED BODY							TOP-ENTRY						
SIZE in/mm	A	B	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*
2 × 1½ 50 × 40	1.93 49	1.50 38	14.49 368	14.61 371	14.49 368	8.50 216	4.06 103	4.02 102	90 41	14.49 368	14.61 371	14.49 368	8.50 216	4.06 103	4.02 102	(1)	14.49 368	14.61 371	14.49 368	8.50 216	4.06 103	4.02 102	110 50
3 × 2 80 × 50	2.91 74	1.93 49	15.00 381	15.12 384	15.00 381	9.49 241	4.06 103	4.02 102	114 52	15.00 381	15.12 384	15.00 381	9.49 241	4.06 103	4.02 102	(1)	15.00 381	15.12 384	15.00 381	9.49 241	4.06 103	4.02 102	165 75
4 × 3 100 × 80	3.94 100	2.91 74	17.99 457	18.11 460	17.99 457	11.50 292	6.54 166	5.00 127	209 95	17.99 457	18.11 460	17.99 457	11.50 292	6.54 166	5.00 127	(1)	17.99 457	18.11 460	17.99 457	11.50 292	6.54 166	5.00 127	308 140
6 × 4 150 × 100	5.91 150	3.94 100	24.02 610	24.13 613	24.02 610	15.00 381	8.19 208	6.42 163	451 205	24.02 610	24.13 613	24.02 610	15.00 381	8.19 208	6.42 163	(1)	24.02 610	24.13 613	24.02 610	15.00 381	8.19 208	6.42 163	601 273
8 × 6 200 × 150	7.91 201	5.91 150	29.02 737	29.13 740	29.02 737	18.50 470	10.35 263	8.39 213	968 440	29.02 737	29.13 740	29.02 737	18.50 470	10.35 263	8.39 213	(1)	29.02 737	29.13 740	29.02 737	18.50 470	10.35 263	8.39 213	1206 548
10 × 8 250 × 200	9.92 252	7.91 201	32.99 838	33.11 841	32.99 838	21.46 545	11.57 294	10.59 269	1518 690	32.99 838	33.11 841	32.99 838	21.46 545	11.57 294	10.59 269	(1)	32.99 838	33.11 841	32.99 838	21.46 545	13.35 339	10.67 271	1993 906
12 × 10 300 × 250	11.93 303	9.92 252	37.99 965	38.11 968	37.99 965	24.02 610	13.70 348	12.91 328	2541 1155	37.99 965	38.11 968	37.99 965	24.02 610	13.70 348	12.91 328	(1)	37.99 965	38.11 968	37.99 965	24.02 610	14.96 380	12.76 324	2398 1090
14 × 10 350 × 250	12.68 322	9.92 252	40.51 1029	40.87 1038	40.51 1029	25.20 640	13.70 348	12.91 328	2728 1240	40.51 1029	40.87 1038	40.51 1029	25.20 640	13.70 348	12.91 328	(1)	40.51 1029	40.87 1038	40.51 1029	25.20 640	14.96 380	12.76 324	3289 1495
14 × 12 350 × 300	12.68 322	11.93 303	40.51 1029	40.87 1038	40.51 1029	25.20 640	15.75 400	15.04 382	3597 1635	40.51 1029	40.87 1038	40.51 1029	25.20 640	15.75 400	15.04 382	(1)	40.51 1029	40.87 1038	40.51 1029	25.20 640	20.28 515	16.14 410	3960 1800
16 × 12 400 × 300	14.69 373	11.93 303	44.49 1130	44.88 1140	44.49 1130	27.76 705	15.75 400	15.04 382	3806 1730	44.49 1130	44.88 1140	44.49 1130	27.76 705	15.75 400	15.04 382	(1)	44.49 1130	44.88 1140	44.49 1130	27.76 705	20.28 515	16.14 410	4620 2100
16 × 14 400 × 350	14.69 373	12.68 322	44.49 1130	44.88 1140	44.49 1130	27.76 700	15.83 402	17.32 440	3740 1700	44.49 1130	44.88 1140	44.49 1130	27.76 705	15.83 402	17.32 440	(1)	44.49 1130	44.88 1140	44.49 1130	27.76 705	20.47 520	17.52 445	4400 2000
18 × 16 450 × 400	16.65 423	14.69 373	47.99 1219	48.50 1232	47.99 1219	31.10 790	17.28 439	17.40 442	5368 2440	47.99 1219	48.50 1232	47.99 1219	30.91 785	17.28 439	17.40 442	(1)	47.99 1219	48.50 1232	47.99 1219	30.91 785	21.10 536	18.23 463	6241 2837
20 × 16 500 × 400	18.54 471	14.69 373	52.01 1321	52.48 1333	52.01 1321	31.10 790	17.28 439	17.40 442	6325 2875	52.01 1321	52.48 1333	52.01 1321	33.66 855	17.28 439	17.40 442	(1)	52.01 1321	52.48 1333	52.01 1321	33.66 855	21.10 536	18.23 463	7733 3515
20 × 18 500 × 450	18.54 471	16.65 423	52.01 1321	52.48 1333	52.01 1321	33.66 855	18.90 480	19.09 485	7150 3250	52.01 1321	52.48 1333	52.01 1321	33.66 855	18.90 480	19.09 485	(1)	52.01 1321	52.48 1333	52.01 1321	33.66 855	22.83 580	19.09 485	8525 3875
24 × 20 600 × 500	22.44 570	18.54 471	60.98 1549	61.73 1568	60.98 1549	40.94 1040	21.02 534	19.69 500	11880 5400	60.98 1549	61.73 1568	60.98 1549	40.94 1040	21.02 534	19.69 500	(1)	60.98 1549	61.73 1568	60.98 1549	40.94 1040	24.76 629	23.78 604	11869 5395
30 × 24 750 × 600	28.03 712	22.44 570	74.02 1880	74.88 1902	74.02 1880	48.43 1230	23.94 608	24.88 632	19140 8700	74.02 1880	74.88 1902	74.02 1880	48.43 1230	23.94 608	24.88 632	(1)	74.02 1880	74.88 1902	74.02 1880	48.43 1230	25.20 640	26.18 665	19800 9000
36 × 30 900 × 750	33.66 855	28.03 712	90.00 2286	91.14 2315	90.00 2286	57.48 1460	28.70 729	30.87 784	33770 15350	90.00 2286	91.14 2315	90.00 2286	57.48 1460	28.70 729	30.87 784	(1)	90.00 2286	91.14 2315	90.00 2286	57.48 1460	30.59 777	31.30 795	33517 15235

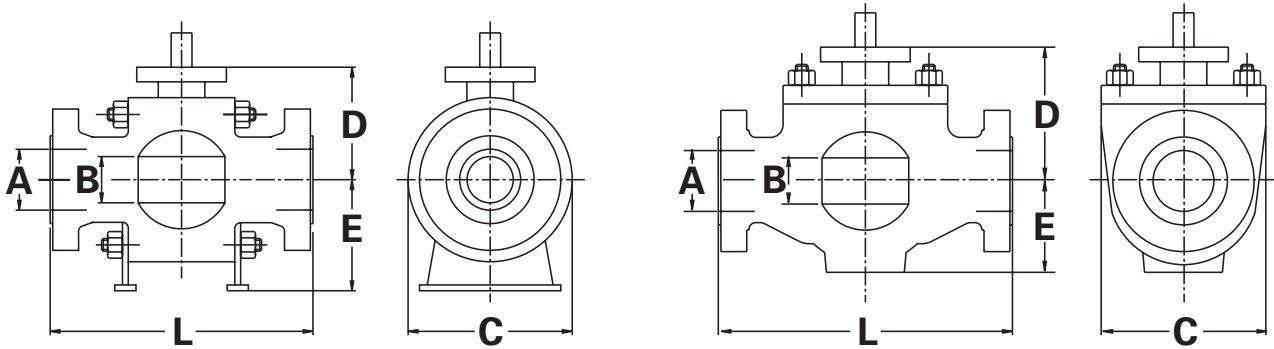
\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: For dimensions & weights in larger sizes consult the factory.

Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## ASME CLASS 1500 FULL BORE

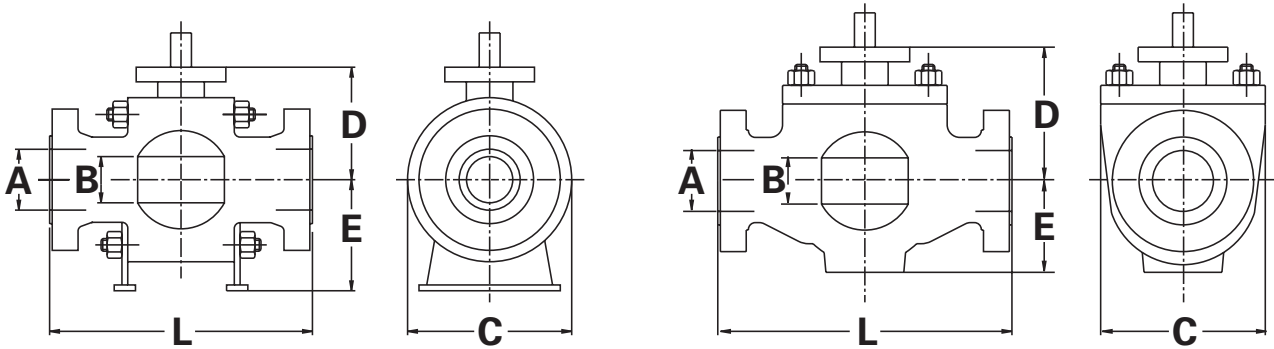
ALL TYPES			SIDE-ENTRY							WELDED BODY							TOP-ENTRY						
SIZE in/mm	A	B	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*
2 50	1.93 49	1.93 49	14.49 368	14.61 371	14.49 368	8.50 216	4.17 106	4.09 104	110 50	14.49 368	14.61 371	14.49 368	8.50 216	4.17 106	4.09 104	(1)	14.49 368	14.61 371	14.49 368	8.50 216	8.35 212	3.43 87	123 56
3 80	2.91 74	2.91 74	18.50 470	18.62 473	18.50 470	10.51 267	6.57 167	5.04 128	213 97	18.50 470	18.62 473	18.50 470	10.51 267	6.57 167	5.04 128	(1)	18.50 470	18.62 473	18.50 470	10.51 267	9.29 236	4.65 118	337 153
4 100	3.94 100	3.94 100	21.50 546	21.61 549	21.50 546	12.24 311	1.10 28	6.69 170	436 198	21.50 546	21.61 549	21.50 546	12.24 311	1.10 28	6.69 170	(1)	21.50 546	21.61 549	21.50 546	12.24 311	11.57 294	5.91 150	612 278
6 150	5.67 144	5.67 144	27.76 705	27.99 711	27.76 705	15.51 394	10.24 260	9.17 233	1056 480	27.76 705	27.99 711	27.76 705	15.51 394	10.24 260	9.17 233	(1)	27.76 705	27.99 711	27.76 705	15.51 394	11.93 303	9.29 236	1320 600
8 200	7.56 192	7.56 192	32.76 832	33.11 841	32.76 832	19.02 483	11.97 304	11.42 290	1804 820	32.76 832	33.11 841	32.76 832	19.02 483	11.97 304	11.42 290	(1)	32.76 832	33.11 841	32.76 832	19.02 483	13.94 354	11.22 285	2420 1100
10 250	9.41 239	9.41 239	39.02 991	39.37 1000	39.02 991	23.03 585	14.29 363	13.86 352	3300 1500	39.02 991	39.37 1000	39.02 991	23.03 585	14.29 363	13.86 352	(1)	39.02 991	39.37 1000	39.02 991	23.03 585	15.67 398	13.11 333	3164 1438
12 300	11.30 287	11.30 287	44.49 1130	44.61 1133	44.49 1130	27.91 709	16.42 417	16.73 425	4950 2250	44.49 1130	44.61 1133	44.49 1130	27.91 709	16.42 417	16.73 425	(1)	44.49 1130	44.61 1133	44.49 1130	27.91 709	20.47 520	16.81 427	4437 2017
14 350	12.40 315	12.40 315	49.49 1257	50.24 1276	49.49 1257	30.12 765	17.20 437	16.77 426	6270 2850	49.49 1257	50.24 1276	49.49 1257	30.12 765	17.20 437	16.77 426	(1)	49.49 1257	50.24 1276	49.49 1257	30.12 765	21.65 550	17.95 456	5746 2612
16 400	14.17 360	14.17 360	54.49 1384	55.35 1406	54.49 1384	33.39 848	18.70 475	19.41 493	8954 4070	54.49 1384	55.35 1406	54.49 1384	33.39 848	18.70 475	19.41 493	(1)	54.49 1384	55.35 1406	54.49 1384	33.39 848	22.24 565	19.17 487	8558 3890
18 450	15.94 405	15.94 405	60.51 1537	61.38 1559	60.51 1537	38.58 980	22.17 563	23.94 608	13629 6195	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60.51 1537	61.38 1559	60.51 1537	38.58 980	23.31 592	20.75 527	11220 5100
20 500	17.91 455	17.91 455	65.51 1664	66.38 1686	65.51 1664	39.96 1015	24.29 617	25.39 645	19965 9075	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65.51 1664	66.38 1686	65.51 1664	39.96 1015	25.59 650	24.80 630	14692 6678
24 600	20.87 530	20.87 530	80.43 2043	81.54 2071	80.43 2043	50.91 1293	27.48 698	28.50 724	31416 14280	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80.43 2043	81.54 2071	80.43 2043	50.91 1293	25.98 660	25.20 640	25740 11700

## ASME CLASS 2500 FULL BORE

ALL TYPES			SIDE-ENTRY							TOP-ENTRY						
SIZE in/mm	A	B	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*
2 50	1.65 42	1.65 42	17.76 451	17.87 454	17.76 451	9.25 235	4.72 120	5.00 127	194 88	17.76 451	17.87 454	17.76 451	9.25 235	8.35 212	3.86 98	264 120
3 80	2.44 62	2.44 62	22.76 578	22.99 584	22.76 578	12.01 305	6.97 177	7.80 198	411 187	22.76 578	22.99 584	22.76 578	12.56 319	9.57 243	4.80 122	541 246
4 100	3.43 87	3.43 87	26.50 673	26.89 683	26.50 673	14.02 356	8.94 227	9.17 233	836 380	26.50 673	26.89 683	26.50 673	14.33 364	11.77 299	6.46 164	1034 470
6 150	5.16 131	5.16 131	35.98 914	36.50 927	35.98 914	19.02 483	10.39 264	9.92 252	1694 770	35.98 914	36.50 927	35.98 914	19.02 483	13.98 355	9.57 243	2061 937
8 200	7.05 179	7.05 179	40.24 1022	40.87 1038	40.24 1022	24.41 620	15.08 383	13.35 339	2985 1357	40.24 1022	40.87 1038	40.24 1022	21.65 550	16.69 424	11.50 292	3102 1410
10 250	8.78 223	8.78 223	50.00 1270	50.87 1292	50.00 1270	29.33 745	17.83 453	16.61 422	4620 2100	50.00 1270	50.87 1292	50.00 1270	26.57 675	19.80 503	13.86 352	5720 2600
12 300	10.43 265	10.43 265	55.98 1422	56.89 1445	55.98 1422	34.25 870	20.47 520	18.98 482	7062 3210	55.98 1422	56.89 1445	55.98 1422	30.12 765	23.15 588	17.17 436	9240 4200

\* Weight figures are relevant to flanged end valves.  
 (1) Please consult the factory.  
 Note: For dimensions & weights in larger sizes consult the factory.  
 Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## ASME CLASS 1500 REDUCED BORE

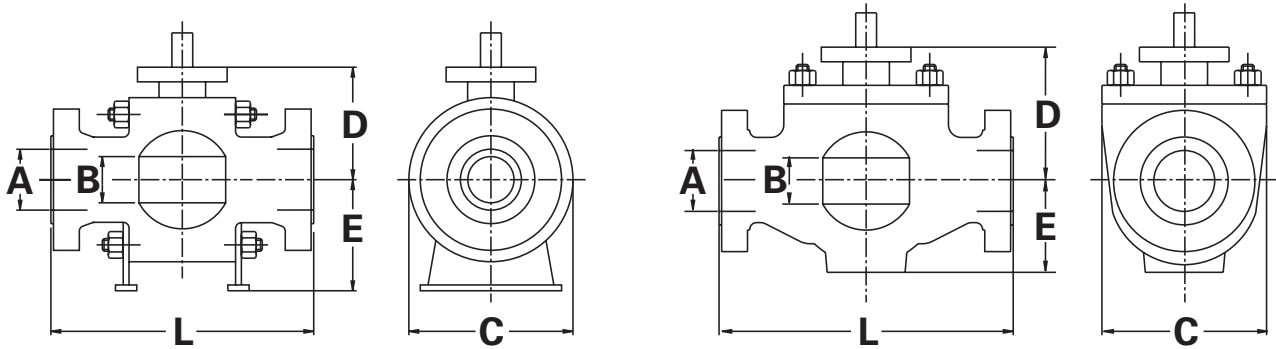
ALL TYPES			SIDE-ENTRY							WELDED BODY							TOP-ENTRY						
SIZE in/mm	A	B	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*
2 x 1 1/2 50 x 40	1.93 49	1.50 38	14.49 368	14.61 371	14.49 368	8.50 216	4.09 104	4.06 103	90 41	14.49 368	14.61 371	14.49 368	8.50 216	4.09 104	4.06 103	(1)	14.49 368	14.61 371	14.49 368	8.50 216	8.31 211	3.15 80	110 50
3 x 2 80 x 50	2.91 74	1.93 49	18.50 470	18.62 473	18.50 470	10.51 267	4.09 104	4.06 103	150 68	18.50 470	18.62 473	18.50 470	10.51 267	4.09 104	4.06 103	(1)	18.50 470	18.62 473	18.50 470	10.51 267	8.31 211	3.15 80	216 98
4 x 3 100 x 80	3.94 100	2.91 74	21.50 546	21.61 549	21.50 546	12.24 311	6.54 166	5.04 128	268 122	21.50 546	21.61 549	21.50 546	12.24 311	6.54 166	5.04 128	(1)	21.50 546	21.61 549	21.50 546	12.24 311	9.29 236	4.65 118	447 203
6 x 4 150 x 100	5.67 144	3.94 100	27.76 705	27.99 711	27.76 705	15.51 394	8.39 213	6.61 168	285 128	27.76 705	27.99 711	27.76 705	15.51 394	8.39 213	6.61 168	(1)	27.76 705	27.99 711	27.76 705	15.51 394	11.30 287	6.02 153	827 376
8 x 6 200 x 150	7.56 192	5.67 144	32.76 832	33.11 841	32.76 832	19.02 483	10.43 265	9.02 229	1245 566	32.76 832	33.11 841	32.76 832	19.02 483	10.43 265	9.02 229	(1)	32.76 832	33.11 841	32.76 832	19.02 483	11.93 303	9.29 236	1547 703
10 x 8 250 x 200	9.41 239	7.56 192	39.02 991	39.37 1000	39.02 991	23.03 585	11.69 297	11.30 287	2248 1022	39.02 991	39.37 1000	39.02 991	23.03 585	11.69 297	11.30 287	(1)	39.02 991	39.37 1000	39.02 991	23.03 585	13.74 349	11.22 285	2801 1273
12 x 10 300 x 250	11.30 287	9.41 239	44.49 1130	45.12 1146	44.49 1130	26.57 675	14.17 360	13.66 347	3872 1760	44.49 1130	45.12 1146	44.49 1130	26.57 675	14.17 360	13.66 347	(1)	44.49 1130	45.12 1146	44.49 1130	26.57 675	15.91 404	12.99 330	337 1535
14 x 10 350 x 250	12.40 315	9.41 239	49.49 1257	50.24 1276	49.49 1257	29.53 750	16.17 417	13.66 347	4719 2145	49.49 1257	50.24 1276	49.49 1257	29.53 750	14.17 360	13.66 347	(1)	49.49 1257	50.24 1276	49.49 1257	29.53 750	15.91 404	12.99 330	4620 2100
14 x 12 350 x 300	12.40 315	11.30 287	49.49 1257	50.24 1276	49.49 1257	29.53 750	16.69 424	16.61 422	5500 2500	49.49 1257	50.24 1276	49.49 1257	29.53 750	16.69 424	16.61 422	(1)	49.49 1257	50.24 1276	49.49 1257	29.53 750	20.87 530	16.81 427	5936 2698
16 x 12 400 x 300	14.17 360	11.30 287	54.49 1384	55.35 1406	54.49 1384	32.48 825	16.69 424	16.61 422	6160 2800	54.49 1384	55.35 1406	54.49 1384	32.48 825	16.69 424	16.61 422	(1)	54.49 1384	55.35 1406	54.49 1384	32.48 825	20.87 530	16.81 427	7040 3200
16 x 14 400 x 350	14.17 360	12.40 315	54.49 1384	55.35 1406	54.49 1384	32.48 825	17.44 443	16.85 428	7139 3245	54.49 1384	55.35 1406	54.49 1384	32.48 825	17.44 443	16.85 428	(1)	54.49 1384	55.35 1406	54.49 1384	32.48 825	21.26 540	17.91 455	6820 3100
18 x 16 450 x 400	15.94 405	14.17 360	60.51 1537	61.38 1559	60.51 1537	36.06 916	19.06 484	19.76 502	10934 4970	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60.51 1537	61.38 1559	60.51 1537	36.06 916	21.93 557	19.41 493	9240 4200
20 x 16 500 x 400	17.91 455	14.17 360	65.51 1664	66.38 1686	65.51 1664	38.78 985	19.06 484	19.76 502	11297 5135	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65.51 1664	66.38 1686	65.51 1664	38.78 985	21.93 557	19.41 493	9900 4500
20 x 18 500 x 450	17.91 455	15.94 405	65.51 1664	66.38 1686	65.51 1664	38.78 985	21.85 555	23.74 603	16500 7500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	65.51 1664	66.38 1686	65.51 1664	38.78 985	23.35 593	20.75 527	12980 5900
24 x 20 600 x 500	20.87 530	17.91 455	80.43 2043	81.54 2071	80.43 2043	46.06 1170	24.57 624	25.31 643	23925 10875	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80.43 2043	81.54 2071	80.43 2043	46.06 1170	25.87 657	24.41 620	20240 9200

## ASME CLASS 2500 REDUCED BORE

ALL TYPES			SIDE-ENTRY							TOP-ENTRY						
SIZE in/mm	A	B	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*	L-RF	L-RTJ	L-WE	C	D	E	WEIGHT lb/kg*
2 x 1 1/2 50 x 40	1.65 42	1.50 38	17.76 451	17.87 454	17.76 451	9.25 235	4.72 120	5.00 127	143 65	17.76 451	17.87 454	17.76 451	9.45 240	8.35 212	3.86 98	176 80
3 x 2 80 x 50	2.44 62	1.65 42	22.76 578	22.99 584	22.76 578	12.01 305	4.72 120	5.00 127	341 155	22.76 578	22.99 584	22.76 578	12.01 305	8.35 212	3.86 98	352 160
4 x 3 100 x 80	3.43 87	2.44 62	26.50 673	26.89 683	26.50 673	14.02 356	6.97 177	7.80 198	581 264	26.50 673	26.89 683	26.50 673	14.02 356	9.57 243	4.80 122	660 300
6 x 4 150 x 100	5.16 131	3.43 87	35.98 914	36.50 927	35.98 914	19.02 483	8.94 227	9.17 233	1122 510	35.98 914	36.50 927	35.98 914	19.02 483	11.77 299	6.46 164	1474 670
8 x 6 200 x 150	7.05 179	5.16 131	40.24 1022	40.87 1038	40.24 1022	21.65 550	10.39 264	9.92 252	2398 1090	40.24 1022	40.87 1038	40.24 1022	21.65 550	13.98 355	9.57 243	2530 1150
10 x 8 250 x 200	8.78 223	7.05 179	50.00 1270	50.87 1292	50.00 1270	26.57 675	15.08 383	13.35 339	3659 1663	50.00 1270	50.87 1292	50.00 1270	26.57 675	16.69 424	11.50 292	4620 2100
12 x 10 300 x 250	10.43 265	8.78 223	55.98 1422	56.89 1445	55.98 1422	29.92 760	20.47 520	18.98 482	5621 2555	55.98 1422	56.89 1445	55.98 1422	29.92 760	19.80 503	13.86 352	7260 3300

\* Weight figures are relevant to flanged end valves.  
 (1) Please consult the factory.  
 Note: For dimensions & weights in larger sizes consult the factory.  
 Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## CLASS API 3000 FULL BORE

ALL TYPES			SIDE-ENTRY					TOP-ENTRY				
SIZE in/mm	A	B	L-RTJ	C	D	E	WEIGHT lb/kg*	L-RTJ	C	D	E	WEIGHT lb/kg*
2 1/16 50	2.06 52.4	2.06 52.4	14.61 371	8.50 216	6.50 165	4.33 110	(1)	14.61 371	8.50 216	6.50 165	4.33 110	(1)
3/8 80	3.12 79.3	3.12 79.3	17.13 435	9.49 241	7.87 200	5.51 140	(1)	17.13 435	9.49 241	7.87 200	5.51 140	(1)
4 1/16 100	4.06 103.2	4.06 103.2	20.12 511	11.61 295	8.27 210	6.69 170	(1)	20.12 511	11.61 295	8.27 210	6.69 170	(1)
5/8 150	5.12 130	5.12 130	24.13 613	16.65 423	10.83 275	10.16 258	(1)	24.13 613	16.65 423	10.83 275	10.16 258	(1)
7 1/16 200	7.06 179.4	7.06 179.4	28.11 714	15.00 381	13.78 350	13.39 340	(1)	28.11 714	15.00 381	13.78 350	13.39 340	(1)

## CLASS API 5000 FULL BORE

ALL TYPES			SIDE-ENTRY					TOP-ENTRY				
SIZE in/mm	A	B	L-RTJ	C	D	E	WEIGHT lb/kg*	L-RTJ	C	D	E	WEIGHT lb/kg*
2 1/16 50	2.06 52.4	2.06 52.4	14.61 371	8.50 216	6.50 165	4.33 110	(1)	14.61 371	8.50 216	6.50 165	4.33 110	(1)
3/8 80	3.12 79.3	3.12 79.3	18.62 473	10.51 267	7.87 200	5.51 140	(1)	18.62 473	10.51 267	7.87 200	5.51 140	(1)
4 1/16 100	4.06 103.2	4.06 103.2	21.61 549	12.24 311	8.27 210	6.69 170	(1)	21.61 549	12.24 311	8.27 210	6.69 170	(1)
5/8 150	5.12 130	5.12 130	28.62 727	16.65 423	11.02 280	10.16 258	(1)	28.62 727	16.65 423	11.02 280	10.16 258	(1)
7 1/16 200	7.06 179.4	7.06 179.4	32.01 813	21.26 540	13.58 345	13.39 340	(1)	32.01 813	21.26 540	13.58 345	13.39 340	(1)

## CLASS API 10000 FULL BORE

ALL TYPES			SIDE-ENTRY					TOP-ENTRY				
SIZE in/mm	A	B	L-RTJ	C	D	E	WEIGHT lb/kg*	L-RTJ	C	D	E	WEIGHT lb/kg*
2 1/16 50	2.06 52.4	2.06 52.4	20.51 521	11.02 280	7.68 195	8.43 214	(1)	20.51 521	11.02 280	7.68 195	8.43 214	(1)
3/8 80	3.07 78	3.07 78	24.37 619	13.98 355	9.06 230	10.00 254	(1)	24.37 619	13.98 355	9.06 230	10.00 254	(1)
4 1/16 100	4.06 103.2	4.06 103.2	26.38 670	17.95 456	12.05 306	11.02 280	(1)	26.38 670	17.95 456	12.05 306	11.02 280	(1)

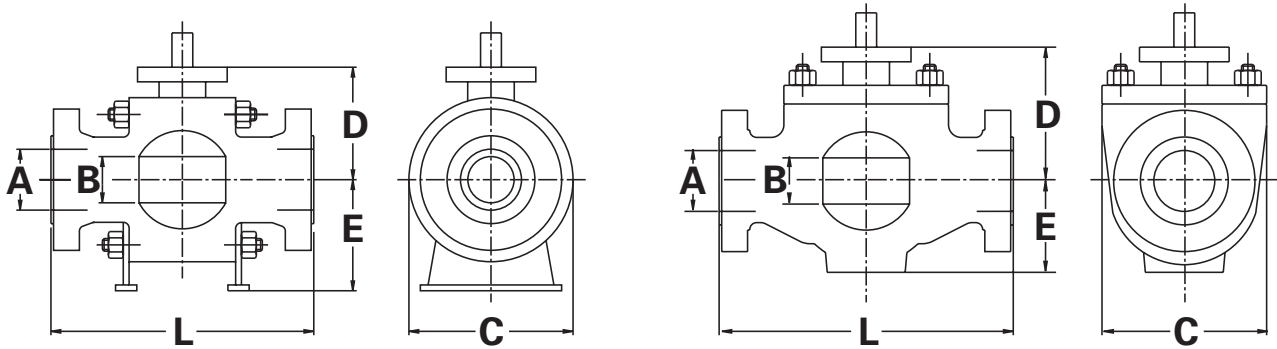
\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: Consult the factory for additional dimensions & weights.

Dimensions C, D, E and weights are subject to change without notice.

# DIMENSIONS & WEIGHTS



## CLASS API 3000 REDUCED BORE

ALL TYPES			SIDE-ENTRY					TOP-ENTRY				
SIZE in/mm	A	B	L-RTJ	C	D	E	WEIGHT lb/kg*	L-RTJ	C	D	E	WEIGHT lb/kg*
2 1/16 × 1 13/16 50 × 40	2.06 52.4	1.81 46	14.61 371	8.50 216	6.50 165	4.33 110	(1)	14.61 371	8.50 216	6.50 165	4.33 110	(1)
3 1/8 × 2 1/16 80 × 50	3.12 79.3	2.06 52.4	17.13 435	9.49 241	6.50 165	4.33 110	(1)	17.13 435	9.49 241	7.87 200	5.51 140	(1)
4 1/16 × 3 3/8 100 × 80	4.06 103.2	3.12 79.3	20.12 511	11.61 295	7.87 200	5.51 140	(1)	20.12 511	11.61 295	8.27 210	6.69 170	(1)
5 1/8 × 4 1/16 125 × 100	5.12 130	4.06 103.2	24.13 613	13.78 350	8.27 210	6.69 170	(1)	24.13 613	16.65 423	10.83 275	10.16 258	(1)
7 1/16 × 6 200 × 150	7.06 179.4	6.00 152.4	28.11 714	15.00 381	13.78 350	13.39 340	(1)	28.11 714	15.00 381	13.78 350	13.39 340	(1)

## CLASS API 5000 REDUCED BORE

ALL TYPES			SIDE-ENTRY					TOP-ENTRY				
SIZE in/mm	A	B	L-RTJ	C	D	E	WEIGHT lb/kg*	L-RTJ	C	D	E	WEIGHT lb/kg*
2 1/16 50	2.06 52.4	2.06 52.4	14.61 371	8.50 216	6.50 165	4.33 110	(1)	14.61 371	8.50 216	6.50 165	4.33 110	(1)
3 1/8 80	3.12 79.3	3.12 79.3	18.62 473	10.51 267	7.87 200	5.51 140	(1)	18.62 473	10.51 267	7.87 200	5.51 140	(1)
4 1/16 100	4.06 103.2	4.06 103.2	21.61 549	12.24 311	8.27 210	6.69 170	(1)	21.61 549	12.24 311	8.27 210	6.69 170	(1)
5 1/8 150	5.12 130	5.12 130	28.62 727	16.65 423	11.02 280	10.16 258	(1)	28.62 727	16.65 423	11.02 280	10.16 258	(1)
7 1/16 200	7.06 179.4	7.06 179.4	32.01 813	21.26 540	13.58 345	13.39 340	(1)	32.01 813	21.26 540	13.58 345	13.39 340	(1)

## CLASS API 10000 REDUCED BORE

ALL TYPES			SIDE-ENTRY					TOP-ENTRY				
SIZE in/mm	A	B	L-RTJ	C	D	E	WEIGHT lb/kg*	L-RTJ	C	D	E	WEIGHT lb/kg*
2 1/16 50	2.06 52.4	2.06 52.4	20.51 521	11.02 280	7.68 195	8.43 214	(1)	20.51 521	11.02 280	7.68 195	8.43 214	(1)
3 1/8 80	3.07 78	3.07 78	24.37 619	13.98 355	9.06 230	10.00 254	(1)	24.37 619	13.98 355	9.06 230	10.00 254	(1)
4 1/16 100	4.06 103.2	4.06 103.2	26.38 670	17.95 456	12.05 306	11.02 280	(1)	26.38 670	17.95 456	12.05 306	11.02 280	(1)

\* Weight figures are relevant to flanged end valves.

(1) Please consult the factory.

Note: Consult the factory for additional dimensions & weights.

Dimensions C, D, E and weights are subject to change without notice.

# ENGINEERING DATA

## VALVE TESTING

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

### LEAKAGE RATES

Standard	Soft Seated	Metal-Seated	Cryogenic
API 6D	No Leakage	Table 5.5	(1)
BS 6755	Rate A	Rate B	(1)
ANSI FC I-70-2	Class VI	Class IV	(1)

(1) Please consult the factory.

### STANDARD PERFORMANCE TESTS

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

### RATING & TEST PRESSURES AT AMBIENT TEMPERATURE

ASME CLASS	RATING			BODY TEST			H.P. SEAT TEST			AIR SEAT TEST		
	psi	bar	kg/cm <sup>2</sup>	psi	bar	kg/cm <sup>2</sup>	psi	bar	kg/cm <sup>2</sup>	psi	bar	kg/cm <sup>2</sup>
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	223.5	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	3300	227.7	231	100	6	7
API 5000	5000	345	352	7500	517.5	528	5500	379.5	387	100	6	7
API 10000	10000	690	703	15000	1035	1055	11000	759	773	100	6	7

Conversion Factors 1 bar =  $\begin{cases} 14.50 \text{ psi} & \& 1 \text{ bar} = 0,981 \text{ kg/cm}^2 & \& 1 \text{ bar} = 100 \text{ kpa} & 1 \text{ kg/cm}^2 = 14.22 \text{ psi} \\ 1^\circ\text{F} = (1.8 \times ^\circ\text{C}) + 32 & \& 1^\circ\text{C} = (^\circ\text{F} - 32) / 1.8 \end{cases}$

## QUALITY STANDARDS

### American Petroleum Institute – API



API 6D License No.: 6D-0121.1 (certified since 1993)

API 6A      API 607      API RP6F  
API 6FA      API 598      API 605

### British Standards

BS EN 10222      BS EN 10213  
BS 1560      BS EN 588  
BS 4504      BS EN 12266  
BS 5351      BS 6755  
BS EN 9000

### 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

### 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

### International Organization for Standardisation – ISO

ISO 9001:2000

## HOW TO AVOID PROBLEMS

- Ball valves should be transported and stored with the ball in the fully open or fully closed 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 Velan storage procedures. Long term storage should be avoided.
- For welded-end valves, advise Velan if there will be a post-weld heat treatment (transition pups may be necessary to avoid damages to seals).
- Flush and clean the line before opening/closing the valve.
- 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 should be left in the partially open position for the minimum possible amount of time.
- Standard ball valves should be used for on-off service only. Throttling service (use of the valve with the ball partially open) can damage the seats.
- Make sure to take into consideration the actual service conditions when 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 Velan of cycle frequency to ensure proper sizing of actuator.
- Do not use the actuator to lift the valve.



*Velan Side-Entry Bolted Body Trunnion-Mounted Ball Valves destined for offshore service.*

# MATERIALS

## BODY & 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) A182 FXM-19  
(UNS S31254) (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)

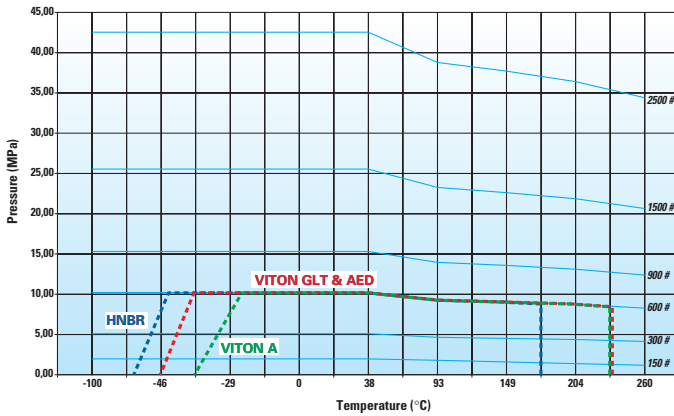
### NICKEL ALLOYS

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

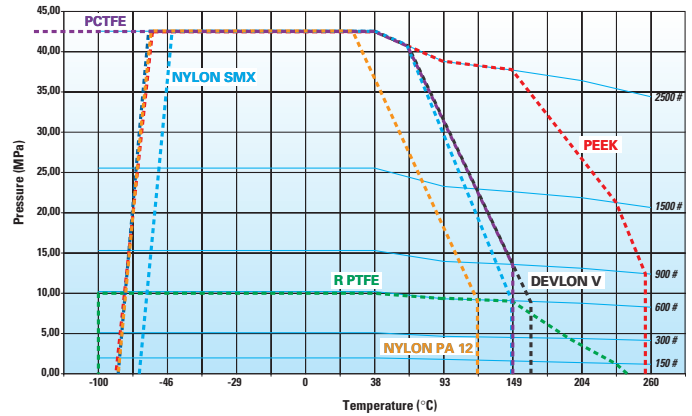
## SEAT INSERT & SEALS MATERIALS OPERATING (DYNAMIC) LIMITS

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
PTEFE Carbon Filled (25%)	-100	180	300	N/A	24"	N/A
PCTFE	-196	150	2500	N/A	36"	N/A
HNBR-Therban	-40	150	900	2500	64"	N/A
FKM A (Viton A)	-29	180	900	2500	64"	64"
FKM GLT (Viton GLT)	-40	180	900	2500	64"	64"
FKM AED	-29	180	900	2500	64"	64"
PTFE + Elgiloy Springs	-196	200	N/A	2500	N/A	36"

## SEAT INSERTS – STATIC/SHORT PERIOD

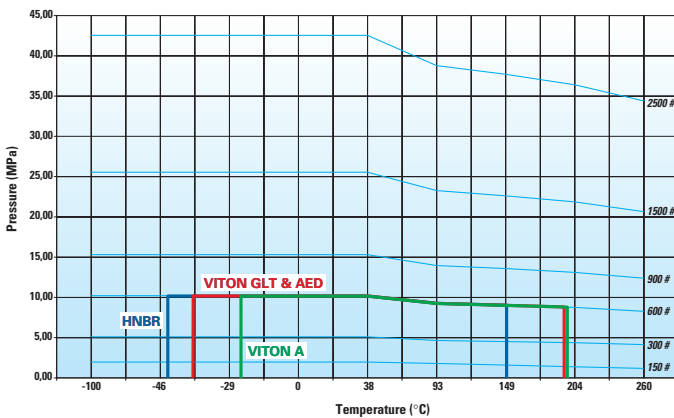


(ELASTOMERS)

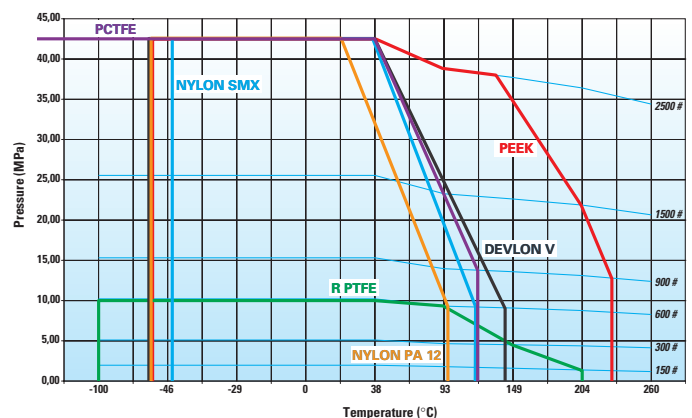


(PLASTIC)

## SEAT INSERTS – OPERATING CONDITION



(ELASTOMERS)



(PLASTIC)

# Cv FLOW COEFFICIENTS

## API 6D

BORE (INCHES)	CLASSES					
	150	300	600	900	1500	2500
2	420	420	400	330	330	250
2 1/2	690	690	610	520	510	320
3 x 2	200	200	200	190	180	200
3	1200	1050	1000	910	820	500
4 x 3	600	600	600	590	550	560
4	2200	2100	1850	1800	1700	1100
6 x 4	800	800	790	790	780	745
6	5150	5100	4600	4380	3800	2500
8 x 6	2150	2150	2150	2150	2150	2150
8	9500	9400	9000	8500	7400	5300
10 x 8	4300	4300	4300	4450	4450	4100
10	15000	15000	14700	14500	11500	8300
12 x 10	7550	7550	7550	8000	9000	7550
14 x 10	6000	6000	6000	6100	6100	-
12	23000	23000	22500	21100	18000	13000
14 x 12	14000	14000	14000	12800	13000	-
16 x 12	9100	9100	9100	8900	8900	-
14	28000	28000	28000	25000	21000	-
16 x 14	15000	15000	15000	14200	14100	-
16	37200	37200	37200	34500	27500	-
18 x 16	21000	21000	21000	19200	19000	-
20 x 16	15300	15300	15300	13800	12000	-
18	49000	49000	49000	45000	37000	-
20 x 18	28400	28400	28400	25000	25000	-
20	59000	59000	59000	55200	47800	-
24 x 20	28200	28200	28000	25100	20600	-
22	68200	68200	68200	62000	54000	-
24	92000	92000	92000	83800	70000	-
30 x 24	36000	36000	36000	32900	-	-
26	110000	110000	110000	98500	-	-
28	121000	121000	121000	113000	-	-
30	145000	144000	144000	130000	-	-
36 x 30	64000	64000	64000	61500	-	-
32	170000	170000	170000	151000	-	-
36 x 32	87000	87000	87000	69500	-	-
36	210000	210000	210000	198200	-	-
40	267500	267500	267500	-	-	-
42 x 36	96700	96700	96000	-	-	-
42	280000	280000	280000	-	-	-
48	384000	384000	384000	-	-	-
56 x 42	89000	89000	89000	-	-	-
56	521000	521000	521000	-	-	-

## API 6A

BORE (INCHES)	CLASSES		
	3000	5000	10000
1 13/16	270	270	230
2 1/16	350	350	300
3 1/8	1000	940	890
4 1/16	1750	1700	1600
5 1/8	2900	2700	2450
7 1/16	5930	5400	5220

### DATA FOR CALCULATION OF FLOW

The coefficient of flow  $C_v$  expresses the rate of flow in gallons per minute at 60°F water with a pressure drop of 1 psig across the valve. The  $C_v$  coefficients for the various types and sizes, shown in the tables, have been determined from actual flow tests.

**NOTE:**  $K_v$  is the metric equivalent of  $C_v$ .

$$K_v = C_v \times 0.85$$

#### FOR LIQUIDS:

$$(1) \quad Q_L = C_v \sqrt{\frac{\Delta P}{G_L}}$$

$$(2) \quad \Delta P = G_L \left( \frac{Q_L}{C_v} \right)^2$$

WHERE:  $Q_L$  = Flow in U.S. gallons per minute.  
 $\Delta P$  =  $(P_1 - P_2)$  Pressure drop in psi  
 $G_L$  = Specific gravity of liquid (water = 1 at 60°F)

#### FOR GASES:












$$(3) \quad Q_g = 1360 C_v \sqrt{\frac{\Delta P}{G_g T}} \cdot \sqrt{\frac{P_1 + P_2}{2}}$$

$$(4) \quad \Delta P = P_1 - \sqrt{P_1^2 - 2 G_g T \left( \frac{Q_g}{1360 C_v} \right)^2}$$

WHERE:  $Q_g$  = Volumetric flow of gas (SCFH)  
 $G_g$  = Specific gravity of gas at standard conditions (air at atmosphere and 60°F = 1)  
 $T$  = Absolute temperature of gas (°F + 460)

**NOTE:** For gas, max.  $\Delta P = \frac{1}{2} P_1$ , and min.  $P_2 = \frac{1}{2} P_1$ , and  $P_1, P_2$  are absolute pressures (psia)

# HOW TO ORDER

										
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>
<b>MODEL</b>	<b>SIZE</b>	<b>PRESSURE RATING</b>	<b>CONNECTION</b>	<b>ACTUATION</b>	<b>BODY MATERIAL</b>	<b>INTERNAL COATING</b>	<b>TRIM MATERIAL</b>	<b>TRIM COATING</b>	<b>SEALS</b>	<b>BOLTS &amp; NUTS</b>
<b>KA</b>	<b>64X56</b>	<b>B</b>	<b>R</b>	<b>G</b>	<b>C3</b>	<b>D</b>	<b>14</b>	<b>6</b>	<b>D4</b>	<b>04</b>

## EXAMPLE: KA64X56BRGC3D146D404

Side-Entry-2pcs Body Std., 64 X 56" Reduced Port, ASME 300, Flanged RTJ, Gear Actuator, WCB Body, with an internal coating of SS316 overlay on RTJ grooves, SS 316 trim, Chrome Carbide trim coating, Devlon / Viton / Graphite seals and A193-B7M / A194 2HM bolts & nuts

A MODEL			A MODEL		
Resilient*	Metal*	VALVE MODEL	Resilient*	Metal*	VALVE MODE
K1	KA	Side-Entry - 2pcs Body - Standard	M4	MD	Top-Entry - Sub Sea
K2	KB	Side-Entry - 2pcs Body - Low Temp. (-46°C/-50°F)	M5	ME	Top-Entry - Underground
K3	KC	Side-Entry - 2pcs Body - Cryogenic (-47°C to -196°C/-52°F to -320°F)	-	MF	Top-Entry - High Temp. (+280°C to +450°C / +536°F to +842°F)
K4	KD	Side-Entry - 2pcs Body - Sub Sea	M7	MG	Top-Entry - Underground - Low Temp. (-46°C/-50°F)
K5	KE	Side-Entry - 2pcs Body - Underground	W1	WA	Welded Body - Standard
-	KF	Side-Entry - 2pcs Body - High Temp. (+280°C to +450°C/+536°F to +842°F)	W2	WB	Welded Body - Low Temp. (-46°C/-50°F)
K7	KG	Side-Entry - 2pcs Body - Underground - Low Temp. (-46°C)	W3	WC	Welded Body - Sub Sea
H1	HA	Side-Entry - 3pcs Body - Standard	W4	WD	Welded - Underground
H2	HB	Side-Entry - 3pcs Body - Low Temp. (46°C/-50°F)	W5	WE	Welded - Underground - Low Temp. (-46°C/-50°F)
H3	HC	Side-Entry - 3pcs Body - Cryogenic (-47°C to -196°C/-52°F to -320°F)	D1	DA	Double Ball - Side-Entry - Standard
H4	HD	Side-Entry - 3pcs Body - Sub Sea	D2	DB	Double Ball - Side-Entry - Low Temp. (-46°C/-50°F)
H5	HE	Side-Entry - 3pcs Body - Underground	D4	DD	Double Ball - Side-Entry - Sub Sea
-	HF	Side-Entry - 3pcs Body - High Temp. (+280°C to +450°C / +536°F to +842°F)	D5	DE	Double Ball - Side-Entry - Underground
H7	HG	Side-Entry - 3pcs Body - Underground - Low Temp. (-46°C/-50°F)	D7	DE	Double Ball - Side-Entry - Underground - Low Temp. (-46°C/-50°F)
M1	MA	Top-Entry - Standard	F1	FA	Double Ball - Top-Entry - Standard
M2	MB	Top-Entry - Low Temp. (-46°C/-50°F)	F2	FB	Double Ball - Top-Entry - Low Temp. (-46°C/-50°F)
M3	MC	Top-Entry - Cryogenic (-47°C to -196°C/-52°F to -320°F)	F3	FC	Double Ball - Top-Entry - Sub Sea
			F4	FD	Double Ball - Top-Entry - Underground
			F5	FE	Double Ball - Top-Entry - Underground - Low Temp. (-46°C/-50°F)

\* Refers to the valve seat type.

B SIZE OF CONNECTION						B SIZE OF CONNECTION							
FULL BORE						REDUCED BORE							
CODE	IN (MM)	CODE	IN (MM)	CODE	IN (MM)	CODE	IN (MM)	CODE	IN (MM)	CODE	IN (MM)		
A3XA3	½ (15)	C7XC7	7½ (200)	34X34	34 (850)	A4XA3	¾X½ (20X15)	10X08	10X8 (250X200)	26X22	26X22 (650X550)	48X40	48X40 (1200X1000)
A4XA4	¾ (20)	08X08	8 (200)	36X36	36 (900)	A5XA4	1X¾ (25X20)	12X08	12X8 (300X200)*	26X24	26X24 (650X600)	50X42	50X42 (1250X1050)
A5XA5	1 (25)	10X10	10 (250)	38X38	38 (950)	A7XA5	1½X1 (40X25)	12X10	12X10 (300X250)	28X24	28X24 (700X600)	50X48	50X48 (1250X1200)
A7XA7	1½ (40)	12X12	12 (300)	40X40	40 (1000)	A8XA7	2X1½ (50X40)	14X10	14X10 (350X250)*	30X24	30X24 (750X600)	52X48	52X48 (1300X1200)
B7XB7	1⅞ (40)	14X14	14 (350)	42X42	42 (1050)	B8XB7	2⅞X1⅞ (50X40)	14X12	14X12 (350X300)	30X28	30X28 (750X700)	52X50	52X50 (1350X1300)
A8XA8	2 (50)	16X16	16 (400)	48X48	48 (1200)	03XA8	3X2 (80X50)	16X12	16X12 (400X300)	32X30	32X30 (800X750)	56X48	56X48 (1400X1200)
B8XB8	2⅞ (50)	18X18	18 (450)	50X50	50 (1250)	C3XB8	3⅞X2⅞ (80X50)	16X14	16X14 (400X350)	36X30	36X30 (900X750)	56X50	56X50 (1400X1300)
03X03	3 (80)	20X20	20 (500)	52X52	52 (1300)	04X03	4X3 (100X80)	18X14	18X14 (450X350)*	36X32	36X32 (900X800)	60X56	60X56 (1500X1400)
C3XC3	3⅞ (80)	22X22	22 (550)	56X56	56 (1400)	C4XC3	4⅞X3⅞ (100X80)	18X16	18X16 (450X400)	38X32	38X32 (950X800)	64X56	64X56 (1600X1400)
04X04	4 (100)	24X24	24 (600)	60X60	60 (1500)	C5XC4	5⅞X4⅞ (150X100)	20X16	20X16 (500X400)	38X34	38X34 (950X850)	64X60	64X60 (1600X1500)
C4XC4	4⅞ (100)	26X26	26 (650)	64X64	64 (1600)	06X04	6X4 (150X100)	20X18	20X18 (500X450)	38X36	38X36 (950X900)	72X64	72X64 (1800X1600)
05X05	5 (125)	28X28	28 (700)	72X72	72 (1800)	C7X06	7⅞X6 (200X150)	22X20	22X20 (550X500)	40X36	40X36 (1000X900)		
C5XC5	5⅞ (150)	30X30	30 (750)			08X06	8X6 (200X150)	24X20	24X20 (600X500)	42X36	42X36 (1200X900)		
06X06	6 (150)	32X32	32 (800)			10X06	10X6 (250X150)*	24X22	24X22 (600X550)	42X40	42X40 (1050X1000)		

\*MSS SP72

C PRESSURE RATING		
A - ASME 150	J - API 2000	S - PN 64
B - ASME 300	K - API 3000	T - PN 80
C - ASME 400	L - API 5000	U - PN 100
D - 1100 WOG	M - API 10000	V - PN 160
E - ASME 600	N - API 15000	W - PN 250
F - ASME 900	O - PN 6	Z - PN 320
G - ASME 1500	P - PN 16	
H - ASME 2500	R - PN 32	

D CONNECTION
A - Special
B - Butt Weld
F - Flanged RF - B16.5
G - Flanged RF - API 605
R - Flanged RTJ
S - Threaded
W - Socket Weld
H - Hub
C - Butt Weld X Flanged RF - B16.5
D - Butt Weld X Flanged RF - API 605
E - Butt Weld X Flanged RTJ

E ACTUATION
B - Bare Stem
E - Electric
G - Manual Gear
H - Pneumatic - Spring Return
J - Pneumatic - Double Acting
L - Hydraulic - Spring Return
M - Gas Hydraulic
N - Electro Hydraulic
P - Gas Over Oil
R - Hydraulic - Spring Return
S - Hydraulic - Double Acting
W - Wrench

F BODY MATERIAL								
CODE	BODY	BODY ADAPTER (2PCS BODY) CLOSURES (3PCS BODY) BONNET (TOP-ENTRY)	CODE	BODY	BODY ADAPTER (2PCS BODY) CLOSURES (3PCS BODY) BONNET (TOP-ENTRY)	CODE	BODY	BODY ADAPTER (2PCS BODY) CLOSURES (3PCS BODY) BONNET (TOP-ENTRY)
C0	A105N	A105N	L2	A352 LCC	A352 LCC	S6	A386 CF8	A386 CF8
C1	A105N	A694 F52	L3	A352 LCC	A350 LF2	S7	A386 CF8M	A386 CF8M
C2	A105N	A694 F60	L4	A694 F60 Impact Tested	A694 F60 Impact Tested	S8	A479 XM19 (Nitronic 50)	A479 XM19 (Nitronic 50)
C3	A216 WCB	A216 WCB	L5	A350 LF3	A350 LF3	S9	A564 GR.630 (UNS S17400)	
C4	A216 WCB	A105N	L6	API 6A 60K (LF2 mod)	API 6A 60K (LF2 mod)	D0	A182 F51 (UNS S31803)	A182 F51 (UNS S31803)
C5	A694 F52	A694 F52	L7	API 6A 60K	API 6A 60K	D1	A182 F53 (UNS S31750)	A182 F53 (UNS S31750)
C6	A694 F60	A694 F60		(A694 F60 mod)	(A694 F60 mod)	D2	A182 F55 (UNS S31760)	A182 F55 (UNS S31760)
C7	A694 F60	A694 F65	S0	A182 F6A	A182 F6A	D3	A182 F44 (UNS S31254)	A182 F44 (UNS S31254)
C8	API 6A 60K (LF2 mod.)	API 6A 60K (LF2 mod)	S1	A182 F6NM	A182 F6NM	A0	Incoloy 825 (UNS N08825)	Incoloy 825 (UNS N08825)
C9	API 6A 60K (A694 F60 mod.)	API 6A 60K (A694 F60 mod)	S2	A182 F304	A182 F304	A1	Incoloy 925 (UNS N09925)	Incoloy 925 (UNS N09925)
L0	A350 LF2	A350 LF2	S3	A182 F316	A182 F316	A2	Inconel 625 (UNS N06625)	Inconel 625 (UNS N06625)
L1	A350 LF2	A694 F60 Impact Tested	S4	A182 F316L	A182 F316L	A3	Monel K	Monel K
			S5	A182 F316LN mod.	A182 F316LN mod.			

G INTERNAL COATING			
A - ENP 0,003" on seat pocket & stem seals	E - F316 overlay on wetted parts	J - F51 overlay on wetted parts	M - Inconel 625 overlay on RTJ groves
B - F316 overlay on seat pockets	F - F51 overlay on seat pockets	L - Inconel 625 overlay on seat pockets	N - Inconel overlay on wetted parts
C - F316 overlay on stem and seat pockets	G - F51 overlay on stem and seat pockets	K - Inconel 625 overlay on stem & seat pockets	
D - F316 overlay on RTJ groves	H - F51 overlay on RTJ groves		

H TRIM MATERIAL			
CODE	BALL	SEAT RINGS	STEM
00	A105N	A105N	AISI 4140
01	A105N	A105N	A182 F6A
02	A694 F60	A105N	A694 F60
03	API 6A 60K (LF2 mod.)	API 6A 60K (LF2 mod.)	API 6A 60K (LF2 mod.)
04	API 6A 60K (A694 F60 mod.)	API 6A 60K (A694 F60 mod.)	API 6A 60K (A694 F60 mod.)
05	A350 LF2	A350 LF2	A350 LF2
06	A350 LF2	A350 LF2	AISI 4140
07	A350 LF2	A350 LF2	A182 F6A
08	A694 F60 Impact tested	A350 LF2	AISI 4140
09	API 6A 60K (LF2 mod.)	API 6A 60K (LF2 mod.)	API 6A 60K (LF2 mod.)
10	API 6A 60K (A694 F60 MOD)	API 6A 60K (A694 F60 MOD)	API 6A 60K (A694 F60 MOD)
11	A182 F6A	A182 F6A	A182 F6A
12	A182 F6NM	A182 F6NM	A182 F6NM
13	A182 F304	A182 F304	A182 F304
14	A182 F316	A182 F316	A182 F316
15	A182 F316	A182 F316	A182 F316
16	A182 F316	A182 F316	A564 Gr.630 (UNS S17400)
17	A182 F316	A182 F316	A479 XM19 (Nitronic 50)
18	A182 F316LN mod.	A182 F316	A182 F51
19	A182 F316LN mod.	A182 F316	A564 Gr.630 (UNS S17400)
20	A479 XM19 (Nitronic 50)	A479 XM19 (Nitronic 50)	A479 XM19 (Nitronic 50)
21	A564 Gr.630 (UNS S17400)	A564 Gr.630 (UNS S17400)	A564 Gr.630 (UNS S17400)
22	A182 F51 (UNS S31803)	A182 F51 (UNS S31803)	A182 F51 (UNS S31803)
23	A182 F53 (UNS S31750)	A182 F53 (UNS S31750)	A182 F53 (UNS S31750)
24	A182 F55 (UNS S31760)	A182 F55 (UNS S31760)	A182 F55 (UNS S31760)
25	A182 F44 (UNS S31254)	A182 F44 (UNS S31254)	A182 F44 (UNS S31254)
26	Incoloy 825 (UNS N08825)	Incoloy 825 (UNS N08825)	Incoloy 825 (UNS N08825)
27	Incoloy 925 (UNS N09925)	Incoloy 925 (UNS N09925)	Incoloy 925 (UNS N09925)
28	Inconel 625 (UNS N06625)	Inconel 625 (UNS N06625)	Inconel 625 (UNS N06625)
29	Monel K	Monel K	Monel K

I TRIM COATING					
CODE	BALL	STEM	TRUNNION	SEAT	GL. PLATE
1	ENP 0.001"	ENP 0.001"	ENP 0.001"	ENP 0.001"	ENP 0.001"
2	ENP 0.003"	ENP 0.003"	ENP 0.003"	ENP 0.003"	ENP 0.003"
3	N/A	ENP 0.001"	N/A	N/A	N/A
4	Tungsten Carbide	ENP 0.001"	ENP 0.001"	Tungsten Carbide	ENP 0.001"
5	Tungsten Carbide	ENP 0.003"	ENP 0.003"	Tungsten Carbide	ENP 0.003"
6	Chrome Carbide	ENP 0.001"	ENP 0.001"	Chrome Carbide	ENP 0.001"
7	Chrome Carbide	ENP 0.003"	ENP 0.003"	Chrome Carbide	ENP 0.003"

J SEAL(1)					
CODE	SEAT INSERT	O-RING	CODE	SEAT INSERT	O-RING
N1	Nylon	HNBR	R5	RPTFE	Viton AED/GLT
N2	Nylon	Viton B	R6	RPTFE	Viton AED JW
N3	Nylon	Viton GLT	R7	RPTFE	PTFE+Elgiloy Springs
N4	Nylon	Viton AED	P1	Peek	Viton B
N5	Nylon	Viton AED/GLT	P2	Peek	Viton GLT
N6	Nylon	Viton AED JW	P3	Peek	Viton AED
N7	Nylon	PTFE+Elgiloy Springs	P4	Peek	Viton AED/GLT
V1	Viton B (2)	HNBR	P5	Peek	Viton AED JW
V2	Viton B (2)	Viton B	P6	Peek	PTFE+Elgiloy Spring
V3	Viton B (2)	Viton GLT	H1	Peek	N/A
V4	Viton AED (2)	Viton AED	H2	Peek	N/A
V5	Viton AED/GLT (2)	Viton AED/GLT	H3	Peek	N/A
D1	Devlon	HNBR	H4	Peek	N/A
D2	Devlon	Viton B	H5	Peek	N/A
D3	Devlon	Viton GLT	H6	Peek	N/A
D4	Devlon	Viton AED	K1	PCTFE	PTFE+Elgiloy Springs
D5	Devlon	Viton AED/GLT	M1	N/A (3)	Viton B
D6	Devlon	Viton AED JW	M2	N/A (3)	Viton GLT
D7	Devlon	Ptfe+Elgiloy Springs	M3	N/A (3)	Viton AED
R1	RPTFE	HNBR	M4	N/A (3)	Viton AED/GLT
R2	RPTFE	Viton B	M5	N/A (3)	Viton AED JW
R3	RPTFE	Viton GLT	M6	N/A (3)	PTFE+Elgiloy Springs
R4	RPTFE	Viton AED	M7	N/A (3)	N/A

(1) All seals on gaskets are graphite. (2) Delta Ring (3) metal-to-metal

K BOLT & NUT							
CODE	BOLT	NUT	COATING	CODE	BOLT	NUT	COATING
00	A193-B7	A194 2H	N/A	16	A320-L7M	A194 Gr.4M	N/A
01	A193-B7	A194 2H	Hot Zinc	17	A320-L7M	A194 Gr.4M	Hot Zinc
02	A193-B7	A194 2H	PTFE	18	A320-L7M	A194 Gr.4M	PTFE
03	A193-B7	A194 2H	Cadmium+PTFE	19	A320-L7M	A194 Gr.4M	Cadmium+PTFE
04	A193-B7M	A194 2HM	N/A	20	A320-L7M	A194 Gr.7M	N/A
05	A193-B7M	A194 2HM	Hot Zinc	21	A320-L7M	A194 Gr.7M	Hot Zinc
06	A193-B7M	A194 2HM	PTFE	22	A320-L7M	A194 Gr.7M	PTFE
07	A193-B7M	A194 2HM	Cadmium+PTFE	23	A320-L7M	A194 Gr.7M	Cadmium+PTFE
08	A320-L7	A194 Gr.4	N/A	24	A193 B8 Cl. 2	A194 Gr.8	
09	A320-L7	A194 Gr.4	Hot Zinc	25	A193 B8M	A194 Gr.8M	
10	A320-L7	A194 Gr.4	PTFE	26	A320-L7M	A194 G4M	
11	A320-L7	A194 Gr.4	Cadmium+PTFE	27	F51	F51	
12	A320-L7	A194 Gr.7	N/A	28	A453 Gr.660 Cl.A	A453 Gr.660 Cl.A	
13	A320-L7	A194 Gr.7	Hot Zinc				
14	A320-L7	A194 Gr.7	PTFE				
15	A320-L7	A194 Gr.7	Cadmium+PTFE				

**THE MOST COMPREHENSIVE LINE OF INDUSTRIAL FORGED AND CAST STEEL  
GATE, GLOBE, CHECK, BALL, BUTTERFLY AND KNIFE GATE VALVES**

**ASME Pressure Classes 150–4500 in Carbon, Alloy and Stainless Steel**



**VEL-PS**



**VEL-BG**



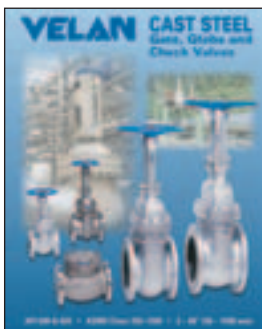
**VEL-SFV**



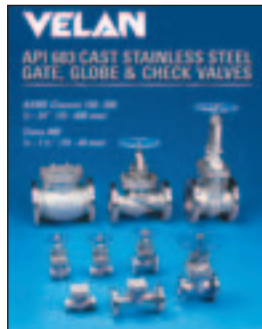
**VEL-BS**



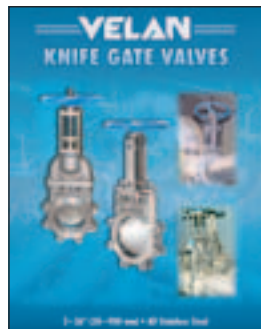
**VEL-CRYO**



**VEL-CSV**



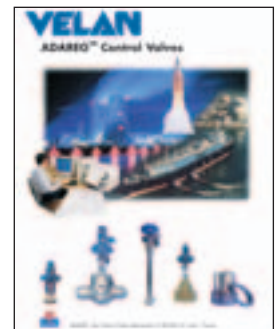
**VEL-API-603**



**VEL-KGV**



**VEL-PRO-CV**



**VEL-ADCV**



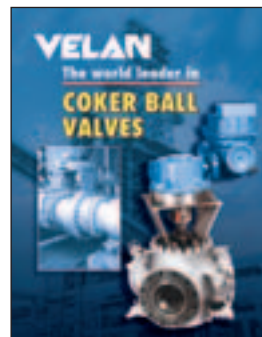
**VEL-BF**



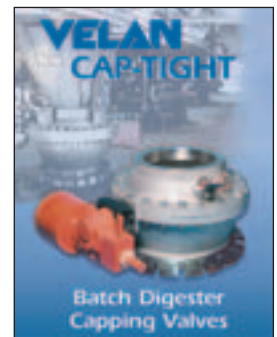
**VEL-MS**



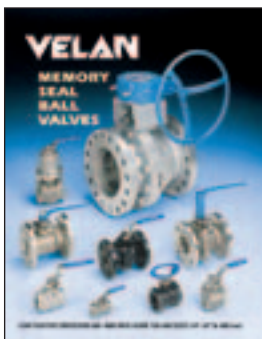
**VEL-PBV**



**VEL-CBV**



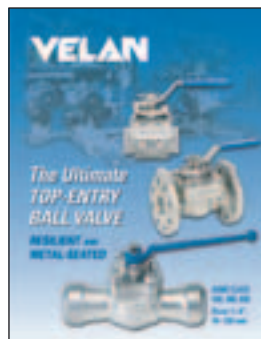
**VEL-BDC**



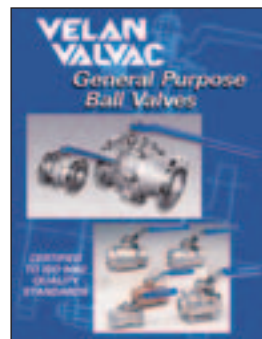
**VEL-BV**



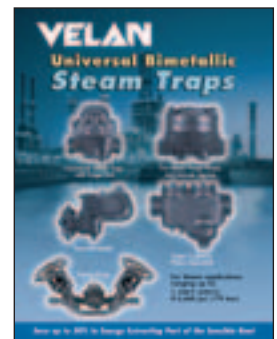
**VEL-UB**



**VEL-TE**



**VEL-GP2BV**



**VEL-ST**