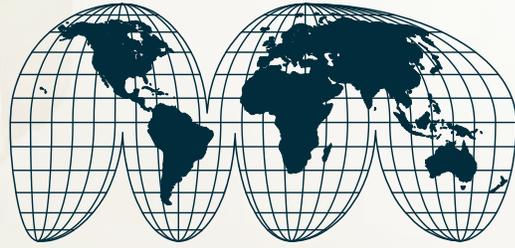


Smart Solutions. Powerful Products.



PBV[®] Series 4400/6400 Two-Piece Flanged Floating Ball Valves



Manufacturer of Quality Valve Products Around the Globe

At Forum™ Energy Technologies we are committed to improving our clients' operational and financial performance by supplying the most comprehensive range of valve products in the industry through our family of trusted valve brands.



Engineering Expertise

Forum™ utilizes the latest state of the art engineering software to provide custom design services for any application. Finite element analysis is just one of many Design Verification Tools FET uses for designing valves to specific customer requirements.



CAD & NC Capabilities

With FET's fast and efficient workflow, CAD drawings can be released to the network for manufacturing and purchasing. The result is faster deliveries.



Accurate Inventories

Daily cycle counting & order picking using wireless barcode guns and automated part delivery systems results in more accurate inventories and faster product delivery.



Quality Control

All FET Companies manufacture quality products designed and tested to meet the standards of Qualifying Authorities around the world. Advanced engineering and our Quality Management System assure that our valve products continue to exceed your expectations for performance.



Customer Service

Forum™'s Customer Service Department is fully staffed with trained customer service representatives ready to help you with your ordering information, technical specifications and logistics.



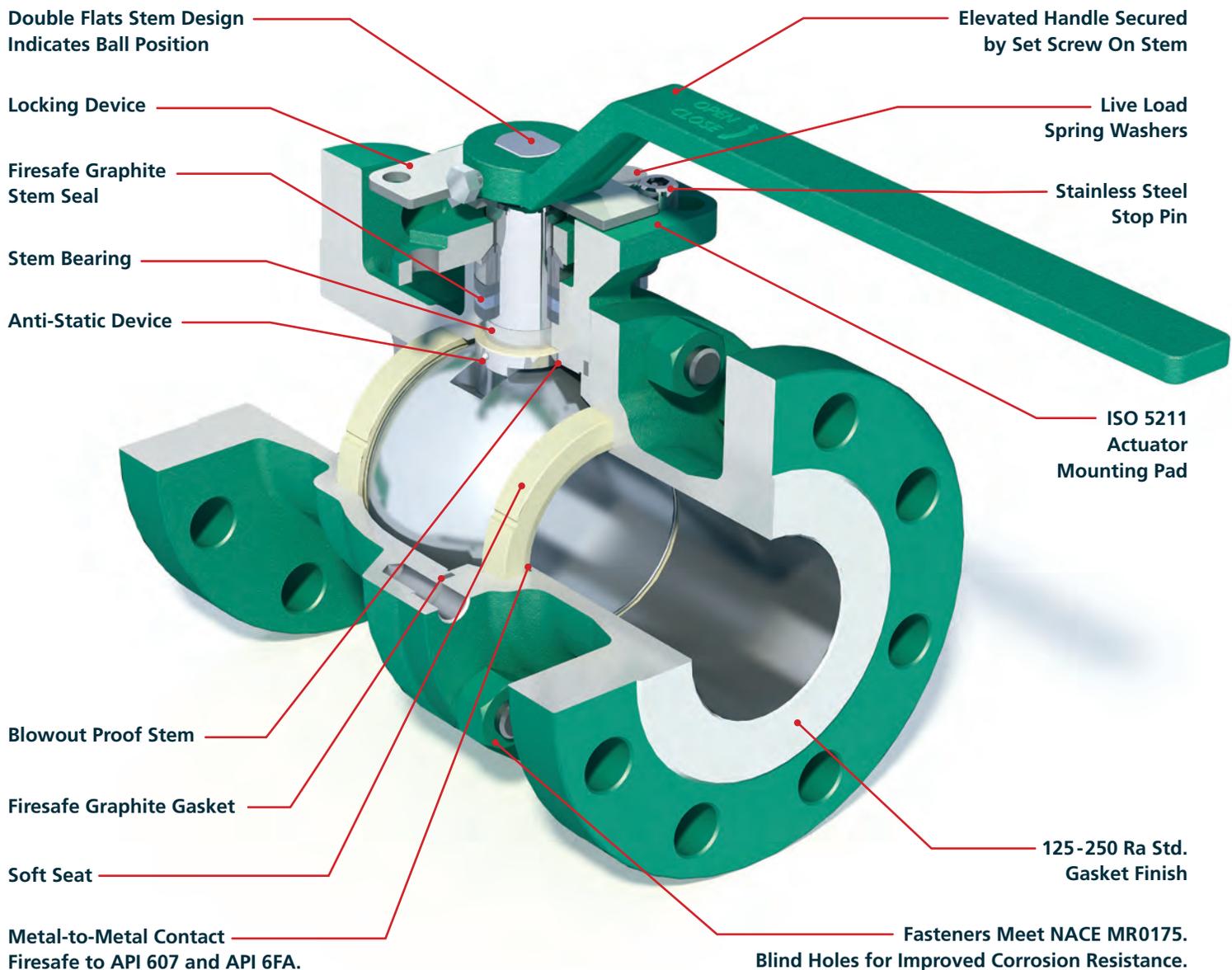
PBV® Series 4400/6400 Two-Piece Flanged Floating Ball Valves

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Standard Features

This is an illustrated cross section of a typical PBV® full port, two-piece body, floating ball valve exhibiting standard design features. The actual design of a particular valve may be slightly different from this illustration depending on its size and pressure class.



PBV® Series 4400/6400 Two-Piece Flanged Floating Ball Valves

How to Order

Specifying PBV® Flanged Floating Ball Valve Figure Numbers

Example: C-6410-31-2236-GL-NL-I This number represents an International, Full Port, Two-piece Body, Stem Packed Flanged Floating Type, Class 150 Ball Valve, Fire Tested, with Raised Face End Connections, WCB Body with 316 Stainless Steel Trim, Glass Filled PTFE Seats, Graphite Seals, NACE Compliance, Lever Operated with ISO 5211 Mounting Pad.

C - 6 4 10 - 3 1 - 22 36 - G L - N L - I

Mat. Code	Port Config.	Valve Type	Pressure Class	Fire Tested	End Conn.	Body Mat.	Trim Mat.	Seat Mat.	Stem Seal Mat.	NACE Option	Operator	Design	Modifier Code
C International	4 Reduced Port 2 Pc. Body	4 Stem Packing Flanged Floating Type	10 150 CL 30 300 CL 60 600 CL	3 Fire Tested	1 RF	22 WCB 28 LCC 36 CF8M	Same as Body 00 316SS	G Glass Filled PTFE P PEEK™	L Graphite	N NACE S Non NACE	L Lever G Gear Operator B Bare Stem A Actuator	I ISO 5211 Mounting Pad	XXX

Product Range

Shell Material	Class	Series No.	Service Sector	Design Feature	Body Design	Port	Ends	Size (in.)									
								1/2	3/4	1	1 1/2	2	3	4	6	8	
Carbon Steel & Stainless Steel	150	6400	Industrial	Packing	Long Pattern 2 pc.*	Full	Flanged	•	•	•	•	•	•	•	G	—	
		4400						—	•	•	•	•	•	•	G	G	
	300	6400				Full		•	•	•	•	•	•	•	•	G	—
		4400						—	•	•	•	•	•	•	G	G	
	600	6400				Full		•	•	•	•	•	•	•	•	—	—
		4400						—	•	•	•	•	•	•	G	—	

Note: *Class 150 reduced port Series 4400 6" and 8" valves are short pattern.

• = Standard Offering

G = Gear Operated Only

PBV® Floating Ball Valves are Designed to Meet the Following Industry Standards

Item	Industry Standard	British Standard**
Valve Shell Pressure - Temperature	ASME B16.34	BS EN ISO 17292:2015
Seat Pressure - Temperature	See PBV® Pressure Temperature Ratings	
Shell Wall Thickness	ASME B16.34	BS EN ISO 17292:2015
Face-to-Face Dimensions	ASME B16.10	BS EN 558:2008+A1:2011, BS EN 12627:1999
End Flange Dimensions	ASME B16.5*	BS 1560
Pressure Test	API 598 or API 6D	BS EN 12266-2:2012, BS EN 12266-1:2012
Firesafe Test	API 607 and API 6FA	BS EN ISO 10497:2010
Design Standard	API 608, API 6D, ASME B16.34	BS EN ISO 17292:2015
Attachment of Actuator	ISO 5211	
Quality Standard - Steel Castings	MSS-SP55	
Management System	ISO 9001-2008	

*Class 150 and 300 valves use Tables titled "Dimensions of Class 150 Flanged Fittings" and "Dimensions of Class 300 Flanged Fittings" for flange thickness, per ASME B16.34, paragraph 6.2.2.

**Upon Request

PBV® Series 4400/6400 Two-Piece Flanged Floating Ball Valves

Maximum Stem Break Torque at Various Pressures

Max. Stem Break Torque at Max. Operating Pressure, G-PTFE Seats

To calculate torque at any pressure use the formula located under class for each valve bore size.

Example: A 4" full port or 6" reduced port class 300 at 500 psi = $(0.162 \times 500) + 1320 = 1401$ in.-lbs.

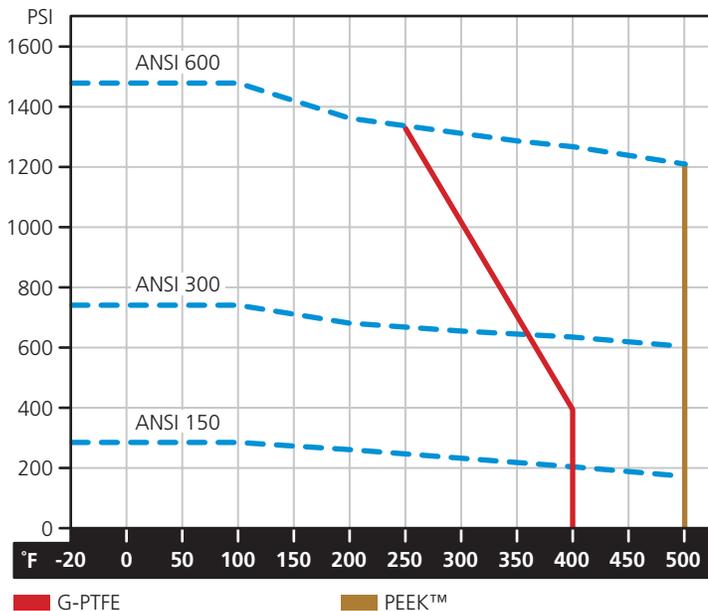
Bore Size (in.)	Class 150 Stem		Class 300 Stem		Class 600 Stem	
	Torque Formula	Torque at MOP (in.-lbs.)	Torque Formula	Torque at MOP (in.-lbs.)	Torque Formula	Torque at MOP (in.-lbs.)
	MOP 285 PSI		MOP 740 PSI		MOP 1480 PSI	
1/2	$0.042 * \Delta P + 72$	80	$0.049 * \Delta P + 72$	100	$0.041 * \Delta P + 72$	115
3/4	$0.084 * \Delta P + 96$	110	$0.049 * \Delta P + 96$	115	$0.041 * \Delta P + 96$	120
1	$0.042 * \Delta P + 132$	144	$0.032 * \Delta P + 132$	156	$0.041 * \Delta P + 132$	192
1 1/2	$0.084 * \Delta P + 300$	310	$0.081 * \Delta P + 300$	320	$0.081 * \Delta P + 300$	335
2	$0.211 * \Delta P + 360$	420	$0.065 * \Delta P + 396$	444	$0.089 * \Delta P + 480$	538
3	$0.211 * \Delta P + 660$	720	$0.178 * \Delta P + 696$	828	$0.081 * \Delta P + 1200$	1320
4	$0.421 * \Delta P + 1200$	1210	$0.162 * \Delta P + 1320$	1308	$0.324 * \Delta P + 1260$	1390
6	$0.211 * \Delta P + 4740$	4800	$0.081 * \Delta P + 4440$	4500	—	—

Notes:

- 1) Torque values are for new valves with G-PTFE seats and clean water service. For PEEK™ seats, multiply values x 2.2.
- 2) No additional safety factors have been added.
- 3) Stem torque service condition factors: For powered actuators, it's recommended to add an additional 25% min For dirty service, add an additional 50% minimum. For dry gas service, add 25% minimum.
- 4) To prevent stem side loading and eliminate potential stem galling, the following tolerances for mounting actuators are recommended: Actuator mounting bracket flanges must be parallel within .015". The maximum allowed run out on the stem coupling bores are .008".

Pressure Temperature

The pressure temperature ratings for PBV®'s Flanged Floating Ball Valves are determined by the body material, seal material and the seat material rating. The charts below are indicative of the standard seat materials. For ratings of other materials, contact your PBV® customer service representative.



Flow Coefficients (C_v)

Capacity factors for the Series 4400 and 6400 valves listed below are to be used as a reference for correct valve sizing. C_v equals the volume of water in gallons per minute that will flow through a given opening with a pressure drop of one psi.

Pressure Conversion

These formulas may be used to convert from one scale to another:

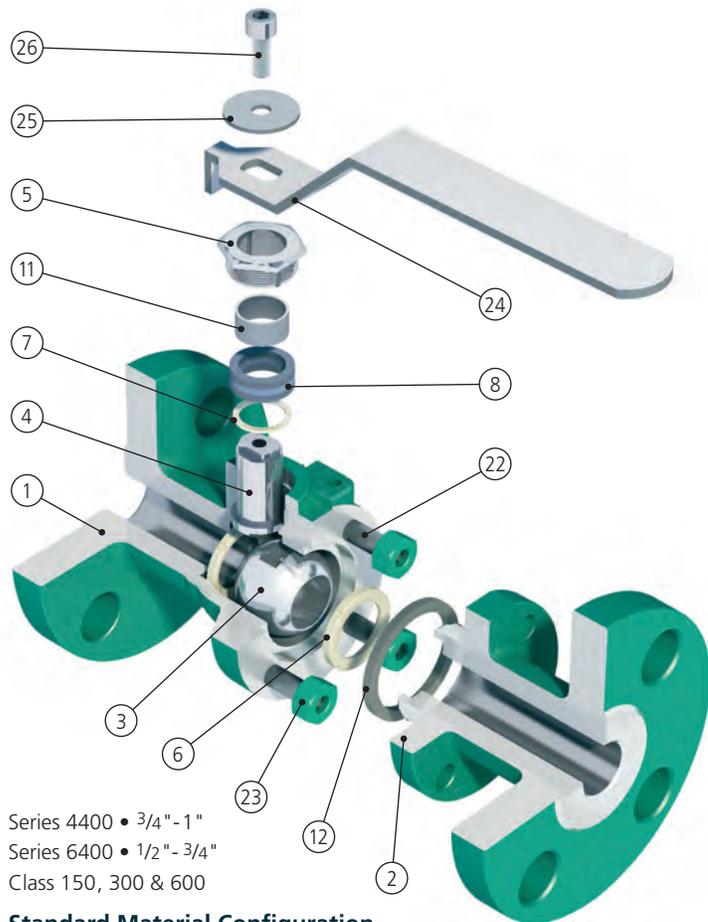
$$\begin{aligned} \text{psi} \times .06894757 &= \text{bar} & \text{bar} \times 14.50377 &= \text{psi} \\ \text{psi} \times .07030697 &= \text{Kg/cm}^2 & \text{Kg/cm}^2 \times 14.22334 &= \text{psi} \\ \text{psi} \times 6894.757 &= \text{Pascal} & \text{Pascal} \times .0001450377 &= \text{psi} \end{aligned}$$

Series	Size (in.)							
	3/4	1	1 1/2	2	3	4	6	8
4410, 4430 4460	17	36	70	180	350	880	1550	3580

Series	Size (in.)							
	1/2	3/4	1	1 1/2	2	3	4	6
6410, 6430 6460	28	52	90	250	480	1200	2250	5400

PBV® Series 4400/6400 Two-Piece Flanged Floating Ball Valves

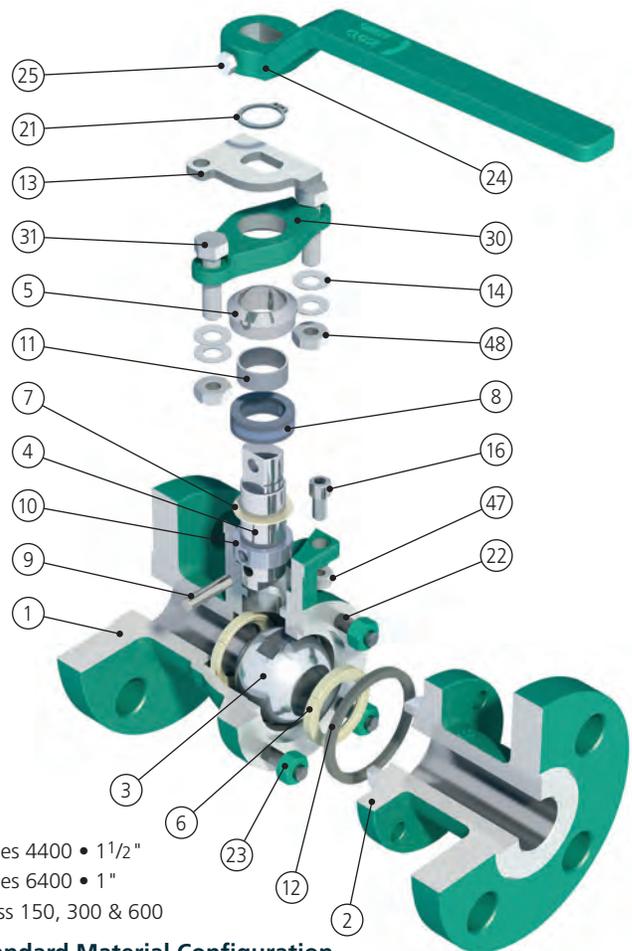
Parts & Materials



Series 4400 • 3/4" - 1"
Series 6400 • 1/2" - 3/4"
Class 150, 300 & 600

Standard Material Configuration

Item No.	Description	Material		
1	Body	WCB	LCC	CF8M
2	Cap	WCB	LCC	CF8M
3	Ball	ASTM A351 CF8M		
4	Stem	ASTM A276 316		
5	Gland	ASTM A276 316		
6	Seats	G/F PTFE		
7	Stem Thrust Bearing	G/F PTFE		
8	Packing	Graphite		
11	Gland Bushing	Virgin PTFE		
12	Body Gasket	316L + Graphite		
22	Stud	B7M	L7M	Gr 660
23	Nut	2HM	7M	Gr 660
24	Handle	Stainless Steel		
25	Handle Screw Washer	Stainless Steel		
26	Handle Screw	Stainless Steel		
	Name Plate (not shown)	Stainless Steel		



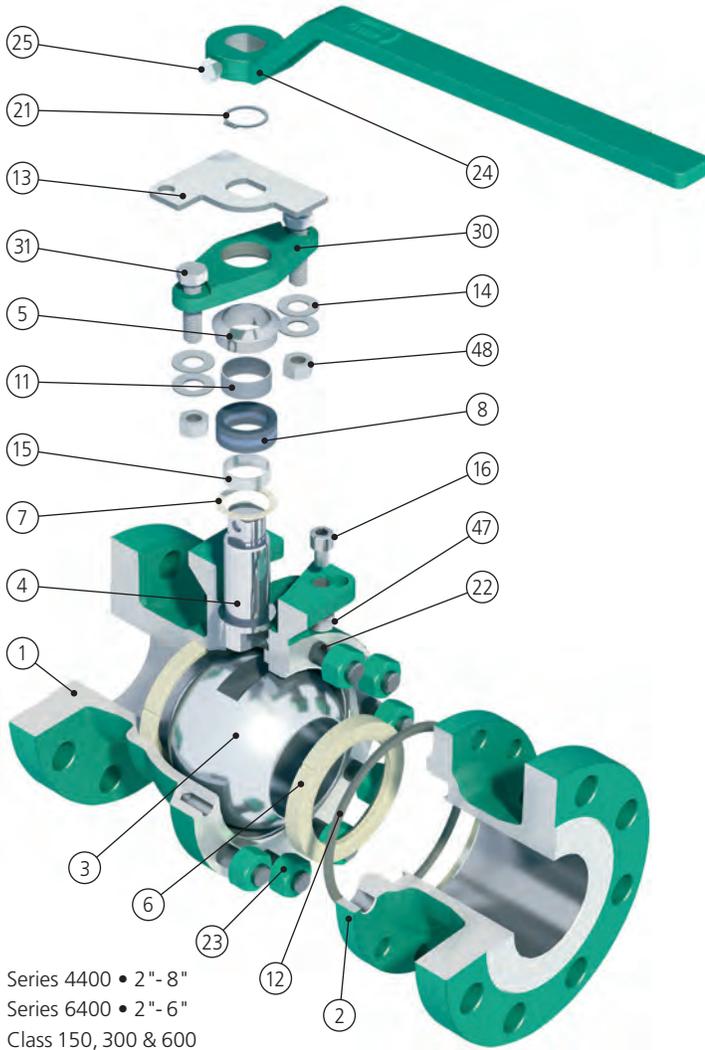
Series 4400 • 1 1/2"
Series 6400 • 1"
Class 150, 300 & 600

Standard Material Configuration

Item No.	Description	Material		
1	Body	WCB	LCC	CF8M
2	Cap	WCB	LCC	CF8M
3	Ball	ASTM A351 CF8M		
4	Stem	ASTM A276 316		
5	Gland	ASTM A276 316		
6	Seats	G/F PTFE		
7	Stem Thrust Bearing	G/F PTFE		
8	Packing	Graphite		
9	Stem Pin	17-4 Stainless Steel		
10	Stem Collar	316 Stainless Steel		
11	Gland Bushing	Virgin PTFE		
12	Body Gasket	316L + Graphite		
13	Stop Plate	Stainless Steel		
14	Spring Washer	Stainless Steel		
16	Stop	Stainless Steel		
21	Snap Ring	Stainless Steel		
22	Stud	B7M	L7M	Gr 660
23	Nut	2HM	7M	Gr 660
24	Handle	ASTM A216 WCB		
25	Handle Screw Washer	Stainless Steel		
30	Gland Plate	ASTM A351 CF8M		
31	Gland Bolts	ASTM A193 B8		
47	Stop Nut	Stainless Steel		
48	Gland Nut	Stainless Steel		
	Name Plate (not shown)	Stainless Steel		

PBV® Series 4400/6400 Two-Piece Flanged Floating Ball Valves

Parts & Materials



Series 4400 • 2" - 8"
 Series 6400 • 2" - 6"
 Class 150, 300 & 600

Standard Material Configuration

Item No.	Description	Material		
1	Body	WCB	LCC	CF8M
2	Cap	WCB	LCC	CF8M
3	Ball	ASTM A351 CF8M		
4	Stem	ASTM A276 316		
5	Gland	ASTM A276 316		
6	Seats	G/F PTFE		
7	Stem Thrust Bearing	G/F PTFE		
8	Packing	Graphite		
11	Gland Bushing	Virgin PTFE		
12	Body Gasket	316L + Graphite		
13	Stop Plate	Stainless Steel		
14	Spring Washer	Stainless Steel		
15	Stem Bushing	Virgin PTFE		
16	Stop	Stainless Steel		
21	Snap Ring	Stainless Steel		
22	Stud	B7M	L7M	Gr 660
23	Nut	B7M	L7M	Gr 660
24	Handle/Pipe Handle*	ASTM A216 WCB		
24A	Pipe Screw (not shown)	Stainless Steel		
25	Handle Screw	Stainless Steel		
30	Gland Plate	ASTM A351 CF8M		
31	Gland Bolts	ASTM A193 B8		
36	Handle Adaptor (not shown)*	ASTM A216 WCB		
47	Stop Nut	Stainless Steel		
48	Gland Nut	Stainless Steel		
	Name Plate (not shown)	Stainless Steel		

*4" valves and above use a handle adaptor and pipe.

Compliance

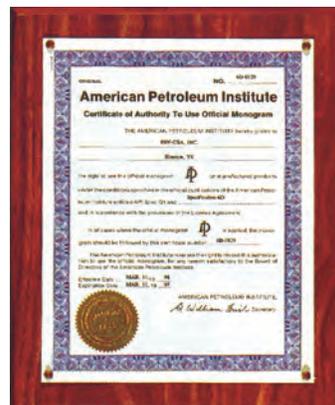
NACE Compliance

The demand for valves to be resistant to sulfide stress cracking, and to perform in corrosive hydrocarbon environments, has become commonplace. Facilities handling H₂S bearing hydrocarbons have increased dramatically over recent years. Hydrogen sulfide concentration, total system pressure, application temperature, existence of elemental sulfur, and chloride content all have a bearing on appropriate material selection in this severe environment. All materials are in accordance with the pre-selected materials listed in NACE MR0175/ISO 15156. Customers shall determine whether or not the service conditions are such that NACE MR0175/ISO 15156 applies. In addition, PBV® Floating Ball Valves, with standard trim, fully comply with NACE MR0103 upon request.

Certification of Quality and Design

Due to upgrades in industry standards, material innovations and PBV®'s constant commitment to product advancement, data presented in this brochure is subject to change. Please contact your PBV® sales person for updated and/or current drawings and material compliance. This information is available on our website at www.f-e-t.com.

API 6D



ISO 9001-2008



All API 6D, ISO and other licenses are maintained on a current basis.

PBV® Series 4400/6400 Two-Piece Flanged Floating Ball Valves

Standard Design Features

Standard design features, product line range, material selection, and centrally located operations facility all combine to make PBV® the first choice for floating ball valves.

The inherent ball valve characteristics of quick quarter-turn operation, bi-directional shut-off capability, ease of automation, and low maintenance are enhanced with many additional features such as Series 300 Stainless Steel gland, heavy bolting meeting NACE MR0175, 125-250 Ra flange finish and port diameters in conformance with API 608.

Body and Trim Material

Body materials are ASME material grades WCB, LCC and CF8M, with Stainless Steel trim. Seat and seal options include materials designed to stand up to severe environments and repeated cycling.

Whether your intended use is in the petrochemical, pharmaceutical or pulp and paper industry, PBV® floating ball valves are designed to provide you with a higher standard in service and value.

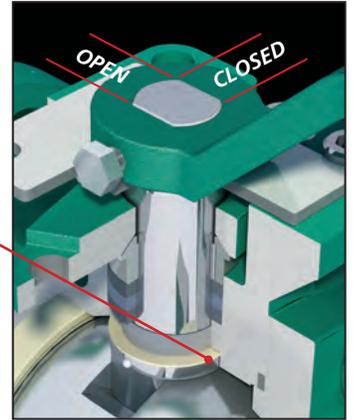
PBV® Quality Procedures

Every valve is tested and inspections are performed throughout the production process to ensure that product quality meets PBV® standards. Quality holdpoints include receiving inspection to verify part conformance, pressure testing in conformance with API 6D or 598 to assure the integrity of the shell and seals, and final inspection to confirm that all marking, tagging and processing have been performed in accordance with PBV® and leading industry standards.

Ball Position Indicator and Blowout Proof Stem Features

The stem is designed with a double flats shape at the top of the stem to indicate ball position.

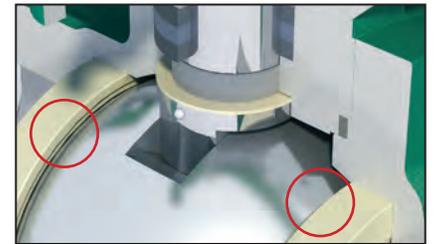
PBV®'s blowout proof stem feature is accomplished by the use of a lower stem collar design.



Bubble-Tight Sealing

Bubble-tight sealing is achieved by the use of two rigid seats firmly secured in the valve body on either side of the ball.

Media flow is cut off on the downstream side by up-stream pressure pushing against the ball.

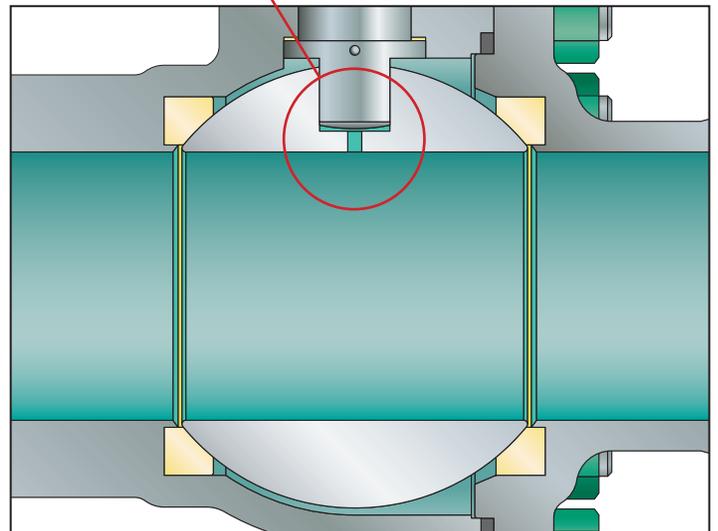


Bi-Directional Sealing

With the bi-directional sealing design, either end can be installed upstream without compromising the integrity of the bubble-tight seal.

Equalized Cavity Pressure

The pressure equalization hole at the top of the ball combined with the seat design are both engineered to maintain the pressure balance in the line and in the body cavity while the valve is in the open position.

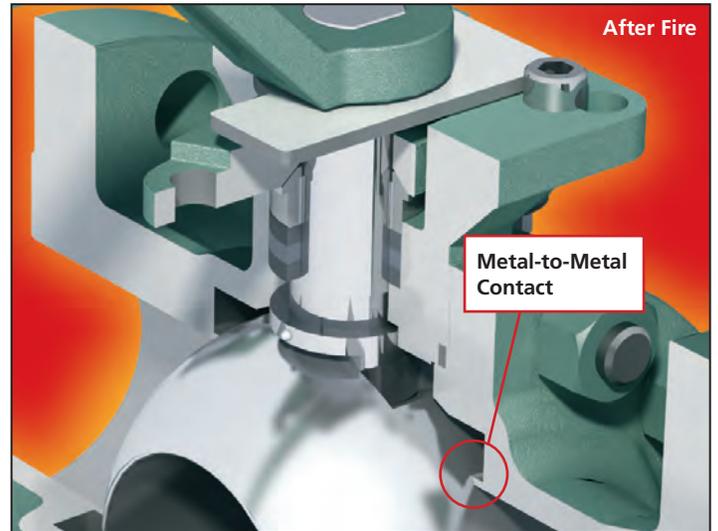
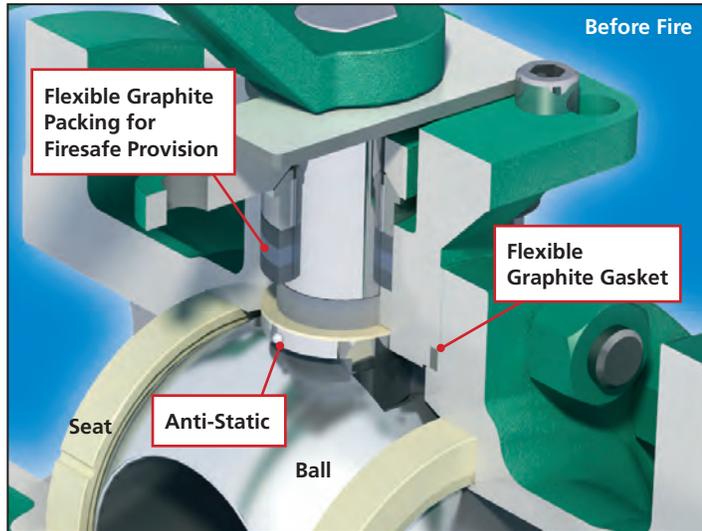


PBV® Series 4400/6400 Two-Piece Flanged Floating Ball Valves

Firesafe ISO Design

PBV®'s Series 4400/6400 valves have all been proven to be Firesafe to API 607 or API 6FA. As illustrated, full metal-to-metal contact is attained at all sealing areas after the primary soft seals have been destroyed during a fire.

Stem Packing Seal



Live Load & Double Packing Stem Seal Features

Belleville spring washers are used to achieve live loading and minimize the need to retighten packing. Primary graphite stem seal is standard for all PBV® ball valves which provide low break torque, excellent emission control and good chemical and thermal resistance.

Anti-Static Device

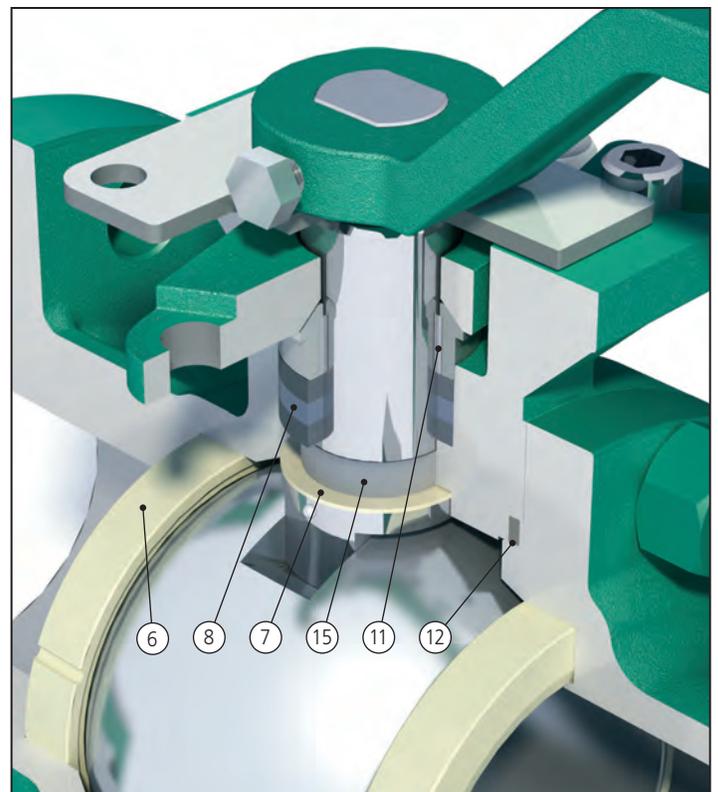
Internal parts that are insulated from the valve body by non-conductive seat and seal materials may build up a static electric charge. To ensure electrical continuity between the stem and the ball and body, PBV® includes anti-static devices as an integral part of all floating ball valves.

Maintenance and Repair Kits

The time spent in shutting down a line to perform repairs can never be recovered. That is why at PBV®, we strive to make a high quality product with features designed to prolong valve life and minimize maintenance and repairs. However, at some point maintenance of your floating ball valve product may be required. Maintenance can extend the longevity of your initial investment. To assist your maintenance engineer, step-by-step instructions are provided with all PBV® repair kits. These Installation, Maintenance and Operating Instructions describe the process from the most basic adjustments to the total replacement of seats and seals. Repair kits are available from stock and contain the parts shown below. If complete valve disassembly becomes necessary, the bolted body design of Series 4400 and 6400 valves is easily dismantled without the need of special tooling.

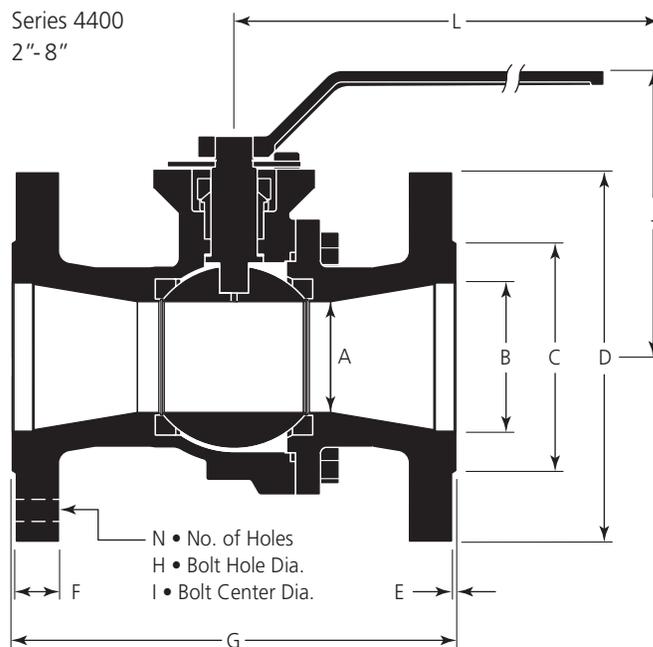
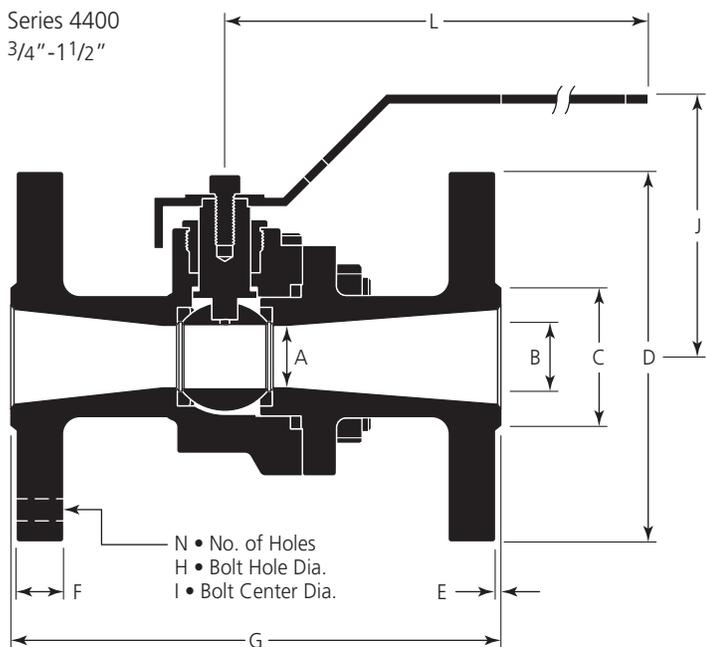
Stem Packing Design Repair Kit List

Item No.	Qty.	Description
6	2	Seat
7	1	Stem Bearing
8	3	Graphite Packing
11	1	Gland Bearing
12	1	Body Gasket
15	1	Stem Bushing



PBV[®] Series 4400 Two-Piece Flanged Floating Ball Valves

Dimensional Data (in.) • 3/4"-8", Class 150, 300 & 600

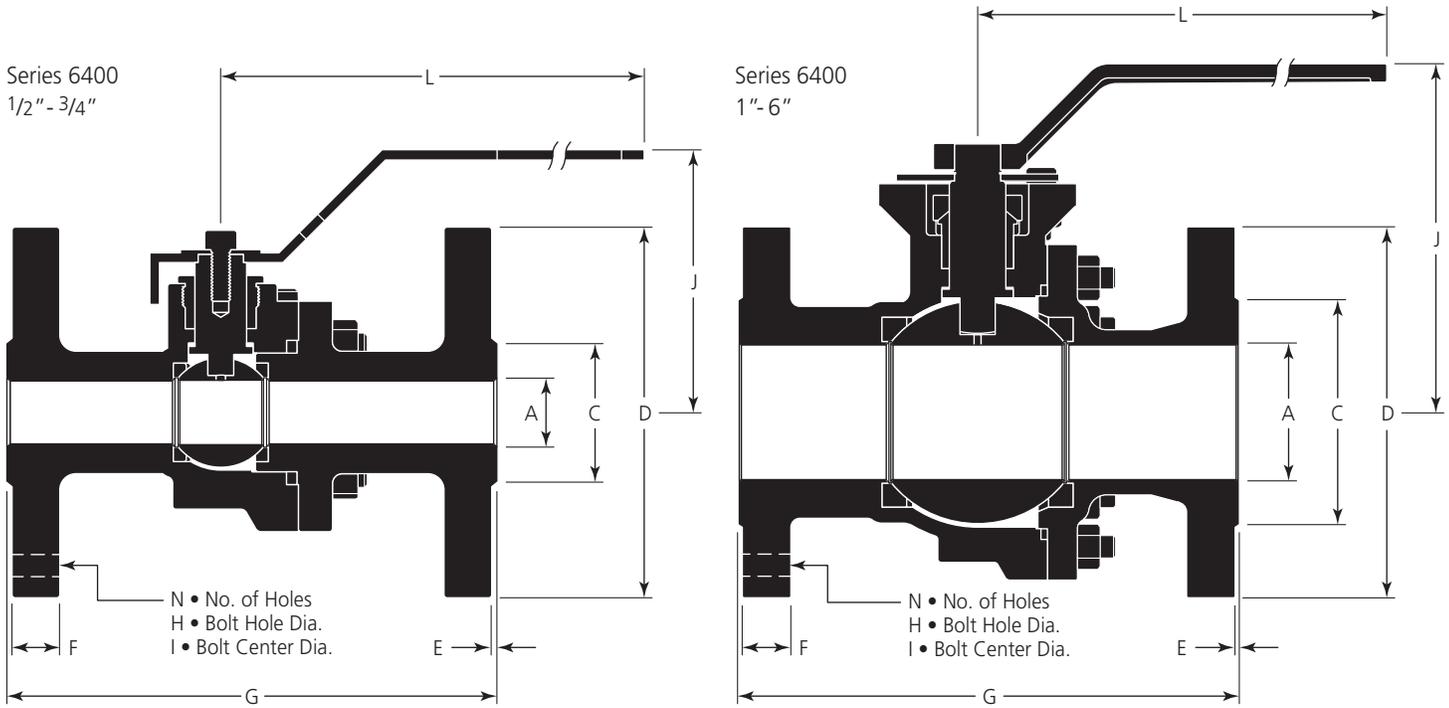


Series 4400, 3/4" - 8", Class 150, 300 & 600

Size (in.)	Class	A	B	C	D	E	F	G	N x ØH	I	J	L
3/4	150	0.63	0.79	1.69	3.9	0.06	0.34	4.6	4 x .63	2.75	3.3	6.6
	300	0.63	0.79	1.69	4.5	0.06	0.56	6.0	4 x .75	3.25	3.3	6.6
	600	0.63	0.79	1.69	4.5	0.25	0.62	7.5	4 x .75	3.25	3.2	6.6
1	150	0.79	0.98	2.00	4.3	0.06	0.38	5.0	4 x .63	3.13	3.3	6.6
	300	0.79	0.98	2.00	4.9	0.06	0.62	6.5	4 x .75	3.50	3.3	6.6
	600	0.79	0.98	2.00	4.9	0.25	0.69	8.5	4 x .75	3.50	3.2	6.6
1 1/2	150	1.00	1.57	2.87	5.0	0.06	0.50	6.5	4 x .63	3.87	4.2	7.0
	300	1.00	1.57	2.87	6.1	0.06	0.75	7.5	4 x .88	4.50	4.2	7.0
	600	1.00	1.57	2.87	6.1	0.25	0.88	9.5	4 x .88	4.50	4.2	7.0
2	150	1.50	2.00	3.62	6.0	0.06	0.56	7.0	4 x .75	4.75	6.1	9.7
	300	1.50	2.00	3.62	6.5	0.06	0.81	8.5	8 x .75	5.00	6.1	9.7
	600	1.50	2.00	3.62	6.5	0.25	1.00	11.5	8 x .75	5.00	6.0	9.7
3	150	2.00	3.00	5.00	7.5	0.06	0.69	8.0	4 x .75	6.00	6.5	9.7
	300	2.00	3.00	5.00	8.3	0.06	1.06	11.1	8 x .88	6.62	6.5	9.7
	600	2.00	3.00	5.00	8.3	0.25	1.25	14.0	8 x .88	6.62	6.7	9.7
4	150	3.00	4.00	6.19	9.0	0.06	0.88	9.0	8 x .75	7.50	7.8	14.0
	300	3.00	4.00	6.19	10.0	0.06	1.19	12.0	8 x .88	7.88	7.8	14.0
	600	3.00	4.00	6.19	10.8	0.25	1.50	17.0	8 x 1.00	8.50	8.3	19.8
6	150	4.00	6.00	8.50	11.0	0.06	0.94	10.5	8 x .88	9.50	8.5	19.8
	300	4.00	6.00	8.50	12.5	0.06	1.38	15.9	12 x .88	10.62	9.1	19.8
	600	4.00	6.00	8.50	14.0	0.25	1.88	22.0	8 x 1.12	11.50	10.2	19.8
8	150	6.00	8.00	10.63	13.6	0.06	1.06	11.5	8 x .88	11.75	11.2	34.2
	300	6.00	8.00	10.63	15.0	0.06	1.56	19.8	12 x 1.00	13.00	11.2	34.2

PBV® Series 6400 Two-Piece Flanged Floating Ball Valves

Dimensional Data (in.) • 1/2"-6", Class 150, 300 & 600

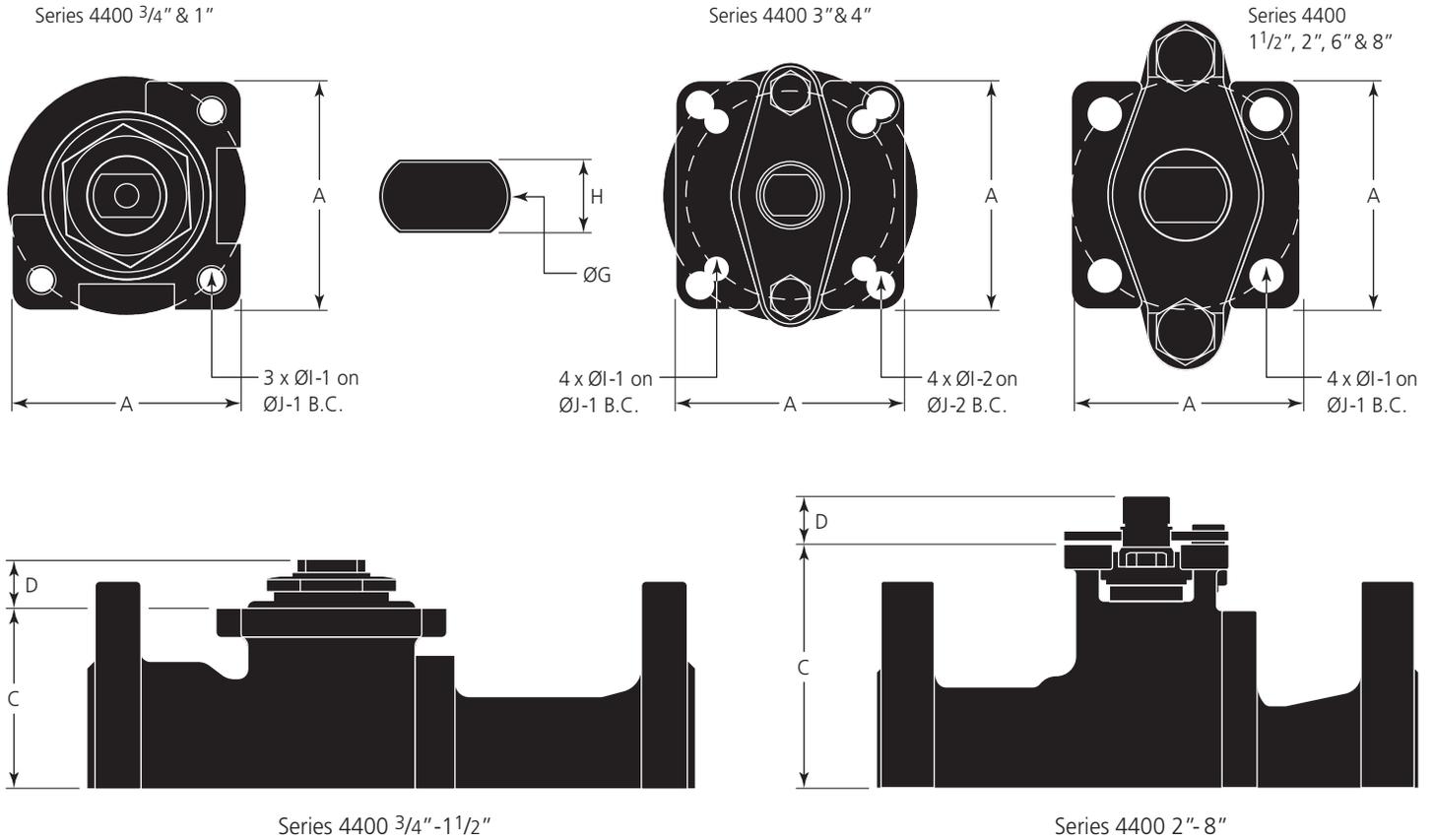


Series 6400, 1/2" - 6", Class 150, 300 & 600

Size (in.)	Class	A	C	D	E	F	G	NxØH	I	J	L
1/2	150	0.63	1.38	3.5	0.06	0.31	4.3	4x.63	2.37	3.3	6.6
	300	0.63	1.38	3.7	0.06	0.50	5.5	4x.63	2.62	3.3	6.6
	600	0.63	1.38	3.7	0.25	0.56	6.5	4x.63	2.62	3.2	6.6
3/4	150	0.79	1.69	3.9	0.06	0.34	4.6	4x.63	2.75	3.2	6.6
	300	0.79	1.69	4.6	0.06	0.56	6.0	4x.75	3.25	3.2	6.6
	600	0.79	1.69	4.6	0.25	0.62	7.5	4x.75	3.25	3.2	6.6
1	150	1.00	2.00	4.3	0.06	0.38	5.0	4x.63	3.13	4.2	7.0
	300	1.00	2.00	4.9	0.06	0.62	6.5	4x.75	3.50	4.2	7.0
	600	1.00	2.00	4.9	0.25	0.69	8.5	4x.75	3.50	4.2	7.0
1 1/2	150	1.50	2.87	5.0	0.06	0.50	6.5	4x.63	3.87	6.1	9.7
	300	1.50	2.87	6.1	0.06	0.75	7.5	4x.88	4.50	6.1	9.7
	600	1.50	2.87	6.1	0.25	0.88	9.5	4x.88	4.50	6.1	9.7
2	150	2.00	3.63	6.0	0.06	0.56	7.0	4x.75	4.75	6.5	9.7
	300	2.00	3.63	6.5	0.06	0.81	8.5	8x.75	5.00	6.5	9.7
	600	2.00	3.63	6.5	0.25	1.00	11.5	8x.75	5.00	6.7	9.7
3	150	3.00	5.00	7.5	0.06	0.69	8.0	4x.75	6.00	7.7	14.0
	300	3.00	5.00	8.3	0.06	1.06	11.1	8x.88	6.62	7.7	14.0
	600	3.00	5.00	8.3	0.25	1.25	14.0	8x.88	6.62	7.7	19.8
4	150	4.00	6.12	9.0	0.06	0.88	9.0	8x.75	7.50	8.5	19.8
	300	4.00	6.12	10.0	0.06	1.19	12.0	8x.88	7.87	8.5	19.8
	600	4.00	6.20	10.8	0.25	1.50	17.0	8x1.00	8.50	9.1	19.8
6	150	6.00	8.50	11.0	0.06	0.94	15.5	8x.88	9.50	11.2	34.2
	300	6.00	8.50	12.5	0.06	1.38	15.9	12x.88	10.62	11.2	34.2

PBV® Series 4400 Two-Piece Flanged Floating Ball Valves

Actuator Mounting Data (in.) & Weights (lbs.) • 3/4"-8" Class 150, 300 & 600



Series 4400, 3/4" - 8", Class 150, 300 & 600

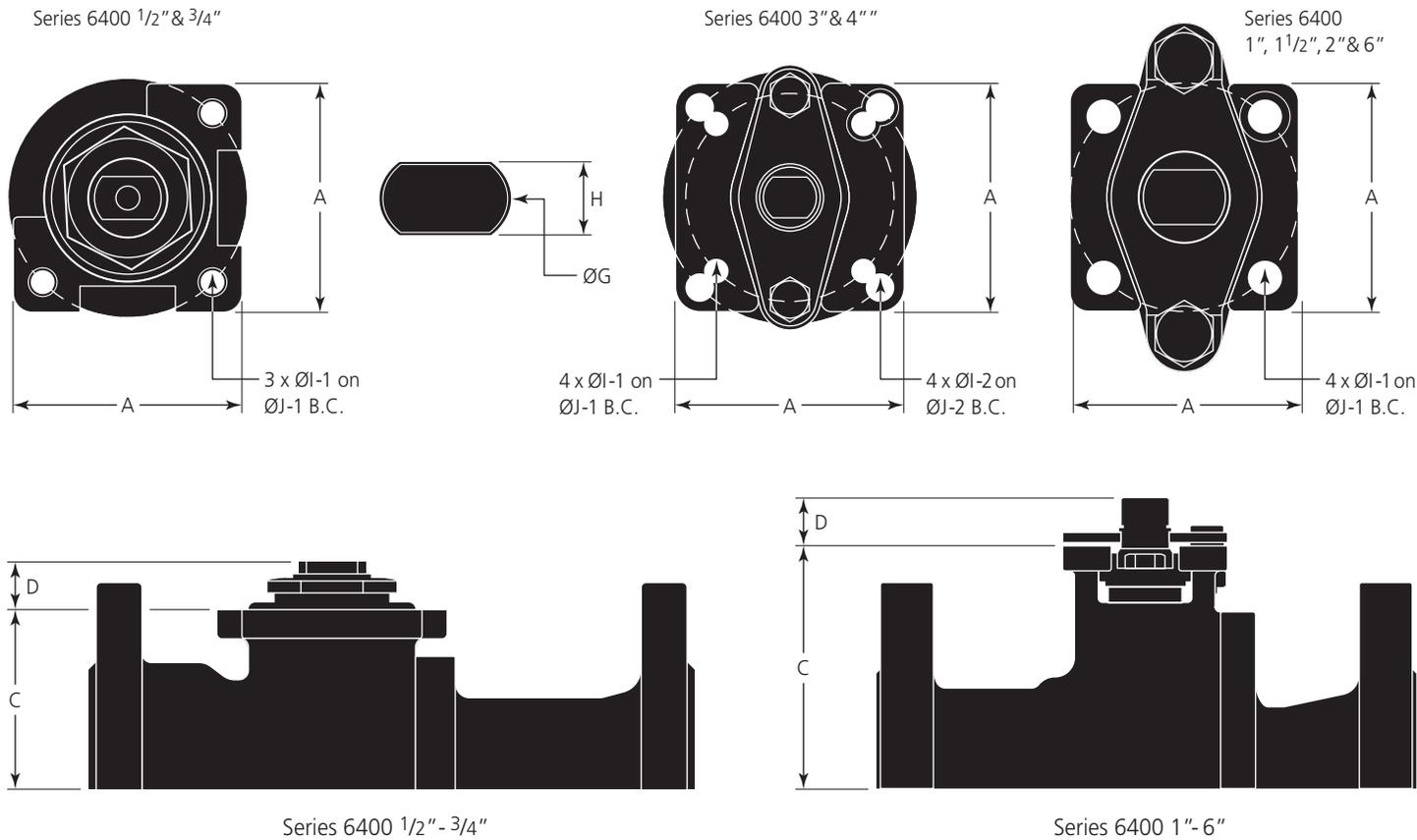
Size (in.)	Class	A	C	D	ØG	H	I-1	ØJ-1	ISO 5211	I-2	ØJ-2	ISO 5211
3/4-1	150/300	2.00	1.52	0.41	0.551	0.354	0.157	0.295	F05	—	—	—
	600	2.00	1.52	0.39	0.551	0.354	0.157	0.295	F05	—	—	—
1 1/2	150	2.00	2.63	0.76	0.709	0.472	0.157	0.295	F05	—	—	—
	300	2.00	2.65	0.76	0.709	0.472	0.157	0.295	F05	—	—	—
	600	2.00	2.65	0.76	0.709	0.472	0.157	0.295	F05	—	—	—
2	150/300/600	2.60	3.43	0.77	0.748	0.551	0.394	2.756	F07	—	—	—
3	150/300	2.60	3.83	0.77	0.866	0.630	0.394	2.756	F07	—	—	—
	600	3.54	4.03	0.77	0.866	0.630	0.394	2.756	F07	0.472	4.016	F10
4	150	4.41	5.09	0.87	1.024	0.787	0.472	4.016	F10	0.551	4.921	F12
	300	4.41	5.09	0.89	1.024	0.787	0.472	4.016	F10	0.551	4.921	F12
	600	4.41	5.71	1.06	1.181	0.945	0.472	4.016	F10	0.551	4.921	F12
6	150	4.41	5.93	1.02	1.181	0.945	0.472	4.016	F10	0.551	4.921	F12
	300	4.41	6.55	1.05	1.181	0.945	0.472	4.016	F10	0.551	4.921	F12
	600	4.41	7.63	1.06	1.181	0.945	0.472	4.016	F10	0.551	4.921	F12
8	150/300	4.41	8.50	1.14	1.575	1.181	0.551	4.921	F12	—	—	—

Approximate Valve Weights (lbs.)

Series	Size (in.)							
	3/4	1	1 1/2	2	3	4	6	8
4410	6	9	13	19	34	66	102	227
4430	9	13	19	27	48	89	165	326
4460	10	14	23	35	63	137	268	—

PBV® Series 6400 Two-Piece Flanged Floating Ball Valves

Actuator Mounting Data (in.) & Weights (lbs.) • 1/2"-6" Class 150, 300 & 600



Series 6400, 1/2" - 6", Class 150, 300 & 600

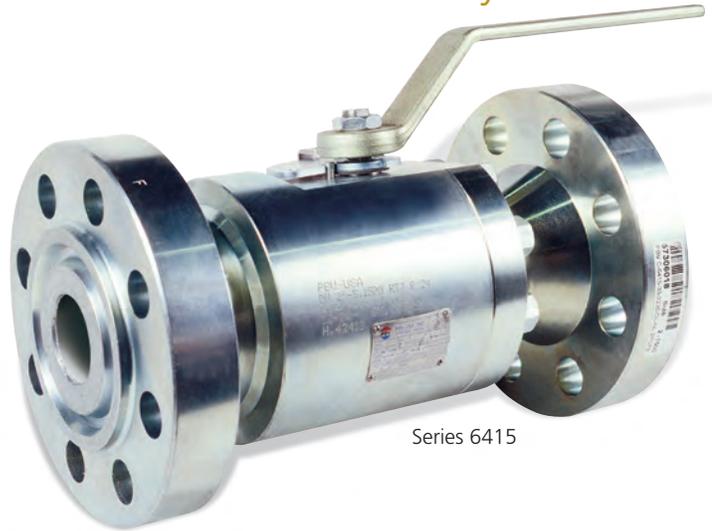
Size (in.)	Class	A	C	D	ØG	H	I-1	ØJ-1	ISO 5211	I-2	ØJ-2	ISO 5211
1/2	150/300	2.00	1.52	0.41	0.551	0.354	0.157	0.295	F05	—	—	—
	600	2.00	1.52	0.39	0.551	0.354	0.157	0.295	F05	—	—	—
3/4	150/300	1.89	1.52	0.41	0.551	0.354	M6x1.0-65	1.969	F05	—	—	—
	600	1.81	1.52	0.39	0.551	0.551	M6x1.0-65	1.969	F05	—	—	—
1	150/300/600	1.97	2.65	0.76	0.709	0.472	0.295	1.969	F05	—	—	—
1 1/2	150/300	2.60	3.43	0.77	0.748	0.551	0.394	2.756	F07	—	—	—
	600	2.60	3.43	0.76	0.748	0.551	0.394	2.756	F07	—	—	—
2	150/300	2.60	3.83	0.77	0.866	0.630	0.394	2.756	F07	—	—	—
	600	2.60	4.03	0.77	0.866	0.630	0.394	2.756	F07	—	—	—
3	150/300	4.41	5.09	0.89	1.024	0.787	0.472	4.016	F10	0.551	4.921	F12
	600	4.41	5.10	1.02	1.181	0.945	0.472	4.016	F10	0.551	4.921	F12
4	150	4.41	5.93	1.02	1.181	0.945	0.472	4.016	F10	0.551	4.921	F12
	300	4.41	5.91	1.06	1.181	0.945	0.472	4.016	F10	0.551	4.921	F12
	600	4.41	6.57	1.02	1.181	0.945	0.472	4.016	F10	0.551	4.921	F12
6	150/300	4.41	8.50	1.14	1.496	1.181	0.551	4.921	F12	—	—	—

Approximate Valve Weights (lbs.)

Series	Size (in.)								
	1/2	3/4	1	1 1/2	2	3	4	6	
6410	4	6	9	15	25	54	88	214	
6430	6	9	13	24	32	69	119	269	
6460	7	10	15	29	42	92	180	—	

PBV® Series 6415 API 6D Forged Two-Piece Bolted Body Flanged Floating Ball Valves

Features & Dimensional Data (in.)

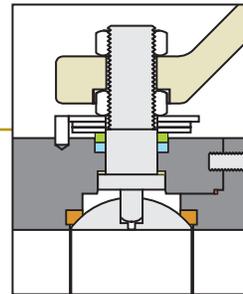


Series 6415

Standard Features

- Flanged Oilfield Design in Class 1500 API 6D
- 316 Stainless Steel Trim
- Fire Tested to API 6FA and BS 6755 Part 2
- ISO 5211 Actuator Mounting Pads
- Two-piece Bolted Construction
- Meets NACE MR0175 Latest Edition and ASME/ANSI B16.34
- Available in Full Port Only
- Blowout Proof Stem Design
- CSA Z245.15 compliance available
- Antistatic per BS-5351

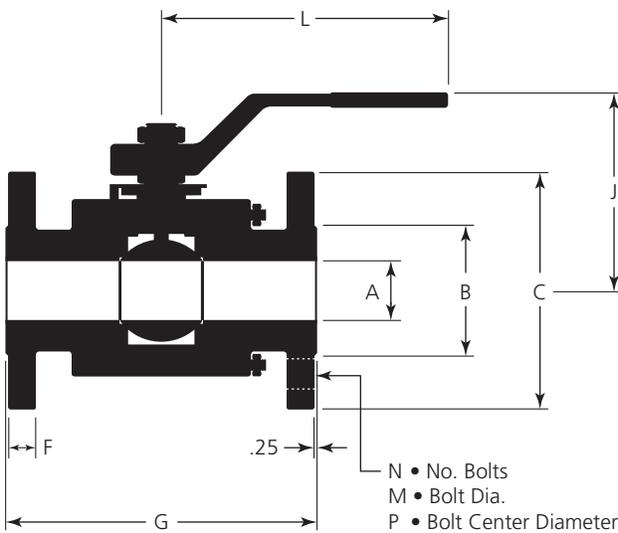
Superior materials include Devlon® seats, Stainless Steel trim and forged bodies for tough demands in oil field applications.



Both RF and RTJ ends allow for customer specific connections.



Dimensional Data (in.)



1/2"-2" Full Port, Class 1500

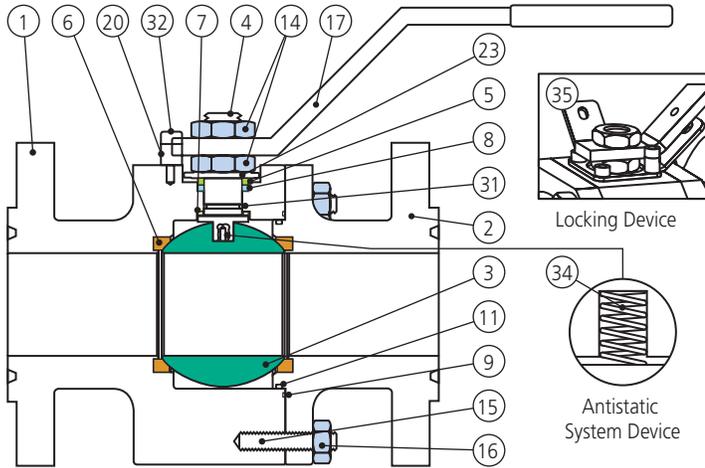
Size (in.)	Class	A	B	C	F	G	J	L	N	M	P	Wt. (lbs.)
1/2	1500	0.55	1.38	4.75	0.88	8.5	3.94	6.7	4	0.88	3.25	19.84
3/4	1500	0.75	1.69	5.12	1.00	9.0	4.33	6.9	4	0.88	3.50	22.05
1	1500	1.00	2.00	5.88	1.12	10.0	4.72	8.5	4	1.00	4.00	32.62
1 1/2	1500	1.50	2.88	7.00	1.25	12.0	6.10	12.4	4	1.12	4.88	59.52
2	1500	2.00	3.62	8.50	1.50	14.5	6.30	12.4	8	1.00	6.50	103.61

Manufactured in Strict Conformance with the Following Industry Standards

Item	Industry Standard
Valves- Flanged, Threaded and Welding End	API 6D - ASME B16.34 - BS 5351
Pipe Flanges and Flanged Fittings	ASME B16.5
Products Registered in all Provinces and Territories	Canadian Registration Number (CRN)
Quality System	ISO 9001
Sulfide Stress Cracking Resistant Metallic Materials for Oil Field Equipment	NACE MR0175 Latest Edition

PBV® Series 6415 Two-Piece Flanged Floating Ball Valves

Parts & Materials, Engineering Data and How to Order

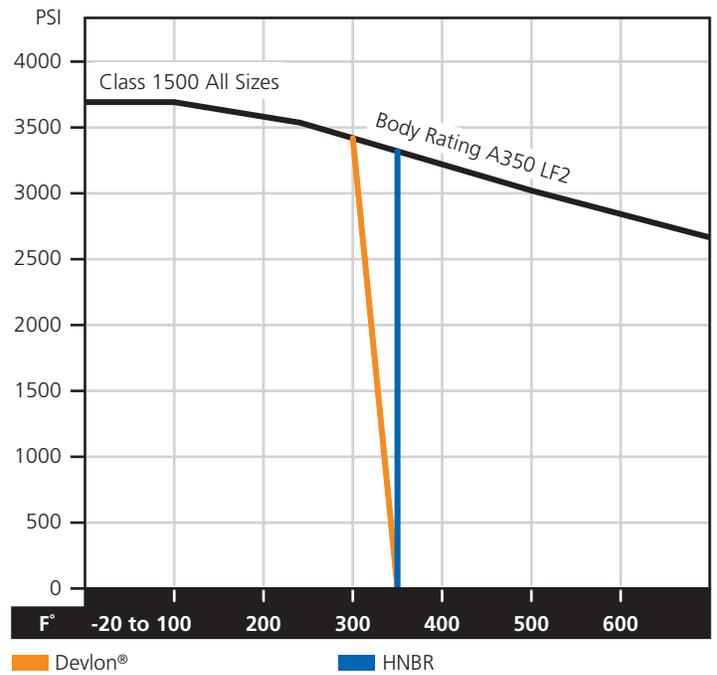


Break Torques (ft.-lb.)

Size (in.)	Torque
1/2	34
3/4	41
1	108
1 1/2	112
2	154

Note: All values are full bore valves and are effective without safety factor. (Generally this factor is about torque values plus 25%).

Pressure Temperature



*Recommended spare parts.

Note: Flange according to ANSI B16.5. Antistatic device according to BS-5351. Face to face according to API 6D-ANSI B16.10. Valves according to BS 5351/B16.34. Fire safe according to BS-6755 Pt. 2*/API 6FA. External surface phosphated. Tested per API 6D.

Parts & Materials

Item No.	Description	Materials
1	Body	ASTM A350 LF2
2	Cap	ASTM A350 LF2
3	Ball	ASTM A479 TP316
4	Stem	17-4-PH
5	Gland	ASTM A479 TP316
6	Seat*	Devlon®
7	Thrust Washer*	PTFE
8	Stem Packing*	Graphite
9	Gasket*	316 + Graphite (Spiral Wound)
11	Body Gasket*	HNBR
14	Stem Nut	A2.70
15	Body Stud	ASTM A193 L7M
16	Body Hex Nut	ASTM A194 Gr. 7M
17	Handle	Steel + Zinc Plated
20	Stop Pin	Carbon Steel
23	Spring Disc	AISI 301
31	O-Ring*	HNBR
32	Screw	8.8
34	Antistatic Device	AISI 302
35	Locking Device	Zinc Plated

Specifying Series 6415 Flanged Valve Figure Numbers

Example: 2" C-6415-33-2536-DL-NL This number represents a 2" 6415 Series Floating Ball Valve with Carbon Steel A350 LF2 Construction in Full Port configuration, ANSI Class 1500, Firesafe, RTJ Flanged Ends, LF2 Body/Cap, 316 SS Ball and Stem, Devlon® Seats, Graphite Stem Seal Packing, NACE Conformance with Lever Handle.

P C - 64 15 - 3 3 - 25 36 - D L - N L

Series	Material	Port	Class	Rating	Connection	Body/ Closure Material	Ball/ Stem	Seat	Stem Seal	NACE	Actuation	Locking Device
P PBV	C Carbon Steel A350 LF2	64 Full Port Floating Design	15 ANSI 1500	3 Firesafe to API 6FA	1 RF 3 RTJ	25 A350 LF2 36 316F	36 316SS 00 Same As Body	D Devlon® P PEEK™	L Graphite Packing H HNBR	N MR0175	L Lever Handle G Gear Operated B Bare Stem	LD Locking Device

Our goal is to become the leading provider of mission critical oilfield products and related services in terms of customer satisfaction, safety and financial performance.

Our experienced management team and employees are dedicated to solving our customers' problems. We invest in long term relationships and cooperate on product development with our clients, we consider them our partners.

OUR CORE VALUES

Integrity: In everything we do, in every interaction, both internally and externally, we strive to operate with the upmost integrity and mutual respect.

Long-term view: We are building our company for the long-term, a company that we can be proud of.

Open communication: We believe partnerships with our customers and co-workers must be based on trust, professionalism and transparency.

Customer focused: Our products enhance our customer's performance and we listen to their needs and work with them to solve their challenges.

Good place to work: We are committed to creating a workplace that fosters innovation, teamwork and pride. Every team member is integral to our success and is treated equally and fairly.

No one gets hurt: The safety of our employees and customers is our first priority coupled with a healthy respect for the environment.

For more information about our products and full Terms & Conditions please visit www.f-e-t.com.



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