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***Design and dimension are not bending, Energy Valves reserves the right to modify them without any notice, except the dimension established by international standard specifications.

 **ENERGY**
VALVES



FLOATING

BALL VALVES



INTRODUCTION

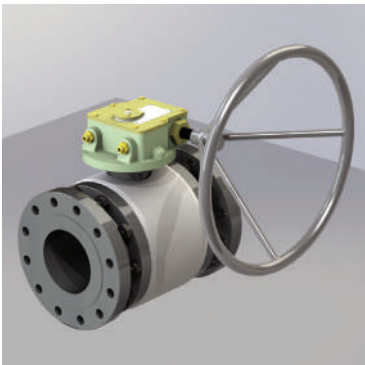
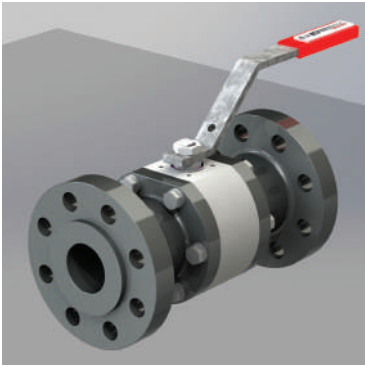
Energy Valves was founded in 2007 by engineers with over 30 years experience in the design and the construction of cutting edge valve technology.

Our mission is to provide design, manufacture, testing and certification based on your needs and your schedule, in accordance with any technical specification.

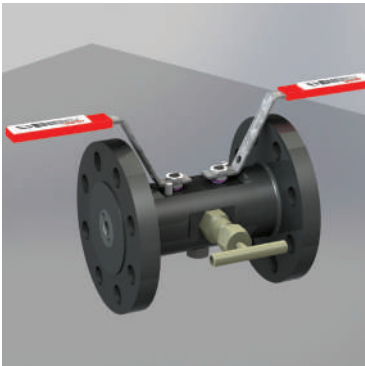
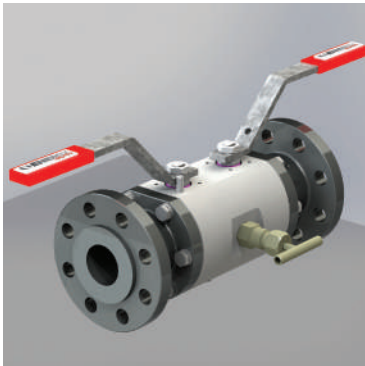
The Energy Valves design and prduction facility is located close to Milan and it's fully ISO 9001.



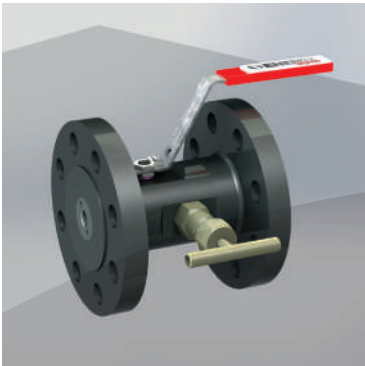
2 and 3 pieces bolted design



Modular double block and bleed design



Modular Single block and bleed design



PRODUCT RANGE:

	CLASS 150/PN 16	CLASS 300/PN 50	CLASS 600/PN 100	CLASS 800/PN 140	CLASS 900/PN 150	CLASS 1500/PN 250	CLASS 2500/PN 420
1/2"							
3/4"							
1"							
1.1/2"							
2"							
3"							
4"							
6"							
8"							

lever
gear

STANDARD MATERIALS and NORMATIVES



120. Lever
86. Lever nut
5. Stem
110. Spring washer
101. Gland ring
21. Stem gasket
36. Stem o-ring
95. Thrust washer
78. Body screw
122. Stop pin
3. Ball
4. Seat
35. Body O-Ring
20. Body Gasket
1. Body
2. Body connector

Special materials:

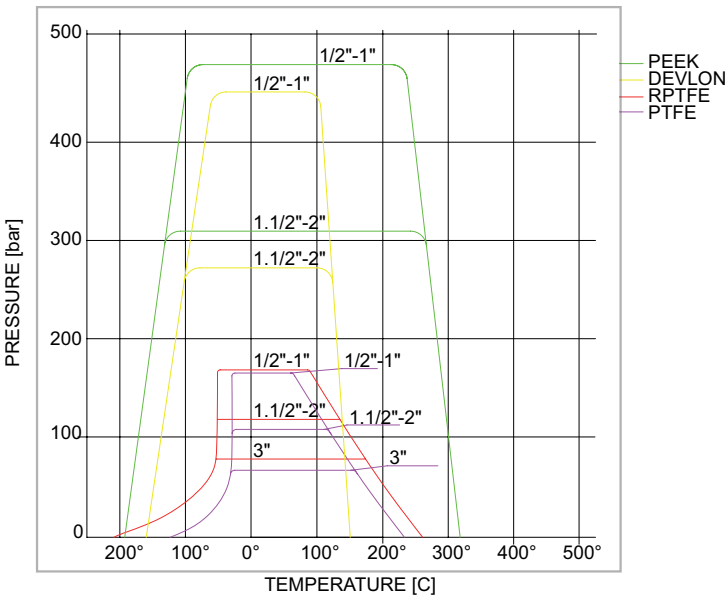
- Pressure containing parts: Duplex, Super duplex, Exotic alloys, Bronze, Titanium;
- Soft Seat: PTFE, Delrin, Vespel SP 21, Devlon, Peek, Kel’F, UHMWPE;
- Metal seats: TCC, CCC coated, Stellite welded;
- Seal: HNBR, FFKM, GFLT, Graphite, Lip-Seal.

Pos.	Description	Carbon Steel	Stainless Steel
1	Body	A350 LF2	A479 TP316-L
2	Body connector	A350 LF2	A479 TP316-L
3	Ball	A479 TP316-L	
4	Seat	PTFE REINFORCED 20% carbo 5% graphite	
5	Stem	A479 TP316-L	
20	Body gasket	GRAPHITE	
21	Stem gasket	GRAPHITE	
35	Body o-ring	VITON	
36	Stem o-ring	VITON	
78	Body screw	A193 B7	A320 B8
86	Lever nut	A 4-70	
95	Thrust washer	PTFE REINFORCED 20% carbo 5% graphite	
101	Gland Ring	A479 TP316-L	
110	Spring washer	S.S. 316	
120	Lever	Carbon Steel zinc plated + Plastic cover	
122	Stop Pin	S.S. 316	

VALVES DETAILS

SOFT SEATS:

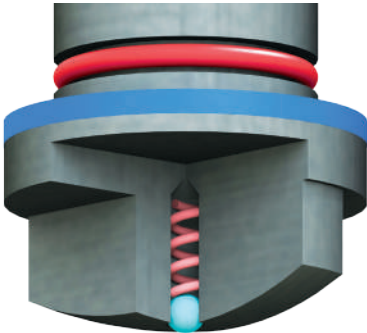
Temperature/pressure limitations chart for standard soft seat.



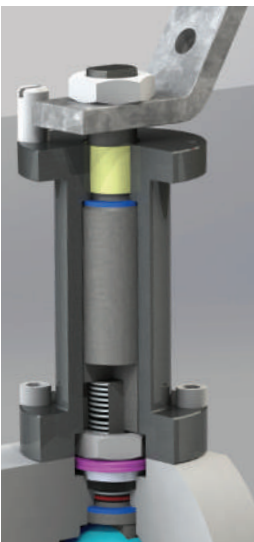
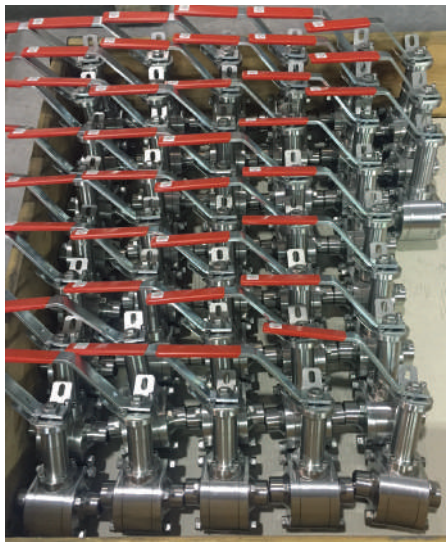
In this chart you can select the right seat in accordance with the service conditions.

ANTISTATIC DEVICE:

A static conduction spring is assembled between the stem and the ball to prevent static electricity which may fire up the fluid. In accordance to ISO 17292.



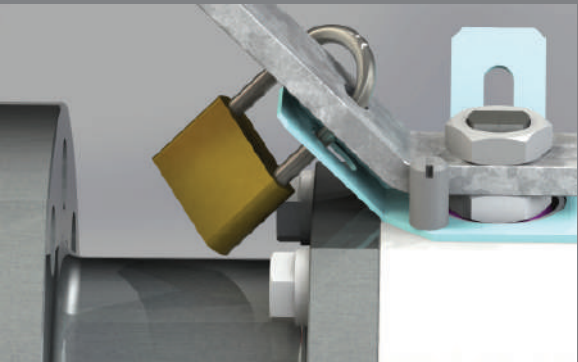
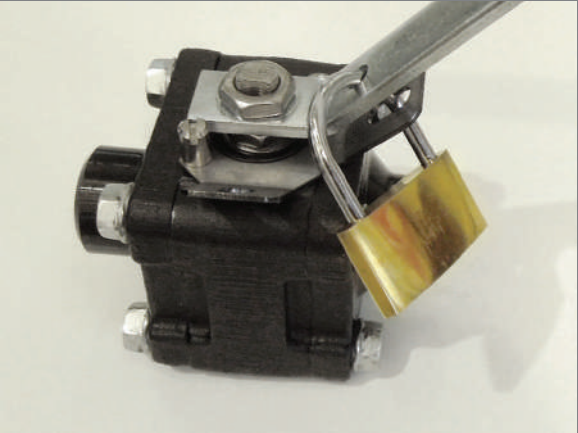
EXTENSION:



In order to insulate the valves, they can be supplied with stem extension. Standard length is 100mm(4") but any length can be designed and realized according to customer request.

LOCKING DEVICE:

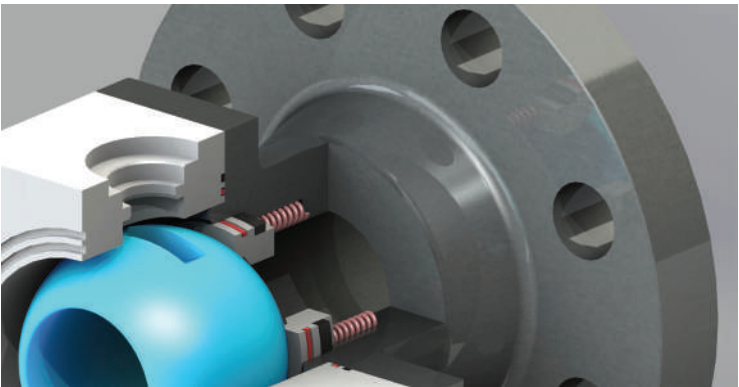
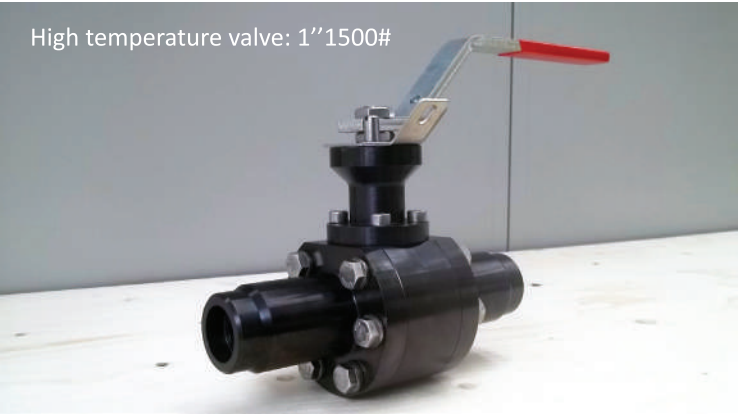
All valves can be supplied with a plate that permits to lock the wrench both in open or closed position.



TECHNICAL FEATURES

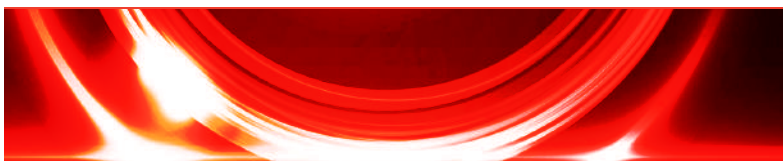
METAL SEAT:

Metal seats are designed for severe service, with high temperatures or abrasive service due to the presence of solid particle into the fluid. In this case seats and balls are specially hardened with Carbides of Chromium Tungsten or with Stellite. In case of high temperature service all the seals are replaced with Graphite rings.



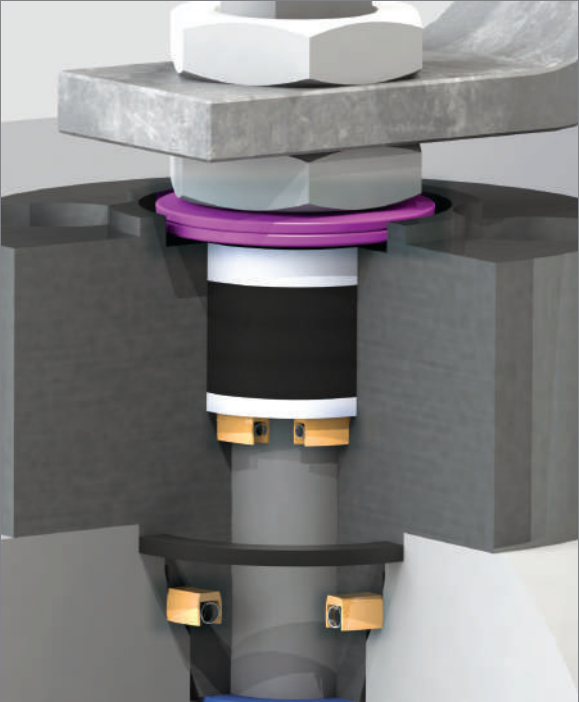
Detail of metal to metal seat

CRYOGENIC:

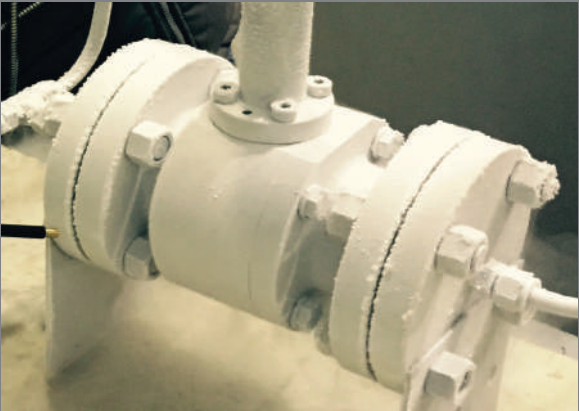


LIP-SEAL:

Valves where o-rings are not allowed can be provided with lip-seal sealing area on any static and dynamic.



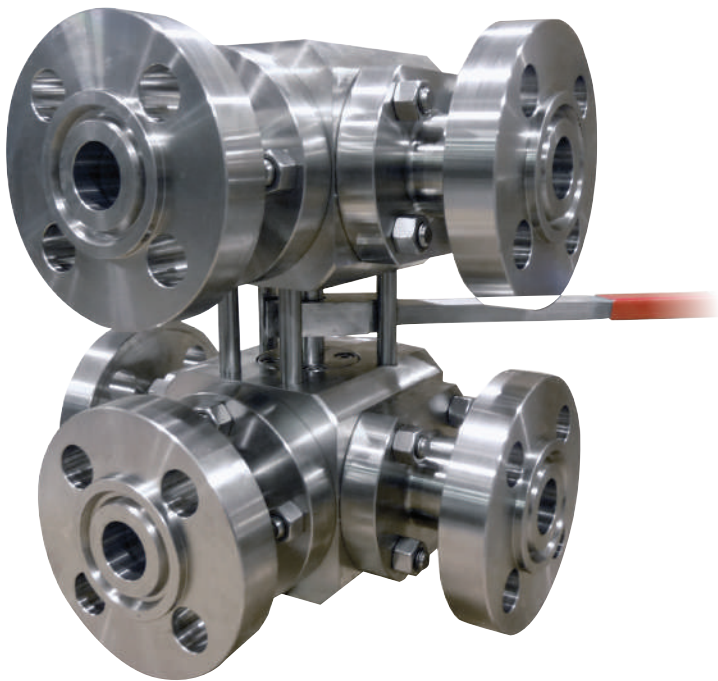
Stem sealing is designed to perform fugitive emission class B and with stand at very low temperature for service up to -196°C.



In fact ball valves manufactured by Energy Valves can be designed for use in Cryogenic service with working temperature up to -196°C. The design of the extended bonnet prevents the freezing of the stem seal packing and therefore allows the valve to operate with low torque. Energy Valves can test cryogenic valves in house at -196° with liquid nitrogen.

TECHNICAL FEATURES

THREE WAY DOUBLE BLOCK AND BLEED WITH THIRD WAY:



The 3-way ball valve provides greater flexibility in operation. It can function as a selector valve, accepting flow alternately from one of the two inlet sources and directing through a single outlet.

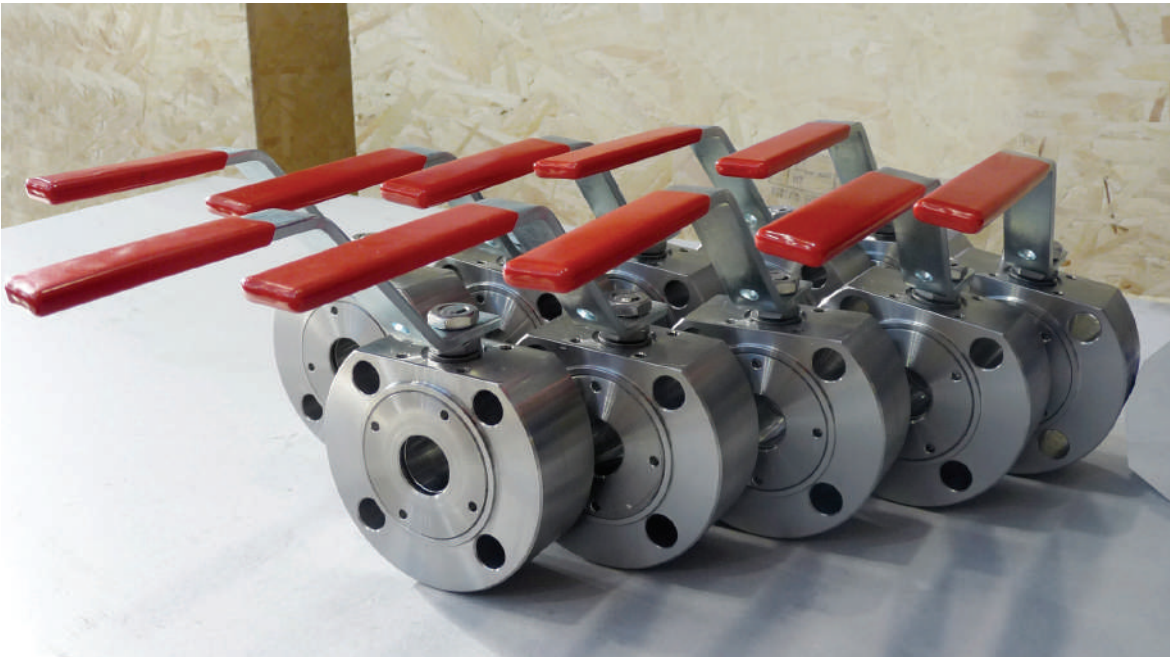
Or, it may be used to mix media, accepting flow from two inlet sources and directing it through a single outlet.

VPORT



Ball valves manufactured by Energy Valves can be designed with special V port ball, to respect the customer's specific requirements.

WAFER



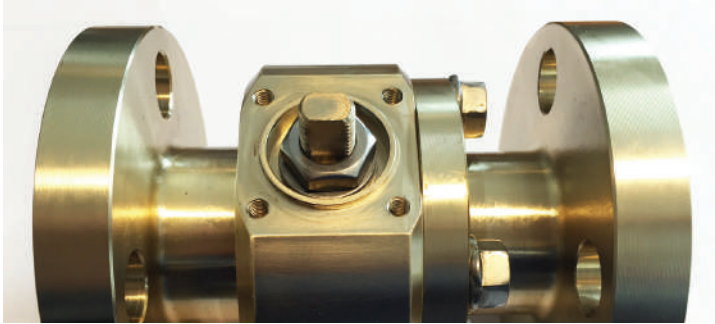
Wafer ball valves are designed for process systems where lightweight, compact envelope size and easy installation and repair are essential.



ACTUATED



The complete range of valves produced by Energy Valves can be supplied with any type of pneumatic, hydraulic, electric actuator; including control panels and accessories such as positive indicators, solenoid valves, emergency tanks, etc.. All valves are realized with iso top mounting for easy automation.



QUALITY AND CERTIFICATION:

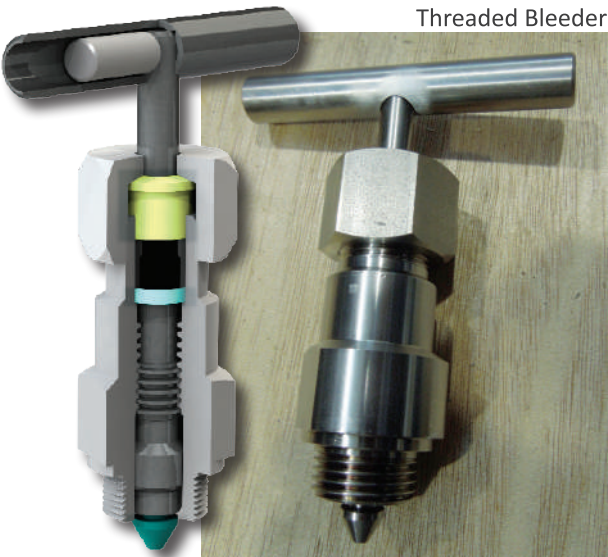
Energy Valves has been audited and approved by TUV Hessen to the Ped (pressure equipment directive), Atex directive 94/9 EC, API and EAC. Dimensional and functional controls are carried out on every valve. Pressure test is performed following internal procedure and API6D, API 598, BS.6755 and eventually every other technical specifications. Energy valves can execute in addition to standard hydraulic & pneumatic test. The following test in house:

- Cryogenic test
- Fugitive emission
- High pressure gas test
- Torque test



BLEEDER:

DBB and SBB valves can be supplied with different kind of bleeder valves: threaded or bolted. For small valves (under 2") the face to face dimension could change according to the bleeder used. The table of this catalogue considers the threaded ones.



Threaded Bleeder

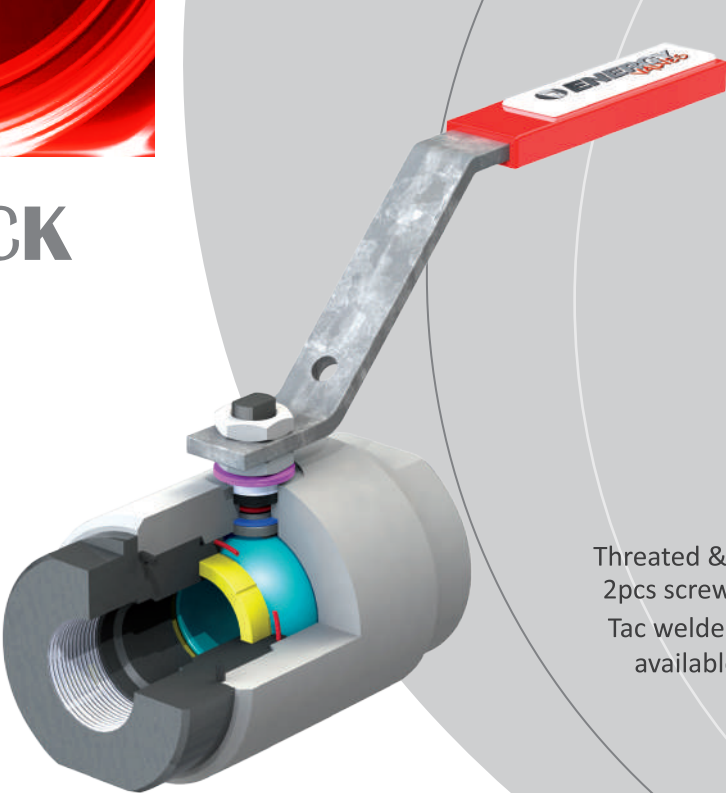
BLEEDER:



Inside Screw

Outside Screw and Yoke

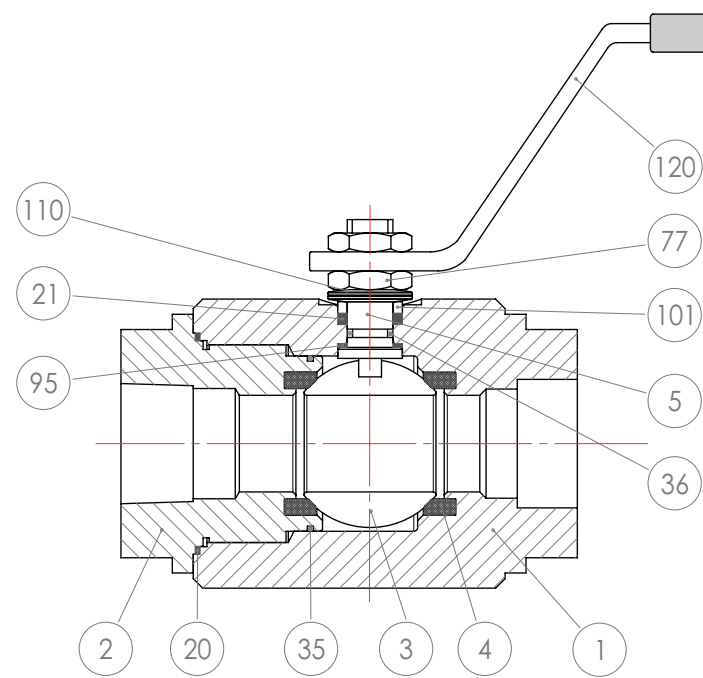
MONOBLOCK VALVES



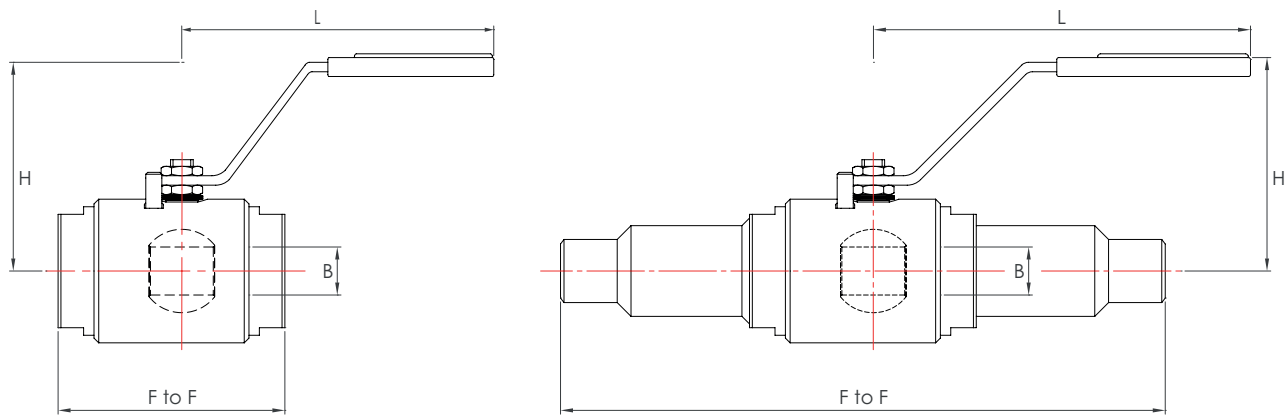
Threated & Welded Ends
2pcs screwed body
Tac welded or seal welded
available on request



DESCRIPTIONS & MATERIALS:



Pos.	Description	Pos.	Description
1	Body	35	Body O-Ring
2	Body connector	36	Stem O-Ring
3	Ball	77	Body nut
4	Seat	95	Thrust washer
5	Stem	101	Gland ring
20	Body gasket	110	Spring washer
21	Stem gasket	120	Lever
		122	Stop Pin



Size	Dimension			800 Short Ends		1500 Short Ends		1500 Integral Nipples	
Full	Bore	H	L	F to F	Weight	F to F	Weight	F to F	Weight
1/2"	15*	75	160	90	0,8	90	0,8	260	2,5
3/4"	19	105	200	105	1,5	105	1,5	283	4
1"	25	110	200	120	2	120	2	286	5
1.1/4"	30	120	200	130	3,3	130	3,3	300	7,8
1.1/2"	38	130	260	140	4,5	140	4,5	320	11,5
2"	49	138	260	150	6	150	6	330	14,7

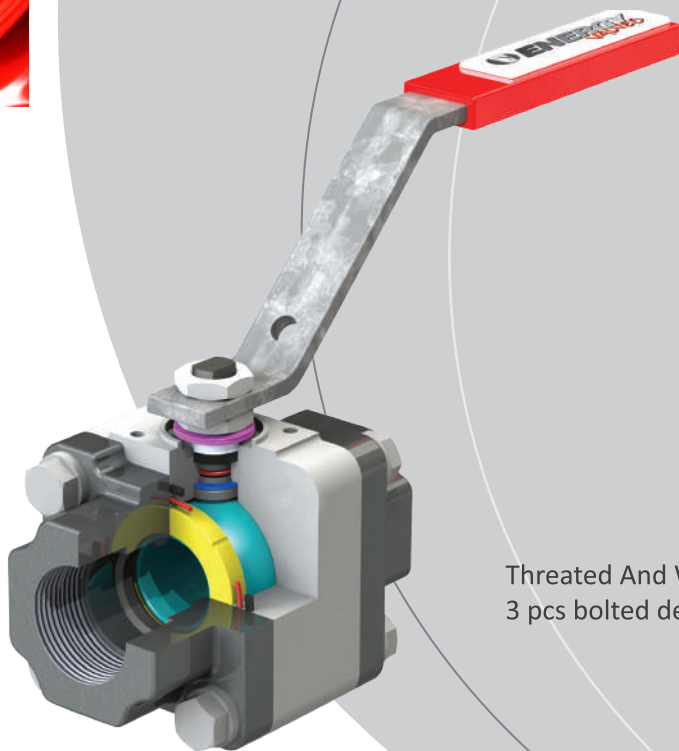
Size	Dimension			2500 Short Ends		2500 Integral Nipples	
Full	Bore	H	L	F to F	Weight	F to F	Weight
1/2"	15	75	160	105	1	275	3,5
3/4"	19	105	200	120	2	298	5
1"	25	110	200	135	2,8	301	6
1.1/4"	30	120	200	145	4	315	9
1.1/2"	38	130	260	155	5,5	335	15,5
2"	49	138	260	165	7	345	16

Size	Dimension			800 Short Ends		1500 Short Ends		1500 Integral Nipples	
Reduced	Bore	H	L	F to F	Weight	F to F	Weight	F to F	Weight
3/4"x1/2"	15*	75	160	105	0,8	105	0,8	283	4
1"x3/4"	19	105	200	120	1,5	120	1,5	286	5
1.1/4"x1"	25	110	200	130	2	130	2	300	7,8
1.1/2"x1.1/4"	30	120	200	140	3,3	140	3,3	320	11,5
2"x1.1/2"	38	130	260	150	4,5	150	4,5	330	14,7

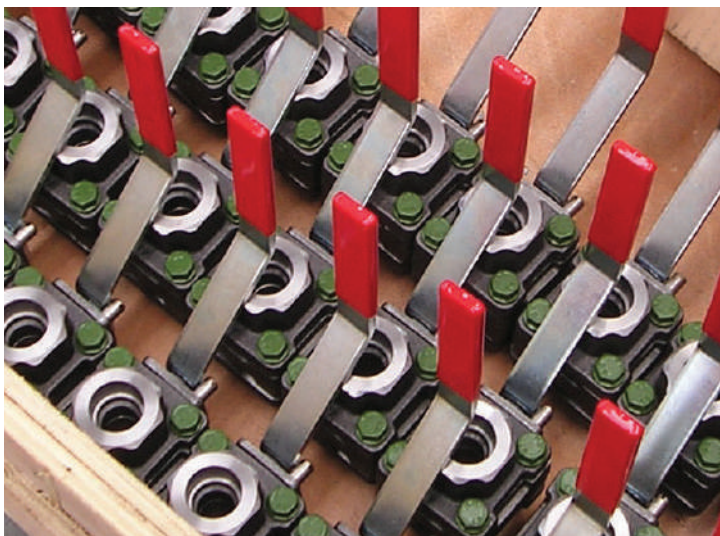
Size	Dimension			2500 Short Ends		2500 Integral Nipples	
Reduced	Bore	H	L	F to F	Weight	F to F	Weight
3/4"x1/2"	15	75	160	120	2	298	5
1"x3/4"	19	105	200	135	2,8	301	6
1.1/4"x1"	25	110	200	145	4	315	9
1.1/2"x1.1/4"	30	120	200	155	5,5	335	15,5
2"x1.1/2"	38	130	260	165	7	345	16

* Class 800: Bore = 13

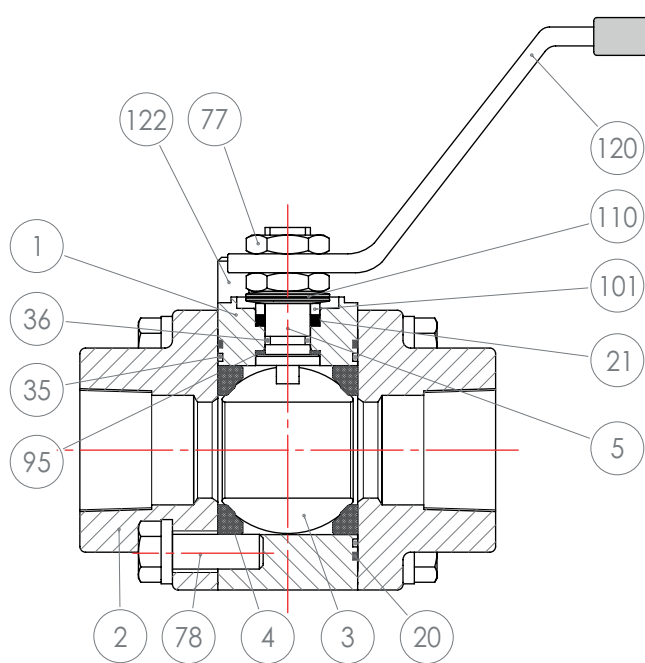
FORGED VALVES



Threated And Welded Ends
3 pcs bolted design

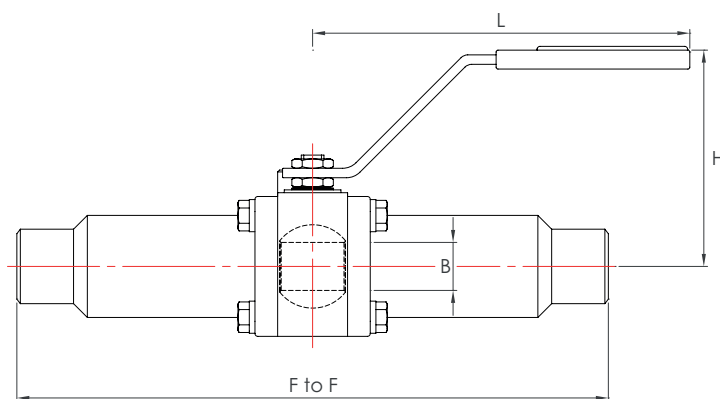
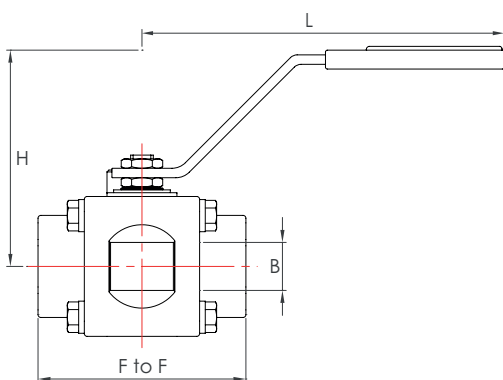


DESCRIPTIONS & MATERIALS:



Pos.	Description
1	Body
2	Body connector
3	Ball
4	Seat
5	Stem
20	Body gasket
21	Stem gasket
35	Body O-Ring

Pos.	Description
36	Stem O-Ring
77	Body nut
78	Body screw
95	Thrust washer
101	Gland ring
110	Spring washer
120	Lever
122	Stop pin



Size	Dimension				800 Short Ends		1500 Short Ends		1500 Integral Nipples	
Full	Bore	H	L	ISO5211	F to F	Weight	F to F	Weight	F to F	Weight
1/2"	13*	76	160	F03	80	1,6	100	2	260	2,5
3/4"	19	108	200	F04	100	2,8	115	3,2	283	4
1"	25	108	200	F04	110	3,3	140	4	286	5
1.1/2"	38	130	260	F05	140	6,7	170	7,3	320	7,8
2"	49	140	260	F05	150	9,2	200	10	330	11,5

Size	Dimension				2500 Short Ends		2500 Integral Nipples	
Full	Bore	H	L	ISO5211	F to F	Weight	F to F	Weight
1/2"	13 *	76	160	F03	100	3	216	3,5
3/4"	19	108	200	F04	125	4	229	5
1"	25	108	200	F04	140	5	254	6

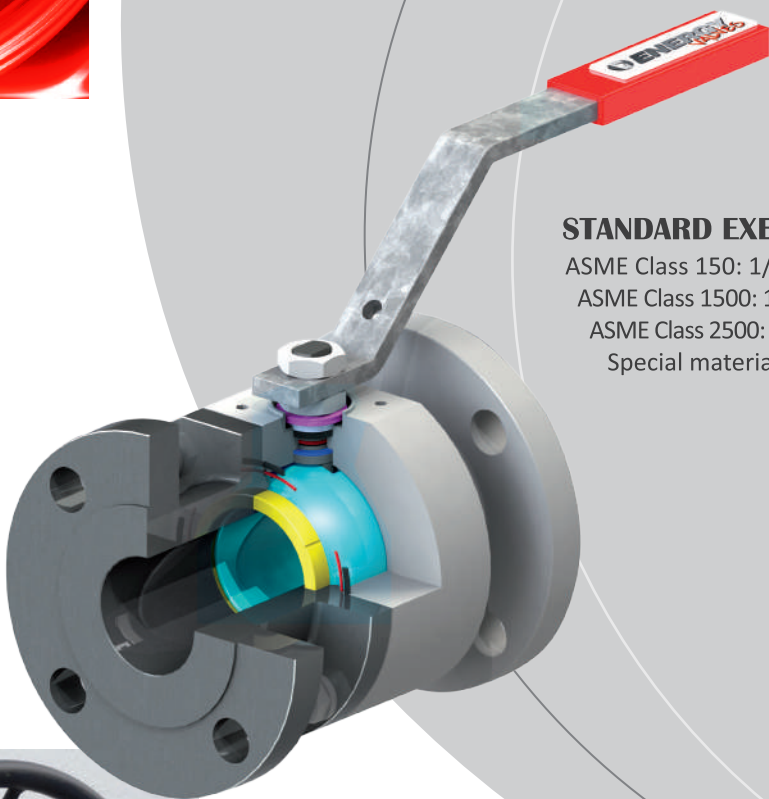
Size	Dimension				800 Short Ends		1500 Short Ends		1500 Integral Nipples	
Reduced	Bore	H	L	ISO5211	F to F	Weight	F to F	Weight	F to F	Weight
3/4"x1/2"	13 *	76	160	F03	100	2,8	115	3,2	283	4
1"x3/4"	19	108	200	F04	110	3,3	140	4	286	5
1.1/2"x1"	25	108	200	F04	140	6,7	170	7,3	320	7,8
2"x1.1/2"	38	130	260	F05	150	9,2	200	10	330	11,5

Size	Dimension				2500 Short Ends		2500 Integral Nipples	
Reduced	Bore	H	L	ISO5211	F to F	Weight	F to F	Weight
3/4"x1/2"	13 *	76	160	F03	125	4	229	5
1"x3/4"	19	108	200	F04	140	5	254	6

* Class 900/1500 Bore: 15

STANDARD FLANGED VALVES

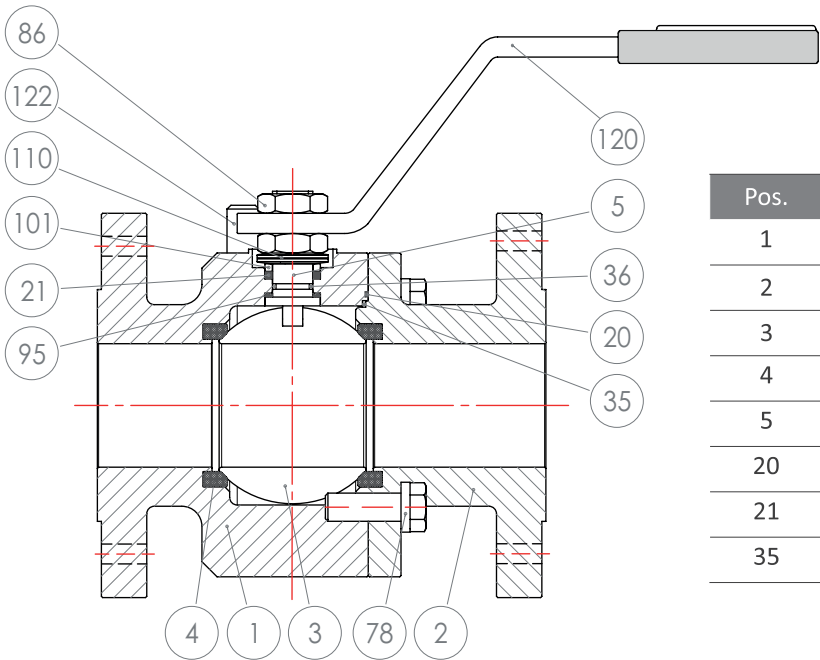
Floating 2 pieces
Bolted Body



STANDARD EXECUTIONS:
ASME Class 150: 1/2" - 4" full bore
ASME Class 1500: 1/2" - 2" full bore
ASME Class 2500: 1/2" - 2" full bore
Special materials



DESCRIPTIONS & MATERIALS:

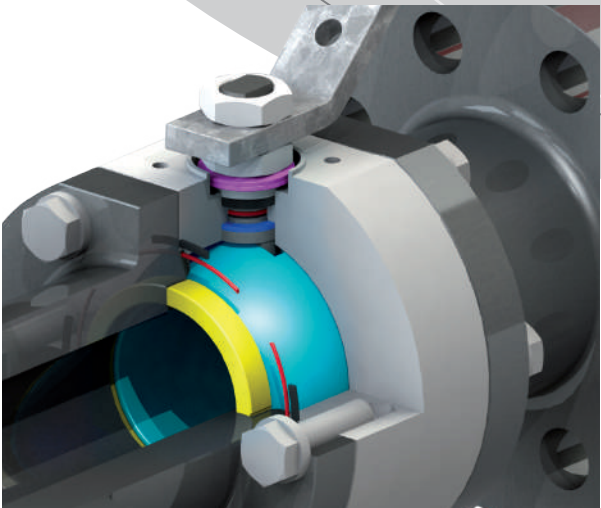
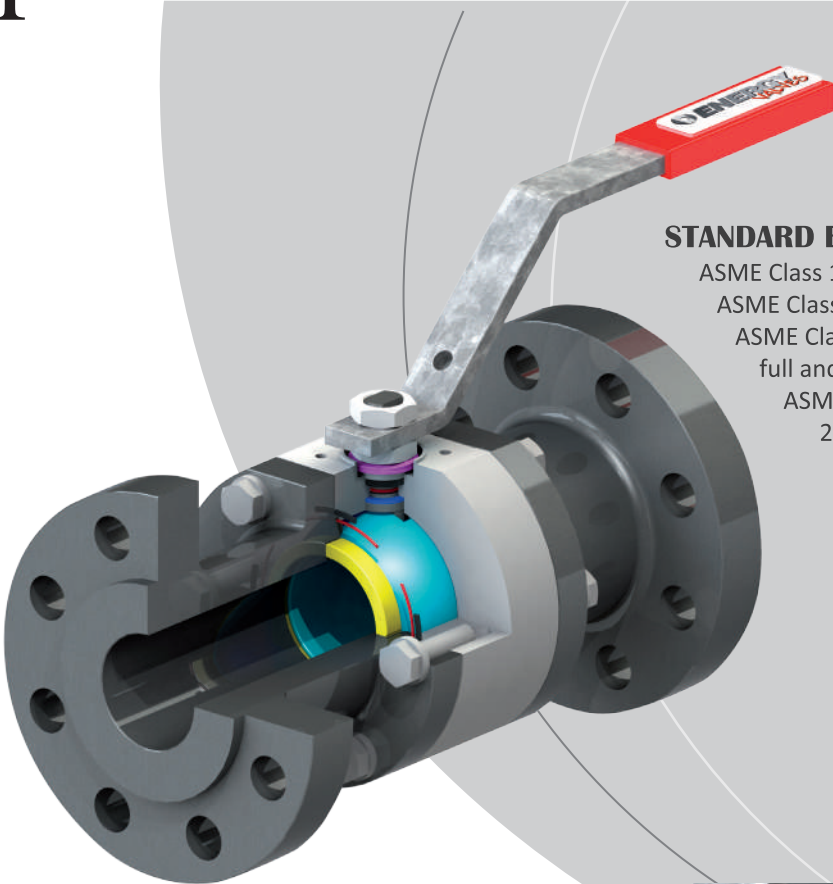


Pos.	Description	Pos.	Description
1	Body	36	Stem O-Ring
2	Body connector	78	Body screw
3	Ball	86	Lever nut
4	Seat	95	Thrust washer
5	Stem	101	Gland Ring
20	Body gasket	110	Spring washer
21	Stem gasket	120	Lever
35	Body O-Ring	122	Stop pin

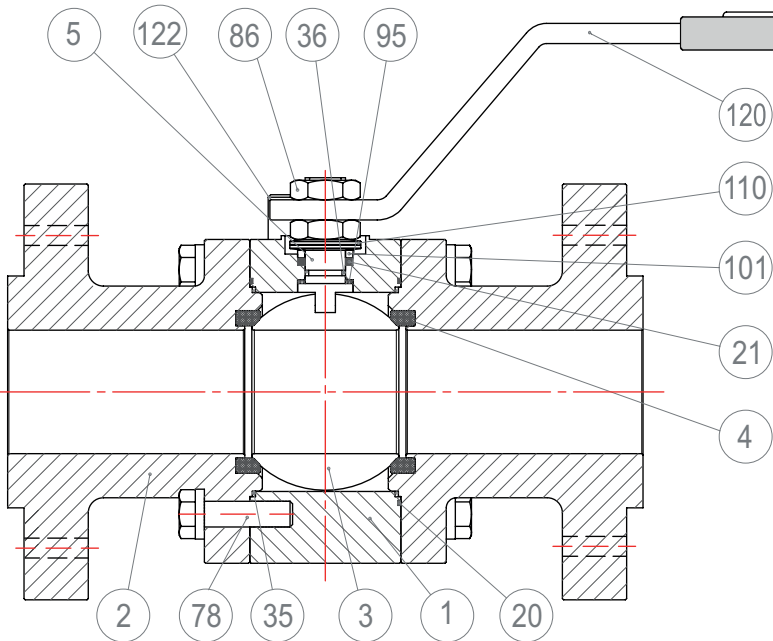
STANDARD FLANGED VALVES

Floating 3 pieces
Bolted Body

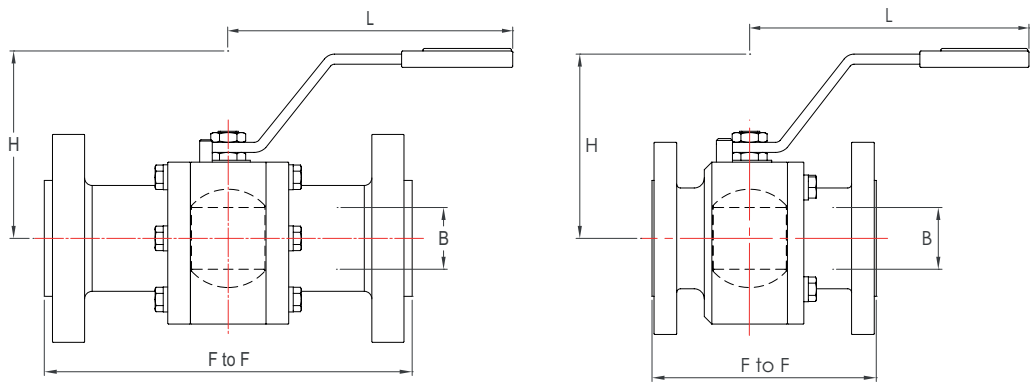
STANDARD EXECUTIONS:
ASME Class 150: 6" full bore
ASME Class 150 reduced bore
ASME Class 300 - 600
full and reduced bore
ASME Class 1500 -
2500 reduced bore



DESCRIPTIONS & MATERIALS:



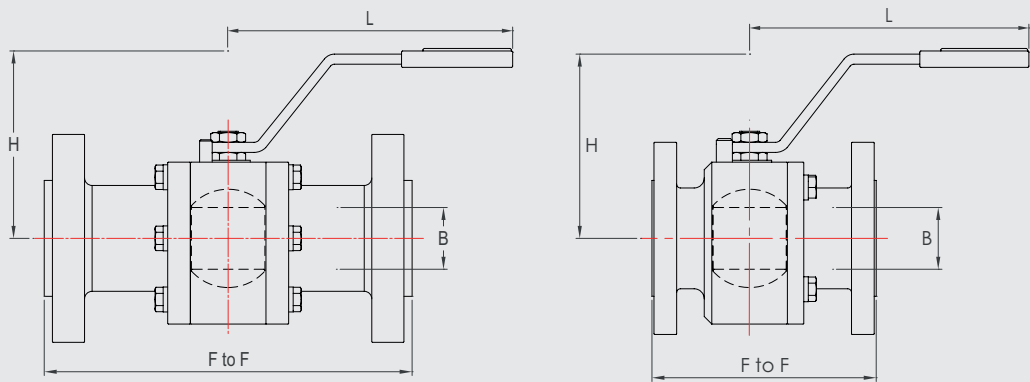
Pos.	Description	Pos.	Description
1	Body	36	Stem o-ring
2	Body connector	78	Body screw
3	Ball	86	Lever nut
4	Seat	95	Thrust washer
5	Stem	101	Gland Ring
20	Body gasket	110	Spring washer
21	Stem gasket	120	Lever
35	Body o-ring	122	Stop pin



Size	Dimension			150				300			
Full	Bore	H	L	RF	RTJ	Weight	ISO 5211	RF	RTJ	Weight	ISO 5211
1/2"	13	76	160	108	-	2	F03	140	151	3,5	F03
3/4"	19	108	200	117	-	3,2	F04	152	165	5	F04
1"	25	108	200	127	140	4,6	F04	165	178	7	F04
1.1/2"	38	130	260	165	178	8	F05	190	203	13	F05
2"	49	140	260	178	191	11	F05	216	232	19	F05
3"	78	180	380	203	216	21	F07	282	298	38	F07
4"	100	180	480	229	242	52	F07	305	321	68	F10
6"	150	gear box		394	407	82	F12	403	419	97	F12
8"	203	gear box		457	470	115	F16	only trunnion			

Size	Dimension			600			
Full	Bore	H	L	RF	RTJ	Weight	ISO 5211
1/2"	13	76	160	165	163	4,5	F03
3/4"	19	108	200	190	190	6	F04
1"	25	108	200	216	216	8	F04
1.1/2"	38	130	260	241	241	16	F05
2"	49	140	260	292	295	22	F05
3"	78	180	480	356	359	45	F07
4"	100	gear box		432	435	66	F14

Size	Dimension			1500				Dimension			2500			
Full	Bore	H	L	RF	RTJ	Weight	ISO 5211	Bore	H	L	RF	RTJ	Weight	ISO 5211
1/2"	15	110	200	216	216	7	F04	15	110	200	264	264	8	F04
3/4"	19	110	200	229	229	9	F04	15	110	200	273	273	10	F04
1"	25	125	260	254	254	18	F05	21	125	260	308	308	20	F05
1.1/2"	38	140	330	305	305	27	F07	only trunnion						
2"	49	160	380	368	371	36	F07	only trunnion						



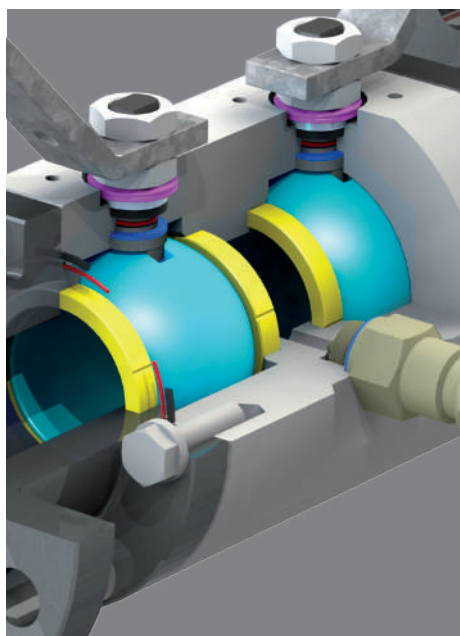
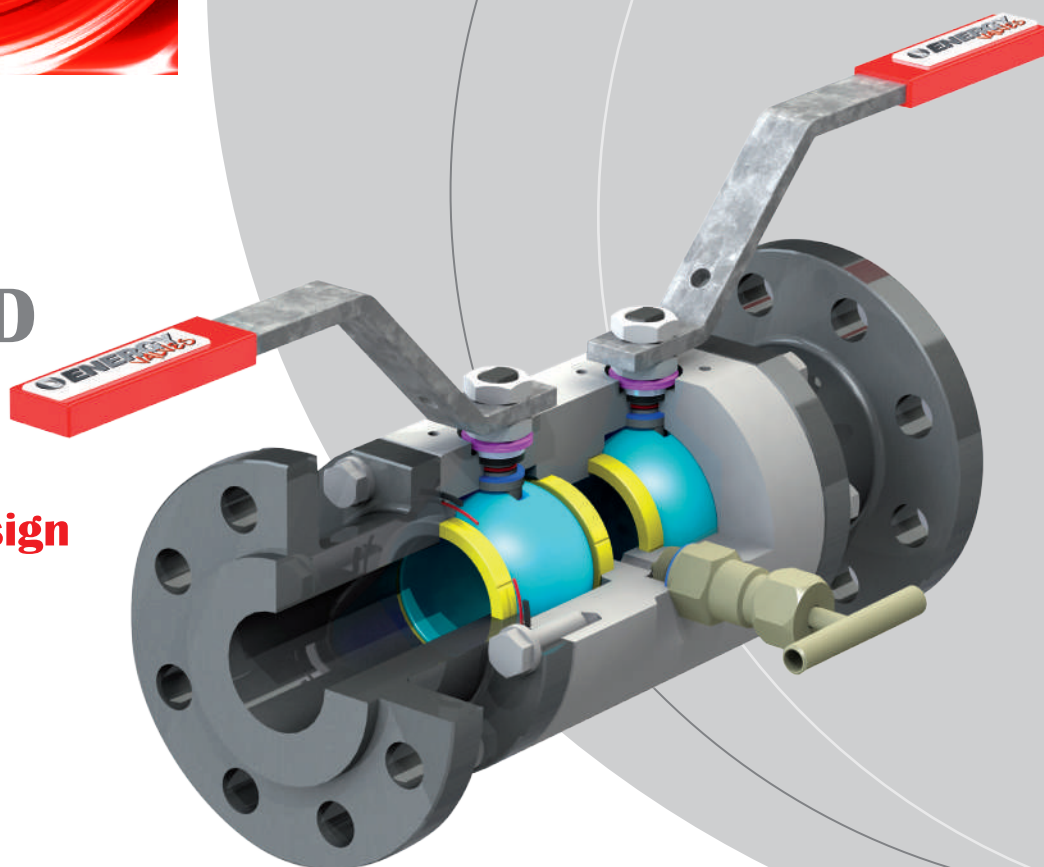
Size		Dimension						150				300			
Reduced	Bore	H	L	RF	RTJ	Weight	ISO 5211	RF	RTJ	Weight	ISO 5211	RF	RTJ	Weight	ISO 5211
3/4"x1/2"	13	76	160	117	-	3,2	F03	152	165	4	F03	152	165	4	F03
1"x3/4"	19	108	200	127	140	4,6	F04	165	178	6	F04	165	178	6	F04
1.1/2"x1"	25	108	200	165	178	8	F04	190	203	12	F04	190	203	12	F04
2"x1.1/2"	38	130	260	178	191	11	F05	216	232	15	F05	216	232	15	F05
3"x2"	49	140	260	203	216	21	F05	282	298	27	F05	282	298	27	F05
4"x3"	78	180	380	229	242	52	F07	305	321	41	F07	305	321	41	F07
6"x4"	100	180	480	394	407	64	F07	403	419	85	F10	403	419	85	F10
8"x6"	150	gear box		457	470	98	F12	502	518	140	F12	502	518	140	F12
10"x8"	203	gear box		533	546	135	F16	only trunnion							

Size		Dimension						600			
Reduced	Bore	H	L	RF	RTJ	Weight	ISO 5211	RF	RTJ	Weight	ISO 5211
3/4"x1/2"	13	76	160	190	190	6	F03	190	190	6	F03
1"x3/4"	19	108	200	216	216	8	F04	216	216	8	F04
1.1/2"x1"	25	108	200	241	241	16	F04	241	241	16	F04
2"x1.1/2"	38	130	260	292	295	22	F05	292	295	22	F05
3"x2"	49	140	260	356	359	45	F05	356	359	45	F05
4"x3"	78	180	480	432	435	66	F07	432	435	66	F07
6"x4"	100	gear box		560	563	114	F14	560	563	114	F14

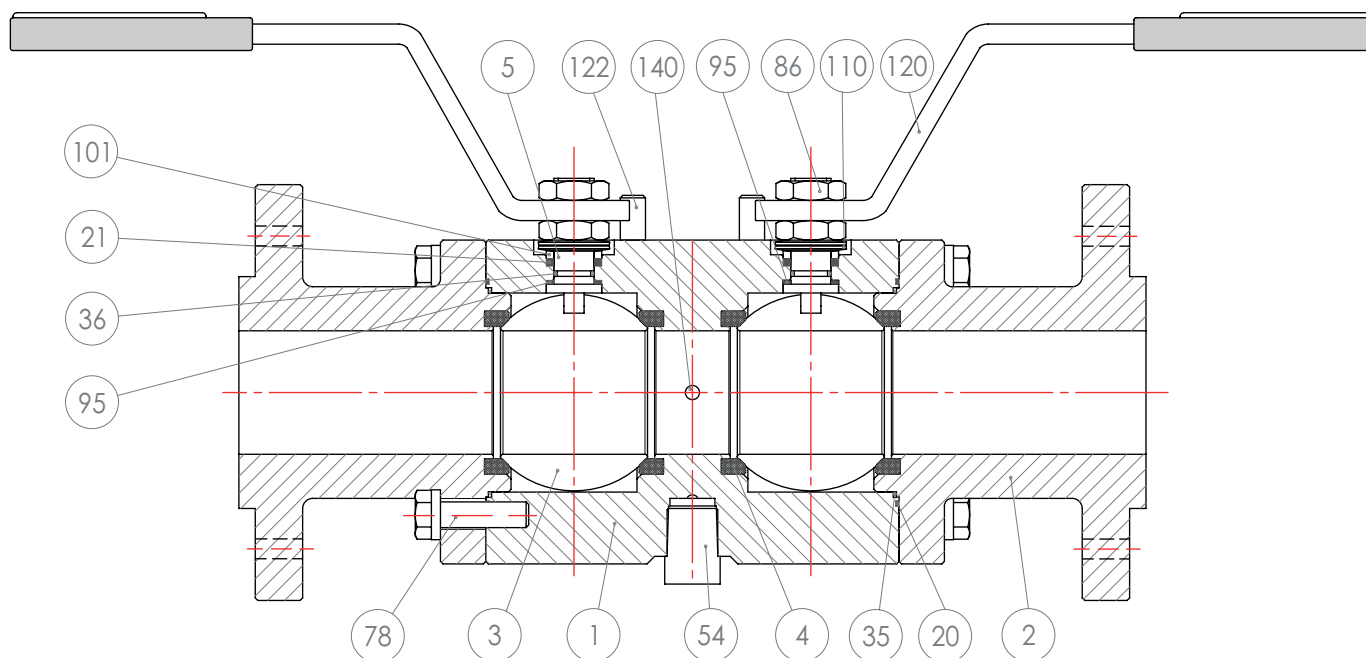
Size		Dimension						1500						Dimension		2500						
Reduced	Bore	H	L	RF	RTJ	Weight	ISO 5211	Bore	H	L	RF	RTJ	Weight	ISO 5211	Bore	H	L	RF	RTJ	Weight	ISO 5211	
3/4"x1/2"	15	110	200	229	229	9	F04	15	110	200	273	273	14	F04								
1"x3/4"	19	110	200	254	254	17	F04	15	110	200	308	308	19	F04								
1.1/2"x1"	25	125	260	305	305	26	F05	21	125	260	384	384	27	F05								
2"x1.1/2"	38	140	330	368	371	35	F07	only trunnion														
3"x2"	49	160	380	470	473	46	F07	only trunnion														

DOUBLE BLOCK AND BLEED VALVES

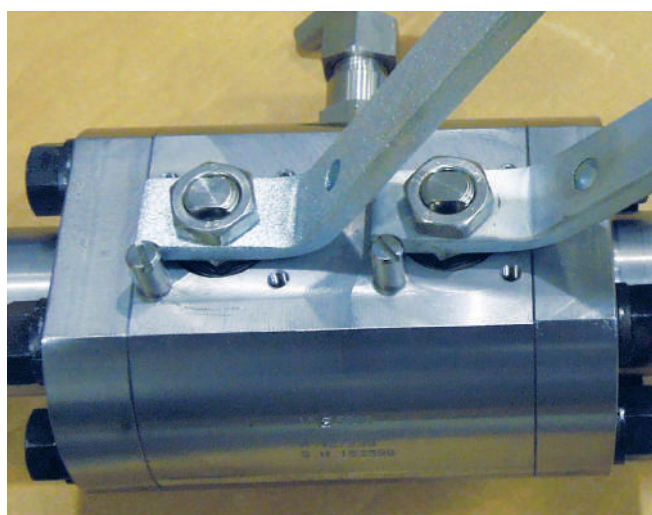
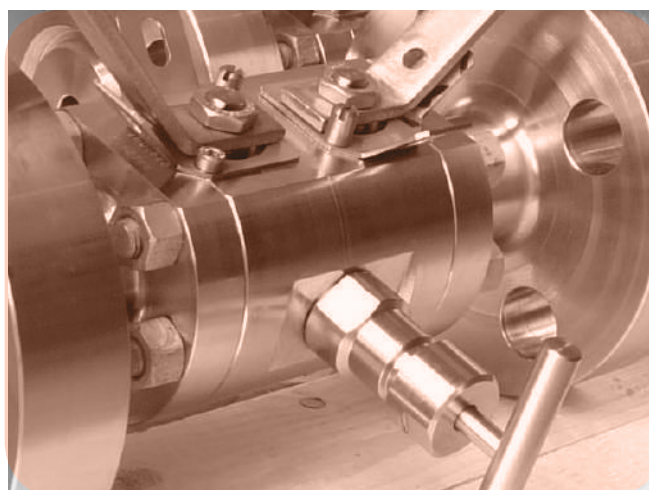
3 pcs bolted Design



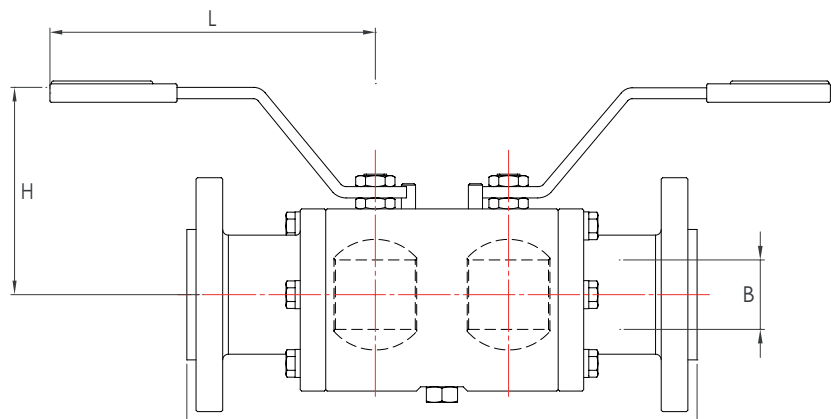
DESCRIPTIONS & MATERIALS:



Pos.	Description
1	Body
2	Body connector
3	Ball
4	Seat
5	Stem
20	Body gasket
21	Stem gasket
35	Body O-Ring
36	Stem O-Ring
54	Vent
78	Body screw
86	Lever nut
95	Thrust washer
101	Gland Ring
110	Spring washer
120	Lever
122	Stop pin
140	Bleeder



DOUBLE BLOCK AND BLEED VALVES

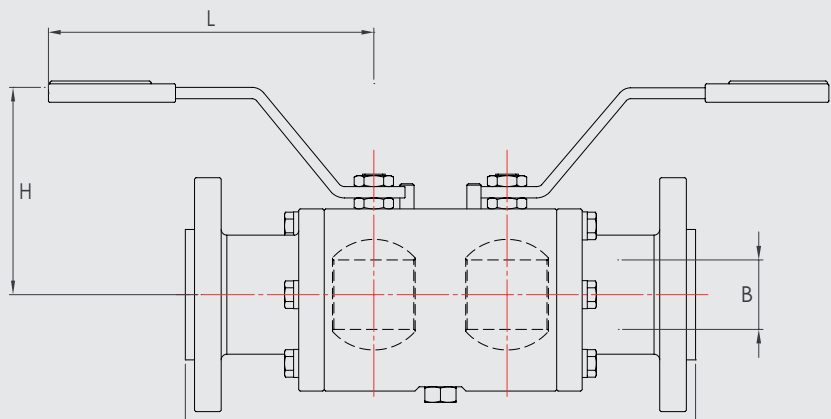


Size		Dimension		150				300			
Full	Bore	H	L	RF	RTJ	Weight	ISO 5211	RF	RTJ	Weight	ISO 5211
1/2"	13	76	160	180	190	3	F03	199	209	5	F03
3/4"	19	108	200	220	239	4,8	F04	220	239	8	F04
1"	25	108	200	226	236	7	F04	226	236	11	F04
1.1/2"	38	130	260	287	285	12	F05	287	285	20	F05
2"	49	140	260	310	320	17	F05	310	320	29	F05
3"	78	180	380	423	433	32	F07	423	433	57	F07
4"	100	180	480	536	546	78	F07	536	546	102	F10

Size		Dimension		600			
Full	Bore	H	L	RF	RTJ	Weight	ISO 5211
1/2"	13	76	160	224	224	7	F03
3/4"	19	108	200	259	259	9	F04
1"	25	108	200	277	277	12	F04
1.1/2"	38	130	260	337	337	24	F05
2"	49	140	260	386	386	33	F05
3"	78	180	480	490	424	68	F07
4"	100	gear box		635	635	100	F14

Size		Dimension		900/1500			
Full	Bore	H	L	RF	RTJ	Weight	ISO 5211
1/2"	15	110	200	268	268	9	F04
3/4"	19	110	200	281	281	13	F04
1"	25	125	260	320	320	21	F05
1.1/2"	38	140	330	394	394	30	F07
2"	49	160	380	487	490	42	F07

Size		Dimension		2500			
Full	Bore	H	L	RF	RTJ	Weight	ISO 5211
1/2"	15	110	200	326	326	15	F04
3/4"	15	110	200	335	335	22	F04
1"	21	125	260	376	376	35	F05



Size		Dimension				150				300			
Reduced	Bore	H	L	RF	RTJ	Weight	ISO 5211	RF	RTJ	Weight	ISO 5211		
3/4"x1/2"	13	76	160	181	191	4	F03	211	222	8	F03		
1"x3/4"	19	108	200	192	202	6,5	F04	233	243	11	F04		
1.1/2"x1"	25	108	200	226	236	11	F04	275	285	20	F04		
2"x1.1/2"	38	130	260	275	285	15,5	F05	313	323	29	F05		
3"x2"	49	140	260	299	309	30	F05	379	389	57	F05		
4"x3"	78	180	380	369	379	75	F07	445	455	102	F07		
6"x4"	100	180	480	572	582	119	F07	582	592	150	F10		

Size		Dimension				600			
Reduced	Bore	H	L	RF	RTJ	Weight	ISO 5211		
3/4"x1/2"	13	76	160	250	250	8	F03		
1"x3/4"	19	108	200	284	284	11	F04		
1.1/2"x1"	25	108	200	325	325	22	F04		
2"x1.1/2"	38	130	260	389	389	30	F05		
3"x2"	49	140	260	442	445	65	F05		
4"x3"	78	180	480	566	569	96	F07		

Size		Dimension				900/1500			
Reduced	Bore	H	L	RF	RTJ	Weight	ISO 5211		
3/4"x1/2"	15	110	200	281	281	12	F04		
1"x3/4"	19	110	200	320	320	19	F04		
1.1/2"x1"	25	125	260	394	394	27	F05		
2"x1.1/2"	38	140	330	487	490	40	F07		
3"x2"	49	160	380	551	554	63	F07		

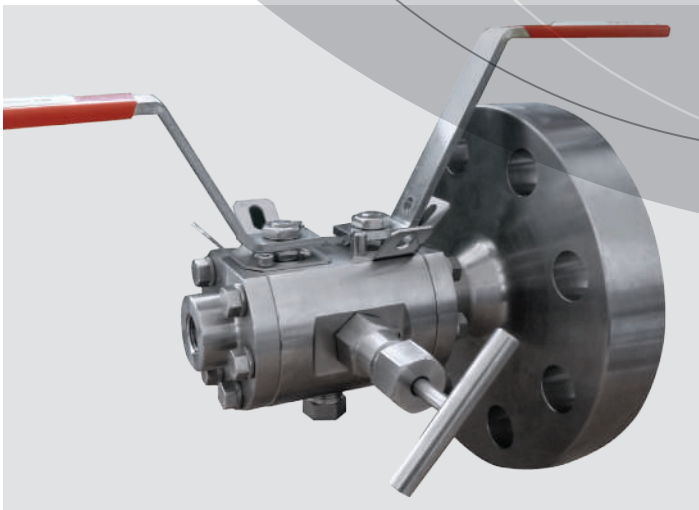
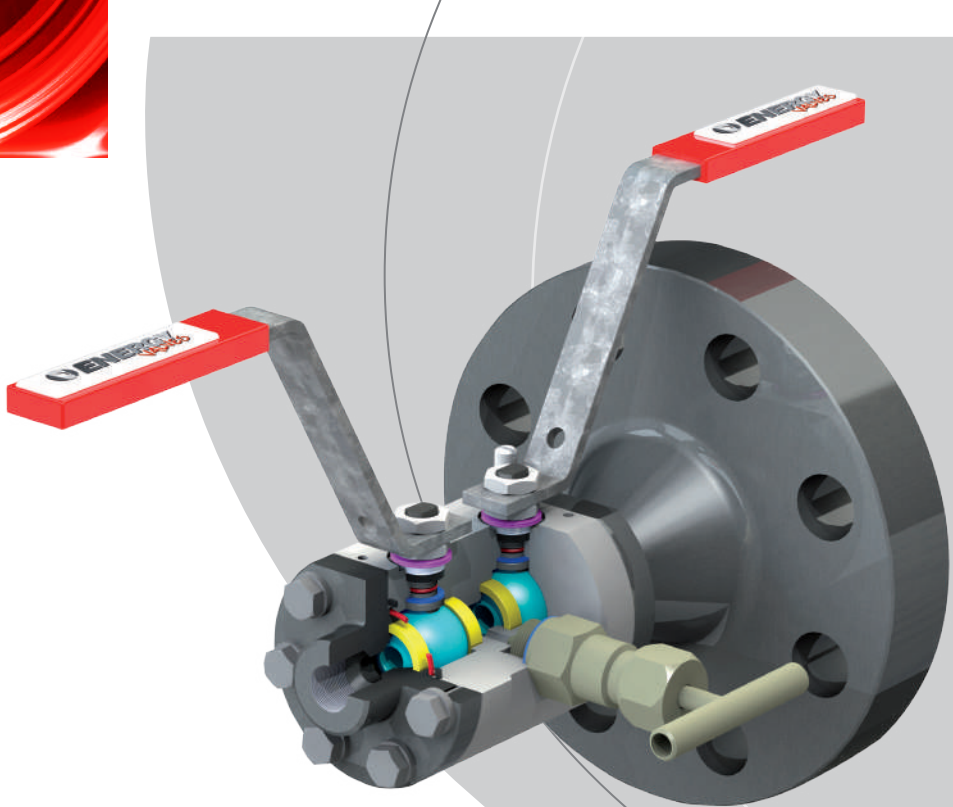
Size		Dimension				2500			
Reduced	Bore	H	L	RF	RTJ	Weight	ISO 5211		
3/4"x1/2"	15	110	200	335	335	19	F04		
1"x3/4"	16	110	200	376	376	32	F04		
1.1/2"x1"	21	125	260	452	452	49	F05		

Dimensions are designed with threaded bleeder.
 Dimensions are not bending, Energy Valves reserves the right to modify them without any notice.

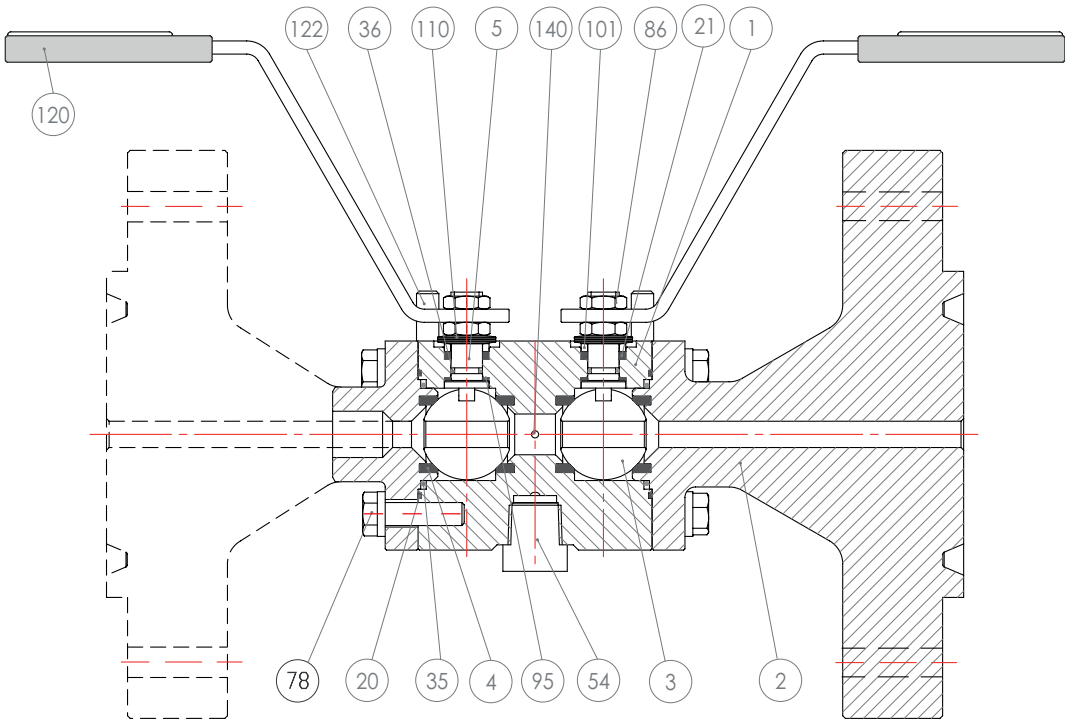


DOUBLE BLOCK AND BLEED VALVES

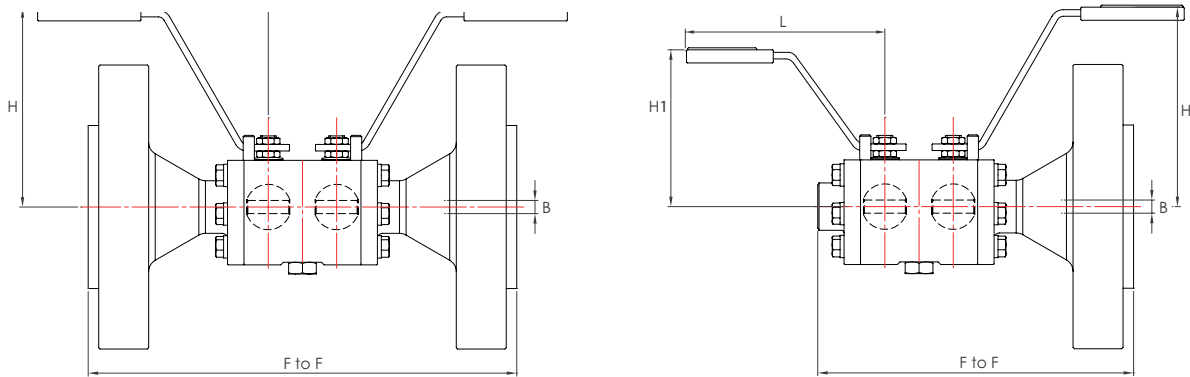
3 pcs bolted Design
100 mm bore



DESCRIPTIONS & MATERIALS:



Pos.	Description
1	Body
2	Body connector
3	Ball
4	Seat
5	Stem
20	Body gasket
21	Stem gasket
35	Body O-Ring
36	Stem O-Ring
54	Vent
78	Body screw
86	Lever nut
95	Thrust washer
101	Gland Ring
110	Spring washer
120	Lever
122	Stop pin
140	Bleeder



Size	Dimension				150								
REDUCED	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	180	-	3	153	-	2,5	139	2,8	F03
3/4"x1/2"	10	76	76	160	180	-	4	160	-	3,5	-	-	F03
1"x1/2"	10	76	76	160	188	201	6	165	172	5	-	-	F03
1.1/2"x1/2"	10	76	110	160	205	218	11	172	179	9	-	-	F03
2"x1/2"	10	76	110	160	220	233	14	190	187	10	-	-	F03

Size	Dimension				300								
REDUCED	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	210	221	4,4	174	180	3,5	139	3	F03
3/4"x1/2"	10	76	76	160	210	223	7,5	174	181	4,6	-	-	F03
1"x1/2"	10	76	110	160	210	223	10	174	181	7	-	-	F03
1.1/2"x1/2"	10	76	110	160	220	233	16	179	186	12	-	-	F03
2"x1/2"	10	76	110	160	241	257	25	190	198	20	-	-	F03

Size	Dimension				600								
REDUCED	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	210	208	6	175	174	5	139	3	F03
3/4"x1/2"	10	76	76	160	250	250	8	194	194	6	-	-	F03
1"x1/2"	10	76	110	160	259	259	10	199	199	8	-	-	F03
1.1/2"x1/2"	10	76	110	160	270	270	20	205	205	16	-	-	F03
2"x1/2"	10	76	110	160	270	274	28	195	197	22	-	-	F03

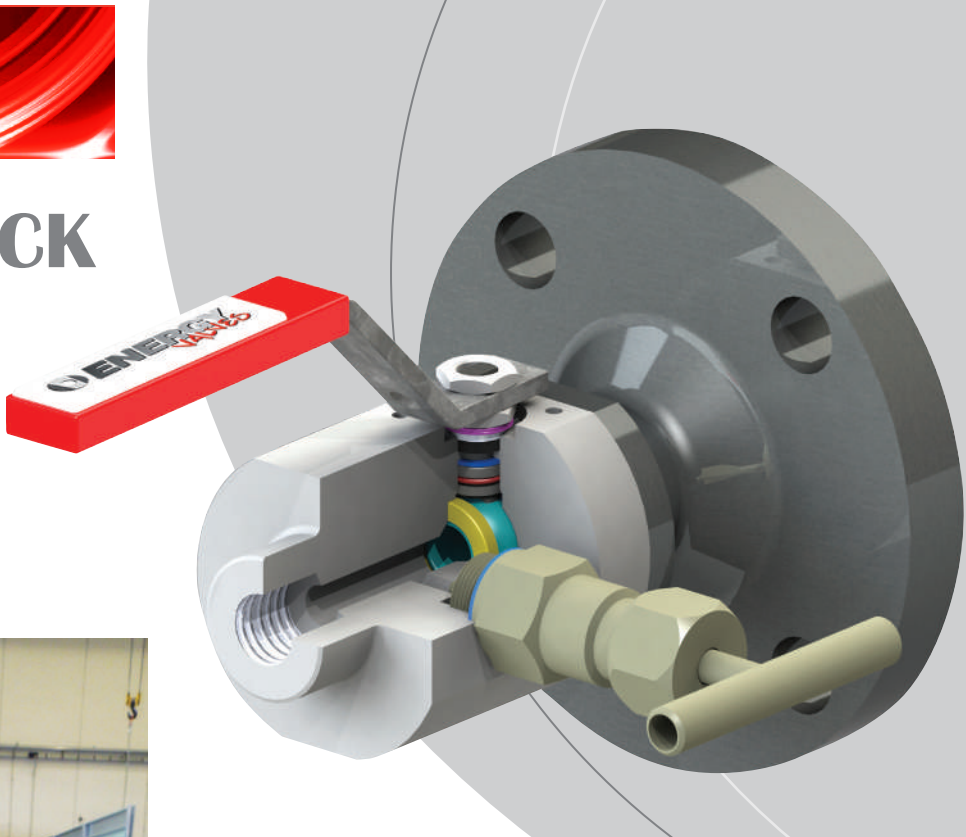
Size	Dimension				900/1500								
REDUCED	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	110	110	200	268	268	7	210	210	4,5	152	4,2	F04
3/4"x1/2"	10	110	110	200	281	281	10	217	217	7	-	-	F04
1"x1/2"	10	110	110	200	299	299	18	225	225	14	-	-	F04
1.1/2"x1/2"	10	110	150	200	319	319	25	235	235	20	-	-	F04
2"x1/2"	10	110	150	200	323	326	37	238	240	31	-	-	F04

Size	Dimension				2500								
REDUCED	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	110	110	200	326	326	15	250	250	12	175	5	F04
3/4"x1/2"	10	110	110	200	326	326	20	250	250	16	-	-	F04
1"x1/2"	10	110	110	200	335	335	32	255	255	25	-	-	F04
1.1/2"x1/2"	10	110	150	200	362	365	41	268	270	34	-	-	F04
2"x1/2"	10	110	150	200	362	365	52	268	270	40	-	-	F04

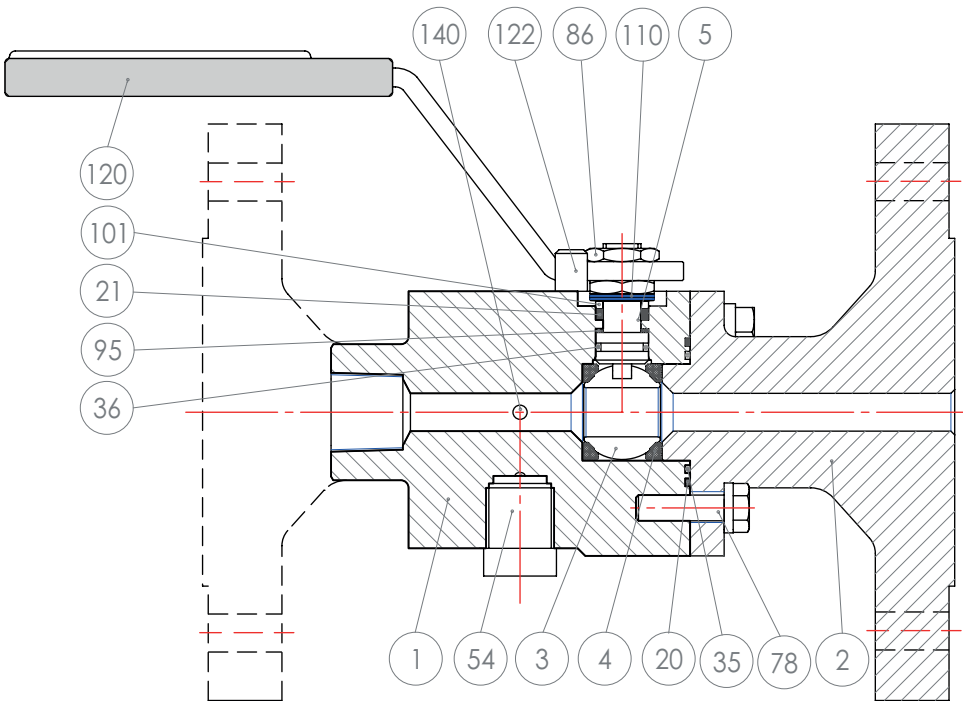


SINGLE BLOCK AND BLEED VALVES

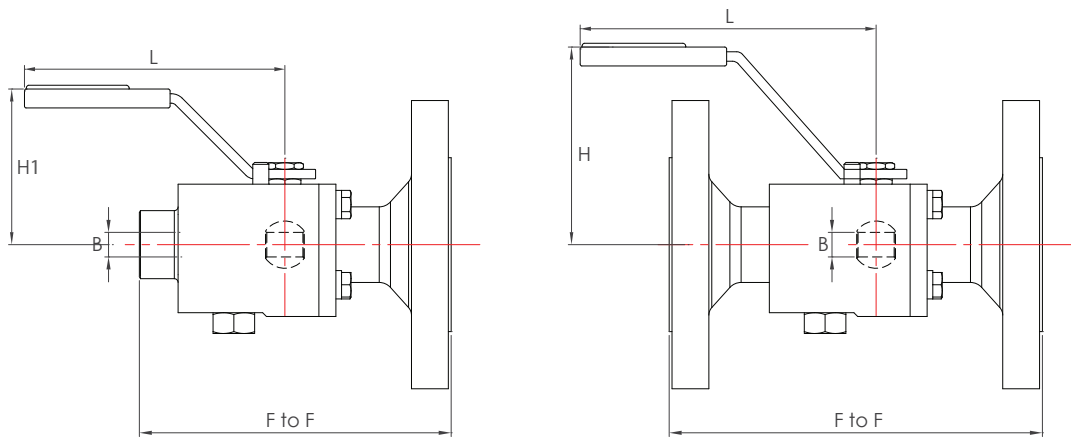
2 pcs bolted design
10 mm bore



DESCRIPTIONS & MATERIALS:



Pos.	Description
1	Body
2	Body connector
3	Ball
4	Seat
5	Stem
20	Body gasket
21	Stem gasket
35	Body O-Ring
36	Stem O-Ring
54	Vent
78	Body screw
86	Lever nut
95	Thrust washer
101	Gland Ring
110	Spring washer
120	Lever
122	Stop pin
140	Bleeder



Size	Dimension				150								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	155	-	2,6	128	-	2	114	2,4	F03
3/4"x1/2"	10	76	76	160	155	-	3,6	135	-	3	-	-	F03
1"x1/2"	10	76	76	160	158	176	5,5	140	147	4,5	-	-	F03
1.1/2"x1/2"	10	76	110	160	180	193	10	147	154	8	-	-	F03
2"x1/2"	10	76	110	160	195	208	13	155	162	9	-	-	F03

Size	Dimension				300								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	185	196	4	149	155	3	114	2,6	F03
3/4"x1/2"	10	76	76	160	185	198	7	149	156	4	-	-	F03
1"x1/2"	10	76	110	160	185	198	9	149	156	6	-	-	F03
1.1/2"x1/2"	10	76	110	160	195	208	15	154	161	11	-	-	F03
2"x1/2"	10	76	110	160	216	232	24	165	173	19	-	-	F03

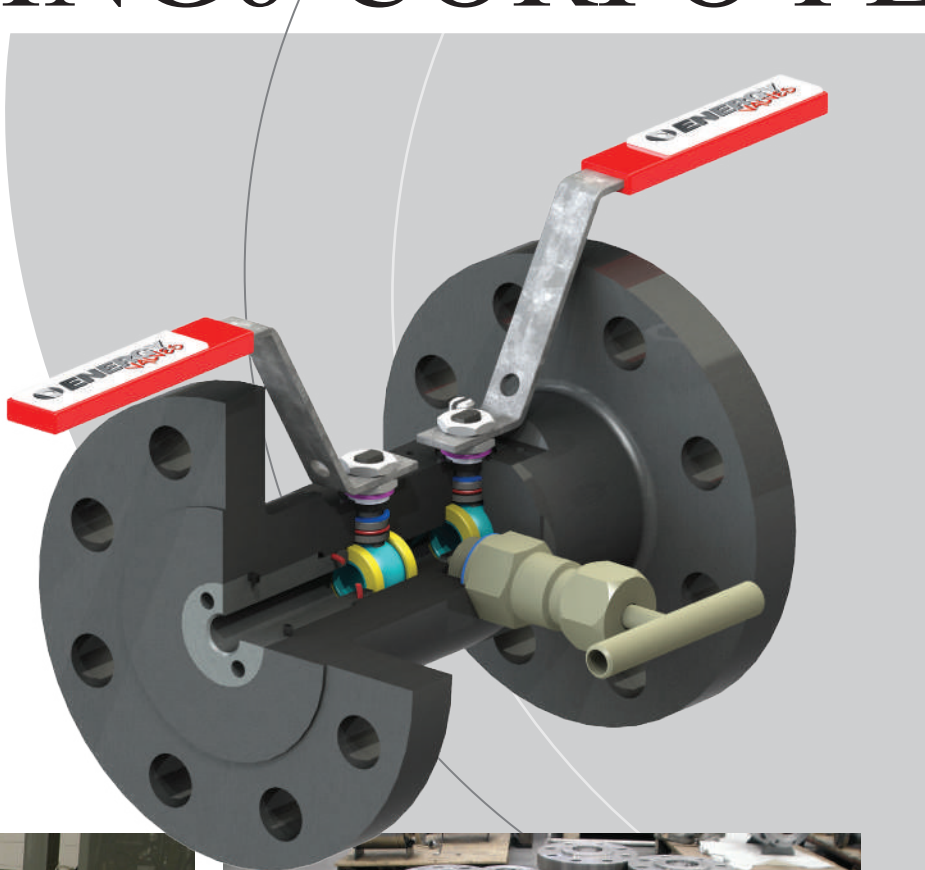
Size	Dimension				600								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	185	183	5,6	150	150	6,5	114	3	F03
3/4"x1/2"	10	76	76	160	225	225	7	169	169	5	-	-	F03
1"x1/2"	10	76	110	160	234	234	9	174	174	7	-	-	F03
1.1/2"x1/2"	10	76	110	160	245	245	18	180	180	15	-	-	F03
2"x1/2"	10	76	110	160	245	245	26	180	180	20	-	-	F03

Size	Dimension				900/1500								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	110	110	200	243	243	6	185	185	4	114	3,5	F04
3/4"x1/2"	10	110	110	200	256	256	9	193	193	6	-	-	F04
1"x1/2"	10	110	110	200	274	274	17	200	200	13	-	-	F04
1.1/2"x1/2"	10	110	150	200	294	294	22	210	210	18	-	-	F04
2"x1/2"	10	110	150	200	298	301	35	213	215	29	-	-	F04

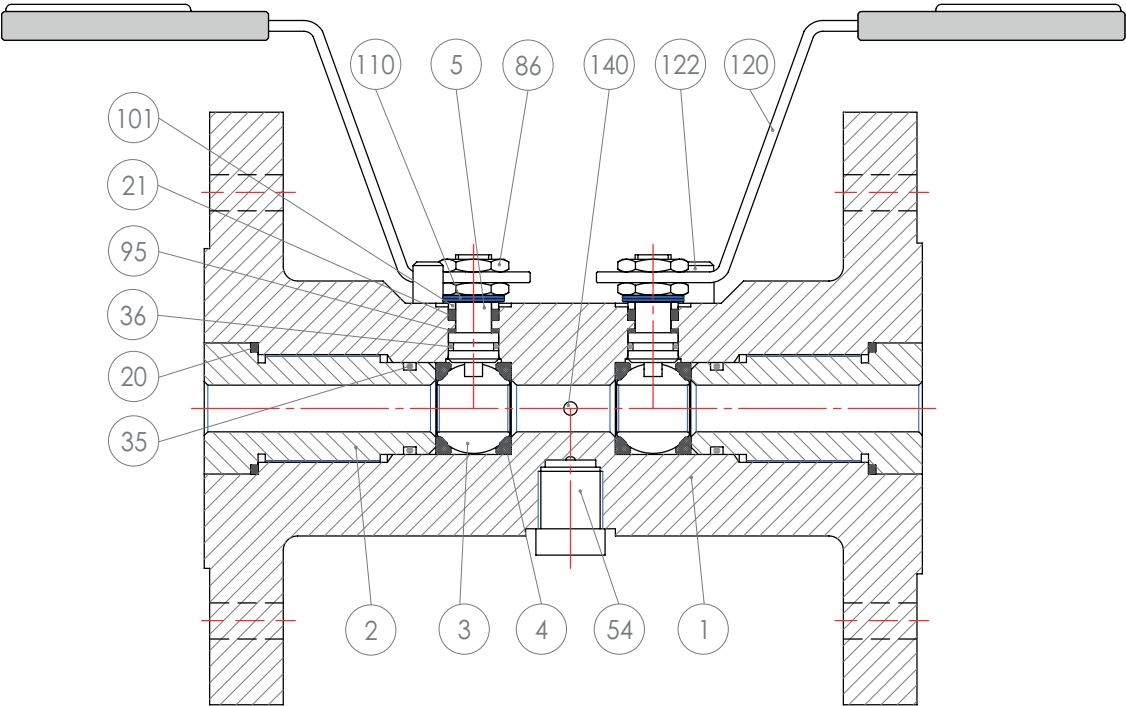
Size	Dimension				2500								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	110	110	200	301	301	14	225	225	11	114	4	F04
3/4"x1/2"	10	110	110	200	301	301	19	225	225	15	-	-	F04
1"x1/2"	10	110	110	200	310	310	30	230	230	23	-	-	F04
1.1/2"x1/2"	10	110	150	200	337	340	39	243	245	32	-	-	F04
2"x1/2"	10	110	150	200	337	340	49	243	245	37	-	-	F04

DOUBLE BLOCK AND BLEED VALVES

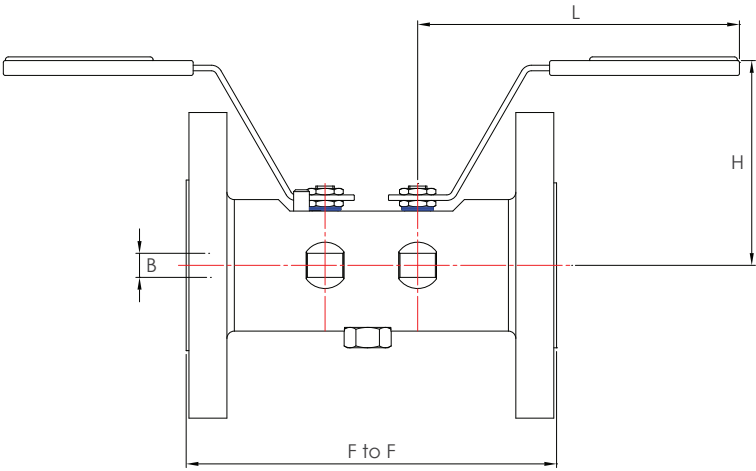
Single Piece Body
10 mm bore



DESCRIPTIONS & MATERIALS:



Pos.	Description
1	Body
2	Body connector
3	Ball
4	Seat
5	Stem
20	Body gasket
21	Stem gasket
35	Body O-Ring
36	Stem O-Ring
54	Vent
86	Lever nut
95	Thrust washer
101	Gland Ring
110	Spring washer
120	Lever
122	Stop pin
140	Bleeder



Size	Dimension				150								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	170	-	2,6	143	-	2	129	2,4	F03
3/4"x1/2"	10	76	76	160	170	-	3,6	150	-	3	-	-	F03
1"x1/2"	10	76	76	160	178	191	5,5	155	162	4,5	-	-	F03
1.1/2"x1/2"	10	76	110	160	195	208	10	162	169	8	-	-	F03
2"x1/2"	10	76	110	160	210	223	13	170	177	9	-	-	F03

Size	Dimension				300								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	200	211	4	164	170	3	129	2,6	F03
3/4"x1/2"	10	76	76	160	200	213	7	164	171	4	-	-	F03
1"x1/2"	10	76	110	160	200	213	9	164	171	6	-	-	F03
1.1/2"x1/2"	10	76	110	160	210	223	15	169	176	11	-	-	F03
2"x1/2"	10	76	110	160	231	247	24	180	188	19	-	-	F03

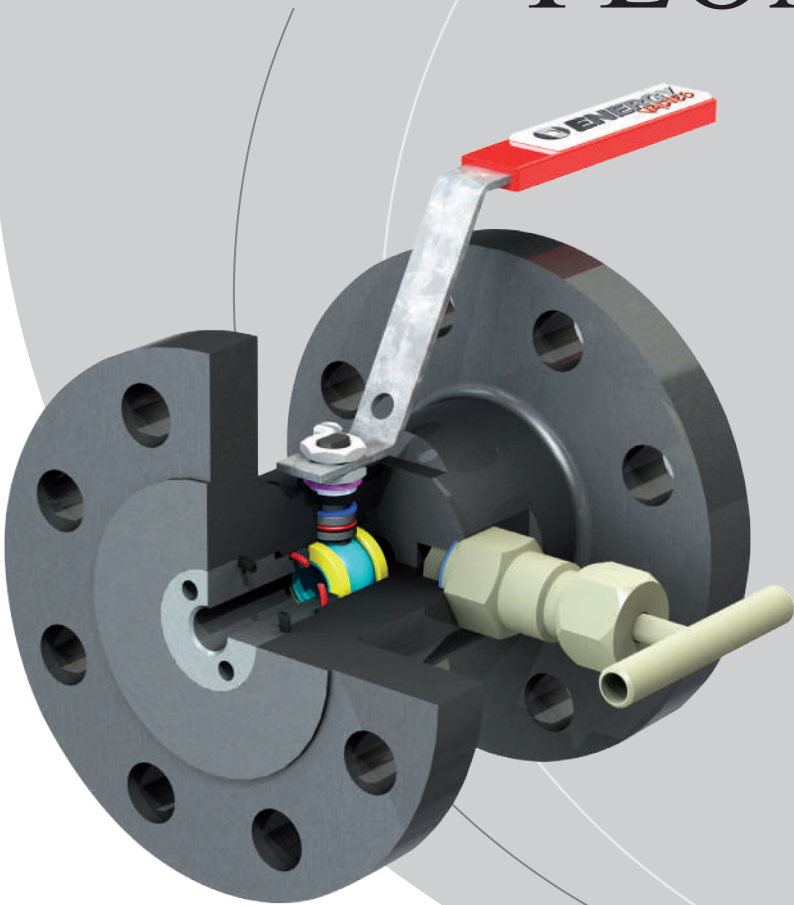
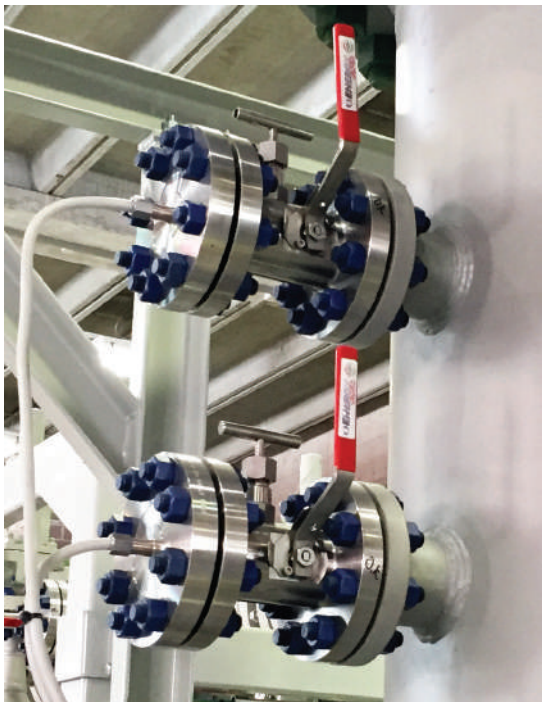
Size	Dimension				600								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	76	160	200	198	5,6	165	164	6,5	129	3	F03
3/4"x1/2"	10	76	76	160	240	140	7	184	184	5	-	-	F03
1"x1/2"	10	76	110	160	249	249	9	189	189	7	-	-	F03
1.1/2"x1/2"	10	76	110	160	260	260	18	195	195	15	-	-	F03
2"x1/2"	10	76	110	160	260	263	26	195	197	20	-	-	F03

Size	Dimension				900/1500								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	110	110	200	258	258	6	200	200	4	129	3,5	F04
3/4"x1/2"	10	110	110	200	271	271	9	207	207	6	-	-	F04
1"x1/2"	10	110	110	200	289	289	17	215	215	13	-	-	F04
1.1/2"x1/2"	10	110	150	200	309	309	22	225	225	18	-	-	F04
2"x1/2"	10	110	150	200	313	316	35	228	230	29	-	-	F04

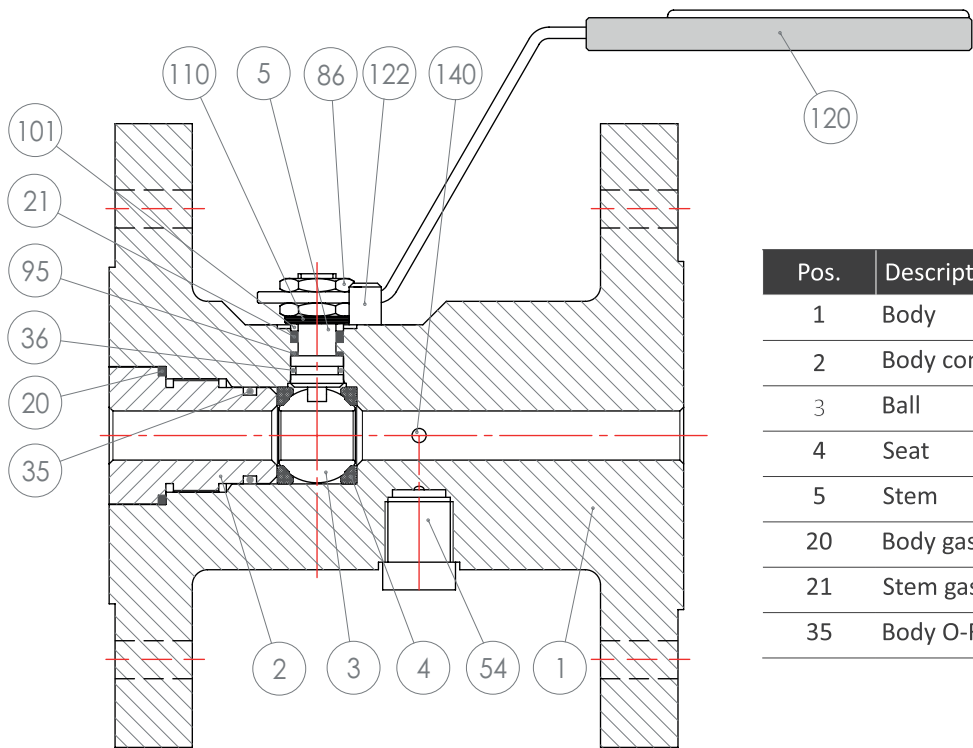
Size	Dimension				2500								
SIZE	Bore	H1	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	110	110	200	316	316	14	240	240	11	129	4	F04
3/4"x1/2"	10	110	110	200	316	316	19	240	240	15	-	-	F04
1"x1/2"	10	110	110	200	325	325	30	245	245	23	-	-	F04
1.1/2"x1/2"	10	110	150	200	352	355	39	258	260	32	-	-	F04
2"x1/2"	10	110	150	200	352	355	49	258	260	37	-	-	F04

SINGLE BLOCK AND BLEED VALVES

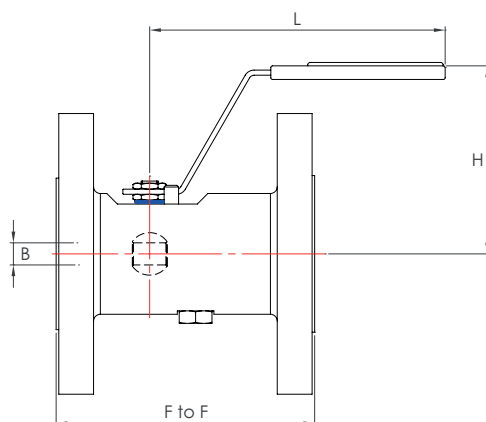
Single Piece Body
10 mm bore



DESCRIPTIONS & MATERIALS:



Pos.	Description	Pos.	Description
1	Body	36	Stem O-Ring
2	Body connector	54	Vent
3	Ball	86	Lever nut
4	Seat	95	Thrust washer
5	Stem	101	Gland Ring
20	Body gasket	110	Spring washer
21	Stem gasket	120	Lever
35	Body O-Ring	122	Stop pin
		140	Bleeder



Size	Dimension			150								
SIZE	Bore	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	160	158	-	3	131	-	2,5	117	2,8	F03
3/4"x1/2"	10	76	160	158	-	4	138	-	3,5	117	2,8	F03
1"x1/2"	10	76	160	166	179	6	143	150	5	-	-	F03
1.1/2"x1/2"	10	110	160	183	196	11	150	157	9	-	-	F03
2"x1/2"	10	110	160	198	211	14	158	165	10	-	-	F03

Size	Dimension			300								
SIZE	Bore	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	160	190	201	4,4	153	159	3,5	120	3	F03
3/4"x1/2"	10	76	160	190	203	7,5	153	160	4,6	120	3	F03
1"x1/2"	10	110	160	190	203	10	153	160	7	-	-	F03
1.1/2"x1/2"	10	110	160	200	203	16	158	165	12	-	-	F03
2"x1/2"	10	110	160	221	234	25	168	175	20	-	-	F03

Size	Dimension			600								
SIZE	Bore	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	76	160	190	188	6	154	153	5	118	3	F03
3/4"x1/2"	10	76	160	230	230	8	173	173	6	118	3	F03
1"x1/2"	10	110	160	240	240	10	178	178	8	-	-	F03
1.1/2"x1/2"	10	110	160	250	250	20	184	184	16	-	-	F03
2"x1/2"	10	110	160	250	253	28	184	186	22	-	-	F03

Size	Dimension			900/1500								
SIZE	Bore	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	110	200	248	248	7	190	190	4,5	131	4,2	F04
3/4"x1/2"	10	110	200	261	261	10	197	197	7	131	4,2	F04
1"x1/2"	10	110	200	279	279	18	205	205	14	-	-	F04
1.1/2"x1/2"	10	150	200	299	299	25	215	215	20	-	-	F04
2"x1/2"	10	150	200	303	306	37	218	220	31	-	-	F04

Size	Dimension			2500								
SIZE	Bore	H	L	RF-RF	RJ-RJ	Weight	RF-NPT	RJ-NPT	Weight	NPT-NPT	Weight	ISO 5211
1/2"x1/2"	10	110	200	306	306	15	230	230	12	156	5	F04
3/4"x1/2"	10	110	200	306	306	20	230	230	16	156	5	F04
1"x1/2"	10	110	200	315	315	32	235	235	25	-	-	F04
1.1/2"x1/2"	10	150	200	342	345	41	248	250	34	-	-	F04
2"x1/2"	10	150	200	342	345	52	248	250	40	-	-	F04