CATALOGUE












Zavero®
Italian **ball valves**

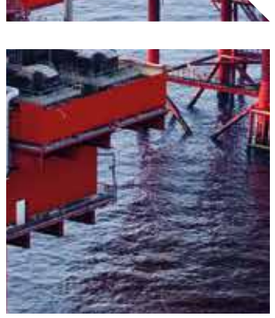

zavero
Italian ball valves
SECURITY
GUARANTEED
even in the most
extreme conditions
www.zavero.com

SECURITY GUARANTEED

even in the most extreme conditions








ZAVERO

ONE OF THE MOST EXPERIENCED ITALIAN MANUFACTURER OF BALL VALVES.

Zavero is a leading Company in **industrial valves** production for **Oil&Gas** application all over the world. Founded in 1973 is a **worldwide expansion** company specialized in oil, chemical, petrochemical, pipeline, natural gas, off-shore and on-shore plants valves applications. Our high quality valves are customized and designed to meet Customer's requirements, technical goals appositely engineered job by job to ensure the best adherence and a longer working life, both for manual and automated operations.

QUALITY SYSTEM

Today the whole ZAVERO ball valves design, manufacturing and testing process is covered by a quality assurance program and continuously audited by accredited inspection authorities in accordance with:

- ISO 9001:2015
- **API 6A MONOGRAM**
- API 6D MONOGRAM
- **API 6DSS MONOGRAM**
- PED 2014/68/EU- Module H
- **ATEX 2014/34/EU**
- IEC 61508 SIL3
- **GOST TR CU**

SAFETY FIRST

HSE SYSTEM: Zavero Maintains an Occupational Health & Safety and Environmental management system according:

- ISO 14001
- **OHSAS 18001 / ISO 45001**

PRODUCTION EQUIPMENT

Zavero Maintains Full internal production capabilities.

- Internal machining capabilities
- **5 testing benches up to 60”**
- Cranes up to 40 tons
- **Special testing equipement**

SPECIAL TESTS

Internal testing facility:

- H. P. GAS TEST
- **CRYOGENIC TEST**
- HIGH TEMP. TEST
- **FIRE SAFE TEST**
- ENDURANCE TEST
- **API 6A PR2**
- HYPERBARIC TEST

THIRD PARTY PRODUCT APPROVALS

- **Fire Safe API 607 / ISO 10497**
over 120 test performed.

- **Fugitive Emission Test ISO 15848-1**
Trunnion & Floating from 1/2” to 48”

- **API 6A PR2 – Annex F**
Class API 10,000 / -46°C + 121°C / 1.13/16 : 7.1/16

NDT & INSPECTIONS

- Radiographic examination (RT)
- **Magnetic particle examination (MT)**
- Ultrasonic examination (UT)
- **Dye penetrant examination (PT)**
- Positive material identification (PMI)
- **Hardness test**
- 3D Dimensional Check

APPROVALS

ISO


DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

ZA.VE.RO. S.r.l.
Via Dei Martiri, 12/B • 28078 Romagnano Sesia (NO) • Italy

ISO 9001:2015

GOST/EAC

SIL

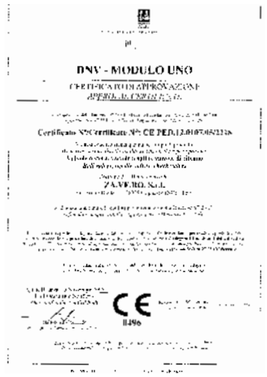

TÜV SAAR

CERTIFICATE

Certificate no. 17-SIL-0010018-01-TIC

IEC 61508 Parts 1÷7:2010

PED


DNV - MODULO UNO

CERTIFICATO DI APPROVAZIONE

ZA.VE.RO. S.r.l.

CE 0496

API


Certificate of Authority to use the Official API Monogram

American Petroleum Institute

ITALIAN
BALL VALVES

PRODUCTION RANGE

FULLY WELDED - UNDERGROUND

DOUBLE BLOCK & BLEED

CRYOGENIC

FORGED TRUNNION

SUB SEA

FLOATING

TOP ENTRY

TRUNNION
BALL VALVES

Art. 85
TRUNNION

Zavero Trunnion mounted API 6A/API 6D ball Valves are 3 pieces, construction type, split body, side entry, in bolted execution or in welded body execution, self relieving spring energized seats, suitable for double block and bleed performance.
Seats are available in lubricated or not lubricated execution with different solutions of sealing and fire safe back up gaskets (Soft or metal seated). Stem is blowout proof and provided with emergency sealant injectors to avoid leakage in case of sealing interruption. Antistatic device is also provided. Valves can be completed with lifting lugs and ground feet to facilitate transportation and in line installation.

Available pressure ratings:
ASME 150-300-600-900-1500-2500

OPTIONS

- Locking device.
- **Extended stem.**
- Lip-seal.
- **Stem packing.**
- Double piston effect.
- **Metal to metal seat.**
- Transition pieces (pups).
- **RF - RTJ - HUB - BW ends.**
- Lever, gear, pneumatic, hydraulic, electric operated.

LEVER OPERATED BALL VALVE

GEAR OPERATED BALL VALVE

ACTUATED BALL VALVE

TRUNNION MOUNTED

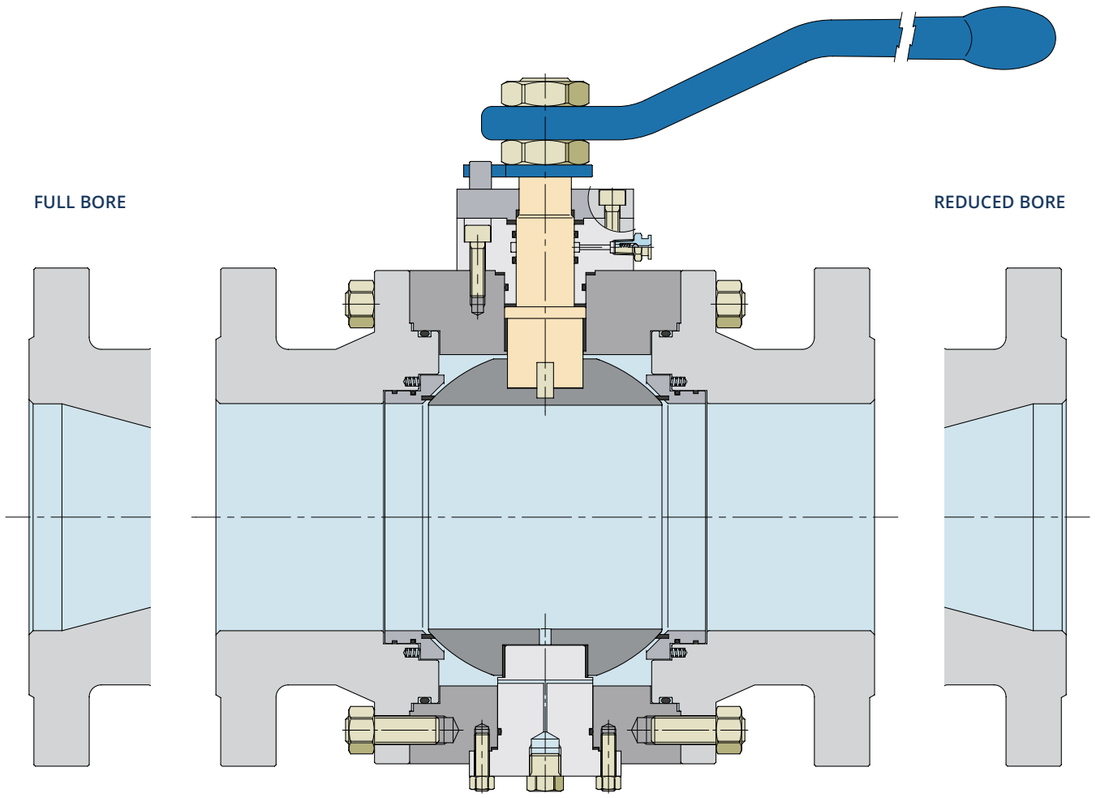
FULL AND REDUCED BORE

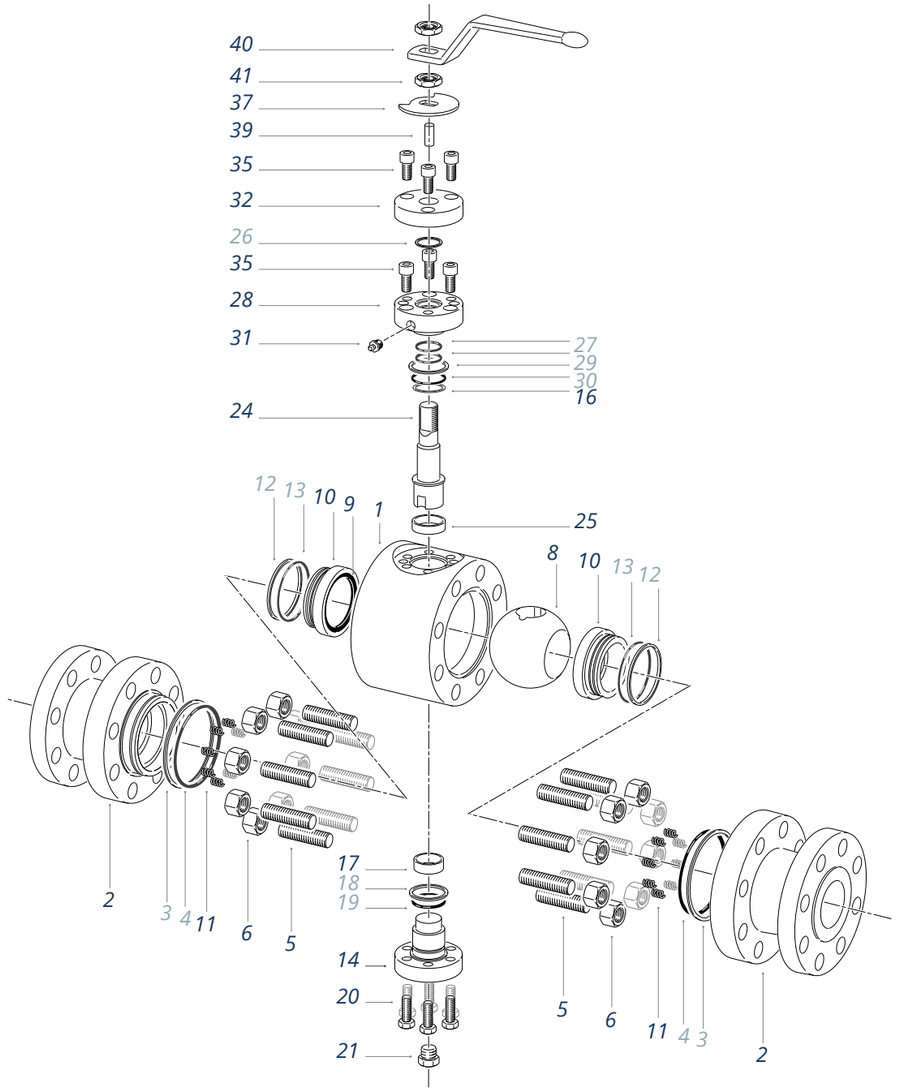
- Flanged ends (RF and RTJ) as per ASME B16.5/B16.47.
- BW ends as per ASME B16.25.
- Face to face as per API6D ASME B16.10.
- HUB ends manufactured as standard with face to face as per RTJ type.
- Bore diameter as per API6D.

Upon request

Large groove, large female, flat face and compact flange (NORSOK L005, customer specification).

- Special bore size available on request.





KEY

* Reccomended spare parts

1 • Body	**11** • Seat spring	**21** • Drain plug	**32** • Operator flange
2 • Closure	**12** • **Seat gasket**	**24** • Stem	**35** • Flanges screw
3 • **Closure gasket**	**13** • **Seat O-Ring**	**25** • Shell bearing	**37** • Stop sector
4 • **Closure O-Ring**	**14** • Trunnion	**26** • **Stem gasket**	**39** • Stop pin
5 • Closure stud	**16** • Thrust washer	**27** • **Stem O-Ring**	**40** • Lever
6 • Closure nut	**17** • Shell bearing	**28** • **Body cover**	**41** • Lever nut
8 • Ball	**18** • **Trunnion gasket**	**29** • **Body cover gasket**	
9 • Seat insert	**19** • **Trunnion O-Ring**	**30** • **Body cover O-Ring**	
10 • Seat ring	**20** • Trunnion bolt	**31** • Stem grease injector	

TRUNNION PLATE SYSTEM

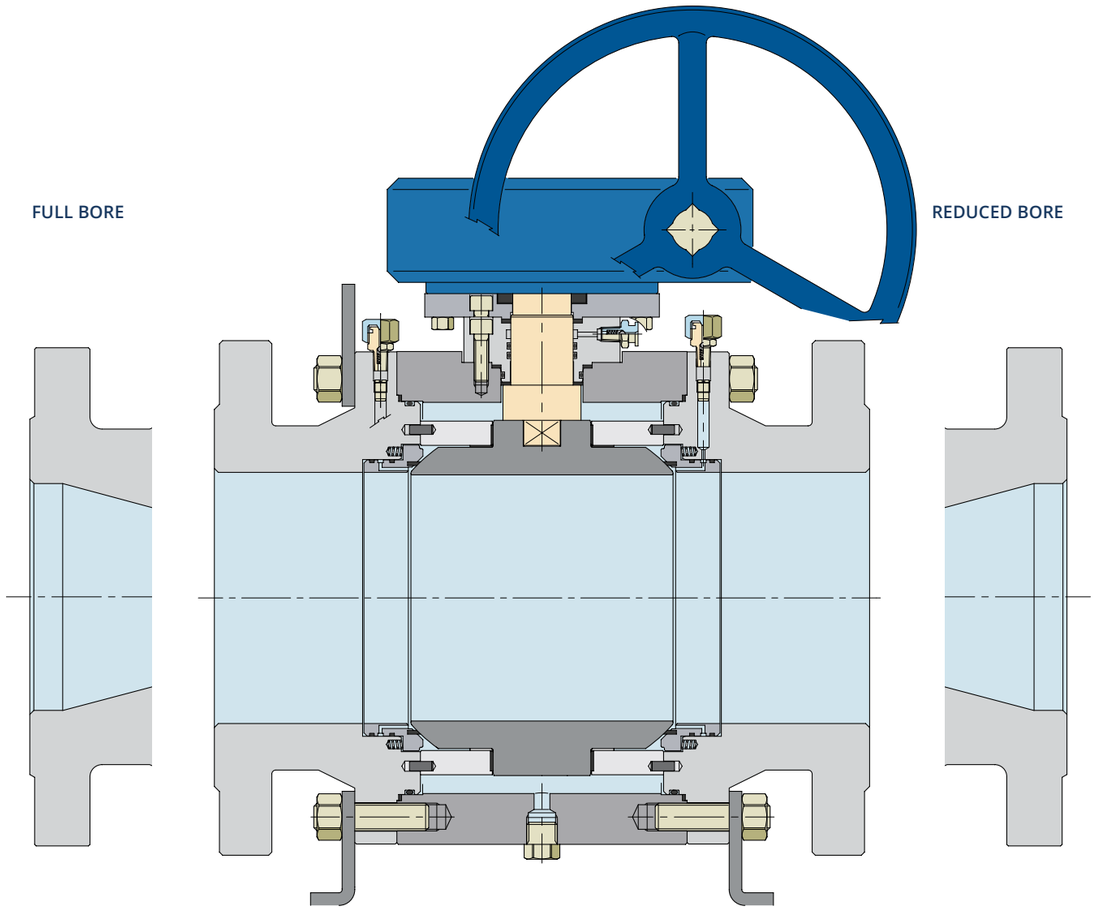
FULL AND REDUCED BORE

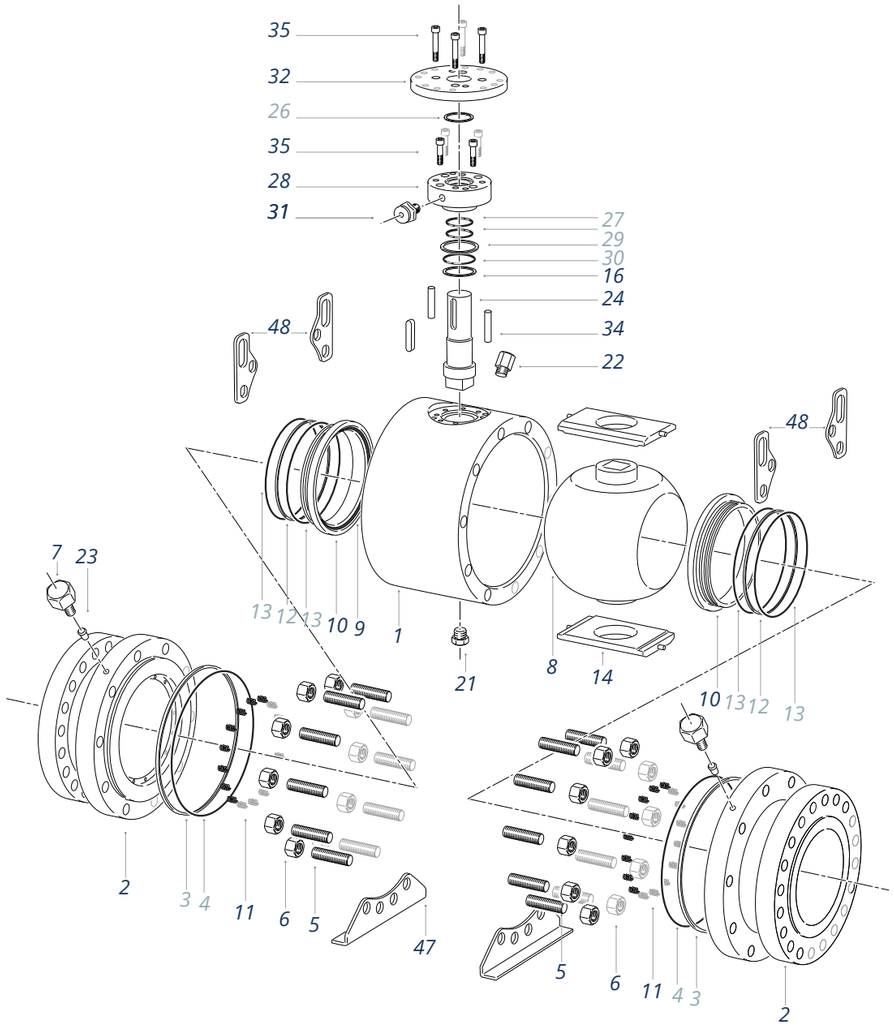
- Flanged ends (RF and RTJ) as per ASME B16.5/B16.47.
- BW ends as per ASME B16.25.
- Face to face as per API6D ASME B16.10.
- HUB ends manufactured as standard with face to face as per RTJ type.
- Bore diameter as per API6D.

Upon request

Large groove, large female, flat face and compact flange (NORSOK L005, customer specification).

- Special bore size available on request.



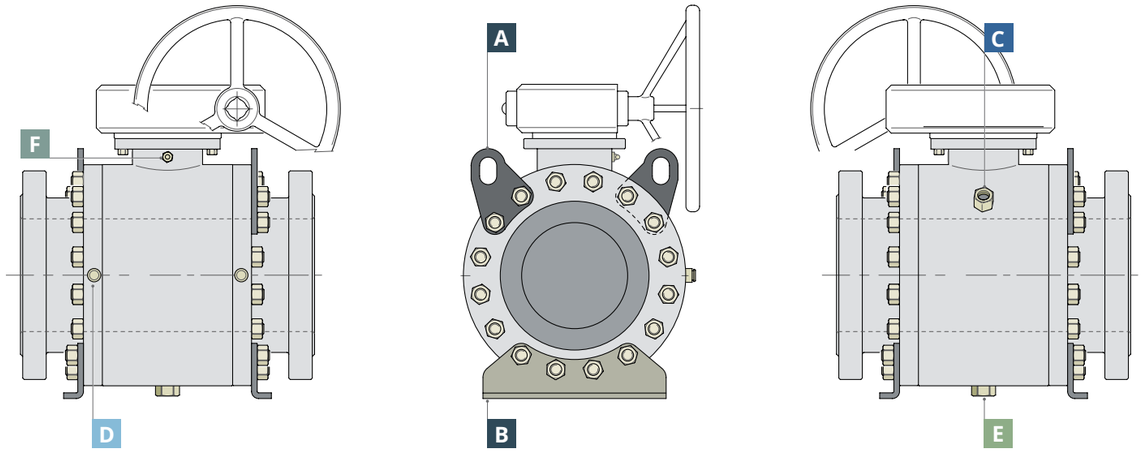


KEY

* Reccomended spare parts

1 • Body	**10** • Seat ring	**24** • Stem	**35** • Flanges screw
2 • Closure	**11** • Seat spring	**26** • **Stem gasket**	**46** • Stem key
3 • **Closure gasket**	**12** • **Seat gasket**	**27** • **Stem O-Ring**	**47** • Foot
4 • **Closure O-Ring**	**13** • **Seat O-Ring**	**28** • **Body cover**	**48** • Lifting lug
5 • Closure stud	**14** • Support Plate	**29** • **Body cover gasket**	
6 • Closure nut	**16** • Thrust washer	**30** • **Body cover O-Ring**	
7 • Seat grease injector	**21** • Drain plug	**31** • Stem grease injector	
8 • Ball	**22** • Vent bleeder	**32** • Operator flange	
9 • Seat insert	**23** • Check valve	**34** • Pin	

STANDARD FEATURES

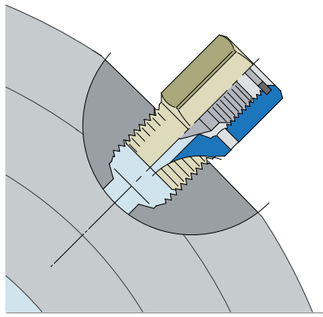


A **LIFTING LUG** see table

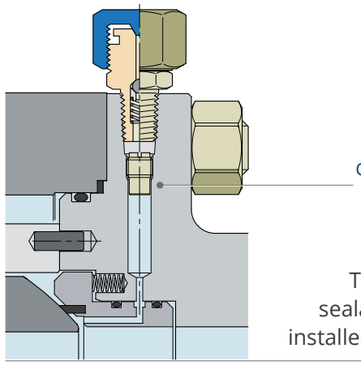
C **VENT BLEEDER** see table

B **FOOT** see table

D **SEAT GREASE/SEALANT INJECTOR** see table



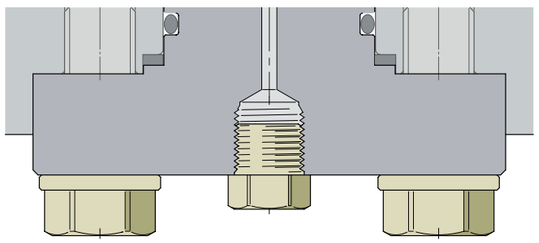
NPT thread 1/2" 3/4" 1" as per ASME B16.34



Check valve only for high pressure valves

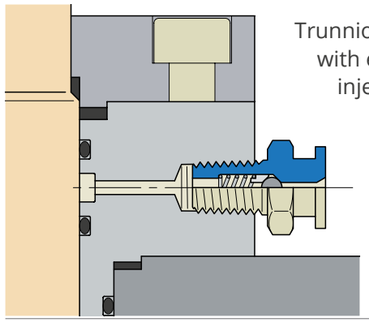
Two emergency seat sealant injectors can be installed where applicable.

E **DRAIN PLUG** on all valve sizes



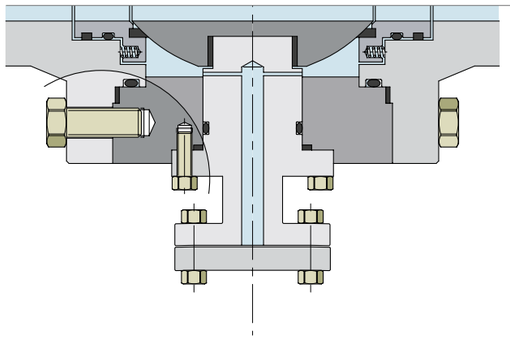
NPT thread 1/2" 3/4" 1" as per ASME B16.34

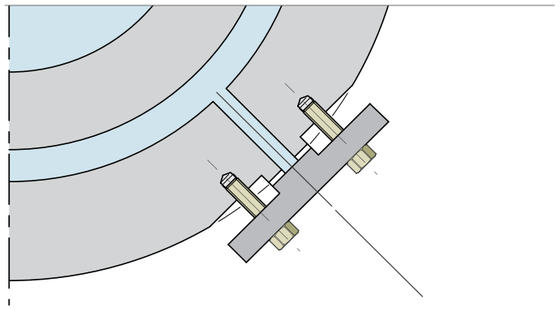
F **STEM GREASE/SEALANT INJECTOR** on all valve sizes

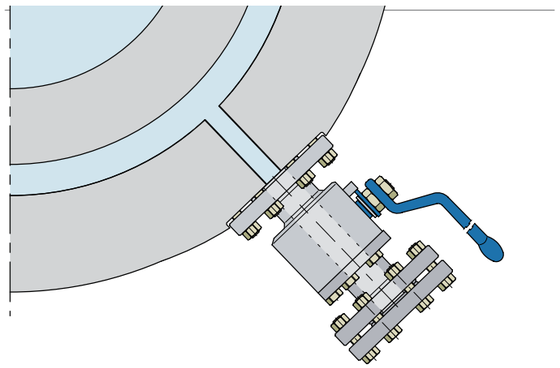


Trunnion valves equipped with emergency sealant injectors on the stem.

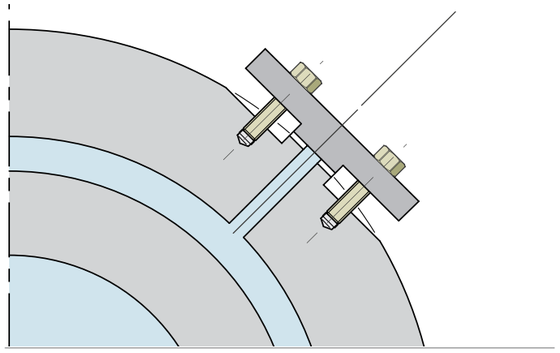
G **DRAIN WITH BLIND FLANGE** (optional)







H **VENT WITH BLIND FLANGE** (optional)

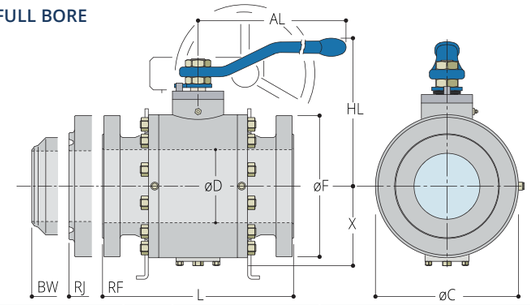


SIZE-BORE		ASME					
FULL	REDUCED	150	300	600	900	1500	2500
1/2"							
	3/4"x1/2"						
3/4"							
	1"x3/4"						
1"							
	1"1/2x1"						
1"1/2							
	2"x1"1/2						
2"							
	3"x2"						
3"				C	C	C	C
	4"x3"						
4"							A
	6"x4"						B
6"		C •	C •	A D	A D	A D	D D
	8"x6"	A •	A •	B	B	B	
8"		B D	B D				
	10"x8"						
10"							
	12"x10"						
12"							
	14"x12"						
14"							
	16"x14"						
16"							
	18"x16"						
18"							
	20"x18"						
20"							
	22"x18"						
22"							
	24"x20"						
24"							
	26"x20"						
26"							
	28"x24"						
28"							
	30"x26"						
30"							
	32"x28"						
32"							
	36"x32"						
36"							
	40"x36"						
40"							
	42"x36"						
42"							
	48"x42"						
48"							
56"							

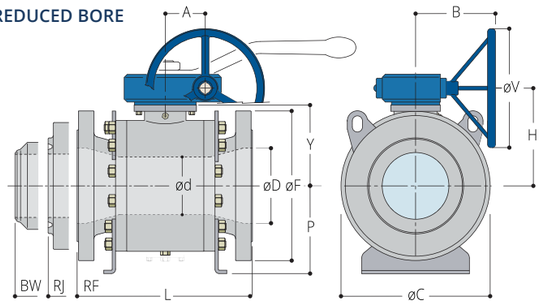
• = METAL SEATED ONLY

ASME 150

FULL BORE



REDUCED BORE



* = MANUFACTURER STANDARD

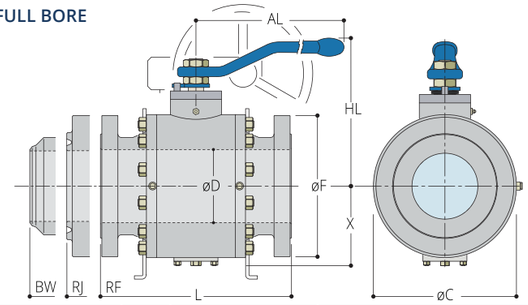
SIZE-BORE			L			TRUNNION SUPPORTED BALL VALVES Dimensions in mm													WEIGHT (KG)	
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	ØC	P	Y	X	A	B	H	ØV	AL	HL	VALVE	VALVE + GEAR
1/2"		15	140*		140		14	89	123			73					215	151	10	
	3/4" x 1/2"	20	140*		140*	14	19	98	123			73					215	151	11	
3/4"		20	152*		152		19	98	128			75					215	170	12	
	1" x 3/4"	25	165*	178*	165	19	25	108	128			75					215	170	13	
1"		25	165*	178*	165		25	108	142		103	80					215	163	16	
	1"1/2 x 1"	40	190*	203*	190	25	38	127	142		103	80					215	163	18	
1"1/2		40	190*	203*	190		38	127	150		108	90	70	250	148	400	274	190	18	28
	2" x 1"1/2	50	178	191	216	38	49	152	150		108	90	70	250	148	400	274	190	19	31
2"		50	178	191	216		49	152	164		115	95	70	250	155	400	274	200	21	33
	3" x 2"	80	203	216	283	49	75	191	164		115	95	70	250	155	400	274	200	27	39
3"		80	203	216	283		75	191	229		151	135	70	250	191	400	335	250	40	52
	4" x 3"	100	229	241	305	75	101	229	229		151	135	70	250	191	400	335	250	48	60
4"		100	229	241	305		101	229	267		172	155	70	250	212	400	335	300	54	66
	6" x 4"	150	394	406	457	101	150	279	267		172	155	70	250	212	400	335	300	140	152
6"		150	394	406	457		150	279	348		220	195	70	250	260	400			155	167
	8" x 6"	200	457	470	521	150	201	343	348		220	195	70	250	260	400			189	201
8"		200	457	470	521		201	343	458	269	289		92	305	343	500			317	335
	10" x 8"	250	533	546	559	201	254	406	458	269	289		92	305	343	500			370	388

GEAR OPERATOR IS SUGGESTED FOR THESE DIAMETRES FOR SOFT SEAT

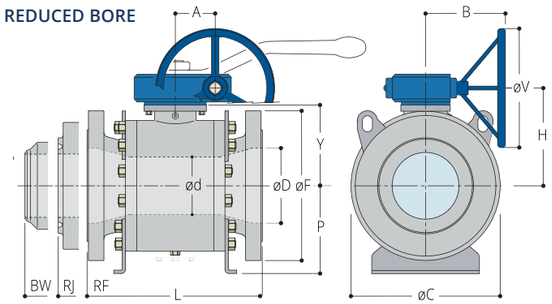
						TRUNNION PLATE SYSTEM Dimensions in mm														
10"		250	533	546	559		254	406	525	312	331		101	360	396	600			510	537
	12" x 10"	300	610	622	635	254	303	483	525	312	331		101	360	396	600			575	602
12"		300	610	622	635		303	483	585	343	362		125	420	440	700			663	708
	14" x 12"	350	686	699	762	303	334	533	585	343	362		125	420	440	700			730	775
14"		350	686	699	762		334	533	610	356	376		137	555	523	700			835	891
	16" x 14"	400	762	775	838	334	385	597	610	356	376		137	555	523	700			905	961
16"		400	762	775	838		385	597	684	404	414		137	555	561	700			1124	1180
	18" x 16"	450	864	876	914	385	436	635	684	404	414		137	555	561	700			1175	1231
18"		450	864	876	914		436	635	765	458	458		137	555	605	700			1485	1541
	20" x 18"	500	914	927	991	436	487	699	765	458	458		137	555	605	700			1565	1621
20"		500	914	927	991		487	699	890	530	522		164	600	607	700			2065	2170
	22" x 18"	550	991	1004	991	436	538	750	765	458	458		137	555	605	700			1750	1821
22"		550	991	1004	991		538	750	800	510	545		164	600	607	700			2200	2450
	24" x 20"	600	1067	1080	1143	487	589	813	890	530	522		164	600	607	700			2315	2420
24"		600	1067	1080	1143		589	813	1015	678	609		164	600	694	700			2950	3065
	26" x 20"	650	1143		1245	487	633	870	890	530	522		164	600	694	700			2525	2630
26"		650	1143		1245		633	870	1100	650	650		240	655	757	700			3630	3850
	28" x 24"	700	1245		1346	589	684	925	1015	678	609		164	600	694	700			3300	3400
28"		700	1245		1346		684	925	1150	675	655		240	655	762	700			4595	4815
	30" x 26"	750	1295		1397	633	735	985	1100	650	650		240	655	757	700			3980	4200
30"		750	1295		1397		735	985	1275	737	720		240	655	827	700			5280	5500
	32" x 28"	800	1372		1524	684	779	1060	1150	675	655		240	655	762	700			5195	5415
32"		800	1372		1524		779	1060	1340	750	800		240	655	907	700			7230	7450
	36" x 32"	900	1524		1727	779	874	1170	1340	750	800		240	655	907	700			7980	8200
36"		900	1524		1727		874	1170	1490	845	900		240	655	1007	700			8990	9210
	40'' x 36''		1753		1956	874	976	1290	1490	845	900		240	655	1007	700			10880	11100
40''			1753		1956		976	1290	1645	923	923		240	655	1030	700			12880	13100
	42'' x 36''		1855		2083	874	1020	1345	1490	845	900		240	655	1007	700			11980	12200
42''			1855		2083		1020	1345	1725	963	970		240	655	1077	700			14280	14500
	48'' x 42''		2134		2388	1020	1166	1510	1725	963	970		240	655	1077	700			16880	17100
48''			2134		2388		1166	1510	1925	1062	1045		160	750	1171	700			21930	22150
56''			2489		2489		1360	1745	2260	1130	1180		160	760	1306	700			33850	34100

ASME 300

FULL BORE



REDUCED BORE



* = MANUFACTURER STANDARD

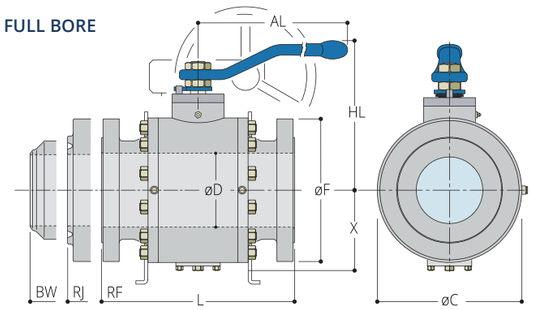
SIZE-BORE			L			TRUNNION SUPPORTED BALL VALVES Dimensions in mm													WEIGHT (KG)	
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	ØC	P	Y	X	A	B	H	ØV	AL	HL	VALVE	VALVE + GEAR
1/2"		15	165*	176*	165*		14	95	123			73					215	151	12	
	3/4" x 1/2"	20	152	165	152	14	19	118	123			73					215	151	13	
3/4"		20	165*	178*	165*		19	118	128			75					215	170	14	
	1" x 3/4"	25	165	178	165	19	25	124	128			75					215	170	15	
1"		25	216*	216*	216*		25	124	142		103	80					215	163	18	
	1"1/2 x 1"	40	241*	254*	241*	25	38	156	142		103	80					215	163	19	
1"1/2		40	241*	254*	241*		38	156	150		108	90	70	250	148	400	274	190	21	33
	2" x 1"1/2	50	216	232	216	38	49	165	150		108	90	70	250	148	400	274	190	22	34
2"		50	216	232	216		49	165	164		115	95	70	250	155	400	274	200	24	36
	3" x 2"	80	283	298	283	49	75	210	164		115	95	70	250	155	400	274	200	30	42
3"		80	283	298	283		75	210	229		151	135	70	250	191	400	335	250	54	66
	4" x 3"	100	305	321	305	75	101	254	229		151	135	70	250	191	400	335	250	55	67
4"		100	305	321	305		101	254	267		172	155	70	250	212	400	335	300	82	94
	6" x 4"	150	403	419	457	101	150	318	267		172	155	70	250	212	400	335	300	152	164
6"		150	403	419	457		150	318	348		220	195	92	305	274	500			176	194
	8" x 6"	200	502	518	521	150	201	381	348		220	195	92	305	274	500			210	228
8"		200	502	518	521		201	381	458	269	289		92	305	343	500			352	370
	10" x 8"	250	568	584	559	201	254	445	458	269	289		92	305	343	500			402	420

GEAR OPERATOR IS SUGGESTED FOR THESE DIAMETRES FOR SOFT SEAT

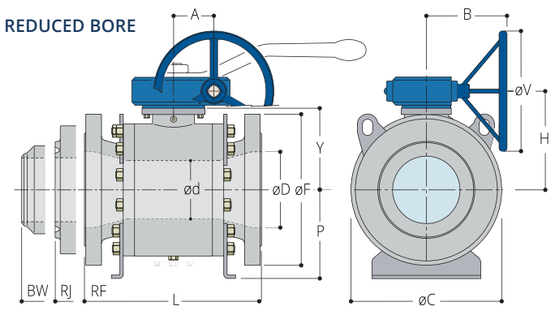
						TRUNNION PLATE SYSTEM Dimensions in mm														
10"		250	568	584	559		254	445	525	312	331		101	360	396	600			575	602
	12" x 10"	300	648	664	635	254	303	521	525	312	331		101	360	396	600			620	647
12"		300	648	664	635		303	521	585	343	362		125	420	440	700			780	825
	14" x 12"	350	762	778	762	303	334	584	585	343	362		125	420	440	700			860	905
14"		350	762	778	762		334	584	610	356	376		137	555	523	700			1034	1090
	16" x 14"	400	838	854	838	334	385	648	610	356	376		137	555	523	700			1134	1190
16"		400	838	854	838		385	648	684	404	415		137	555	562	700			1167	1235
	18" x 16"	450	914	930	914	385	436	711	684	404	415		137	555	562	700			1172	1240
18"		450	914	930	914		436	711	765	458	458		137	555	605	700			1617	1685
	20" x 18"	500	991	1010	991	436	487	775	765	458	458		137	555	605	700			1780	1848
20"		500	991	1010	991		487	775	890	530	522		164	600	607	700			2185	2290
	22" x 18"	550	1092	1114	1092	436	538	840	765	458	458		137	555	605	700			1900	2100
22"		550	1092	1114	1092		538	840	800	510	545		164	600	630	700			2700	2900
	24" x 20"	600	1143	1165	1143	487	589	914	890	530	522		164	600	607	700			2645	2750
24"		600	1143	1165	1143		589	914	1015	678	609		240	655	716	700			3400	3610
	26" x 20"	650	1245	1270	1245	538	633	970	890	530	522		164	600	607	700			2950	3200
26"		650	1245	1270	1245		633	970	1100	650	650		240	655	757	700			4550	4800
	28" x 24"	700	1346	1372	1346	589	684	1035	1015	678	609		240	655	716	700			3850	4100
28"		700	1346	1372	1346		684	1035	1150	675	655		240	655	762	700			5850	6100
	30" x 26"	750	1397	1422	1397	633	735	1090	1100	650	650		240	655	716	700			4200	4450
30"		750	1397	1422	1397		735	1090	1275	737	720		240	655	827	700			6600	6850
	32" x 28"	800	1524	1553	1524	684	779	1150	1150	675	655		240	655	762	700			6400	6650
32"		800	1524	1553	1524		779	1150	1340	750	800		240	655	907	700			8250	8500
	36" x 32"	900	1727	1756	1727	779	874	1270	1340	750	800		240	655	907	700			8550	8800
36"		900	1727	1756	1727		874	1270	1490	845	900		160	760	1026	700			11050	11300
	40'' x 36''		1956		1956	874	976	1240	1490	845	900		160	760	1026	700			11600	11850
40''			1956		1956		976	1240	1645	923	923		160	760	1049	700			13950	14200
	42'' x 36''		2083		2083	874	1020	1290	1490	845	900		160	760	1026	700			11850	12100
42''			2083		2083		1020	1290	1725	963	970		160	760	1989	700			16550	16800
	48'' x 42''		2170		2170	1020	1166	1465	1725	963	970		160	760	1989	700			17850	18100
48''			2170		2170		1166	1465	1982	1090	1094		124	760	1229	700			24800	25100
56''			2743		2743		1360	1710	2300	1250	1285		121	1100	1509	700			38700	39500

ASME 600

FULL BORE



REDUCED BORE



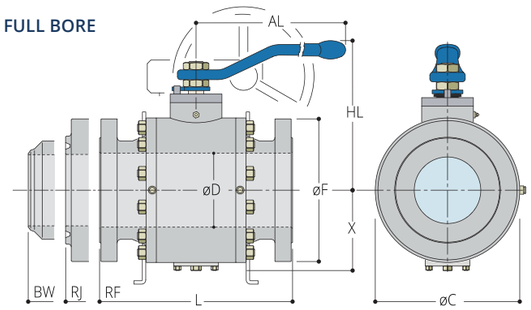
* = MANUFACTURER STANDARD

SIZE-BORE			L			TRUNNION SUPPORTED BALL VALVES Dimensions in mm													WEIGHT (KG)	
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	ØC	P	Y	X	A	B	H	ØV	AL	HL	VALVE	VALVE + GEAR
1/2"		15*	191*	191*	191*		14	95	123			70					180	145	12	
	3/4" x 1/2"	20	191	191	191	14	19	118	123			70					180	145	14	
3/4"		20	191	191	191		19	118	128			73					215	163	17	
	1" x 3/4"	25	216	216	216	19	25	124	128			73					215	163	18	
1"		25	216	216	216		25	124	142		103	80					215	163	20	
	1"1/2 x 1"	40				25	38	156	142		103	80					215	163	21	
1"1/2		40	241	241	241		38	156	150		108	90	70	250	148	400	274	190	22	34
	2" x 1"1/2	50	292	295	292	38	49	165	150		108	90	70	250	148	400	274	190	26	38
2"		50	292	295	292		49	165	187		128	115	70	250	168	400	335	235	38	50
	3" x 2"	80	356	359	356	49	75	210	187		128	115	70	250	168	400	335	235	56	68
3"		80	356	359	356		75	210	228		152	135	70	250	192	400	335	250	70	82
	4" x 3"	100	432	435	432	75	101	273	228		152	135	70	250	192	400	450	250	95	107
4"		100	432	435	432		101	273	294		191	165	70	250	231	400			150	162
	6" x 4"	150	559	562	559	101	150	356	294		191	165	70	250	231	400			200	212
6"		150	559	562	559		150	356	369	275	242		92	305	296	500			305	323
	8" x 6"	200	660	664	660	150	201	419	369	275	242		92	305	296	500			445	463
8"		200	660	664	660		201	419	467	282	295		125	420	374	700			548	593
	10" x 8"	250	787	791	787	201	254	508	467	282	295		125	420	374	700			652	697
TRUNNION PLATE SYSTEM Dimensions in mm																				
10"		250	787	791	787		254	508	525	323	330		125	420	409	700			795	840
	12" x 10"	300	838	841	838	254	303	559	525	323	330		125	420	409	700			875	920
12"		300	838	841	838		303	559	605	332	370		137	555	517	700			1052	1120
	14" x 12"	350	889	892	889	303	334	603	605	332	370		137	555	517	700			1137	1205
14"		350	889	892	889		334	603	640	370	392		137	555	539	700			1630	1698
	16" x 14"	400	991	994	991	334	385	686	640	370	392		137	555	539	700			1650	1718
16"		400	991	994	991		385	686	710	405	424		164	600	509	700			1650	1755
	18" x 16"	450	1092	1095	1092	385	436	743	710	405	424		164	600	509	700			1830	1935
18"		450	1092	1095	1092		436	743	790	465	494		164	600	579	700			2190	2305
	20" x 18"	500	1194	1200	1194	436	487	813	790	465	494		164	600	579	700			2360	2475
20"		500	1194	1200	1194		487	813	938	570	569		240	655	692	700			2830	3050
	22" x 18"	550	1296	1305	1296	487	538	870	938	570	569		240	655	692	700			3320	3520
22"		550	1296	1305	1296		538	870	980	618	590		240	655	802	700			3930	4130
	24" x 20"	600	1397	1407	1397	487	589	940	938	570	569		240	655	692	700			3390	3610
24"		600	1397	1407	1397		589	940	1050	623	626		160	760	832	700			4880	5133
	26" x 20"	650	1448	1461	1448	538	633	1015	938	570	569		240	655	692	700			3650	3870
26"		650	1448	1461	1448		633	1015	1162	686	684		160	760	890	700			5830	6080
	28" x 24"	700	1549	1562	1549	589	684	1075	1050	623	626		160	760	832	700			5620	5870
28"		700	1549	1562	1549		684	1075	1245	728	726		160	760	932	700			6940	7210
	30" x 26"	750	1651	1664	1651	633	735	1130	1050	623	626		160	760	832	700			6540	6810
30"		750	1651	1664	1651		735	1130	1365	783	788		160	760	994	700			8560	8830
	32" x 28"	800	1778	1794	1778	684	779	1195	1245	728	726		160	760	932	700			7830	8100
32"		800	1778	1794	1778		779	1195	1459	850	835		160	760	1041	700			9940	10210
	36" x 32"	900	2083	2099	2083	779	874	1315	1459	850	835		160	760	1041	700			10520	10790
36"		900	2083	2099	2083		874	1315	1575	888	894		160	760	1100	700			14250	14550
	40" x 36"		2337		2337	874	976	1320	1575	888	894		160	760	1100	700			15050	15350
40"			2337		2337		976	1320	1815	1027	1050		125	673	1185	700			18900	19200
	42" x 36"		2437		2437	874	1020	1405	1575	888	894		160	760	1100	700			16450	16750
42"			2437		2437		1020	1405	1900	1100	1150		125	673	1285	700			25350	25700
	48" x 42"		2540		2540	1020	1166	1595	1900	1100	1150		125	673	1285	700			26950	27300
48"			2541		2541		1166	1595	2075	1187	1168		121	931	1392	700			31250	32050
56"			2949		2949		1360	1855	2445	1372	1380		121	931	1604	700			49200	50000

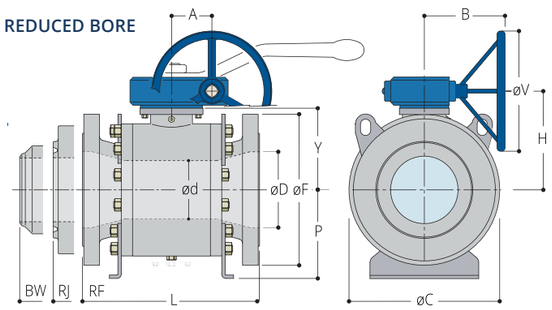
GEAR OPERATOR IS SUGGESTED FOR THESE DIAMETRES FOR SOFT SEAT

ASME 900

FULL BORE



REDUCED BORE

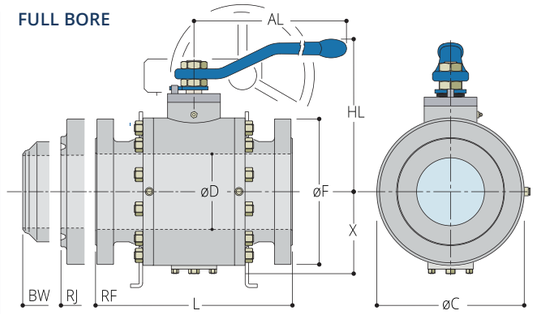


SIZE-BORE			L			TRUNNION SUPPORTED BALL VALVES Dimensions in mm													WEIGHT (KG)	
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	ØC	P	Y	X	A	B	H	ØV	AL	HL	VALVE	VALVE + GEAR
1/2"		15	216	216	216		14	121	123			70					215	135	16	
	3/4" x 1/2"	20	229	229	229	14	19	130	123			70					215	135	18	
3/4"		20	229	229	229		19	130	142			80					215	165	20	
	1" x 3/4"	25	254	254	254	19	25	149	142			80					274	165	23	
1"		25	254	254	254		25	149	142			80					274	165	26	
	1"1/2 x 1"	40	305	305	305	25	38	178	142			80					274	165	32	
1"1/2		40	305	305	305		38	178	176		119	110	70	250	159	400	450	245	38	50
	2" x 1"1/2	50	368	371	368	38	49	216	176		119	110	70	250	159	400	450	245	57	69
2"		50	368	371	368		49	216	187		128	115	70	250	168	400	450	260	62	74
	3" x 2"	80	381	384	381	49	75	241	187		128	115	70	250	168	400	450	260	70	82
3"		80	381	384	381		75	241	228		152	135	70	250	192	400	450	300	84	96
	4" x 3"	100	457	460	457	75	101	292	228		152	135	70	250	192	400	450	300	110	122
4"		100	457	460	457		101	292	294		191	165	92	305	245	500			162	180
	6" x 4"	150	610	613	610	101	150	381	294		191	165	92	305	245	500			238	256
6"		150	610	613	610		150	381	369	275	242		101	360	307	600			335	362
	8" x 6"	200	737	740	737	150	201	470	369	275	242		101	360	307	600			405	432
8"		200	737	740	737		201	470	467	255	295		137	555	442	700			615	671
	10" x 8"	250	838	841	838	201	254	546	467	255	295		137	555	442	700			760	816
TRUNNION PLATE SYSTEM Dimensions in mm																				
10"		250	838	841	838		254	546	525	323	330		137	555	477	700			886	954
	12" x 10"	300	965	968	965	254	303	610	525	323	330		137	555	477	700			1030	1098
12"		300	965	968	965		303	610	605	333	371		137	555	518	700			1610	1678
	14" x 12"	350	1029	1038	1029	303	322	641	605	333	371		137	555	518	700			1710	1778
14"		350	1029	1038	1029		322	641	700	394	423		164	600	508	700			1817	1932
	16" x 14"	400	1130	1140	1130	322	373	705	700	394	423		164	600	508	700			1830	1945
16"		400	1130	1140	1130		373	705	795	443	473		225	655	596	700			1950	2160
	18" x 16"	450	1219	1232	1219	373	423	787	795	443	473		225	655	596	700			2400	2610
18"		450	1219	1232	1219		423	787	875	503	535		240	655	658	700			2850	3070
	20" x 18"	500	1321	1334	1321	423	471	857	875	503	535		240	655	658	700			3250	3470
20"		500	1321	1334	1321		471	857	965	561	576		160	760	782	700			4360	4640
	22" x 18"	600	1549	1568	1549	471	570	1041	965	561	576		160	760	782	700			5360	5580
24"		600	1549	1568	1549		570	1041	1150	675	678		160	760	884	700			6730	6950
	24" x 20"	650	1651	1674	1651	522	617	1085	965	561	576		160	760	782	700			6230	6450
26"		650	1651	1674	1651		617	1085	1224	705	715		160	760	921	700			8270	8540
	26" x 20"	700	1753	1775	1753	570	665	1170	1150	675	678		160	760	884	700			7730	7950
28"		700	1753	1775	1753		665	1170	1330	760	765		160	760	971	700			10200	10470
	28" x 24"	750	1880	1902	1880	617	712	1230	1150	675	678		160	760	884	700			8980	9250
30"		750	1880	1902	1880		712	1230	1350	785	805		160	760	1010	700			12440	12710
	30" x 26"	800	2032	2054	2032	665	760	1315	1330	760	765		160	760	971	700			11350	11620
32"		800	2032	2054	2032		760	1315	1500	900	850		125	673	985	700			15230	15550
	32" x 28"	900	2286	2315	2286	760	855	1460	1500	900	850		125	673	985	700			17120	17440
36"		900	2286	2315	2286		855	1460	1950	1080	1088		125	673	1223	700			29750	30050
	36" x 32"		2397	2438	2397	855	956	1460	1950	1080	1088		125	673	1223	700			31120	31420
40"			2397	2438	2397		956	1510	2029	1165	1185		125	673	1320	700			32900	33200
	40" x 36"		2500	2540	2500	855	1006	1560	1950	1080	1088		125	673	1223	700			31800	32100
42"			2500	2540	2500		1006	1560	2178	1280	1350		125	673	1485	700			39100	39400

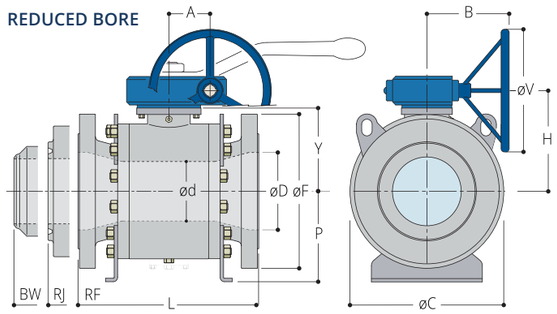
GEAR OPERATOR IS SUGGESTED FOR THESE DIAMETRES FOR SOFT SEAT

ASME 1500

FULL BORE



REDUCED BORE



SIZE-BORE			L			TRUNNION SUPPORTED BALL VALVES Dimensions in mm													WEIGHT (KG)	
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	ØC	P	Y	X	A	B	H	ØV	AL	HL	VALVE	VALVE + GEAR
1/2"		15	216	216	216		14	121	123			70					215	135	16	
	3/4" x 1/2"	20	229	229	229	14	19	130	123			70					215	135	18	
3/4"		20	229	229	229		19	130	142			80					215	165	20	
	1" x 3/4"	25	254	254	254	19	25	149	142			80					274	165	23	
1"		25	254	254	254		25	149	142			80					274	165	26	
	1"1/2 x 1"	40	305	305	305	25	38	178	142			80					274	165	32	
1"1/2		40	305	305	305		38	178	176		119	110	70	250	159	400	450	245	38	50
	2" x 1"1/2	50	368	371	368	38	49	216	176		119	110	70	250	159	400	450	245	57	69
2"		50	368	371	368		49	216	187		128	115	70	250	168	400	450	260	62	74
	3" x 2"	80	470	473	470	49	75	267	187		128	115	70	250	168	400	450	260	85	97
3"		80	470	473	470		75	267	228		143	125	92	305	197	500			110	128
	4" x 3"	100	546	549	546	75	101	311	228		143	125	92	305	197	500			139	157
4"		100	546	549	546		101	311	300		205	170	101	360	270	600			205	232
	6" x 4"	150	705	711	705	101	144	394	300		205	170	101	360	270	600			302	329
6"		150	705	711	705		144	394	420	280	274		137	555	421	700			514	570
	8" x 6"	200	832	841	832	144	192	483	420	280	274		137	555	421	700			670	726
						TRUNNION PLATE SYSTEM Dimensions in mm														
8"		200	832	841	832		192	483	520	340	328		137	555	475	700			737	805
	10" x 8"	250	991	1000	991	192	239	584	520	340	328		137	555	475	700			955	1023
10"		250	991	1000	991		239	584	590	377	369		164	600	454	700			1360	1465
	12" x 10"	300	1130	1146	1130	239	287	673	590	377	369		164	600	454	700			1560	1665
12"		300	1130	1146	1130		287	673	760	440	457		164	600	542	700			2500	2615
	14" x 12"	350	1257	1276	1257	287	315	749	760	440	457		164	600	542	700			2620	2735
14"		350	1257	1276	1257		315	749	780	485	470		164	600	555	700			3150	3350
	16" x 14"	400	1384	1407	1384	315	360	826	780	485	470		164	600	555	700			3650	3880
16"		400	1384	1407	1384		360	826	880	539	524		225	655	736	700			3850	4050
	18" x 16"	450	1537	1559	1537	360	406	914	880	539	524		225	655	736	700			5200	5430
18"		450	1537	1559	1537		406	914	950	570	575		240	655	787	700			6150	6380
	20" x 18"	500	1664	1686	1664	406	454	984	950	570	575		240	655	787	700			7325	7545
20"		500	1664	1686	1664		454	984	1200	680	696		160	760	908	700			9300	9600
	24" x 20"	600	1943	1972	1943	454	546	1168	1200	680	696		160	760	908	700			11470	11740
24"		600	1943	1972	1943		546	1168	1360	780	800		125	625	935	600			14550	14850
	26" x 20"	650		2077	2077	454	594	990	1200	680	696		160	760	908	700			11750	12020
26"		650		2077	2077		594	990	1450	875	950		125	625	1085	600			15600	15900
	28" x 24"	700		2176	2176	546	641	1051	1360	780	800		125	625	935	600			16550	16820
28"		700		2176	2176		641	1051	1500	900	970		125	625	1105	600			16200	16500
	30" x 26"	750		2280	2280	546	686	1132	1360	780	800		125	625	935	600			16980	17250
30"		750		2280	2280		686	1132	1550	925	980		125	625	1115	600			17250	17550
	32" x 28"	800		2380	2380	641	730	1155	1500	900	970		125	625	1105	600			16800	17100
32"		800		2380	2380		730	1155	1880	1090	1130		122	863	1314	900			27250	28050
	36" x 32"	900		2590	2590	730	819	1308	1880	1090	1130		122	863	1314	900			27850	28650
36"		900		2590	2590		816	1308	2540	1420	1480		122	863	1704	900			55000	55800

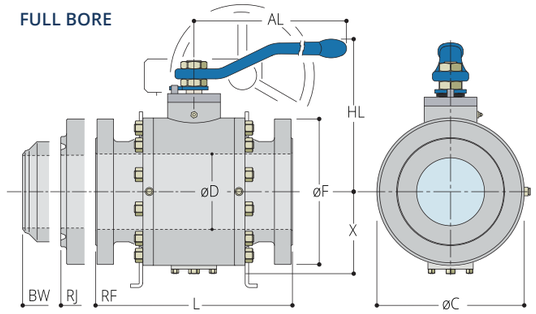
GEAR OPERATOR IS SUGGESTED FOR THESE DIAMETRES FOR SOFT SEAT

GENERAL NOTES

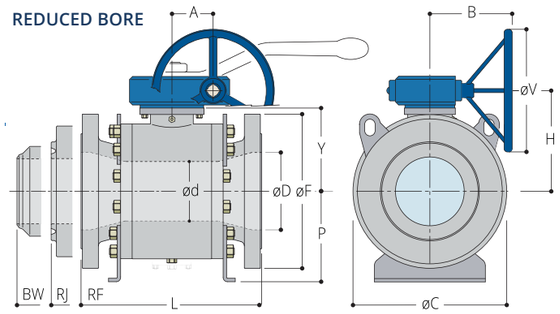
Flanges ≥ 26" to be specified by customer.

ASME 2500

FULL BORE



REDUCED BORE



SIZE-BORE			L			TRUNNION SUPPORTED BALL VALVES Dimensions in mm													WEIGHT (KG)	
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	ØC	P	Y	X	A	B	H	ØV	AL	HL	VALVE	VALVE + GEAR
1/2"		15	264	264	264		14	133	148			90					274	185	20	
	3/4" x 1/2"	20	273	273	273	14	19	140	148			90					274	185	23	
3/4"		20	273	273	273		19	140	148			90					274	185	25	
	1" x 3/4"	25	308	308	308	19	25	159	148			90					274	185	28	
1"		25	308	308	308		25	159	148		108	90	70	250	164	400	274	185	30	42
	1"1/2 x 1"	40	384	387	384	25	38	203	148		108	90	70	250	164	400	274	185	40	52
1"1/2		40	384	387	384		38	203	187		124	120	70	250	164	400	450	260	60	72
	2" x 1"1/2	50	451	454	451	38	44	235	187		124	120	70	250	164	400	450	260	80	92
2"		50	451	454	451		44	235	208		143	130	92	305	197	500			97	115
	3" x 2"	80	578	584	578	44	62	305	208		143	130	92	305	197	500			165	183
3"		80	578	584	578		62	305	320		205	180	92	305	259	500			336	354
	4" x 3"	100	673	683	673	62	87	356	320		205	180	92	305	259	500			337	355
						TRUNNION PLATE SYSTEM Dimensions in mm														
4"		100	673	683	673		87	356	325	185	218		125	420	297	700			337	382
	6" x 4"	150	914	927	914	87	131	483	325	185	218		125	420	297	700			540	585
6"		150	914	927	914		131	483	480	285	305		137	555	452	700			863	931
	8" x 6"	200	1022	1038	1022	131	179	552	480	285	305		137	555	452	700			1150	1218
8"		200	1022	1038	1022		179	552	615	368	381		164	600	466	700			1575	1680
	10" x 8"	250	1270	1292	1270	179	223	673	615	368	381		164	600	466	700			1750	1855
10"		250	1270	1292	1270		223	673	850	485	504		164	600	589	700			3400	3515
	12" x 10"	300	1422	1445	1422	223	265	762	850	485	504		164	600	589	700			3560	3675
12"		300	1422	1445	1422		265	762	915	495	540		225	655	663	700			3710	3920
	14" x 12"	350		1570	1570	265	292	618	915	495	540		225	655	663	700			4200	4450
14"		350		1570	1570		292	618	951	555	571		240	885	678	700			4500	4720
	16" x 14"	400		1596	1596	272	333	718	951	555	571		240	885	678	700			5500	5750
16"		400		1596	1596		333	718	1050	675	700		160	760	826	700			6125	6375
	18" x 16"	450		1854	1854	333	374	780	1050	675	700		160	760	826	700			7250	7500
18"		450		1854	1854		374	780	1227	763	780		125	673	915	700			9550	9850
	20" x 18"	500		1905	1905	374	419	849	1227	763	780		125	673	915	700			11250	11700
20"		500		1905	1905		419	849	1550	925	960		125	673	1095	900			12500	12850
	24" x 20"	600		2300	2300	374	504	1039	1550	925	960		125	673	1095	900			18500	18350
24"		600		2300	2300		504	1039	2270	1285	1350		125	673	1095	900			38700	39050

GEAR OPERATOR IS SUGGESTED FOR THESE DIAMETRES FOR SOFT SEAT

GENERAL NOTES

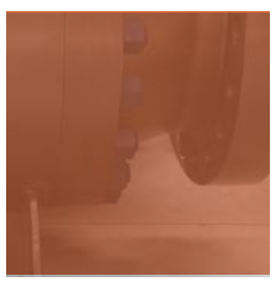
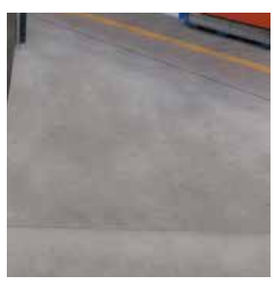
Flanges ≥ 26" to be specified by customer.

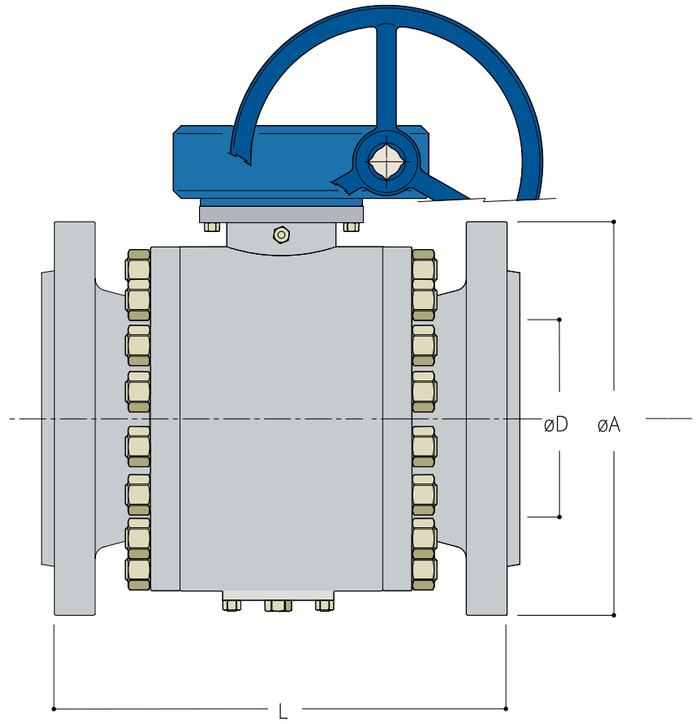
Art. 85
TRUNNION API 6A









SIZE-BORE	API 3000 Dimensions in mm		
DN	ØA	ØD	L
2” 1/16	215	52,4	371
3” 1/8	240	79,4	384
4” 1/16	290	103,2	460
5” 1/8	350	130,2	613*
7” 1/16	380	179,4	714*

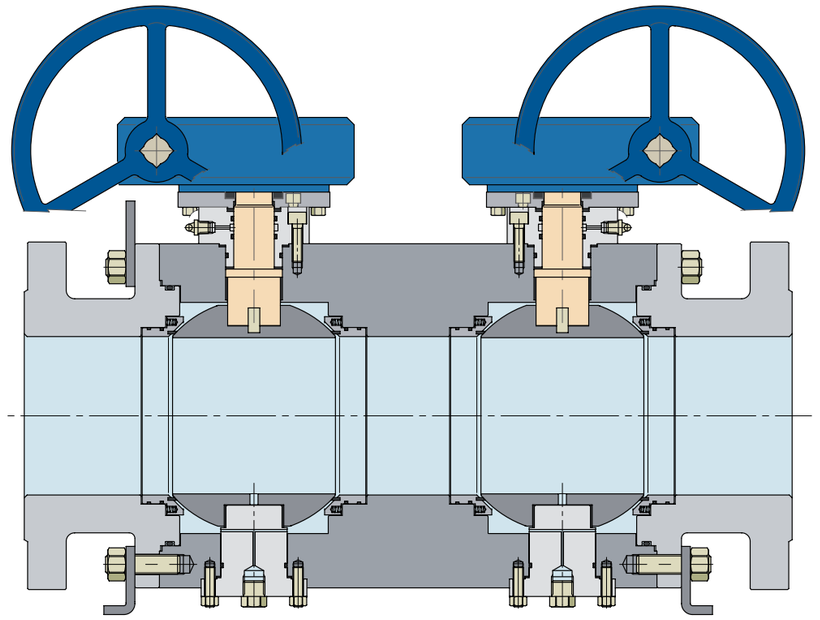
SIZE-BORE	API 5000 Dimensions in mm		
DN	ØA	ØD	L
2” 1/16	215	52,4	371
3” 1/8	265	79,4	473
4” 1/16	310	103,2	549
5” 1/8	375	130,2	727*
7” 1/16	395	179,4	813*

SIZE-BORE	API 10000 Dimensions in mm		
DN	ØA	ØD	L
1” 13/16	185	46	464
2” 1/16	200	52,4	521
2” 9/16	230	65,1	565
3” 1/16	270	77,8	619
4” 1/16	315	103,2	670
5” 1/8	360	130,2	737
7” 1/16	480	179,4	889

ON DEMAND ALSO AVAILABLE API 15.000 - CONTACT ZAVERO FOR DETAILS

* = MANUFACTURER STANDARD

ZAVERO reserves to itself the right to make all necessary changes on its products, without notice.
Further information on **www.zavero.com**.
Data not included: not applicable. All “Face to face” dimensions not referred to international codes must be confirmed in case of order.



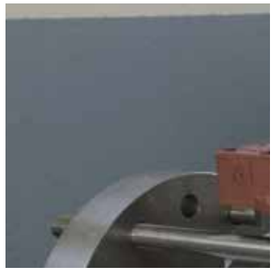
Art. 78/88

TWIN BALL DB&B VALVES

Twin ball double block and bleed valve is a combination of two ball valves with a bleeder valve between. That design type allows to have an integral compact body and short face to face dimension.
Different solutions and different valve ends, are available as per customer request.
Available floating Art. 78 or trunnion mounted Art. 88.

OPTIONS

- Locking device.
- **Extended stem.**
- Lip-seal.
- **Stem packing.**
- Double piston effect.
- **Metal to metal seat.**
- Transition pieces (pups).
- **RF - RTJ - HUB - BW ends.**
- Lever and gear operated.








SPECIAL VERSION

CARTRIDGE TWIN BALL DB&B VALVES

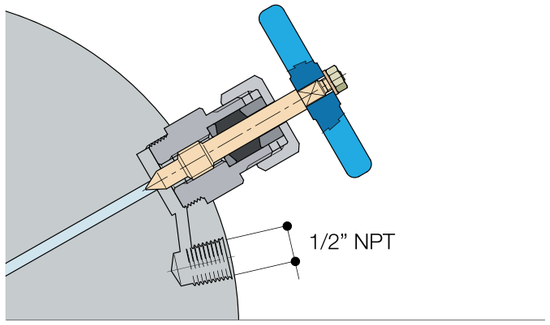
Special version designed to solve space problems. Despite having two balls with bleeder in the center, the design allows very short “face to face”, in many cases in accordance with API 6D and ASME B16.10 requirement for valves with single ball.

A OPERATOR

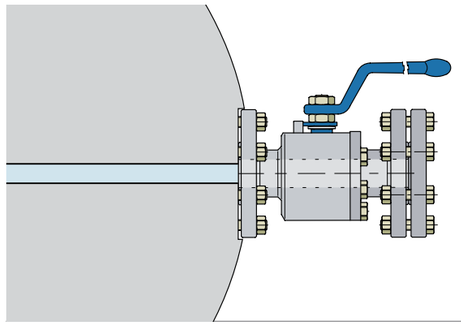
Standard version (the larger Face to Face dimension): two gearboxes and two handwheels on the same side.

Standard levers position

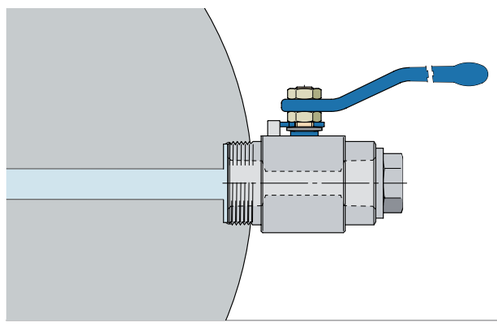
B BLEEDER Different solutions available



Standard version needle valve screwed into the valve body with 1/2” NPTF bleed.



Floating ball valve, our Art.75, bolted to the valve body; that valve is provided with blind flange.



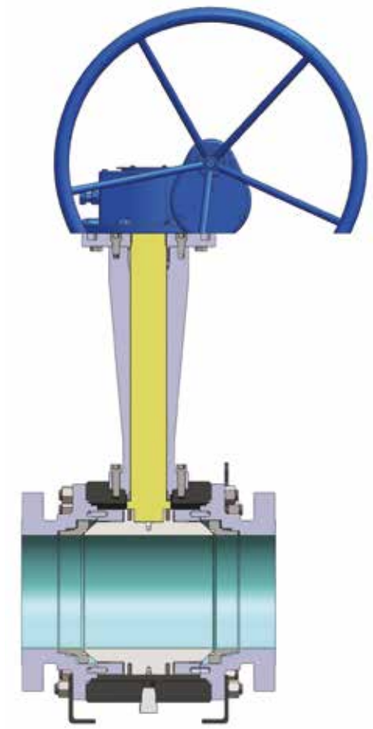
Floating ball valve, our Art.60, screwed to the valve body; that valve is provided with plug.

Art. 185
CRYOGENIC

Cryogenic valves are designed to withstand temperatures down to -196°C. All metallic parts are manufactured in stainless steel, while the soft parts are realized in proper special materials suitable for this so severe application.
Normally, the seats are in Poli-Chloro-Tri-Fluoro-Ethylene (PCTFE - Kel-F®) and PTFE lip seals insures the sealing of all dynamic components. Valve bonnet is extended to keep a vapor space, to avoid the contact of liquid cryogenic media to the gland.

OPTIONS

- Locking device.
- **Double piston effect.**
- Metal to metal seat.
- **RF - RTJ - HUB - BW ends.**
- Gear, pneumatic, hydraulic, electric operated (Manual or Actuated).









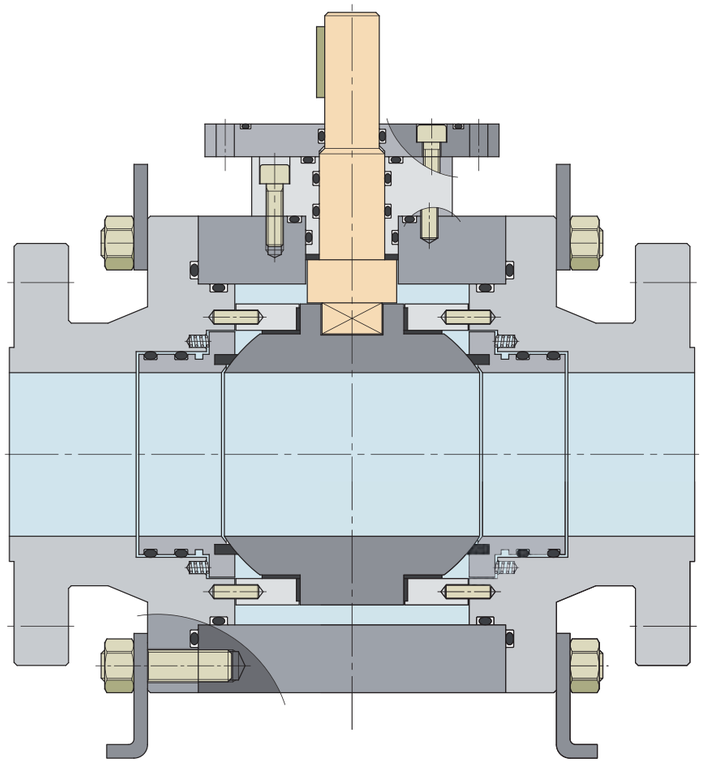

Art. 285

SUBSEA

Subsea ball valves can be manufactured in bolted body or welded body execution. Bolted valves are provided with a double sealing. The first sealing is to avoid the leakage to the external environment, while the second is to not permit to the sea water to get into the valve.
A special sealing is applied to insulate completely the process fluid to the environment. Special gearboxes or ROV receptacles are installed to be operated at the highest water depths.
Our Subsea ball valves are designed and enginereed according customer specification.

OPTIONS

- Lip-seal.
- **Double piston effect.**
- Metal to metal seat.
- **RF - RTJ - HUB - BW ends.**
- Special gear for subsea application.
- **Actuator for subsea application.**



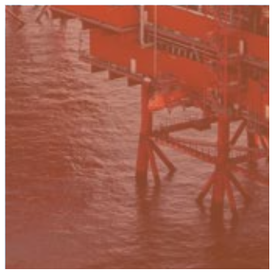
NOTE

Drawing is indicative only - our subsea ball valves are designed according specific application and customer requirements.







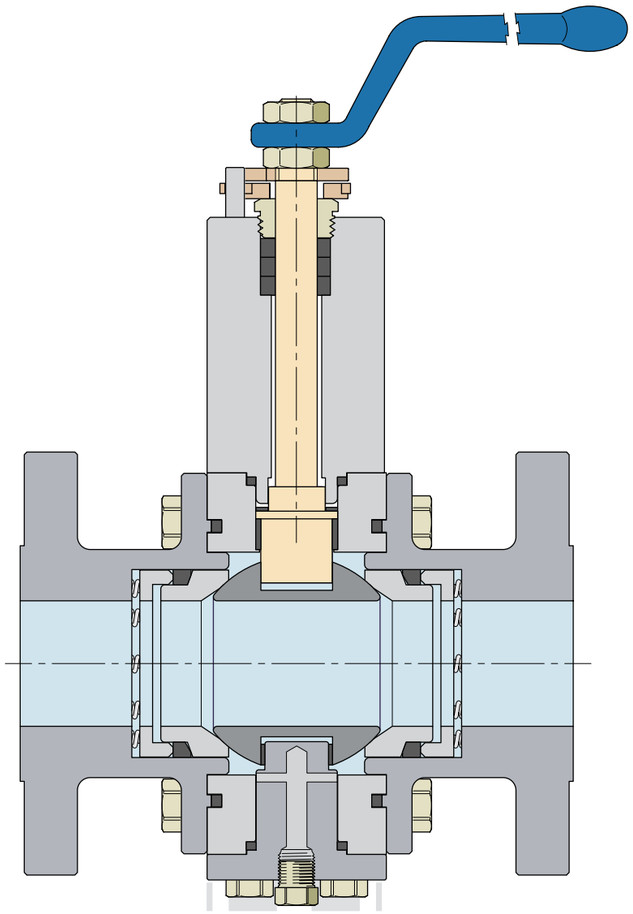



Art. 385
HIGH TEMPERATURE

High Temperature ball valves are provided with metal to metal seats and adjustable graphite gland packing. No thermoplastic or elastomeric parts are considered, due to the temperature which can reach more than 400°C. Metallic parts are realized in special steels. Ball and seats are hardfaced is with chromium carbides or tungsten carbide. A stem extension may also provided to facilitate the operation of the valve.

OPTIONS

- Locking device.
- **Extended stem.**
- Double piston effect.
- **RF - RTJ - HUB - BW ends.**
- Gear, pneumatic, hydraulic, electric motor operated (Manual or Actuated).



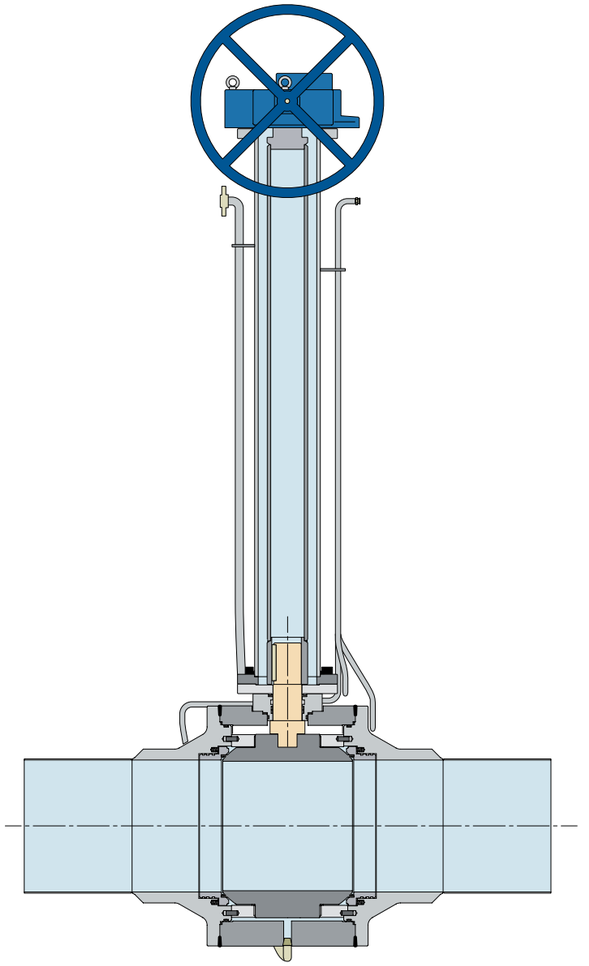
Art. 485
UNDERGROUND

Underground ball valves are usually provided in fully welded body execution with butt welding ends. For this application valves are provided with an extended stem; drain, vent and emergency sealant lines are fitted at the top of the extension.

Suitable for all services and customized on project and customer requirement.

OPTIONS

- Locking device.
- **Extended stem.**
- Lip-seal.
- **Double piston effect.**
- Metal to metal seat.
- **RF - RTJ - HUB - BW ends.**
- Gear, pneumatic, hydraulic, electric operated (Manual or Actuated).



Art. 55
TOP ENTRY

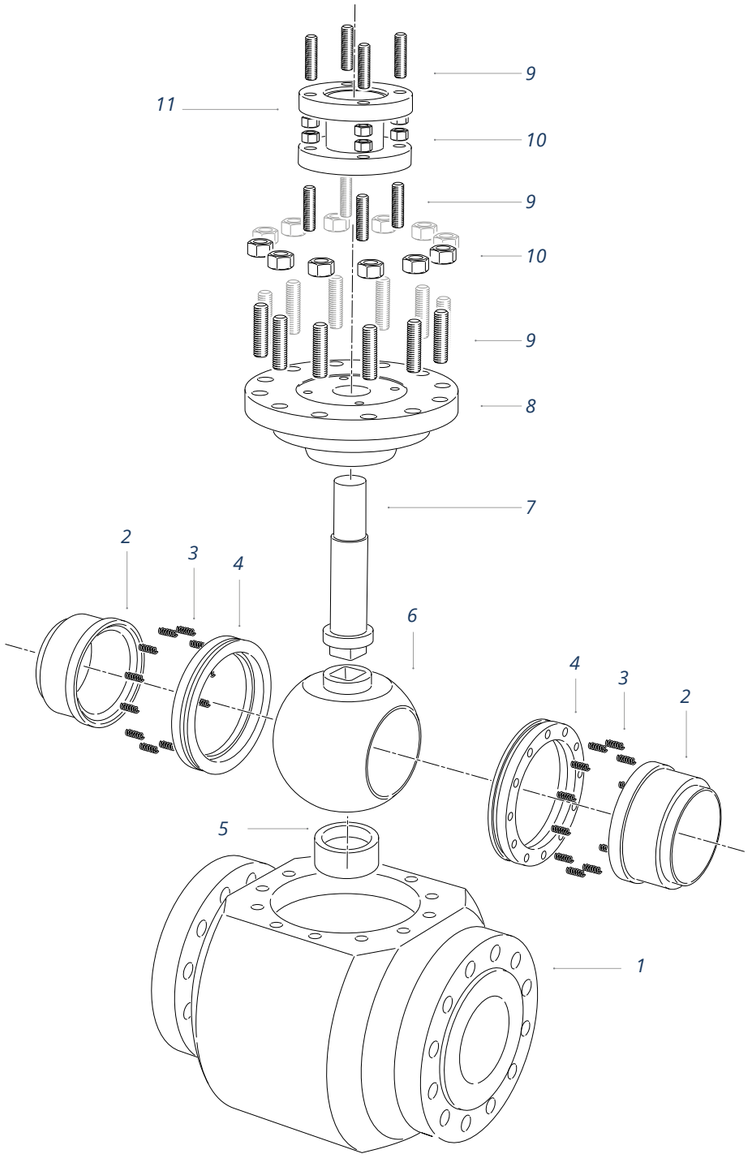
Our trunnion mounted top entry art 55 ball valves are engineered to meet international standards like API 6A, API 6D, ASME B16.34, ISO 17292 and others upon on request.
The range contains both soft, metal or composite seats that can be configured with single or double piston effect. One piece body manufactured from casting or forging.

KEY FEATURES

- Soft, metal or composite material seated.
- **Bi-directional tight shut-off.**
- Double block & bleed.
- **Fire safe and fire tested.**
- Low operating torque design.
- **Wide range of materials and sizes.**
- Spring loaded seats.
- **Trunnion mounted with energized seats.**
- Anti-blowout stem design.
- **Suitable for above ground or below ground installation.**
- Top-entry design leads to fully maintenable in line.
- **Forged or cast body options.**

KEY

1 • Body
2 • Seat
3 • Springs
4 • Springs ring
5 • Coupling
6 • Ball
7 • Stem
8 • Bonnet
9 • Studs
10 • Nuts
11 • Support



FLOATING
BALL VALVES











Art. 75
2 OR 3 PIECES SPLIT BODY

Zavero API 6D/ISO 17292 floating ball valves are 2 or 3 pieces, full and reduced bore, construction type, flanged ends, split body, side entry, in bolted execution, blowout proof stem, fitted with antistatic device.
• F/F dimensions are long-pattern design ASME B16.10/API 6D.
• Different bore reductions are available upon request.
• BW, HUB, large groove, large female, flat face and compact flange are also available upon request.

Available pressure ratings:
ASME 150-300-600-900-1500-2500

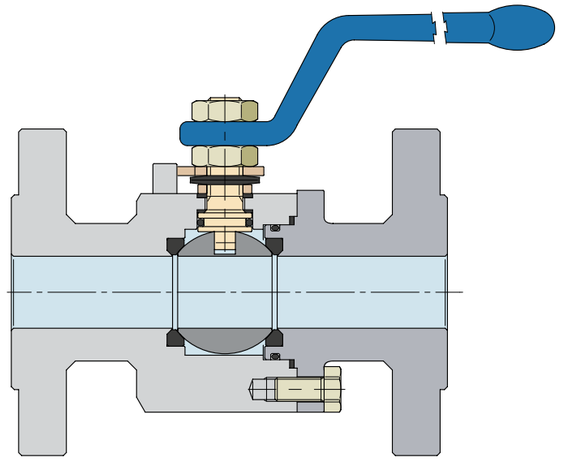
OPTIONS

- Locking device.
- **Extended stem.**
- Stem packing.
- **Metal to metal seat.**
- RF - RTJ - BW ends.
- **Soft and metal seated.**

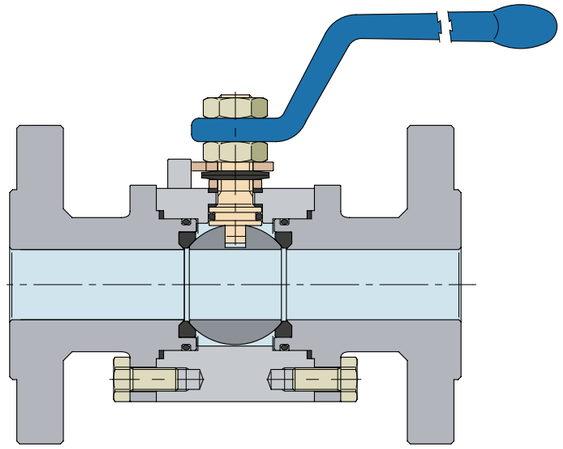
CONSTRUCTION

- API 6D
- **B16.34**
- ISO 17292
- **Fire safe design API 607**
- Antistatic
- **TA-LUFT - 3.1.8.4**

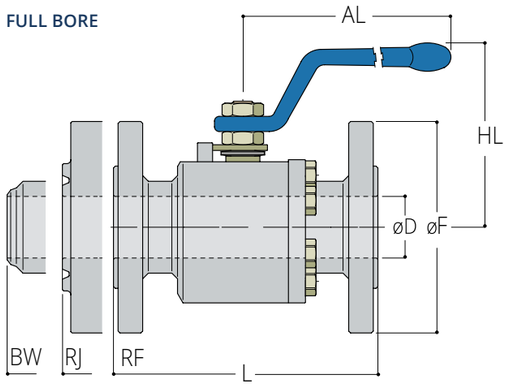
TWO PIECES



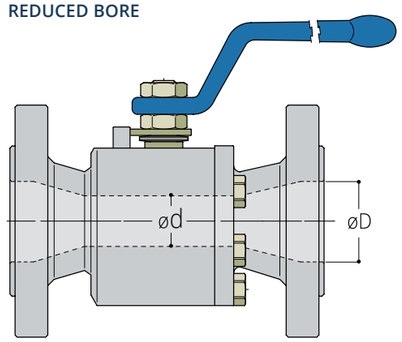
THREE PIECES



FULL BORE



REDUCED BORE



SIZE-BORE			L			ASME 150 dimensions in mm					weight
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	AI	HL	KG
1/2"		15	108	121			14	89	180	85	3
	3/4" x 1/2"	20	117	130		14	19	98	180	85	3
3/4"		20	117	130			19	98	180	85	3
	1" x 3/4"	25	127	140		19	25	108	215	120	5
1"		25	127	140			25	108	215	120	5
	1"1/2 x 1 1/4"	40	165	178		30	38	127	215	130	9
1"1/2"		40	165	178			38	127	215	130	9
	2" x 1"1/2	50	178	191	216	38	49	152	215	130	10
2"		50	178	191	216		49	152	215	130	14
	3" x 2"	80	203	216	283	49	75	191	274	170	20
3"		80	203	216	283		75	191	274	170	24
	4" x 3"	100	229	241	305	75	101	229	335	215	43
4"		100	229	241	305		101	229	335	215	46
	6" x 4"	150	394	406	457	101	150	279	500	250	83
•6"		150	394	406	457		150	279	•	•	

SIZE-BORE			L			ASME 300 dimensions in mm					weight
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	AI	HL	KG
1/2"		15	140	151			14	95	180	85	5
	3/4" x 1/2"	20	152	165		14	19	118	215	130	6
3/4"		20	152	165			19	118	215	130	6
	1" x 3/4"	25	165	178		19	25	124	215	130	7
1"		25	165	178			25	124	215	130	8
	1"1/2 x 1 1/4"	40	190	203		32	38	156	215	130	13
1"1/2"		40	190	203			38	156	215	130	13
	2" x 1"1/2	50	216	232	216	38	49	165	274	145	16
2"		50	216	232	216		49	165	274	145	16
	3" x 2"	80	283	298	283	49	75	210	335	160	32
3"		80	283	298	283		75	210	335	190	38
	4" x 3"	100	305	321	305	75	101	254	335	210	56
•4"		100	305	321	305		101	254	•	•	

SIZE-BORE			L			ASME 600 dimensions in mm					weight
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	AI	HL	KG
1/2"		15	165	165			14	95	180	80	4
	3/4" x 1/2"	20	191	191		14	19	118	215	85	5
3/4"		20	191	191			19	118	215	135	7
	1" x 3/4"	25	216	216		19	25	124	215	120	8
1"		25	216	216			25	124	215	120	8
	1"1/2 x 1 1/4"	40	241	241		32	38	156	274	130	15
1"1/2"		40	241	241			38	156	274	140	16
	2" x 1"1/2	50	292	295	292	38	49	165	274	140	20
2"		50	292	295	292		49	165	274	140	20
	3" x 2"	80	356	359	356	49	75	210	335	190	40
3"		80	356	359	356		75	210	335	190	46

SIZE-BORE			L			ASME 900 dimensions in mm					weight
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	AI	HL	KG
1/2"		15	216	216			14	121	215	120	8
	3/4" x 1/2"	20	229	229		14	19	130	215	125	10
3/4"		20	229	229			19	130	215	125	10
	1" x 3/4"	25	254	254		19	25	149	274	125	12
1"		25	254	254			25	149	274	125	14
	1"1/2 x 1 1/4"	40	305	305		32	38	178	274	145	25
1"1/2"		40	305	305			38	178	274	145	28
	2" x 1"1/2	50	368	371	368	38	49	216	335	160	30
2"		50	368	371	368		49	216	335	160	34

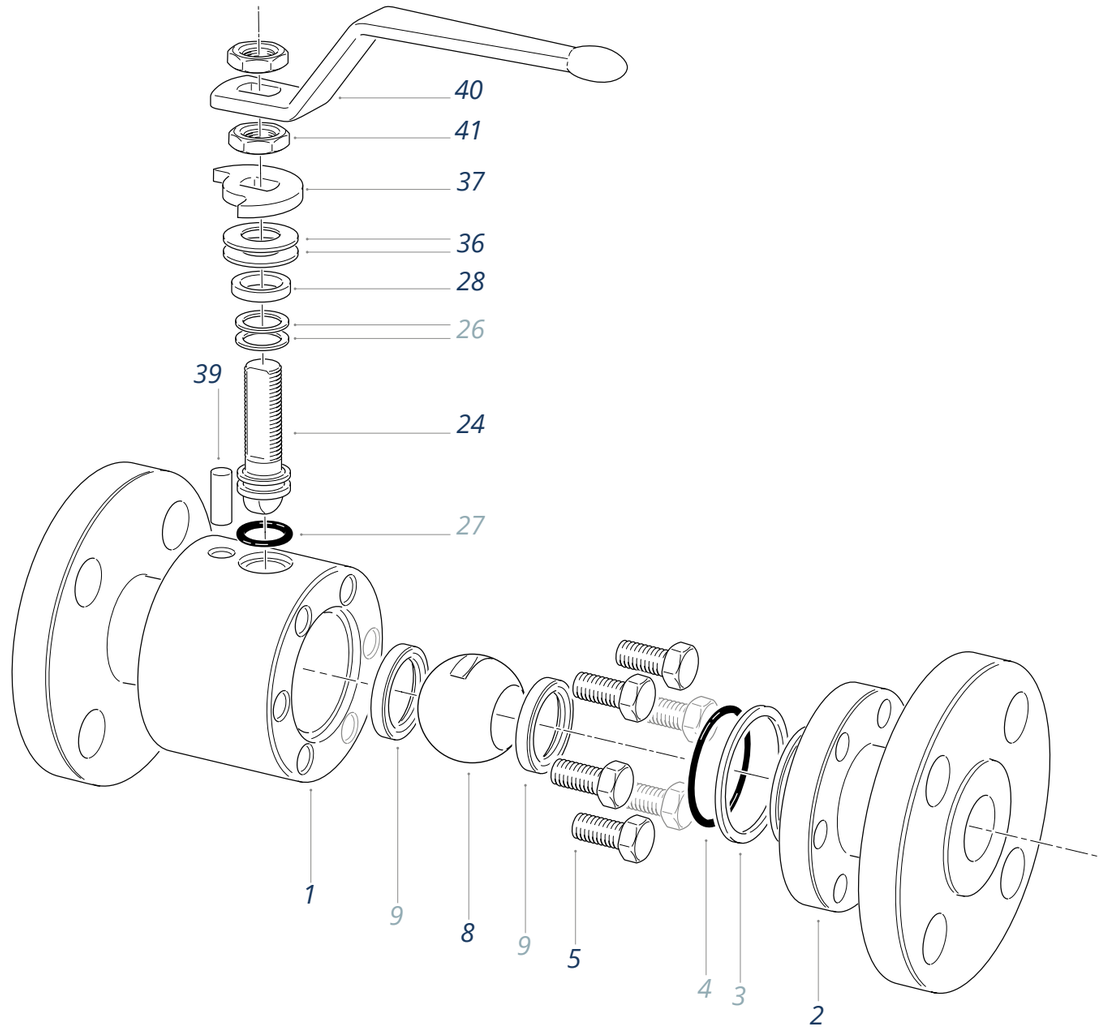
SIZE-BORE			L			ASME 1500 dimensions in mm					weight
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	AI	HL	KG
1/2"		15	216	216			14	121	215	120	8
	3/4" x 1/2"	20	229	229		14	19	130	215	125	10
3/4"		20	229	229			19	130	215	125	10
	1" x 3/4"	25	254	254		19	25	149	274	125	12
1"		25	254	254			25	149	274	125	14
	1"1/2 x 1 1/4"	40	305	305		32	38	178	274	145	25
1"1/2"		40	305	305			38	178	274	145	28
	2" x 1"1/2	50	368	371	368	38	49	216	335	160	30
2"		50	368	371	368		49	216	335	160	34

SIZE-BORE			L			ASME 2500 dimensions in mm					weight
FULL	REDUCED	DN	RF	RTJ	BW	Ød	ØD	ØF	AI	HL	KG
1/2"		15	264	264			14	133	215	120	11
	3/4" x 1/2"	20	273	273		14	19	140	274	125	13
3/4"		20	273	273			19	140	274	125	14
	1" x 3/4"	25	308	308		19	25	159	274	130	17
1"		25	308	308			25	159	274	130	19
	1"1/2 x 1 1/4"	40	384	387		32	38	203	450	210	51
1"1/2"		40	384	387			38	203	450	210	51

= AVAILABLE UPON REQUEST **METAL TO METAL** SEATED - FACE TO FACE TO BE CONFIRMED

= THREE PIECES TYPE

• = WITH **GEAR** ONLY



KEY

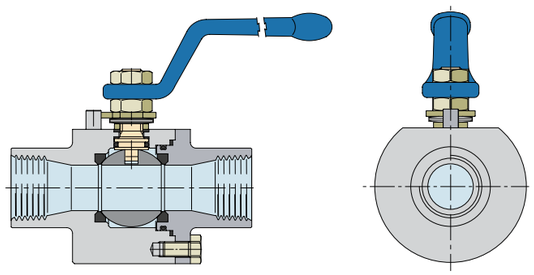
* Reccomended spare parts

- **1** • Body
- **2** • Closure
- **3** • **Closure gasket**
- **4** • **Closure O-Ring**
- **5** • Closure bolt
- **8** • Ball
- **9** • **Seat insert**
- **24** • Stem
- **26** • **Stem gasket**
- **27** • **Stem O-Ring**
- **28** • Ring
- **36** • Spring washer
- **37** • Stop sector
- **39** • Stop pin
- **40** • Lever
- **41** • Lever nut

Art. 22
2 PIECES SPLIT BODY FLOATING BALL VALVES

Zavero API 6D/ISO 17292 floating ball valves are two pieces split body full and reduced bore, side entry, in bolted execution, blowout proof stem, fitted with antistatic device.
Same features of art. 75 are available.

Available pressure ratings:
ASME 150-2500 • 800-3000-6000 psi



OPTIONS

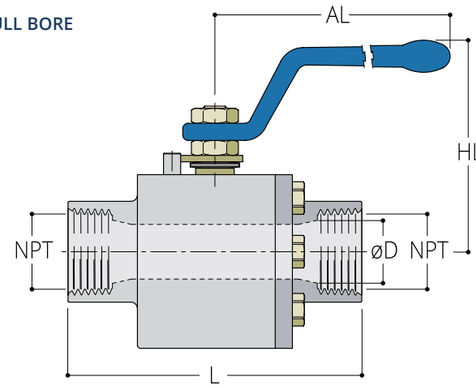
- Locking device.
- **Extended stem.**
- Metal to metal seat.
- **NPT -BSP - GAS M and F threaded ends.**
- BW - SW - PE nippled ends.
- **Soft and metal seated.**
- Nipples integral with the body.

CONSTRUCTION

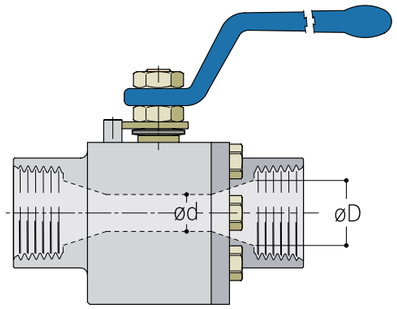
- B16.34
- **ISO 17292**
- Fire safe design API 607
- **Antistatic**
- TA-LUFT - 3.1.8.4

THREADED ENDS

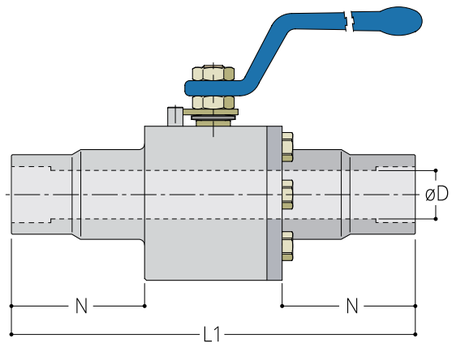
FULL BORE

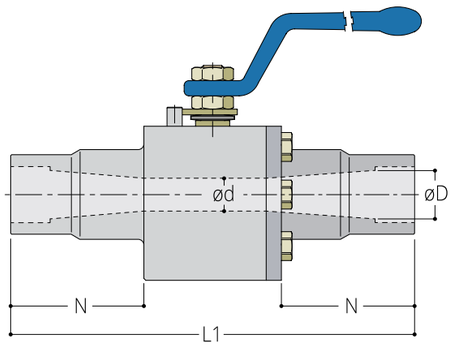


REDUCED BORE



WELDED ENDS



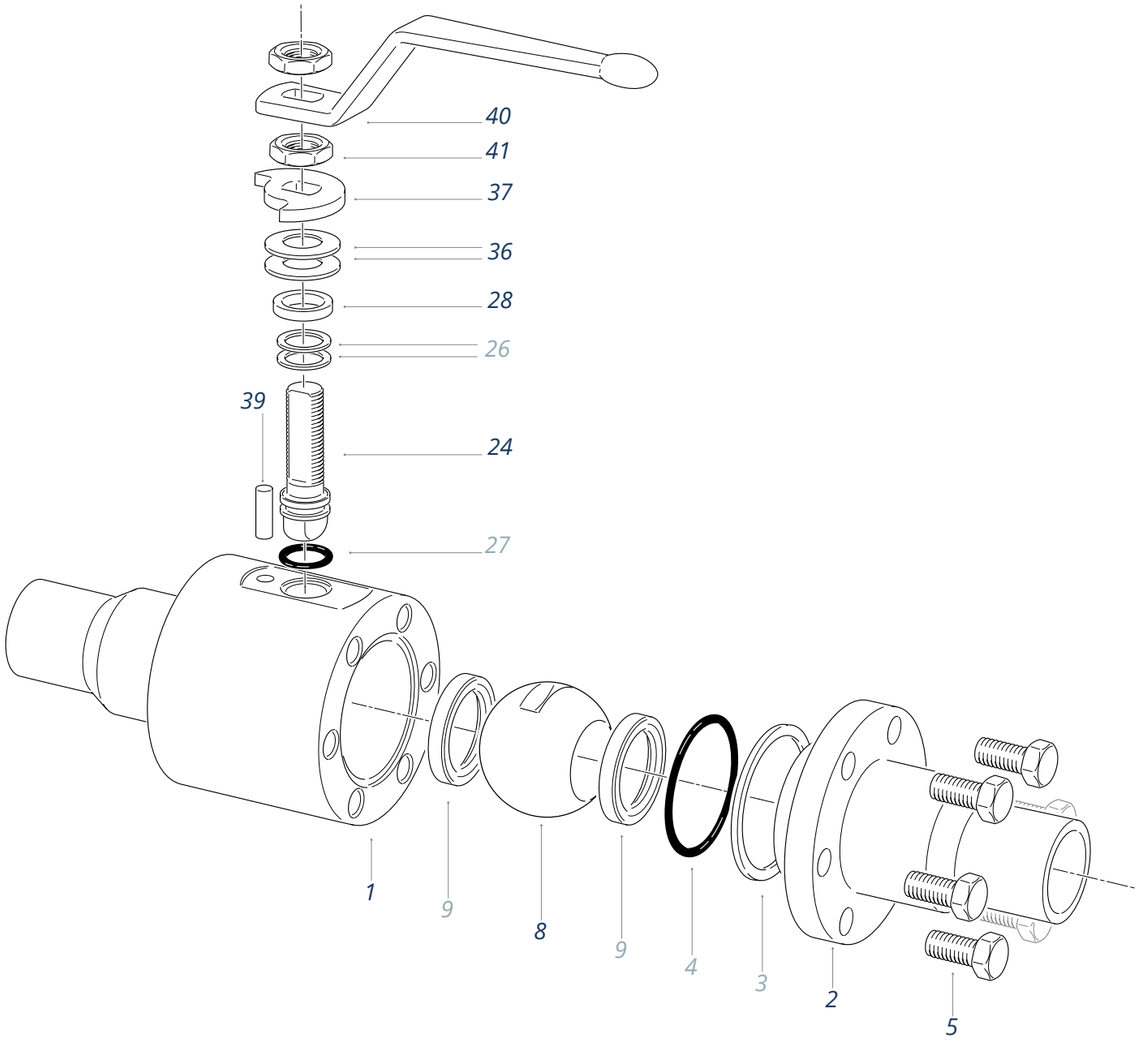


- Standard nipples N= 80 for BW - SW - PE ends
- **Upon request** available with different nipples lenghts

SIZE-BORE			FACE TO FACE		800 lbs DIMENSIONS IN MM					WEIGHT
FULL	REDUCED	DN	L	L1	Ød	ØD	ØC	AL	HL	KG
	1/2" x 3/8"	15	115	210	10	14	58	180	85	3
1/2"		15	120	215		14	66	180	85	3
	3/4" x 1/2"	20	130	220	14	19	68	180	85	4
3/4"		20	135	225		19	68	180	85	4
	1" x 3/4"	25	140	228	19	25	78	215	135	6
1"		25	145	230		25	84	215	135	7
	1"1/2" x 1"1/4"	40	180	235	32	38	100	274	140	8
1"1/2"		40	190	245		38	108	274	140	8

SIZE-BORE			FACE TO FACE		1500 lbs DIMENSIONS IN MM					WEIGHT
FULL	REDUCED	DN	L	L1	Ød	ØD	ØC	AL	HL	KG
	1/2" x 3/8"	15	115	210	10	14	58	180	85	3
1/2"		15	120	215		14	66	180	85	3
	3/4" x 1/2"	20	130	220	14	19	68	180	85	4
3/4"		20	135	225		19	68	180	85	4
	1" x 3/4"	25	140	228	19	25	78	215	135	6
1"		25	160	245		25	87	215	145	7
	1"1/2" x 1"1/4"	40			32	38				
1"1/2"		40	195	250		38	112	274	160	19

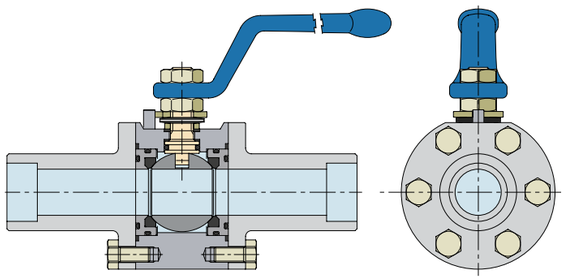
= AVAILABLE UPON REQUEST **METAL TO METAL** SEATED - FACE TO FACE TO BE CONFIRMED



Art. 20
3 PIECES SWING-OUT BODY

Zavero API 6D/ISO 17292 floating ball Valves are 3 pieces, split body, side entry, in bolted execution, blowout proof stem, fitted with antistatic device.
This valve is equipped with a “swing-out body” which allows an easy in-line maintenance avoiding to cut the welded ends, since all the trim is included into the body cavity.

Available pressure ratings:
ASME 150-1500 • 800-3000 psi



KEY

* Reccomended spare parts

- **1** • Body
- **2** • Closure
- **3** • **Closure gasket**
- **4** • **Closure O-Ring**
- **5** • Closure bolt
- **8** • Ball
- **9** • **Seat insert**
- **24** • Stem
- **26** • **Stem gasket**
- **27** • **Stem O-Ring**
- **28** • Ring
- **36** • Spring washer
- **37** • Stop sector
- **39** • Stop pin
- **40** • Lever
- **41** • Lever nut

OPTIONS

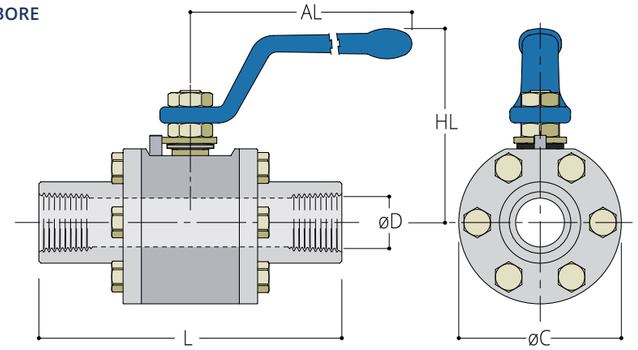
- Locking device.
- **NPT -BSP - GAS M and F threaded ends.**
- BW - SW - PE nippled ends.

CONSTRUCTION

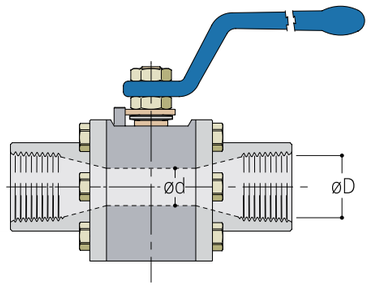
- B16.34
- **ISO 17292**
- Fire safe design API 607
- **Antistatic**
- TA-LUFT - 3.1.8.4

THREADED ENDS

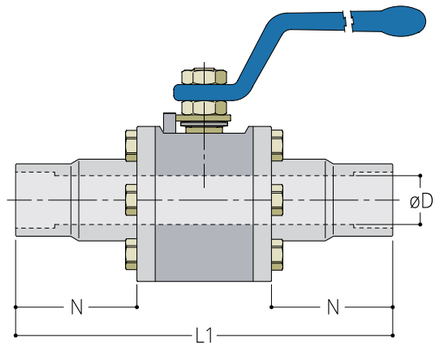
FULL BORE

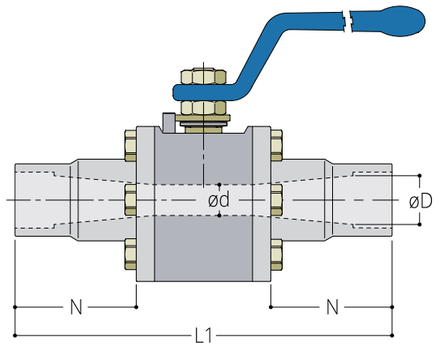


REDUCED BORE



WELDED ENDS

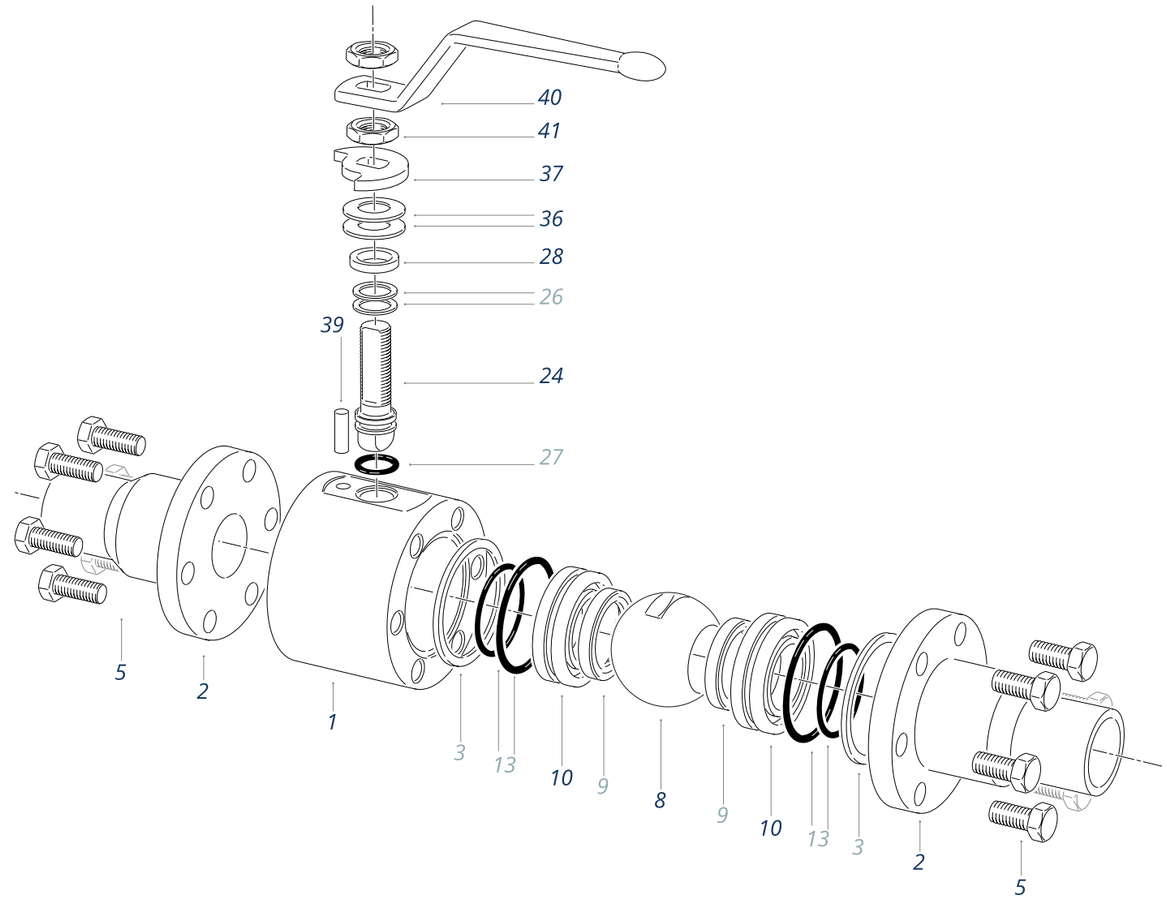




- Standard nipples N= 80 for BW - SW - PE ends
- **Upon request** available with different nipples lenghts

SIZE-BORE			FACE TO FACE		800 lbs DIMENSIONS IN MM					WEIGHT
FULL	REDUCED	DN	L	L1	Ød	ØD	ØC	AL	HL	KG
	1/2" x 3/8"	15	95	215	10	14	55	140	64	2
1/2"		15	95	215		14	55	140	64	2
	3/4" x 1/2"	20	140	230	14	19	68	180	77	2,5
3/4"		20	140	230		19	68	180	77	2,5
	1" x 3/4"	25	155	235	19	25	83	215	127	3
1"		25	155	235		25	83	215	127	3
	1"1/2" x 1"1/4"	40	185	265	32	38	108	215	120	5
1"1/2"		40	185	265		38	108	215	120	5

SIZE-BORE			FACE TO FACE		1500 lbs DIMENSIONS IN MM					WEIGHT
FULL	REDUCED	DN	L	L1	Ød	ØD	ØC	AL	HL	KG
	1/2" x 3/8"	15	95	215	10	14	55	140	64	2
1/2"		15	95	215		14	55	140	64	2
	3/4" x 1/2"	20	140	230	14	19	68	180	77	2,5
3/4"		20	140	230		19	68	180	77	2,5
	1" x 3/4"	25	165	245	19	25	87	215	127	3,5
1"		25	165	245		25	87	215	127	3,5
	1"1/2" x 1"1/4"	40	190	270	32	38	112	215	130	7
1"1/2"		40	190	270		38	112	215	130	7



KEY

* Reccomended spare parts

- **1** • Body
- **2** • Closure
- **3** • **Closure gasket**
- **4** • **Closure O-Ring**
- **5** • Closure bolt
- **8** • Ball
- **9** • **Seat insert**
- **10** • Seat ring
- **13** • **Seat O-ring**
- **24** • Stem
- **26** • **Stem gasket**
- **27** • **Stem O-Ring**
- **28** • Ring
- **36** • Spring washer
- **37** • Stop sector
- **39** • Stop pin
- **40** • Lever
- **41** • Lever nut

Art. 175
CRYOGENIC

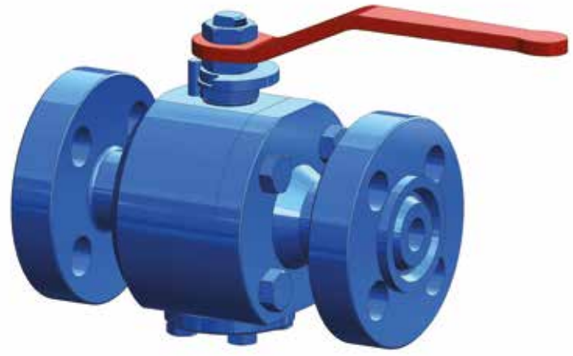
Cryogenic valves are designed to withstand temperatures down to -196°C. All metallic parts are manufactured in stainless steel, while the soft parts are realized in proper special materials suitable for this so severe application.
Normally, the seats are in Poli-Chloro-Tri-Fluoro-Ethylene (PCTFE - Kel-F®) and PTFE lip seals insures the sealing of all dynamic components. Valve bonnet is extended to keep a vapor room, to avoid the contact of liquid cryogenic media to the gland.

OPTIONS

- Locking device.
- **Metal to metal seat.**
- RF - RTJ - HUB - BW ends.

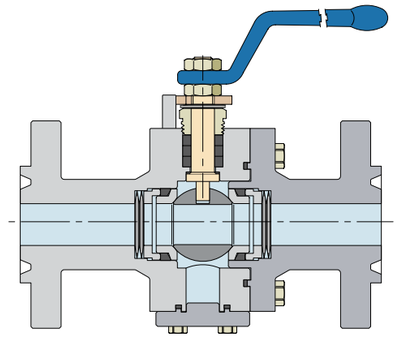
CONSTRUCTION

- BS 6364
- **API 6D**
- ISO 17292



Art. 375
HIGH TEMPERATURE

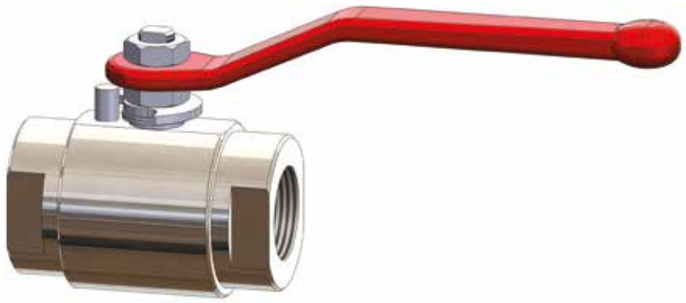
High Temperature ball valves are normally provided with metal to metal seats and adjustable graphite gland packing. No soft parts are considered, due to the temperature which can reach more than 400°C. All metallic parts are realized in forged special steels. Ball and seats hardfacing is with chromium carbides or tungsten carbide. A stem extension may also provided to facilitate the operation of the valve.



OPTIONS

- Locking device.
- **Extended stem.**
- RF - RTJ - HUB - BW ends.

COMMODITY
VALVES



Art. 60
BALL VALVE SCREWED BODY

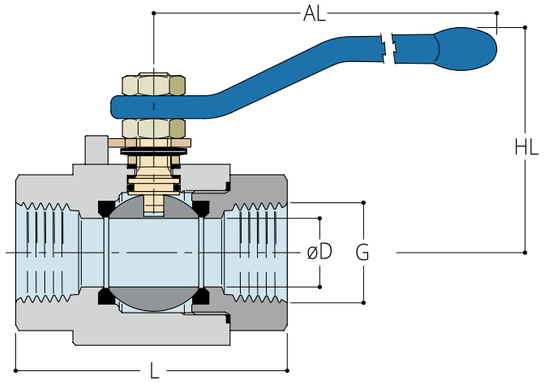
Zavero ISO 17292 floating ball Valves, full and reduced bore, are screwed body, side entry, blowout proof stem, fitted with antistatic device.
Valves are available with NPT, BSP or GAS (male and female) ends.

Available pressure ratings:
ASME 150-1500 • 800-3000 psi

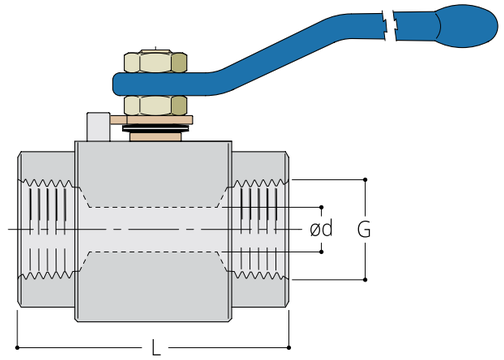
CONSTRUCTION

- B16.34.
- **ISO 17292.**
- Fire safe design API 607.
- **Antistatic.**
- TA-LUFT - 3.1.8.4.

FULL BORE



REDUCED BORE



SIZE-BORE (G)		DIMENSIONS IN MM						WEIGHT	SIZE available
FULL	REDUCED	DN	L	Ød	ØD	AL	HL	KG	
1/4”		8	70		10	110	65	0.8	3000 psi
	3/8” x 1/4”	10	70	10	10	110	65	0.8	
3/8”		10	75		10	145	75	1	
	1/2” x 3/8”	15	70	10	14	110	65	0.8	
1/2”		15	75		14	145	75	1	
	3/4” x 1/2”	20	80	14	18	145	70	1	
3/4”		20	85		18	180	80	1.5	
	1” x 3/4”	25	90	18	24	180	90	1.5	
1”		25	95		24	180	90	1.8	
	1”1/4 x 1”	32	105	30	24	180	90	2.3	
1”1/4		32	115		30	215	95	3.8	
	1”1/2 x 1”1/4	40	115	30	38	215	110	3.5	
1”1/2		40	120		38	215	110	4.8	
	2” x 1”1/2	50	135	38	48	215	120	5.3	
2”		50	142		48	215	120	7.5	

Art. 90
BALL VALVE SCREWED BODY

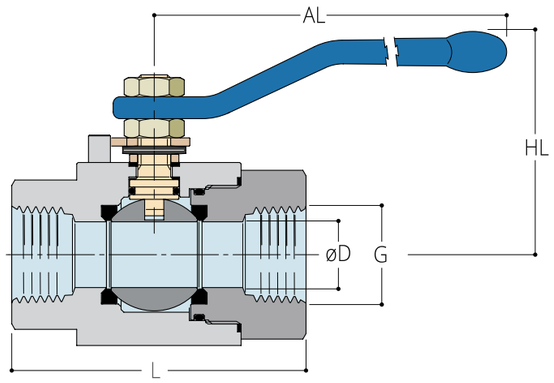
Zavero ISO 17292 floating ball Valves, full and reduced bore, designed for high pressure are screwed body, side entry, blowout proof stem, fitted with antistatic device. Valves are available with NPT, BSP or GAS (male and female) ends.

Available pressure ratings:
ASME 2500 • 6000 psi

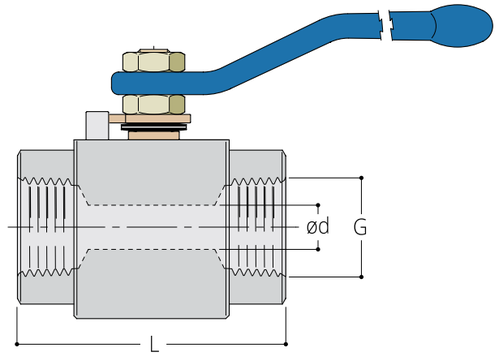
CONSTRUCTION

- B16.34.
- **ISO 17292.**
- Fire safe design API 607.
- **Antistatic.**
- TA-LUFT - 3.1.8.4.

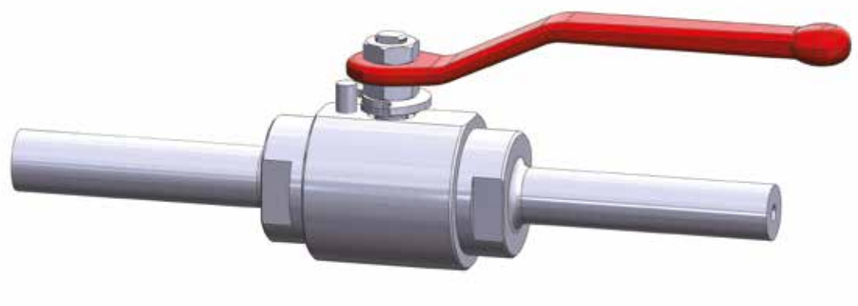
FULL BORE



REDUCED BORE



SIZE-BORE (G)		CLASS 2500-6000 DIMENSIONS IN MM						WEIGHT
FULL	REDUCED	DN	L	Ød	ØD	AL	HL	KG
1/4”		8	85	10		145	75	1.3
	3/8” x 1/4”	10						
3/8”		10	95	14		180	80	2
	1/2” x 3/8”	15						
1/2”		15	95	14		180	80	2
	3/4” x 1/2”	20						
3/4”		20	105	18		180	95	2.6
	1” x 3/4”	25						
1”		25	115	24		215	120	3.2
	2” x 1”1/2	50						
2”		50	180	48		274	155	12



Art. 62
BALL VALVE
SCREWED BODY WITH INTEGRAL NIPPLE

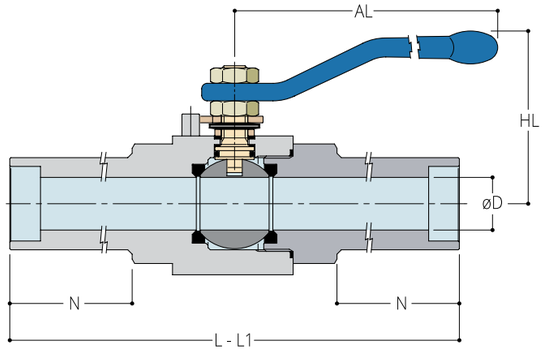
Zavero ISO 17292 floating ball Valves, full and reduced bore, are screwed body, side entry, blowout proof stem, fitted with antistatic device.
Valves are available with nipples and welding ends (BW, PE, SW).

Available pressure ratings:
ASME 150-1500 • 800-3000 psi

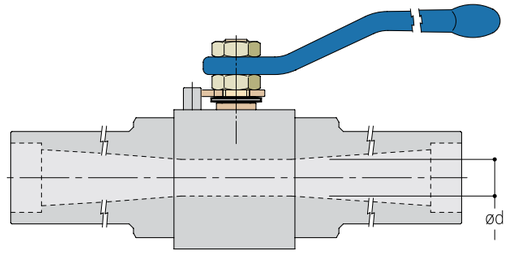
CONSTRUCTION

- B16.34.
- **ISO 17292.**
- Fire safe design API 607.
- **Antistatic.**
- TA-LUFT - 3.1.8.4.

FULL BORE



REDUCED BORE

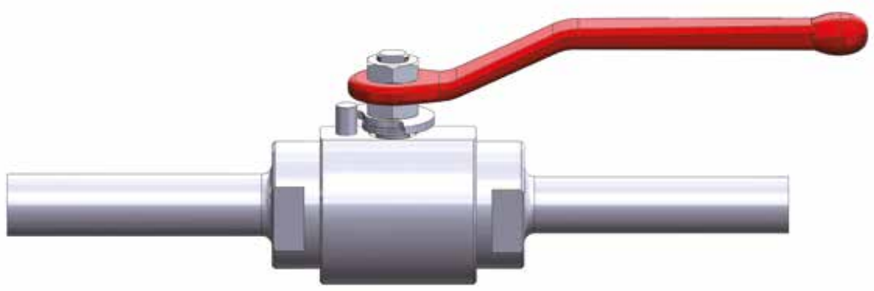


STANDARD NIPPLES

N = 80 mm for stainless steel
N = 100 mm for carbon steel
L = lenght with stainless steel nipples
L1 = lenght with carbon steel nipples

Available on request with diff erent nipples lenghts

SIZE-BORE (G)		CLASS 150-1500 DIMENSIONS IN MM							WEIGHT
FULL	REDUCED	DN	L	L1	Ød	ØD	AL	HL	KG
1/2"		15	235	275		14	145	75	1.5
	3/4" x 1/2"	20	240	280	14	18	145	70	1.5
3/4"		20	245	285		18	180	80	2.3
	1" x 3/4"	25	250	290	18	24	180	90	2.3
1"		25	255	295		24	180	90	2.7
	1"1/4 x 1"	32	265	305	30	30	180	90	3.5
1"1/4		32	275	315		30	215	95	6.5
	1"1/2 x 1"1/4	40	275	315	30	38	215	110	5.3
1"1/2		40	280	320		38	215	110	7.2
	2" x 1"1/2	50	295	335	38	48	215	120	8
2"		50	300	340		48	215	120	11.3



Art. 92
BALL VALVE
SCREWED BODY WITH INTEGRAL NIPPLE

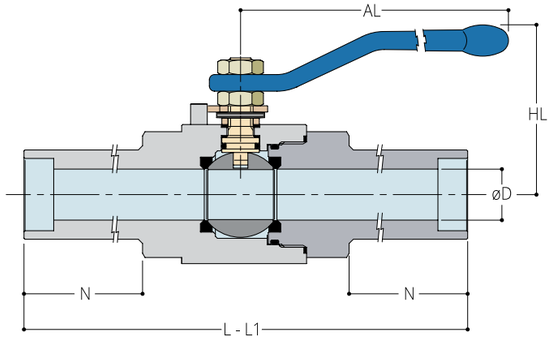
Zavero ISO 17292 floating ball Valves, full and reduced bore, designed for high pressure are screwed body, side entry, blowout proof stem, fitted with antistatic device.
Valves are available with nipples and welding ends (BW, PE, SW).

Available pressure ratings:
ASME 2500 • 6000 psi

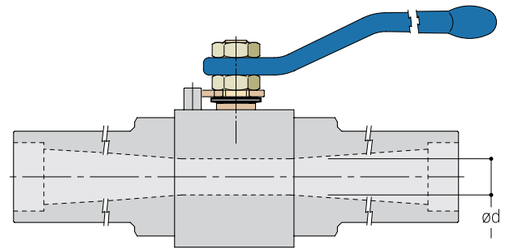
CONSTRUCTION

- B16.34.
- **ISO 17292.**
- Fire safe design API 607.
- **Antistatic.**
- TA-LUFT - 3.1.8.4.

FULL BORE



REDUCED BORE



STANDARD NIPPLES

N = 80 mm for stainless steel
N = 100 mm for carbon steel
L = lenght with stainless steel nipples
L1 = lenght with carbon steel nipples

Available on request with different nipples lenghts

SIZE-BORE (G)		CLASS 2500-6000 DIMENSIONS IN MM							WEIGHT
FULL	REDUCED	DN	L	L1	Ød	ØD	AL	HL	KG
1/2"		15	255	295		14	180	80	3
	3/4" x 1/2"	20							
3/4"		20	265	305		18	180	95	4
	1" x 3/4"	25							
1"		25	275	315		24	215	120	5

TECHNICAL
INFORMATION

MATERIALS

SEALING

Seals materials are selected according to the service of the valve and leakage requirement. Zero leakage is easier obtained by soft seals, while metal seated seats provide a better resistance to scratches and to other factors (temperature, pressure, erosion).

PROTECTIVE COATING

Experienced and approved contractors. Qualified trained and certified in accordance with most remarkable technical standard for protective coating.

CRA WELD OVERLAY

Corrosion-resistant weld overlays are used to improve the service life of components made with an otherwise corrosion-prone material.
On request, seat pocket area overlay, seal area overlay, or completed cladding on wetted surface welded overlays in Inconel 625, Stainless Steel 316.

CONSTRUCTION STANDARDS

API STANDARDS	
API Q1	Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry
API 6A	Petroleum and natural gas industries. Drilling and production equipment. Wellhead and Christmas tree equipment
API 6D	Specification for Pipeline Valves
API 6DSS	Specification for subsea Pipeline Valves
API 598	Valve Inspection and Testing
API 607	Testing of valves - Fire type-testing requirements
API 608	Metal Ball Valves - Flanged, Threaded and Welding Ends
API 6FA	Specification for Fire Test for Valves
API RP-6DR	Repair and Remanufacture of Pipeline Valves
BS STANDARDS	
BS 6364	Specification for valves for cryogenic service
EN STANDARDS	
EN 10204	Metallic products - Types of inspection documents
EN 12266	Industrial valves. Testing of valves. Pressure tests, test procedures and acceptance criteria
ASME STANDARDS	
ASME	Boiler and Pressure Vessel Code, Sect. VIII Div.1 & 2
ASME B1.1	Unified Inch Screw Threads, UN and UNR Thread Form
ASEM B1.20.1	Pipe Threads, General Purpose (Inch)
ASME B16.10	Face-to-Face and End-to-End Dimensions of Valves
ASME B16.20	Metallic Gaskets for Pipe Flanges - Ring-Joint, Spiral-Wound, and Jacketed
ASME B16.25	Butt-welded Ends
ASME B16.34	Valves Flanged, Threaded, and Butt-welded End
ASME B16.47	Large Diameter Steel Flanges - (NPS 26 Through NPS 60)
ASME B16.5	Pipe Flanges and Flanged Fittings - (NPS ½ Through NPS 24)
ASME B31.3	Process Piping
ASME B31.8	Gas Transmission and distribution Piping System
ISO STANDARDS	
ISO 17292	Metal ball valves for petroleum, petrochemical and allied industries
ISO 14313	Specification for Pipeline Valves
ISO 10423	Petroleum and natural gas industries. Drilling and production equipment. Wellhead and Christmas tree equipment
ISO 15848	Industrial valves - Measurement, test and qualification procedures for fugitive emissions - Part 1 & 2
ISO 5208	Industrial valves -- Pressure testing of valves
ISO 9712	Non-destructive testing. Qualification and certification of NDT personnel. General principles
ISO 10497	Testing of valves - Fire type-testing requirements
MSS—SP STANDARDS	
MSS SP-06	Standard Finishes for Contact Faces of Pipe Flanges and Connecting-End Flanges of Valves and Fittings
MSS SP-25	Standard Marking System for Valves, Fittings, Flanges and Unions
MSS-SP-44	Steel Pipeline Flanges
MSS-SP-45	Bypass and Drain Connections
MSS-SP-55	Quality Standard for Steel Castings for Valves, Flanges and Fittings and Other
NACE STANDARDS	
NACE MR0175 - ISO 15156	Petroleum and Natural Gas Industries - Materials for Use in H2S-containing Environments in Oil and Gas Production
ASTM STANDARDS	
ASTM	Material Specification
EU REGULATIONS	
PED (2014/68/EU)	Pressure Equipment Directive
Atex (2014/34/EU)	Explosives Atmospheres Directive

MATERIALS

BOLTING MATERIALS	STD BOLTING	OTHER AVAILABLE
CS	B7/2H	B7M/2HM
LTCS	L7/4	L7M/7M
SS	B8/8	B8M/8M
		B8M/8M Cl.2
DSS	B7/2H HDG	UNS S31803
		UNS S32750
		UNS S32760

LIST OF MAIN METALLIC MATERIAL USED FOR FABRICATION OF VALVE BODY / TRIM

	CATEGORIA	REF	ASTM	UNS	T min (°C)	T max (°C)
CARBON STEEL	CARBON STEEL	A105	A105	-	-29	+425
		AISI 4140	-	G41400	-29	+425
		A694 F60	A694 F60	-	-46	+425
		A694 F70	A694 F70	-	-46	+425
	LOW ALLOY STEEL	F11	A182 F11	K11572	0	+595
		F22	A182 F22	K21590	0	+595
	LOW TEMP CARBON STEEL	LF2	A350 LF2	K03011	-46	+425
		LF3	A350 LF3	K320225	-101	+343
STAINLESS STEEL	AUSTENITIC STAINLESS STEEL	SS 304	A182 F304 - A479 GR.304	S30400	-196	+538
		SS 316	A182 F316 - A479 GR.316	S31600	-196	+538
		SS 316L	A182 F316L - A479 GR.316L	S31603	-196	+538
		SS 316 Ti	A182 F316 Ti - A479 Gr.316Ti	S31635	-196	+538
		SS 321	A182 F321 - A479 Gr.321	S32100	-196	+538
		6Mo	A182 F44 - A479 UNS S31254	S31254	-196	+371
		SS 347	A182 F347 - A479 Gr.347	S34700	-196	+816
		XM 19	A108 FXM19 - A479 XM-19	S20910	-196	+649
	MARTENSITIC STAINLESS STEEL	13Cr	A182 F6A - A479 Gr.410	S41000	-29	+538
		13 Cr 4 Ni	A182 F6NM - A479 Gr.415	S41500	-29	+371
		17.4 PH	A564 Gr.630	S17400	-60	+343
	DUPLEX S. S.	22 Cr	A182 F51 - A479 UNS S31803	S31803	-46	+315
	SUPER DUPLEX STAINLESS STEEL	25 Cr	A182 F53 - A479 UNS S32750	S32750	-46	+315
		25 Cr	A182 F55 - A479 UNS S32760	S32760	-46	+315
	SPECIAL ALLOYS	INC 625	B446 N06625 - B564 N06625	N06625	-46	+538
		INC 825	B425 N08825 - B564 N08825	N08825	-46	+538
		INC 718	B637 N07718 - API 6ACRA 718	N07718	-60	+538
		Titanium Gr2	B348 GR.2 - B381 F2	R50400	-46	+315
		Ni Al Bz	B148 C95500 B148 C95800	C95500 C95800	-101	+200

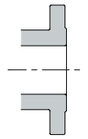
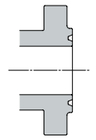
GENERAL NOTES

Other material may be available under specific requests

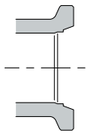
ENDS

Others available:
BSP (ISO 228/1 e ISO 7/1), flat face, large female, large groove, compact flange, sae.

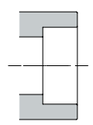
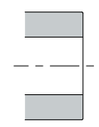
FLANGED

SHAPE	TYPE	DESCRIPTION	APPLICATIONS
	RF	**RAISED FACE** Sealing on RF flanges is by flat nonmetallic gaskets fitted within the bolts of the flanges. Surface finish is controlled depending on the type of gaskets being used.	TYPICALLY USED FOR LOW PRESSURE (CLASS 150-300-600)
	RTJ	**RING JOINT** Ring type metal gaskets must be used on this type of flange facing.	TYPICALLY USED FOR HIGH PRESSURE (CLASS900-1500-2500-API 6A) MAY BE EQUIPPED AS PER NORSOK-L005

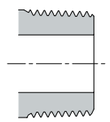
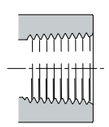
CLAMP

SHAPE	TYPE	DESCRIPTION	APPLICATIONS
	HUB	This coupling requires bolting, clamps and seal ring. As different designs are produced by different manufacturers we always require to the customer to supply the HUB machining drawing.	TYPICALLY USED FOR HIGH PRESSURE (CLASS 900-1500- 2500-API 6A)

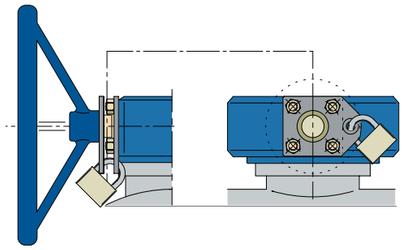
WELDED (WE)

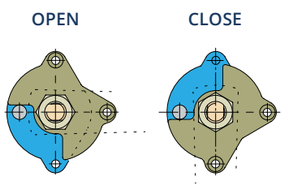
SHAPE	TYPE	DESCRIPTION	APPLICATIONS
	BW	**BUTT WELDING** This construction offers the highest verifi able integrity of welding as BW connections are easy to radiograph. Different schedules can be supplied.	BW ENDS ARE GENERALLY USED WHEN THE POSSIBILITY OF FLUID LEAKAGE MUST BE ELIMINATED
	SW	**SOCKET WELDING** This kind of welding end match to the PE end.	TYPICALLY USED FOR APPLICATIONS WHERE NO EXTREMELY HAZARDOUS FLUIDS NEITHER FLUIDS WITH TENDENCY FOR CREVICE CORROSION ARE PRESENT
	PE	**PLAIN ENDS** This kind of welding end match to the SW end.	

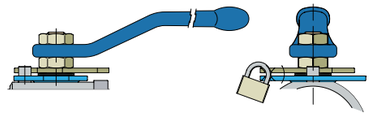
THREADED

SHAPE	TYPE	DESCRIPTION	APPLICATIONS
	NPT (M)	Threaded joints as per American National Taper.	TYPICALLY USED ON COMMODITY VALVES
	NPT (F)		

LOCKING DEVICE gear and lever operated - optional

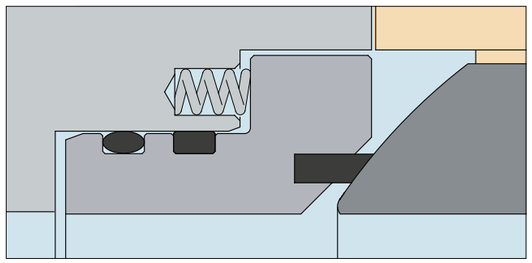




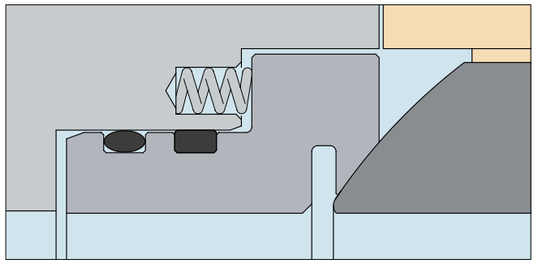


Locking device, to use both in open and in close position is suitable to receive padlock.

SEAT DESIGN - standard

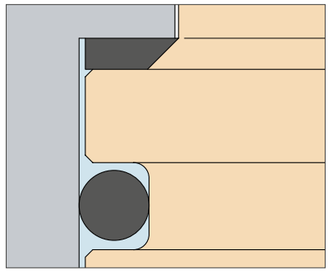


Soft seated valves are provided with a metal seat ring which is sealing against the ball by means of a resilient insert and against the body by a seat gasket.

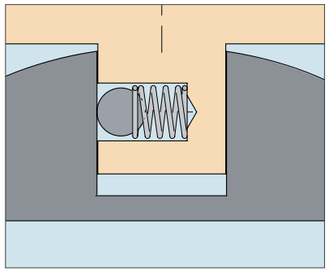


Metal seated valves are recommended for abrasive service and for the higher operating temperatures.
Ball and seat rings contact surfaces are with tungsten or chrome carbide coating.

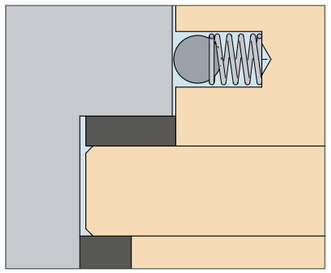
ANTI STATIC DEVICE - standard



Floating type
Anti static gasket grants conductivity between body and stem.



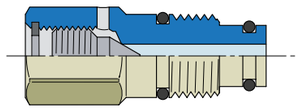
Floating and Trunnion type
Antistatic device between ball and stem is a direct metal contact.*



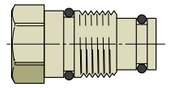
Trunnion type
Anti static ball with spring grants conductivity between body and stem.

* = **On request:** ball with spring option can also be done between ball and stem.

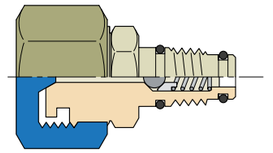
DOUBLE O-RING FEATURE - optional



Vent Bleeder

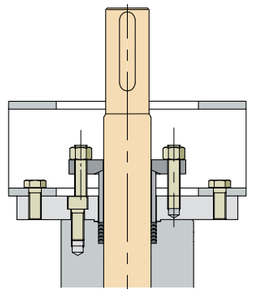


Drain plug

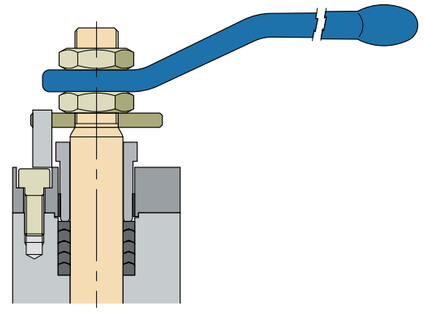


Seat Grease / Sealant injector

LOW FUGITIVE EMISSION
Stem packing according to ISO 15848 - optional

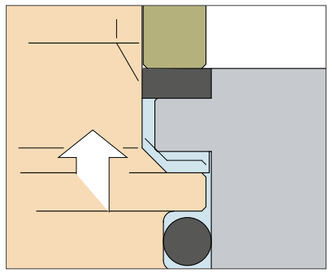


Gear operated or bare stem

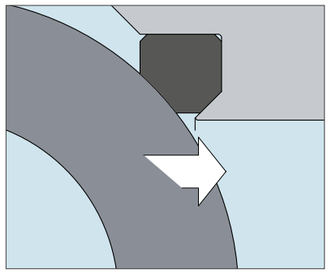


Lever operated

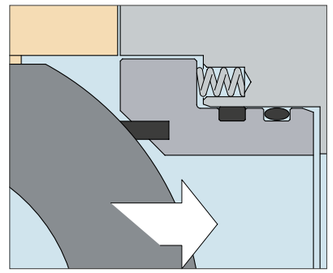
FIRE SAFE Designed in accordance with API 607 - standard



Floating type



Floating and Trunnion type

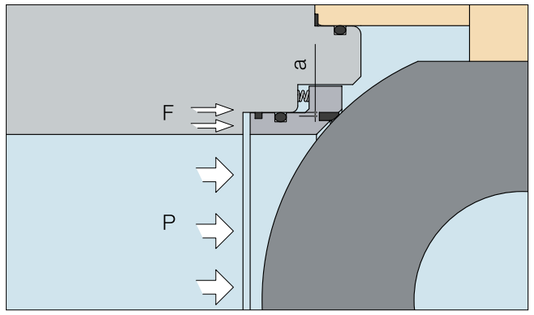


Trunnion type

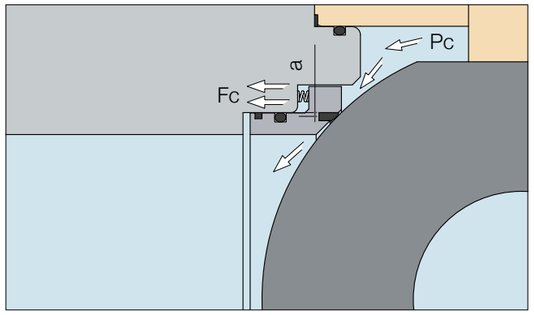
When non-metal parts are destroyed in a fire, the upstream medium pressure push the ball into the downstream metalseat lip and the stem to the body preventing leakage due to a secondary metal-to-metal seals. For all static seals and on the stem for trunnion execution the fire safe is provided by a secondary graphite sealing.

SINGLE PISTON EFFECT (SELF RELIEVING)*

Uni-directional seat - standard

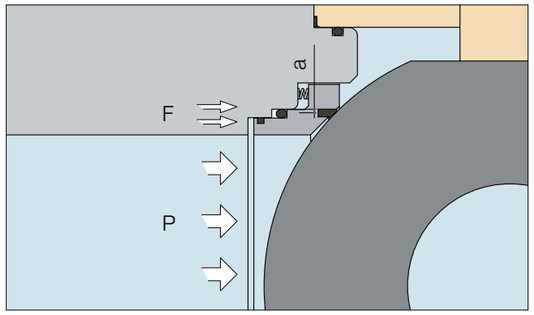


The pressure upstream P and the gap “a” produce the force “F” that pushed seat against the ball.

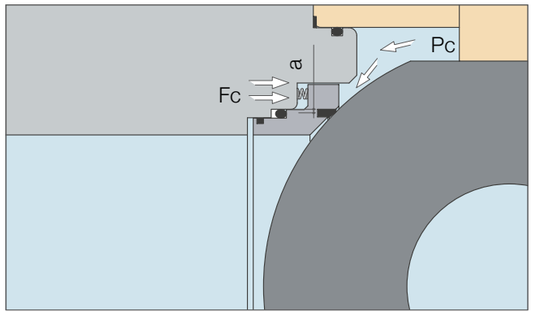


The pressure in body cavity Pc and the gap “a” produce the force “Fc” that pushes away the seat from the ball and the body cavity pressure can relief in flow line.

DOUBLE PISTON EFFECT * Bi-directional seat - optional



The pressure upstream P and the gap “a” produce the force “F” that pushed seat against the ball.

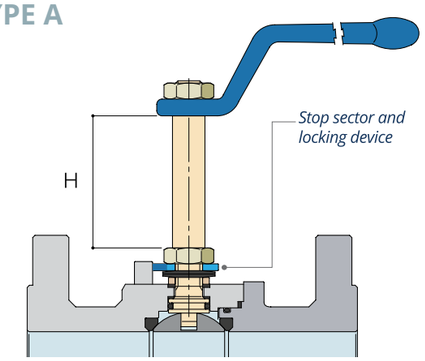


The pressure in body cavity Pc and the gap “a” produce the force “Fc” that pushes the seat always against the ball and the body cavity pressure can not relief in flow line.

* = **On request:** trunnion ball valves can be supplied with both seats self relieving, both setas bi-directiona or a combination of the two.

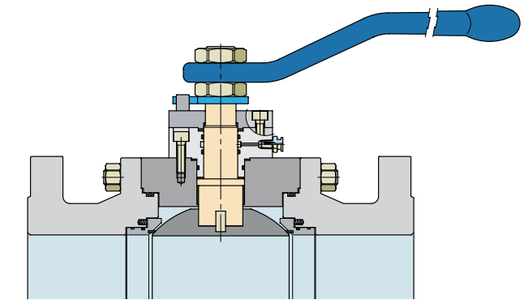
STEM EXTENSION Special lenght upon request

TYPE A



H	30	50	80	100(MAX)

Floating type

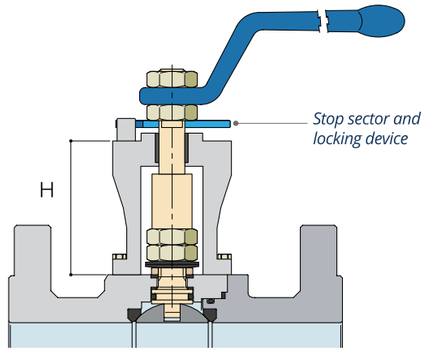


INCREASED HEIGHT GLAND FLANGE	50	80	100(MAX)

Trunnion type

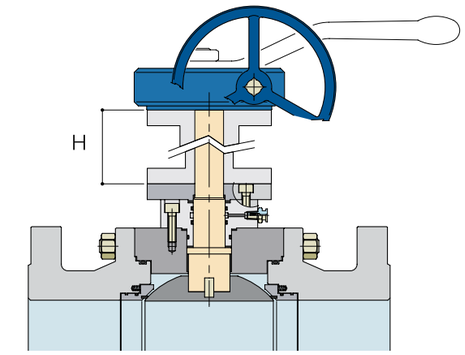
Up to extension with L=100 Gland flange will be made with increased height.

TYPE B



H	80	100	150	200

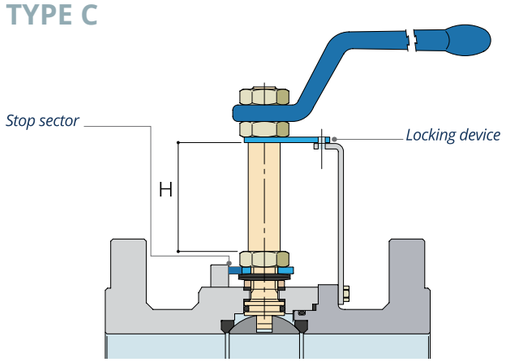
Floating type



H	150	200	250	300

Trunnion type

TYPE C



H	30	50	80	100(MAX)

Floating type

Zavero World Wide

End Users

Adgas | Air Liquide | Aker | Apache | Basrah Gas Company | Bp Exploration | Chevron | Conoco Phillips | Dolphin Energy | Dragon Oil | Dubai Petroleum | Enap | Eni| Foxtrot | Gazprom | Gunvor Lng | Huricane | Ineos | Khalda Petroleum | Kiewit Offhsore Services | Koc | Kpo | Kuwait Energy | Wintershall | Lukoil | Maersk Oil | Marathon Oil | Mellitah Oil & Gas B.V | Mnazy Bay Consortium | Oiec | Omv Petrom | Ongc | Onspec Tawakol | Origin Energy | Oxy | Pedec | Perenco | Petrobel | Petrobras | Petronas | Petrovietnam | Pinnacle | Qatar Petroleum | Rasgas | Rosneft | Rwe | Saipem | Sapurakencana | Serept | Saudi Aramco | Socar | Sonatrach | Ssgc | Statoil | Talisman - Repsol | Teekay | Total Uk | Zadco | Zapsibneftekhim

NOTES

Zavero
Italian **ball valves**

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Zavero®
Italian **ball valves**

EDIZIONE 2019

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