

 **Trunnion**
Ball Valves

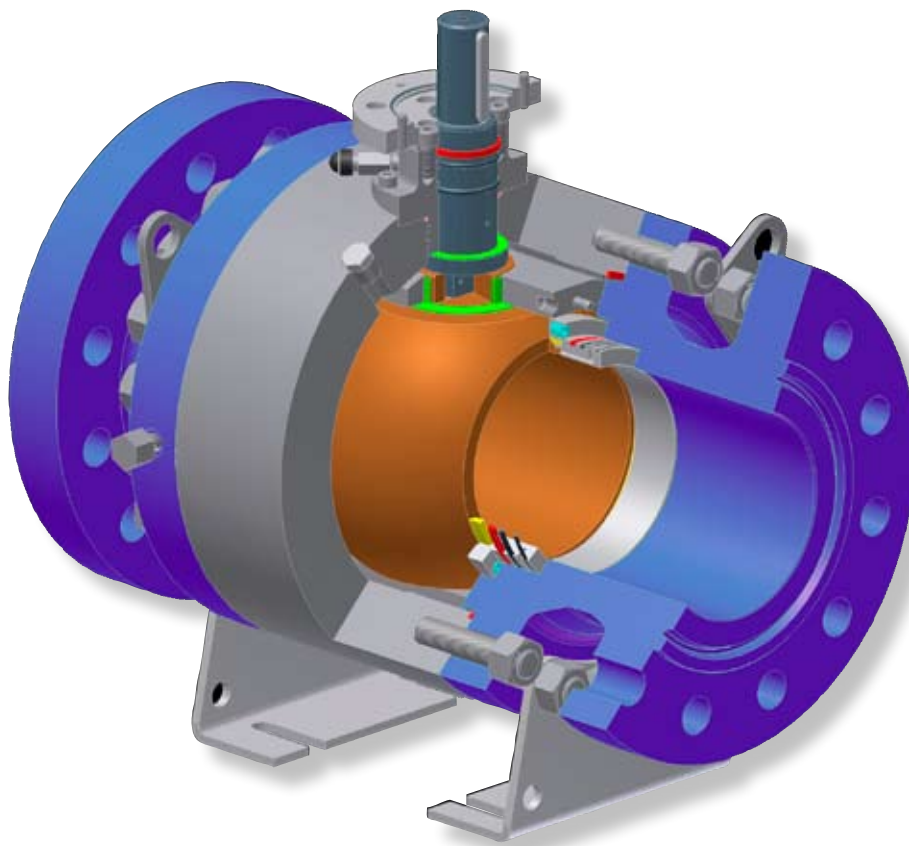
Trunnion

Classification and Operating range

TRUNNION type ball valves are cut off devices suitable for use both on natural gas distribution network and for liquid service when high performance on tightness and low pressure drop are required.

The main specifications of these valves are:

- steel body with tail pieces fit for the flanged coupling and with machining for butt welding;
- parts in direct contact with the fluid treated with a nickel (or chromium) based coating;
- soft insert on the seat for a better tightness also for uses on gaseous fluids
- “double block and bleed” type seal seats.



Trunnion - Ball Valve

FEATURES

Reference standards for all valves:

- **API 6D** Ball valve design and monogrammed when required.
- **API 607/API 6FA/ BS 6755** Fire safe design.
- **API 6D / ASME B16.10** Face to face dimension.
- **API 598 / API 6D** Tight shut off test.
- **ASME B16.5** Raised face and ring joint flange.
- **ASME B16.25** Butt welding ends.

Common features:

- Double block and bleed facility, in open and closed position;
- Self-relieving seats design;
- Anti-blow out stem design
- Antistatic device;
- Each valve can be equipped with, manual lever, gear operator, or actuator;
- Triple barrier stem seals;
- Emergency seats sealant injection for size 12" and above
- Emergency stem sealant injection for size 16" and above;

Each kind of valve can be customized upon request, several features applicable

- Primary metal secondary Soft seats with delta-ring insert;
- Double piston effect seats;
- Special materials;
- Under ground applications;
- Design, high and low temperature application;
- Low fugitive emissions certificate according to **TA – Luft VDI 2440**,
- **SIL 3** Certificate Available

Full and reduced bore valve

Fig. 130 Full bore

DN 2" Class 150÷1500
 DN 3" Class 150÷600
 DN 4" Class 150÷300

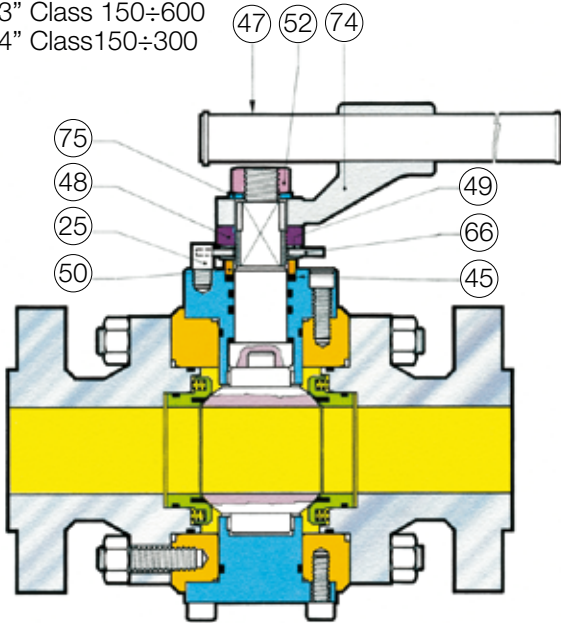


Fig. 130 Full bore

DN 4" ÷ 24" Class 600
 DN 4" Class 900 ÷ DN 6" 1500

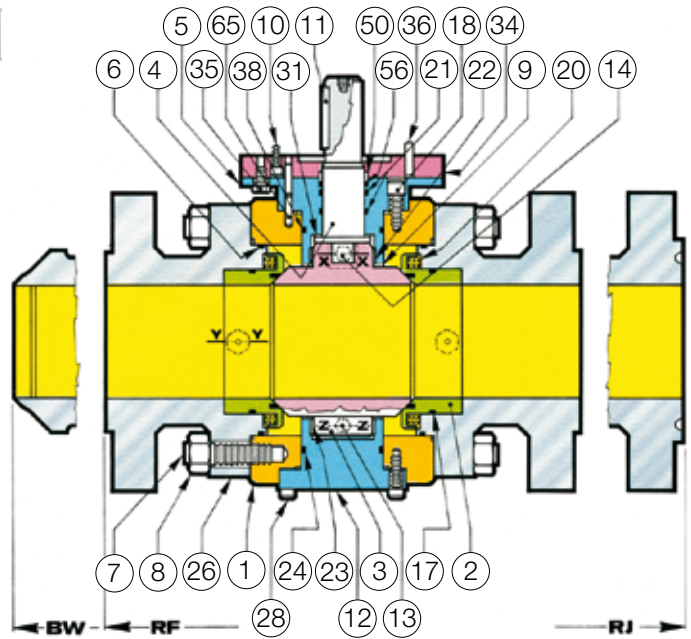


Fig. 130 Full bore

DN 8" Class 900 ÷ DN 16" Class 1500
 DN 26" ÷ 36" Class 150 ÷ 600

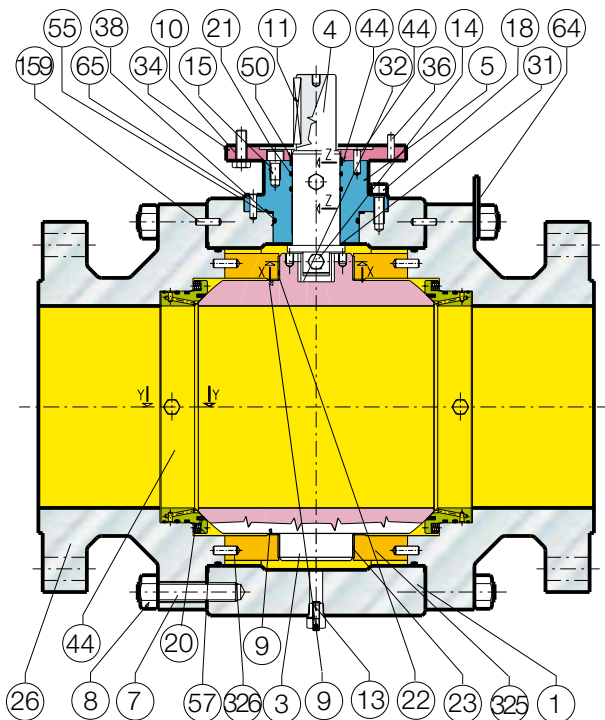
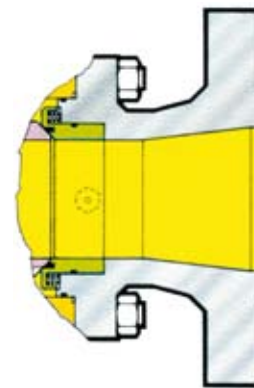
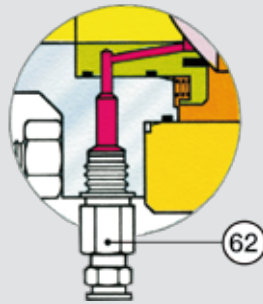


Fig. 160 Reduced bore

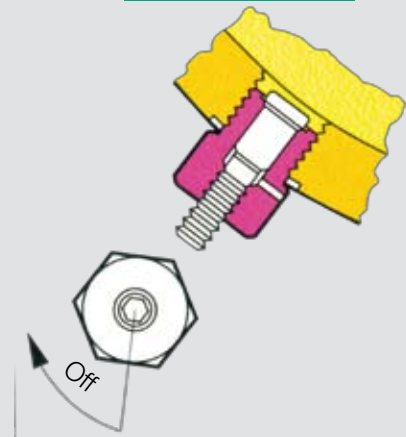
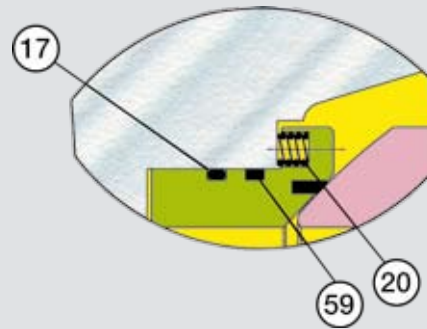
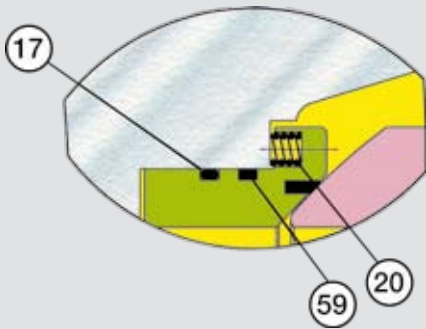
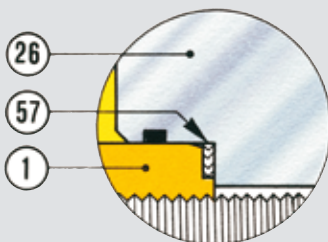


FEATURES DESCRIPTION
CUT WAY X-X

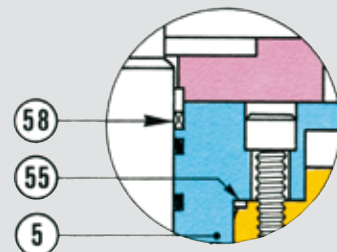

Stem ball connections

CUT WAY Y-Y


Emergency sealing

DRAIN PLUG

Standard safe - Fire safe execution

 Fire safe seat **API 607 - Bs 6755**


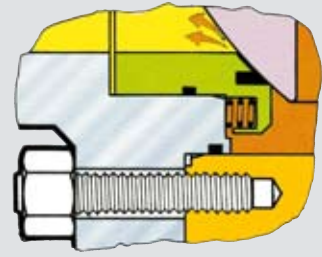
Body



Stem and bonnet

Automatic body Overpressure Relief

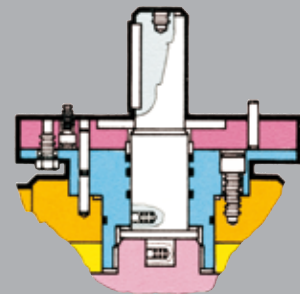
The Pietro Fiorentini valves are designed to bleed automatically downwards every overpressure beyond 8 bars (115 PSI), which develops in the body cavity.



Antistatic device

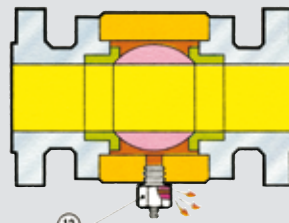
Blow out proof stem

The stem can be assembled only from the internal side of the valve. A stout collar keeps it inside the body. This solution allows to replace the outside gasket on the stem in case it is damaged.

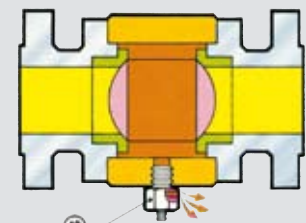


Double block and bleed

The **Pietro Fiorentini** valves guarantee the double block of the seats when pressure is applied on both sides of the valve with the drain plug open.



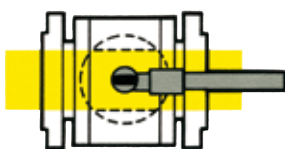
Open valve



Closed valve

Typical flow diagram of a Pietro Fiorentini ball valve

Hand lever

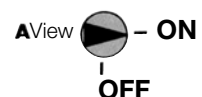
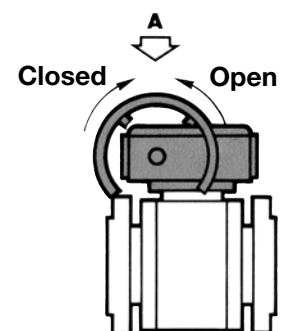


Open



Closed

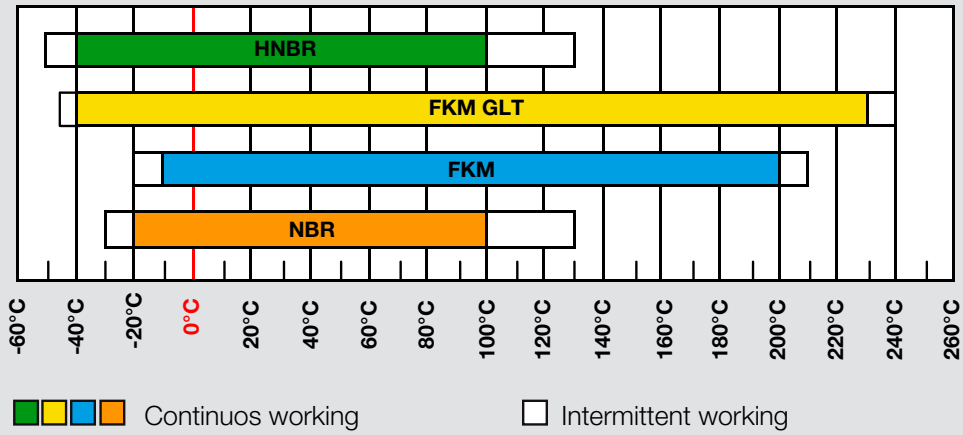
Gear operated



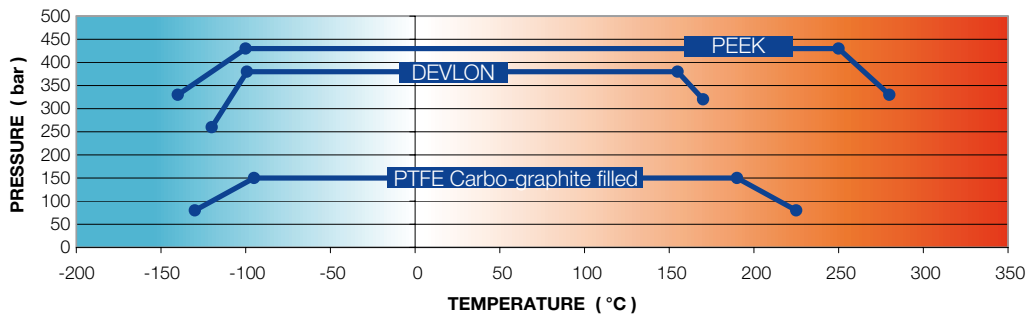
The valve shall be used in fully “open” or “closed” position only. It is not allowed to operate the valve in partially open position

TECHNICAL INFORMATION

O.RING temperature range



Seat insert



Solutions available with special materials for non-standard conditions

FINITE ELEMENT METHOD (FEM) ANALYSIS



FEM Analysis

Construction Materials

BODY GROUP		TRIM NUMBER		
ITEM	DESCRIPTION	STANDARD	NACE	LOW TEMPERATURE
		10	11	12
1	BODY	ASTM A350 LF2	ASTM A350 LF2 RC22	ASTM A350 LF2
5	BONNET (UP)	ASTM A350 LF2	ASTM A350 LF2 RC22	ASTM A350 LF2
7	STUD BOLT	ASTM A 193-B7*	ASTM A 193-B7M* RC22	ASTM A320-L7*
8	NUT	ASTM A 194-2H*	ASTM A 194-2HM* RC22	ASTM A194-4/GR4*
10-35	CAP SCREW	ISO 898/1-8.8*	ISO 898/1-8.8*	ISO 898/1-8.8*
11	STEM KEY	AISI 4140	AISI 4140	AISI 4140
12	BONNET (LOW) ≤ DN 24"	ASTM A350 LF2	ASTM A350 LF2 RC22	ASTM A 350 LF2
13	DRAIN PLUG	ASTM A 105*	ASTM A105 RC22*	AISI 316
14	PLUG	ASTM A 105*	ASTM A105 RC22*	AISI 316
18-28	CAP SCREW	ISO 898/1-8.8*	ASTM A193-B7M* RC22	ASTM A320-L7*
25	STOP PIN	ISO 898/1-8.8*	AISI 316	AISI 316
26	TAIL PIECE	ASTM A350 LF2	ASTM RC22	ASTM A 350 LF2
34	FLANGE	ASTM A350 LF2	ASTM A350 LF2	ASTM A350 LF2
47	HAND LEVER	ASTM A106*	ASTM A106*	ASTM A106*
48-52	NUT	ISO 898/1-6S*	ISO 898/1-6S*	ISO 898/1-6S*
49	SPRING WASHER	AISI 1075	AISI 1075	AISI 1075
62	GREASE NIPPLE	ASTM A 105	ASTM A 105 RC22	AISI 316
65-36	PIN	AISI 4140*	AISI 4140*	AISI 4140*
66	STEM STOP	AISI 1040*	AISI 1040*	AISI 1040*
74	WRENCH HEAD	ASTM A105*	ASTM A105*	ASTM A105*
75	WASHER	ASTM A 283-GrC*	ASTM A 283-GrC*	ASTM A 283-GrC*
325	BALL BRACKET ≤ DN 26"	EN10025-P355 NH	EN10025-P355 NH	EN10025-P355 NH
	TEMPERATURE LIMIT	-20° C (-4° F)	-29° C (-20° F)	-46° C (-50° F)

INTERNAL GROUP		TRIM NUMBER			
ITEM	DESCRIPTION	STANDARD	NACE	LOW TEMPERATURE	
		30	31	32	35
2	SEAT	ASTM A350 LF2+ENP	ASTM A 350 LF2+ENP	ASTM A 350 LF2+ENP	AISI 316+ENP
3	BALL	ASTM A350LF2+ENP	ASTM A350LF2+ENP	ASTM 350 LF2+ENP	AISI 316+ENP
4	STEM	AISI 410	AISI 410 RC22**	AISI 410**	AISI 316**
9-31	THRUST PLATE	CS-DRY BEARNING	CS-DRY BEARNING RC22	AISI 316-DRY BEARNING	AISI 316-DRY BEARNING
20-43	SPRING	AISI 302	INCONEL X 750 RC22	INCONEL X 750	INCONEL X 750
22-23	THRUST BEARNING	CS-DRY BEARNING	CS-DRY BEARNING RC22	AISI 316-DRY BEARNING	AISI 316-DRY BEARNING
32	THRUST BUSHING	ASTM A105+ENEP	ASTM A105+ENP RC22	AISI 316	AISI 316
50	GLAND	AISI 1018*	AISI 1018+ENP RC22	AISI 316	AISI 316
	TEMPERATURE LIMIT	-20° C (-4° F)	-29° C (-20° F)	-46° C (-50° F)	-46° C (-50° F)

SEAL GROUP		TRIM NUMBER				
ITEM	DESCRIPTION	RATING	NBR	FKM	HNBR	FKM GLT
2	SEAT INSERT - CLASS	150 ÷ 600	PTFE/NBR •	PTFE/FKM •	PTFE/HNBR•	PTFE/FKM GLT•
		900 ÷ 1500	DEVLON	PEEK	DEVLON	PEEK
31	THRUST PLATE UP TO DN3"		PTFE	PTFE	PTFE	PTFE
45	PACKAGING		PTFE	PTFE	PTFE	PTFE
6-17-21-24-38-56-63	O RING		NBR	FKM	HNBR	FKM GLT
58-59-99	FIRE SAFE RING		GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE
55-57	FIRE SAFE RING		AISI 316 + GRAPHITE	AISI 316 + GRAPHITE	AISI 316 + GRAPHITE	AISI 316 + GRAPHITE
	TEMPERATURE LIMIT		- 20° C to + 100° C (- 4° F to + 148° F)	- 10° C to + 200° C (+ 14° F to + 392° F)	- 40° C to +100° C (- 40° F to +212° F)	- 40° C to +200° C (- 40° F to +392° F)

Note:

* zinc coated

** alternative ASTM A 564 V174 (17-4-PH)

ENP: electroless nickel plated

CS: carbon steel

RC: hardness Rockwell C

• Seat insert alternative (Consult our technical dep. for temperature limit).

ADVICE		CRUDE OIL	NACE ■	LOW TEMP. (-50°F)	NATURAL GAS
TRIM N°	MATERIAL				
BODY GROUP					
10	CARBON STEEL	○	NR	NR	○
11	CARBON STEEL (NACE)	○	○	NR	○
12	CARBON STEEL LOW TEMP.	○	NR	○	○
INTERNAL GROUP					
30	CARBON STEEL	○	NR	NR	○
31	CARBON STEEL (NACE)	○	○	○	○
32	CARBON STEEL LOW TEMP.	○	NR	NR	○
35	STAINLESS STEEL	○	○	○	○
SEALS GROUP					
NBR	NBR	NR	NR	NR	○
FKM	FKM	○	○	NR	○
HNBR	HNBR	○	○	○	○
FKM GLT	FKM GLT	○	○	○	○

NR: NOT RECOMMENDED

○ GOOD

■ NACE: MR-0175 - SULFIDE STRESS CRACKING RESISTANT MATERIAL FOR OIL FIELD EQUIPMENT

TRIM APPLICATION INFORMATION

The indicated table is based on the Pietro Fiorentini experience and on the application experiences with our valves at the values fixed by the ASTM / ASME / ANSI / API regulations. The indications can be considered as a guide for the choice of the trim, but they are not an explicit or implicit guarantee for the proper application of our products or for their adaptability for a particular use.

Overall Dimensions valves FULL BORE

FIG. 130-1												CLASS 150		
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR	
											RF-RJ	BW		
2"	178	191	216	100	51	400	205				26	24	LEVER	
3"	203	216	283	125	76	550	225				57	55	LEVER	
4"	229	241	305	145	102	550	250				82	78	LEVER	
6"	394	406	457	230	152	76		265	300	263	136	126	MG 987/S	
8"	457	470	521	265	203	70		360	500	320	335	315	MG 50	
10"	533	546	559	315	254	92		400	500	345	490	465	MG 100	
12"	610	622	635	355	305	125		450	700	415	720	685	MG 180	
14"	686	699	762	385	336	125		485	700	415	905	855	MG 180	
16"	762	775	838	420	387	137		500	700	440	1050	995	MG 250	
18"	864	876	914	470	438	137		600	700	440	1620	1534	MG 250	
20"	914	927	991	505	489	137		680	700	440	2110	1950	MG 250/80	
24"	1067	1080	1143	610	590	164		780	700	540	3072	2900	MG 350	
26"	1143		1245	640	635	853		853	700	585	3535	3327	MG 450	
28"	1245		1346	680	686	888		888	700	585	4053	3809	MG 450	
30"	1295		1397	750	737	928		928	700	585	4822	4532	MG 450	
32"	1372		1524	790	781	973		973	700	585	5495	5165	MG 450	
36"	1524		1727	870	876	1043		1043	700	585	7618	7161	MG 450	
INCH	MILLIMETERS										KG.	TYPE		

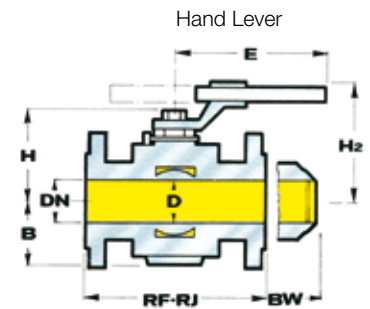


FIG. 130-3												CLASS 300		
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR	
											RF-RJ	BW		
2"	216	232	216	100	51	400	205				29	26	LEVER	
3"	283	298	283	125	76	550	225				65	55	LEVER	
4"	305	321	305	145	102	60					110	92	MG 984/S	
6"	403	419	457	230	152	76		206		135	150	135	MG 987/S	
8"	502	518	521	265	203	92		265	300	263	370	325	MG 100	
10"	568	584	559	315	254	92		375	500	345	530	460	MG 100	
12"	648	664	635	355	305	125		400	500	345	768	665	MG 180	
14"	762	778	762	385	336	125		450	700	415	940	860	MG 180	
16"	838	854	838	420	387	137		485	700	415	1430	1210	MG 250	
18"	914	930	914	470	438	137		500	700	440	1895	1690	MG 250/80	
20"	991	1010	991	505	489	164		600	700	440	2270	2031	MG 350	
24"	1143	1165	1143	610	590	225		680	700	540	3780	3428	MG 550	
26"	1245		1245	680	635	240		780	700	540	3865	3633	MG 450	
28"	1346		1346	750	686	240		855	700	585	4550	4277	MG 550	
30"	1397		1397	790	737	240		945	700	655	5570	5236	MG 550	
32"	1524		1524	815	781	240		1015	700	655	6220	5847	MG 550	
36"	1727		1727	910	876	160		1062	700	655	8415	7900	RG 3800	
INCH	MILLIMETERS										KG.	TYPE		

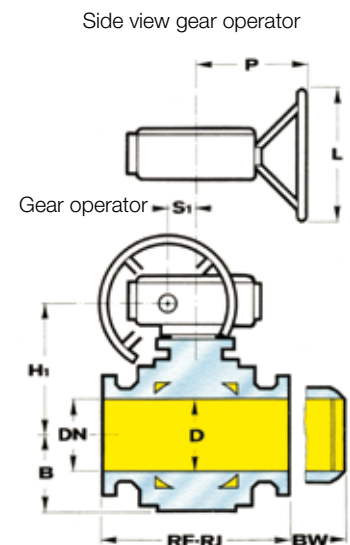


FIG. 130-6											CLASS 600		
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR
											RF-RJ	BW	
2"	292	295	292	100	51	550	205				34	26	LEVER
3"	356	359	356	125	76	550	225				70	61	LEVER
4"	432	435	432	145	102	76		210	300	263	134	118	MG 987
6"	559	562	559	230	152	70		295	500	320	285	240	MG 50
8"	660	664	660	265	203	101		390	600	284	480	420	MG 150
10"	788	791	788	315	254	125		435	700	415	690	560	MG 180
12"	838	841	838	355	305	137		460	700	440	925	775	MG 250
14"	889	892	889	385	336	137		490	700	440	1240	1080	MG 250/80
16"	991	994	991	420	387	164		540	700	540	1595	1345	MG 350
18"	1092	1095	1092	470	438	240		615	700	600	2327	2065	MG 550
20"	1194	1200	1194	505	489	240		705	700	600	2827	2509	MG 550
24"	1397	1407	1397	610	590	240		810	700	600	4498	4190	MG 550/115
26"	1448	1461	1448	720	635	240		855	700	585	5155	4845	MG 550
28"	1549	1562	1549	790	686	240		883	700	655	6040	5670	MG 550
30"	1651	1664	1651	890	737	160		962	700	655	6685	6285	RG 3800
32"	1778	1794	1778	905	781	160		977	700	655	7810	7340	RG 3800
36"	2083	2098	2083	1040	876	160		1092	700	760	10645	10010	RG 3800
INCH	MILLIMETERS										KG.	TYPE	

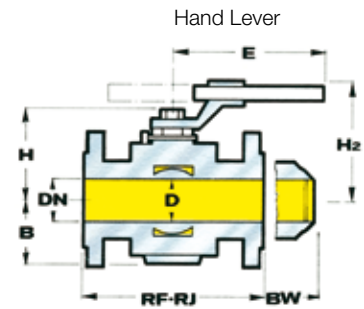


FIG. 130-9											CLASS 900		
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR
											RF-RJ	BW	
2"	368	371	368	110	51	700	215				53	53	LEVER
3"	381	384	381	130	76	70		190	400	310	98	98	MG 50
4"	457	460	457	155	102	90		230	400	360	175	175	MG 50
6"	610	613	610	191	152	90		340	550	360	395	395	MG 150
8"	737	740	737	225	203	105		410	700	430	580	580	MG 180
10"	838	841	838	280	254	130		490	700	545	850	850	MG 250
12"	925	968	965	332	305	162		510	700	650	1250	1250	MG 250/80
14"	1029	1038	1029	375	324	162		560	700	650	1640	1640	MG 250/80
16"	1130	1140	1130	425	375	118		655	700	660	2050	2050	MG 550
INCH	MILLIMETERS										KG.	TYPE	

Side view gear operator

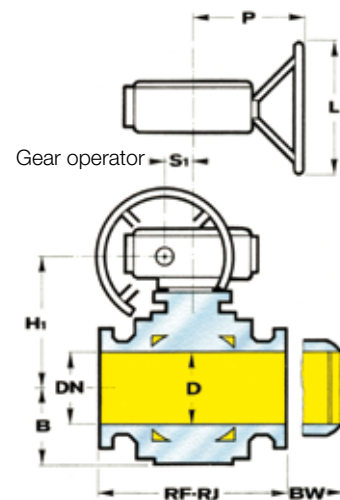


FIG. 130-15											CLASS 1500		
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR
											RF-RJ	BW	
2"	368	371	368	110	51	700	215				56	34	LEVER
3"	470	473	470	135	76	70		210	400	310	129	114	MG 50
4"	546	549	546	160	102	90		240	400	360	209	146	MG 50
6"	705	711	705	230	146	90		360	700	430	590	445	MG 150
8"	832	841	832	270	194	130		445	700	545	780	560	MG 250
10"	991	1000	991	325	241	162		522	700	650	1220	850	MG 250/80
12"	1130	1146	1130	365	289	118		550	700	650	1690	1270	MG 550
14"	1257	1276	1257	418	318	200		652	700	670	2850	2105	MG 550
16"	1384	1406	1384	460	362	200		705	700	670	4100	3190	MG 550
INCH	MILLIMETERS										KG.	TYPE	

Overall Dimensions valves REDUCED BORE

FIG. 160-1												CLASS 150		
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR	
											RF-RJ	BW		
3"X 2"	203	216	283	100	51	400	205				30	27	LEVER	
4"X 3"	229	241	305	125	76	550	225				65	60	LEVER	
6" X 4"	267	280	457	145	102	550	250				91	84	LEVER	
8"X 6"	457	470	521	230	152	76		265	300	263	165	155	MG 987/S	
10"X 8"	533	546	559	265	203	70		360	500	320	350	325	MG 50	
12"X 8"	610	622	635	265	203	70		360	500	320	420	390	MG 50	
12"X 10"	610	622	635	315	254	92		400	500	345	540	505	MG 100	
14"X 10"	686	699	762	315	254	92		400	500	345	680	640	MG 100	
14"X 12"	686	699	762	355	305	125		450	700	415	730	680	MG 180	
16"X14"	762	775	838	385	336	125		485	700	415	980	930	MG 180	
18"X16"	864	876	914	420	387	137		500	700	440	1180	1115	MG 250	
20"X18"	914	927	991	470	438	137		600	700	440	1710	1624	MG 250	
22"X 20"	991	1004	1092	505	489	137		680	700	440	2150	1980	MG 250/80	
24"X20"	1067	1080	1143	505	489	137		680	700	440	2250	2070	MG 250/80	
26"X 24"	1143		1245	610	590	164		780	700	540	3200	3070	MG 350	
28"X 24"	1245		1346	640	590	225		780	700	585	3820	3595	MG 450	
30"X 28"	1295		1397	680	686	225		888	700	585	4380	4115	MG 450	
32"X 28"	1372		1524	750	686	225		888	700	585	5210	4895	MG 450	
36"X 32"	1594		1626	790	781	225		973	700	585	5935	5580	MG 450	
INCH	MILLIMETERS										KG.		TYPE	

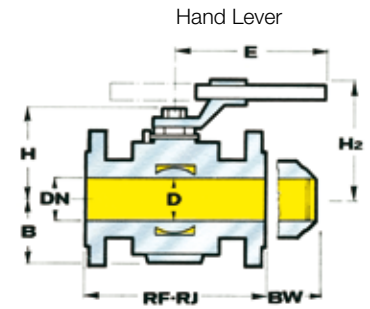


FIG. 160-3												CLASS 300		
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR	
											RF-RJ	BW		
3"X 2"	283	298	283	100	51	400	205				31	28	LEVER	
4"X 3"	305	321	305	125	76	550	225				70	59	LEVER	
6" X 4"	403	419	457	145	102	60					119	99	MG 984/S	
8"X 6"	502	518	521	230	152	76		206	300	135	162	146	MG 987/S	
10"X 8"	568	584	559	265	203	92		265	300	263	400	351	MG 100	
12"X 8"	648	664	635	265	203	92		375	500	345	426	374	MG 100	
12"X 10"	648	664	635	315	254	92		375	500	345	572	497	MG 100	
14"X 10"	762	778	762	315	254	92		400	500	345	610	529	MG 100	
14"X 12"	762	778	762	355	305	125		400	500	345	829	718	MG 180	
16"X14"	838	854	838	385	336	125		450	700	415	1015	929	MG 180	
18"X16"	914	930	914	420	387	137		485	700	415	1544	1307	MG 250	
20"X18"	991	1010	991	470	438	137		500	700	440	2047	1825	MG 250/80	
22"X 20"	1093	1115	1093	505	489	164		600	700	440	2452	2193	MG 350	
24"X20"	1143	1165	1143	505	590	164		680	700	540	2610	2335	MG 350	
26"X 24"	1245	1270	1245	610		164		680	700	540	4082	3702	MG 550	
28"X 24"	1346		1346	610		225		700	540	4174	3924	MG 550		
30"X 28"	1397		1397	750		240		700	585	4915	4620	MG 550		
32"X 28"	1524		1524	750		240		700	655	6015	5655	MG 550		
36"X 32"	1727		1727	815		240		700	655	6717	6315	MG 550		
INCH	MILLIMETERS										KG.		TYPE	

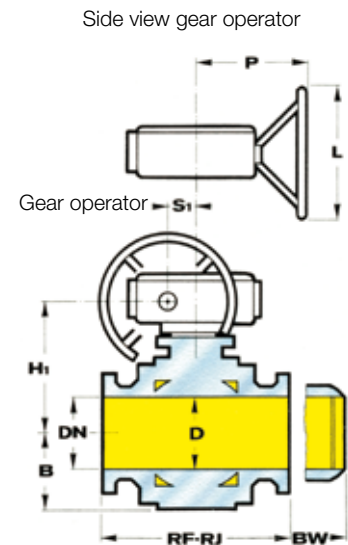


FIG. 160-6											CLASS 600			
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR	
											RF-RJ	BW		
3"X2"	356	359	356	100	51	550	205				37	29	LEVER	
4"X3"	432	435	432	125	76	550	225				76	66	LEVER	
6"X4"	559	562	559	145	102	76		210	300	263	145	127	MG 987	
8"X6"	660	664	660	230	152	70		295	500	320	308	259	MG 50	
10"X8"	788	791	788	265	203	101		390	600	284	518	454	MG 150	
12"X8"	838	841	838	265	203	101		390	600	284	552	483	MG 150	
12"X10"	838	841	838	315	254	125		435	700	415	754	605	MG 180	
14"X10"	889	892	889	315	254	125		435	700	415	793	644	MG 180	
14"X12"	889	892	889	355	305	137		460	700	440	999	837	MG 250	
16"X14"	991	994	991	385	336	137		490	700	440	1339	1166	MG 250/80	
18"X16"	1092	1095	1092	420	387	164		590	700	540	1723	1453	MG 350	
20"X18"	1194	1200	1194	470	438	240		615	700	600	2513	2230	MG 550	
22"X20"	1296	1305	1296	505	489	240		705	700	600	3053	2710	MG 550	
24"X20"	1397	1407	1397	505	489	240		705	700	600	3251	2885	MG 550	
26"X24"	1448	1461	1448	610	590	240		810	700	600	4858	4525	MG 550/115	
28"X24"	1448	1461	1448	610	590	240		810	700	600	5567	5233	MG 550	
30"X28"	1651	1664	1651	790	686	240		883	700	655	6523	6124	MG 550	
32"X28"	1651	1664	1651	790	686	240		883		655	7220	6788	MG 550	
36"X32"	2083	2098	2083	915	781	160		977		655	9104	8559	RG 3800	
INCH											MILLIMETERS		KG.	TYPE

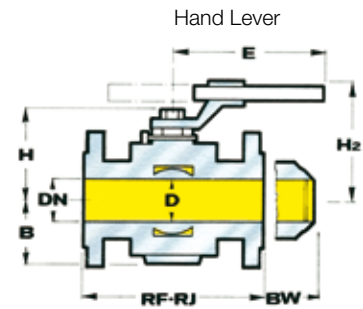


FIG. 160-9											CLASS 900			
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR	
											RF-RJ	BW		
3"x2"	381	384	381	110	51	700	215				59	51	LEVER	
4"x3"	457	460	457	130	76	70		190	400	310	105	85	MG 50	
6"x4"	610	613	610	155	102	90		230	400	360	240	190	MG 50	
8"x6"	737	740	737	191	152	90		340	550	360	485	345	MG 150	
10"x8"	838	841	838	225	203	105		410	700	430	685	560	MG 180	
12"x10"	965	968	965	280	254	130		490	700	545	970	790	MG 250	
14"x10"	1029	1038	1029	280	254	130		490	700	545	1170	990	MG 250	
16"x12"	1130	1140	1130	332	305	162		510	700	650	1980	1710	MG 250/80	
18"x14"	1291	1232	1219	375	324	162		560	700	650	1050	1750	MG 250/80	
20"x16"	1321	1333	1321	425	375	118		655	700	650	2630	1920	MG 550	
INCH											MILLIMETERS		KG.	TYPE

Side view gear operator

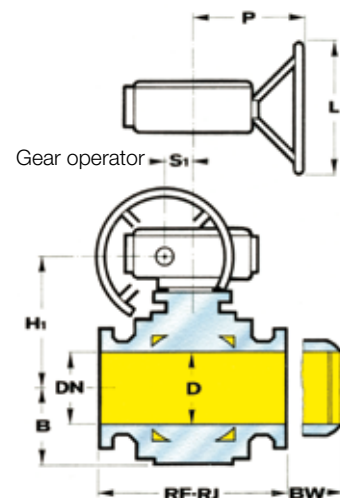
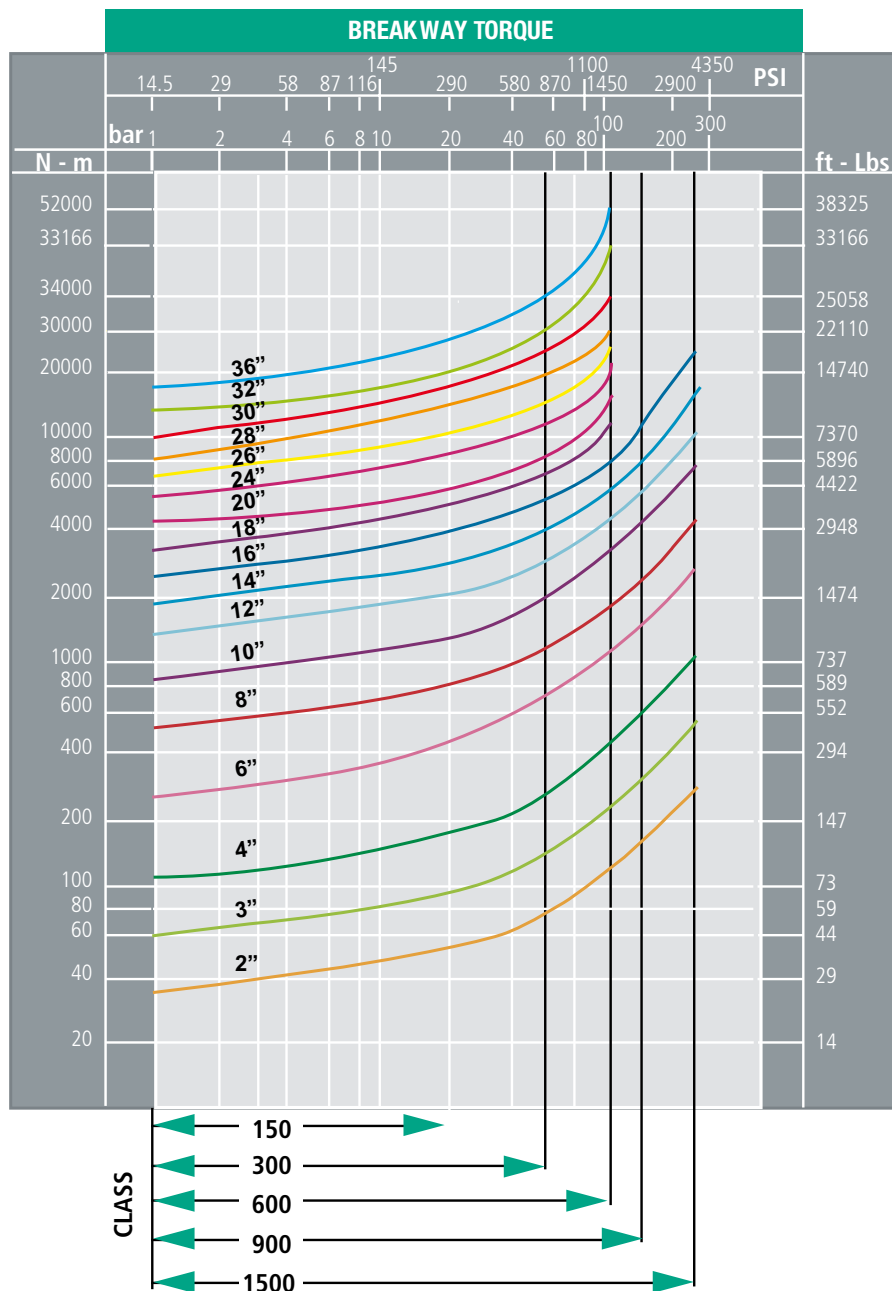


FIG. 160-15											CLASS 1500			
SIZE	RF	RJ	BW	B	D	E(S1)	H2	H1	L	P	WEIGHT		GEAR OPERATOR	
											RF-RJ	BW		
3"x2"	470	473	470	110	51	700	215				85	79	LEVER	
4"x3"	546	549	546	135	76	70		210	400	310	165	138	MG 50	
6"x4"	705	711	705	160	102	90		240	400	360	315	255	MG 50	
8"x6"	832	841	832	230	146	90		360	700	430	720	495	MG 150	
10"x8"	991	1000	991	270	194	130		445	700	545	950	590	MG 250	
12"x10"	1130	1146	1130	325	241	162		522	700	650	1350	910	MG 250/80	
14"x10"	1257	1276	1257	325	241	162		522	700	650	1585	1190	MG 250/80	
16"x12"	1384	1408	1384	365	289	118		550	700	650	2250	1310	MG 550	
18"x14"	1537	1559	1537	418	318	200		652	700	650	3320	2350	MG 550	
INCH											MILLIMETERS		KG.	TYPE

Breakway of the ball valve

The table shows the breakway of the ball valve Pietro Fiorentini in working conditions at room temperature. For the scaling of the actuator or for the high/low temperature service it is recommended to consider a factor of safety.

Breakway torque of reduced bore valves refers to the lower nominal diameter.



EXAMPLE:

Fig. 130.6 DN 10" Class 600 = 2850 Nm (2100 ft. lbs)

Fig. 160.6 DN 12"x10" Class 600 = 2850 Nm (2100 ft. lbs)

REFERENCE STANDARD

ASTM	■ American Society for Testing and Materials
ASME	■ American Society of Mechanical Engineers
NACE	■ National Association of Corrosion Engineers
MR-0175	■ Sulfide Stress Cracking Resistant material For Oil Field Equipment
API	■ American Petroleum Institute
Spec. 6D	■ Specification for pipeline valves
Spec. RP-6FA	■ Recommended Practice for Fire Test for Valves
Std. 607	■ Fire test for soft-seated quarter turn valves
Std. 598	■ Valve Inspection and Test
ANSI	■ American National Standard Institute
B16.5	■ Steel Pipe Flanges and Flanged Fittings
B16.10	■ Face to Face and End to End Dimension of Ferrous Valves
B16.25	■ Butt-Welding End
B16.34	■ Steel Valves
B31.8	■ Gas Transmission and Distribution Piping System
MSS-SP	■ Manufacturers Standardization Society of the valve Fitting industry
SP6	■ Standard Finisch for Contact Face of Pipe Flangers and Connecting End Flanges of Valves and Fittings
SP25	■ Standard marking System for Valves Fittings Flanges and Unions
SP61	■ Hydrostatic Testing of Steel Valves
SP72	■ Ball Valves with Flanged or Butt Welding Ends for general service
EN	
EN 1092-1	■ Circular flanges for pipes, valves, fittings and accessories, PN designated Part. 1 Steel flanges
EN ISO 17292	■ Metal ball valves for petroleum, petrochemical and allied industries
EN12266-1	■ Industrial valves. Testing of metallic valves Part. 1 Pressure tests, test procedures and acceptance criteria. Mandatory requirement

www.fiorentini.com

The data contained is not binding.
We reserve the right to changes
without prior notice.

