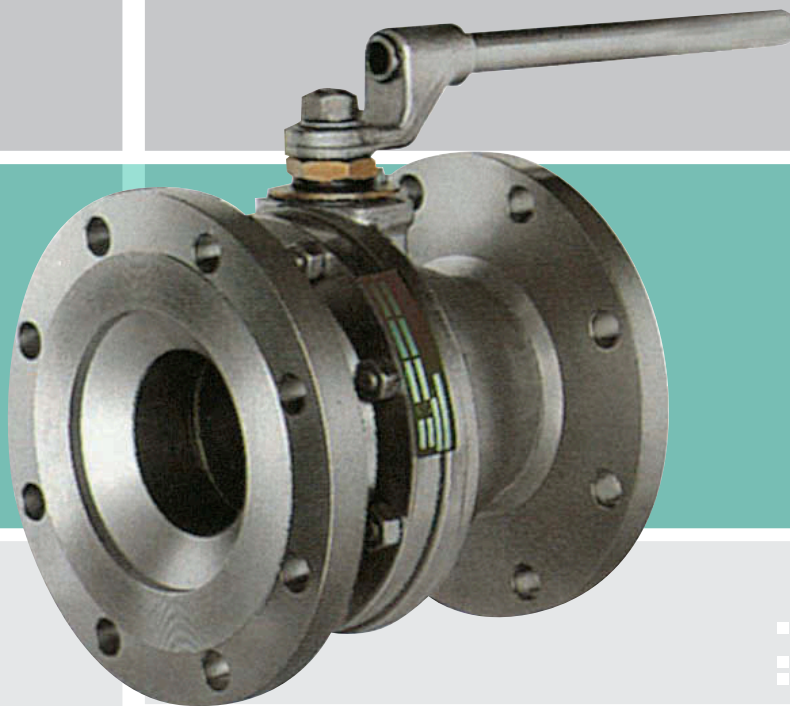




# Split Body

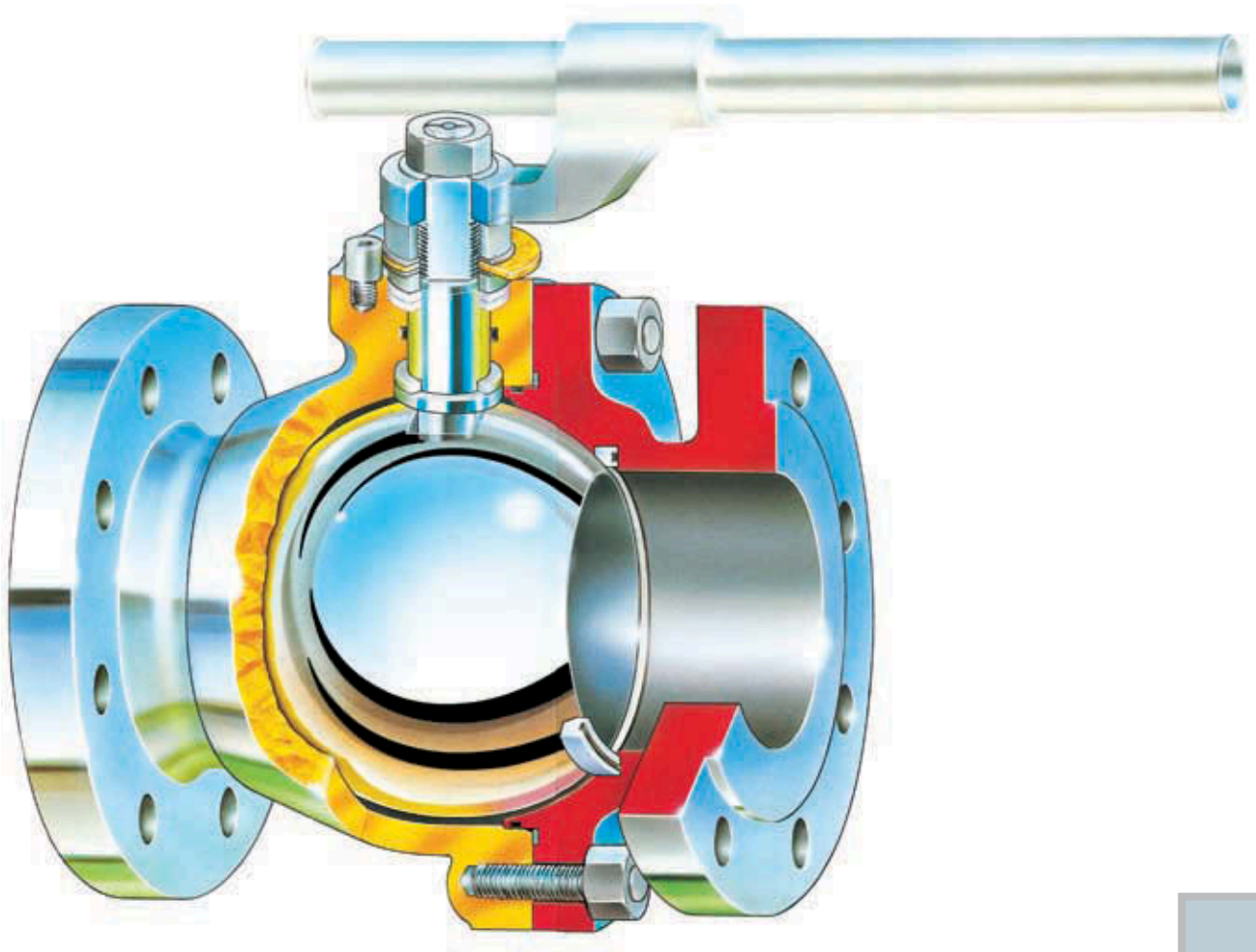


Ball  
Valves



# Split Body

> Ball Valves



## Reference Standards

<b>ASTM</b>	American Society for Testing and Materials
<b>ASME</b>	American Society of Mechanical Engineers
<b>NACE</b>	National Association of Corrosion Engineers
MR-01-75	Sulfide Stress Cracking Resistant material For Oil Field Equipment
<b>API</b>	American Petroleum Institute
Spec. 607	Fire test for soft-seated quarter turn valves
Std. 598	Valve Inspection and Test
<b>ANSI/ASME</b>	American National Standard Institute
B16.5	Steel Pipe Flangers 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
<b>MSS-SP</b>	Manufacturers Standardization Society of the valve Fitting industry
SP6	Standard Finish for Contact Face of Pipe Flanges and Connecting End Flanges of Valves and Fittings
SP25	Standard marking System for Valves Fittings Flanges and Unions
SP61	Hydrostatic Testing of Steel Valves
<b>BRITISH STANDARD</b>	
BS4504	Flanges and Bolting for pipes, Valves and Fittings
BS5351	Steel ball Valves for the Petroleum Petrochemicals and Allied Industries
BS6755	Testing of Valves Part. 1 Specification for production Pressure Testing Requirements Part. 2 Specification for Fire Type - Testing Requirements

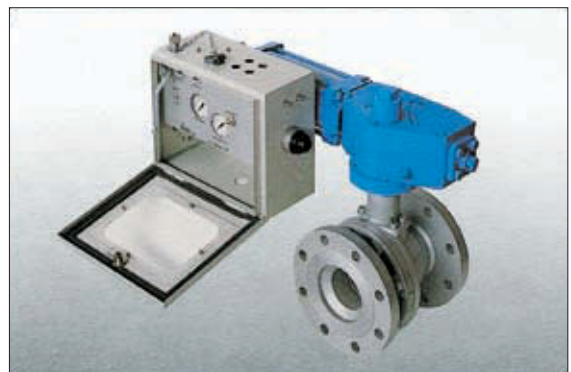


Spring return pneumatic actuator



Handwheel operated

Double acting pneumatic actuator



Pneumatic line off actuator

# Split Body

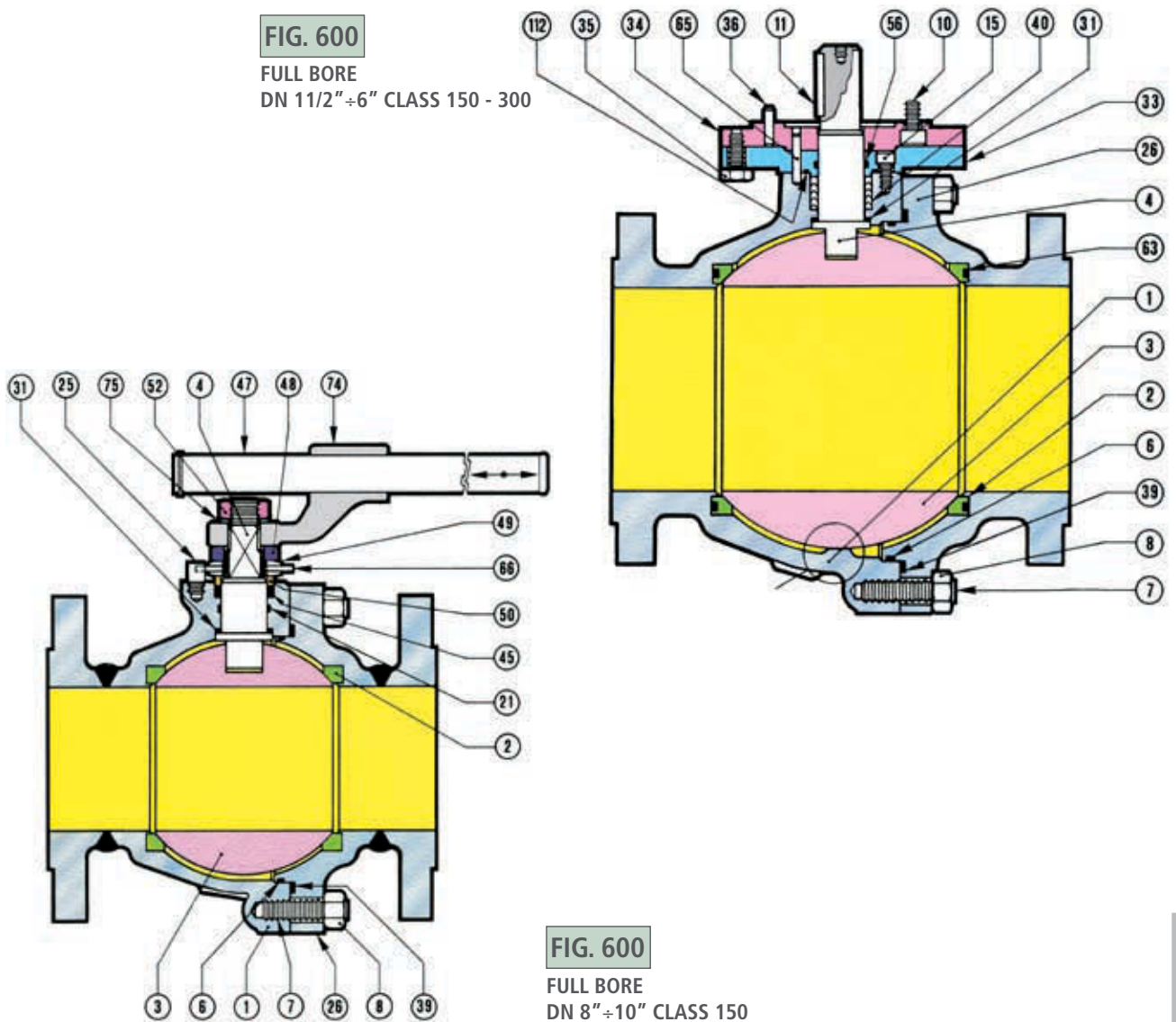
> Ball Valves



## Ball valve full and reduced bore

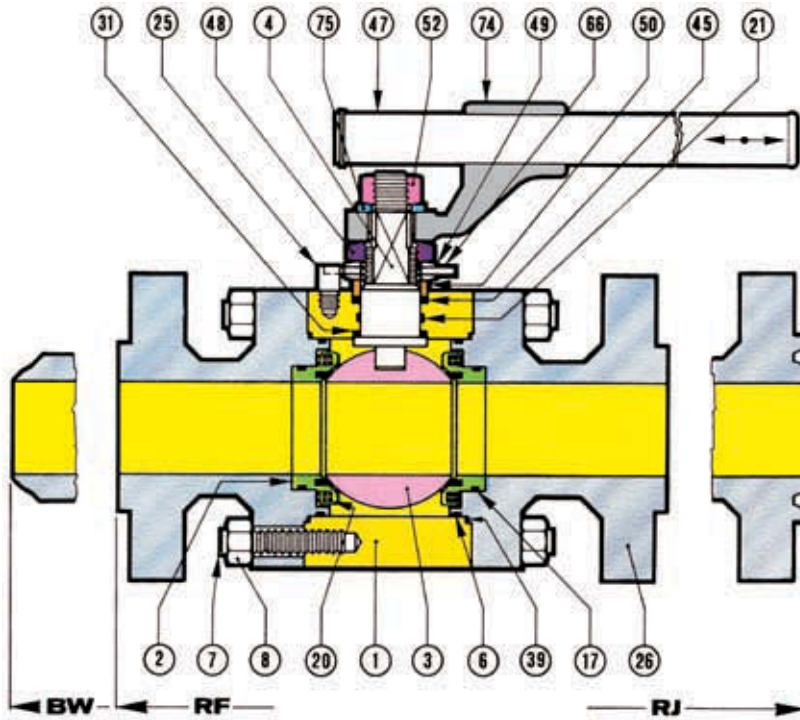
**FIG. 600**

FULL BORE  
DN 11/2" ± 6" CLASS 150 - 300

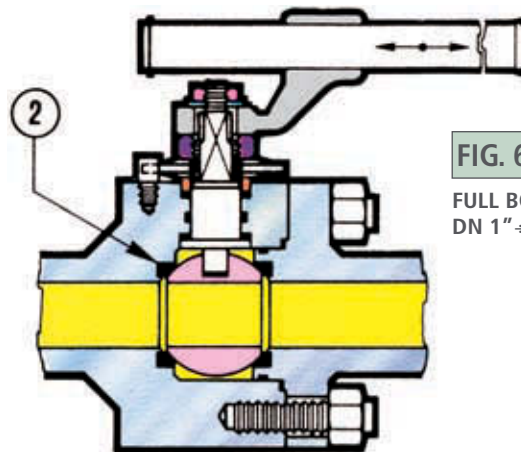
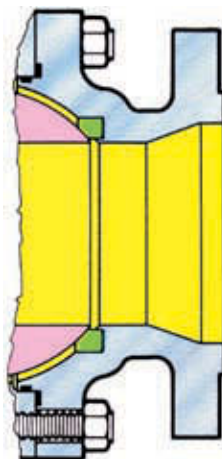


**FIG. 600**

FULL BORE  
DN 8" ± 10" CLASS 150


**FIG. 600**

FULL BORE  
DN 2" ÷ 4" CLASS 600

**FIG. 650**  
RED. BORE

**FIG. 600**

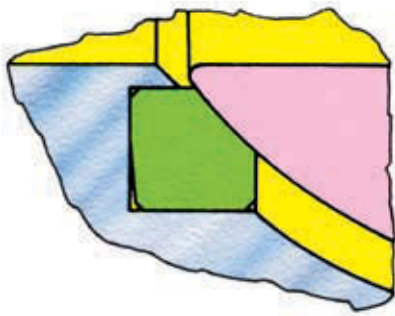
FULL BORE  
DN 1" ÷ 1 1/2" CLASS 600

# Split Body

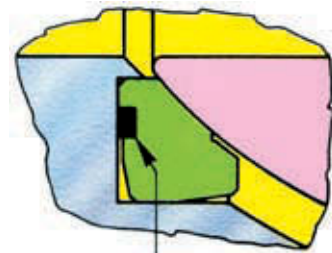


> Ball Valves

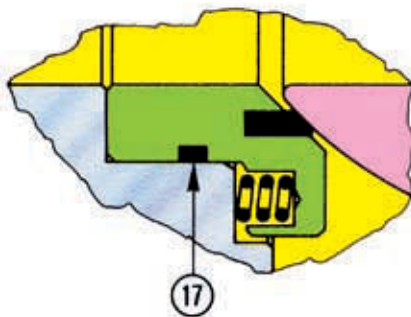
## Additional features



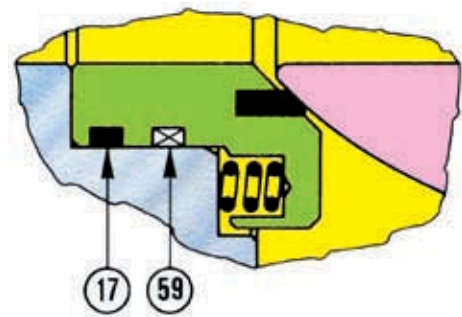
Standard seat  
DN 1" ÷ 1 1/2" class 600



Standard seat  
DN 4" ÷ 10" class 150-300

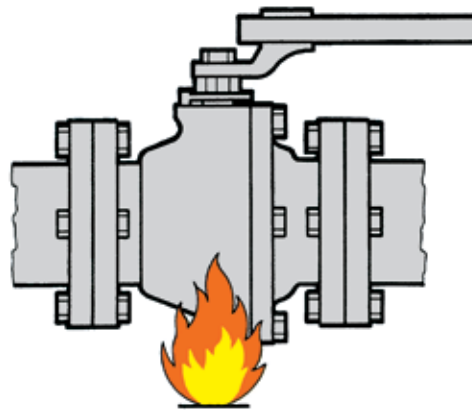
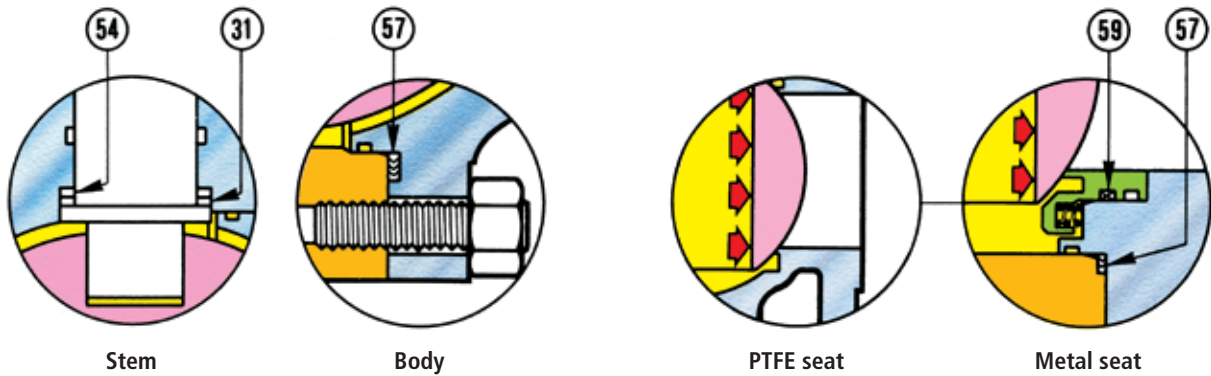


Standard seat  
DN 2" ÷ 4" class 600



Fire Safe seat  
API 607 & BS 6755  
DN 2" ÷ 4" class 600

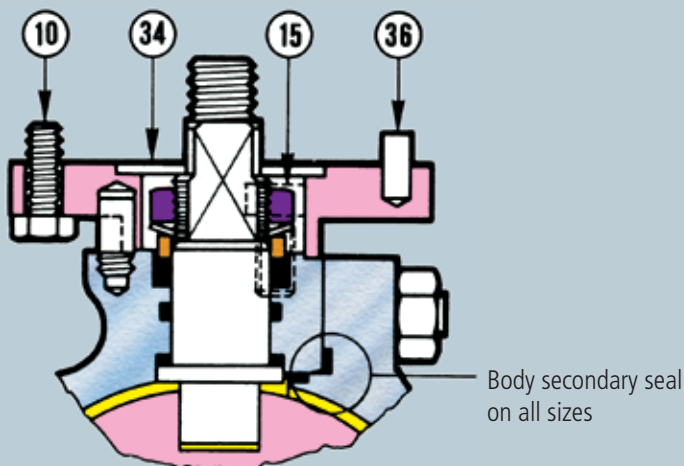
### Fire safe execution API 607 & BS 6755



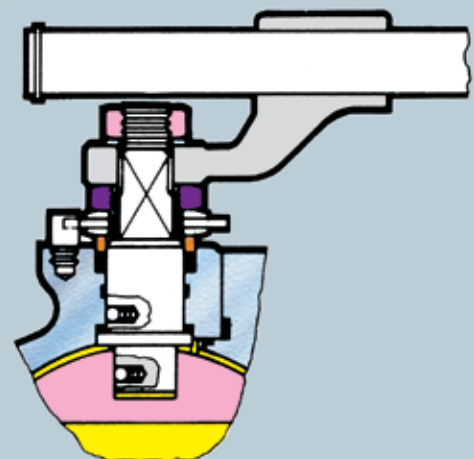
Metal to metal tight ball and body

### 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.



Operator application  
DN 11/2" - 6" class 150-300



Antistatic device (upon request)



## Construction Materials

BODY GROUP		TRIM CODE	
ITEM	DESCRIPTION	10	
1	BODY	ASTM A 350 LF2	
7	STUD	ASTM A 193-B7*	
8	NUT	ASTM A 194-2H*	
10-15-25	CAP SCREW	ISO 898/1-8.8"	
11	STEM KEY	AISI 4140	
25	STOP PIN	ISO 898/1-8.8"	
26	TAIL PIECE	ASTM A 350 LF2	
33	GLAND FLANGE	ASTM A 105	
34	FLANGE	ASTM A 350 LF2	
36-65	PIN	AISI 4140*	
47	HAND LEVER	ASTM A 106*	
48-52	NUT	ISO 898/1-6 S*	
49	SPRING WASHER	AISI 1075	
66	STEM STOP	AISI 1040*	
74	WRENCH HEAD	ASTM A 105*	
75	WASHER	ASTM A 283=GrC*	
	<b>TEMPERATURE LIMIT</b>	29°C (-20°F)	

Note: \* zinc coated  
ENP: electroless nickel plated  
Cr: chrome plated

INTERNAL GROUP		TRIM CODE	
ITEM	DESCRIPTION	30	
2	SEAT DN2" +4" Class 600	RPTFE	
3	BALL DN $\leq$ 1 1/2"	AISI 304	
	BALL DN $\geq$ 2"	ASTM A 105+Cr	
4	STEM	AISI 410	
20	SPRING	AISI 302	
50	GLAND	AISI 1018*	
	<b>TEMPERATURE LIMIT</b>	29°C (-20°F)	

SEAL GROUP		TRIM CODE	
ITEM	DESCRIPTION	NBR	FKM
2	SEAT INSERT AND SEAT	RPTFE	RPTFE
31	THRUST WASHER	PTFE	PTFE
39	GASKET	PTFE	PTFE
40-45	PACKING	PTFE	PTFE
6-21-17-56-63-112	O RING	NITILE/BUNA-N	VITRON
54-59	FIRESAFE RING	GRAPHITE	
57	FIRESAFE RING	AISI316 + GRAPHITE	
	<b>TEMPERATURE LIMIT</b>	-29°C to + 121°C (+20°F to 250°C)	-10°C to + 200°C (-14°F to 392°C)

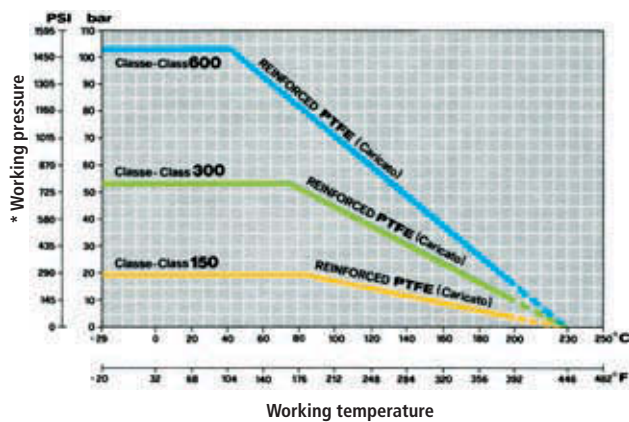
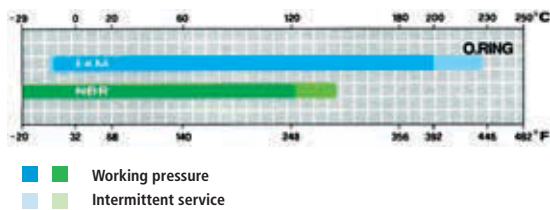




# Split Body

## TECHNICAL INFORMATION

### Seat/seal pressure - Temperature rating



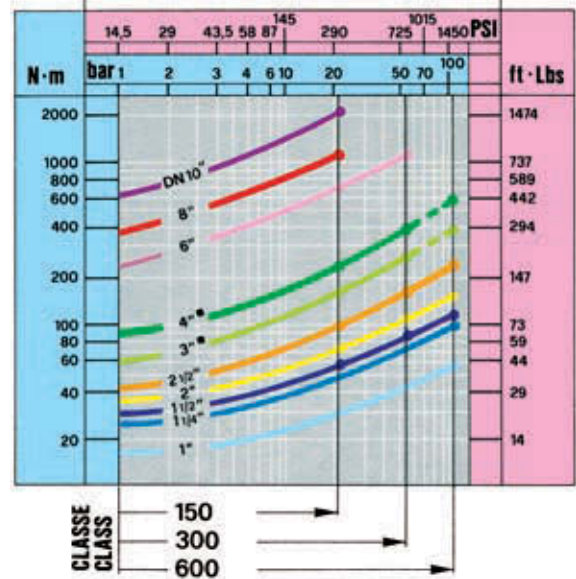
Working pressure  
 Intermittent service

\* The values are referred to the ASTM A105/ASTM A350LF2 material. Please make reference to the ANSI B 16.34 regulation for the rating of other materials.

CLASS	HYDROSTATIC TEST				PNEUMATIC TEST	
	SHELL		SEAT		SEAT	
	bar	PSI	bar	PSI	bar	PSI
150	29,3	435	20,7	305	5,6	80
300	75,9	1100	55,2	800	5,6	80
600	150	2175	110,4	1600	5,6	80

### Breakway torque

$\Delta P$ : Differential pressure across the ball with the fully closed valve.



■ DN 3"-4" Class 600  
 $\Delta p$  max 65bar (use trunnion ball valves Fig. 130/160 for rating 66 to 102 bar)

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.

**Examples:**  
 Fig. 600.3 DN 6" Class 300 = 1050 Nm (774 Ft. lbs)  
 Fig. 650.3 DN 8"x6" Class 300 = 1050 Nm (774 Ft. lbs)

# Full Bore

## Overall dimensions split body floating ball valves

### FULL BORE

Fig. 600-1

CLASS 150

DN	RF	D	E(S <sub>1</sub> )	H	H <sub>2</sub> (H <sub>1</sub> )	L	P	WEIGHT	OPERATOR
1½"	165	38	235	107	134			9,2	LEVER
2"	178	51	350	130	162			13,0	LEVER
2½"	191	64	350	145	177			22,5	LEVER
3"	203	76	550	165	202			28,6	LEVER
4"	229	102	550	185	220			45,5	LEVER
6"	394	152	700	255	300			66	LEVER
8"	457	203	(90)		(340)	500	345	220	MG100
10"	534	254	(90)		(390)	500	345	329	MG100
INCH.	MILLIMETERS						Kg. =	TYPE	

Fig. 600-3

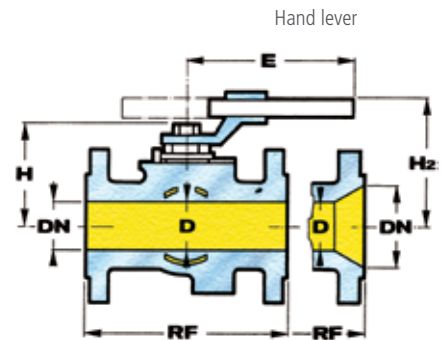
CLASS 300

DN	RF	D	E	H	H <sub>2</sub>	WEIGHT	OPERATOR
1½"	191	38	235	107	134	12,2	LEVER
2"	216	51	350	130	162	16,0	LEVER
2½"	241	64	350	145	177	28,5	LEVER
3"	283	76	550	165	202	33,0	LEVER
4"	305	102	550	185	220	48	LEVER
6"	403	152	700	255	300	113	LEVER
INCH.	MILLIMETERS				Kg. =	TYPE	

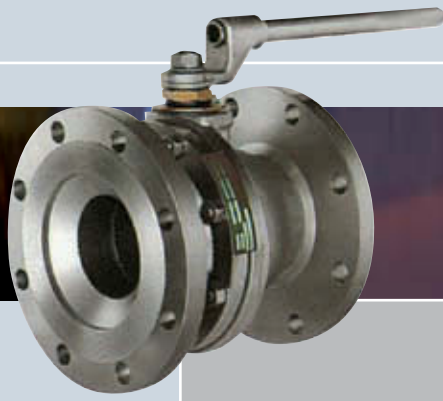
Fig. 600-6

CLASS 600

DN	RF	RJ	BW	D	E	H	H <sub>2</sub>	WEIGHT		OPERATOR
								RF-RJ	BW	
1"	216	216	216	25	350	86	111	10,0	7,5	LEVER
1¼"	229	229	229	32	350	98	130	15,5	11	LEVER
1½"	241	241	241	38	350	110	142	18,6	14	LEVER
2"	292	295	292	51	550	140	175	30	26	LEVER
2½"	330	333	330	64	550	147	182	50	42	LEVER
3" ■	356	359	356	76	550	163	198	65	54	LEVER
4" ■	432	435	432	102	700	200	245	105	89	LEVER
INCH.	MILLIMETERS						Kg. =	TYPE		



REDUCED



# Split Body

## REDUCED BORE

Fig. 650-1

DN	RF	D	E(S <sub>1</sub> )	H	H <sub>2</sub> (H <sub>1</sub> )	L	P	WEIGHT	OPERATOR
2" x 1 1/2"	178	38	235	107	134			10,1	LEVER
2 1/2" x 2"	191	51	350	130	162			15,3	LEVER
3" x 2"	203	51	350	130	162			17,9	LEVER
4" x 3"	229	76	550	165	202			31,3	LEVER
5" x 4"	254	102	550	185	220			43,5	LEVER
6" x 4"	267	102	550	185	220			46,0	LEVER
8" x 6"	292	152	700	255	300			98	LEVER
10" x 8"	330	203	(90)		(340)	500	345	217	MG100
12" x 10"	610	254	(90)		(390)	500	345	360	MG100
INCH.	MILLIMETERS							Kg. =	TYPE

CLASS 150

Fig. 650-3

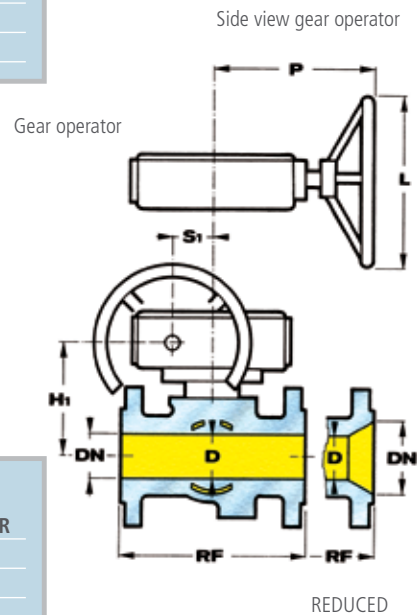
DN	RF	D	E	H	H <sub>2</sub>	WEIGHT	OPERATOR
2" x 1 1/2"	216	38	235	107	134	12,7	LEVER
2 1/2" x 2"	241	51	350	130	162	23,5	LEVER
3" x 2"	283	51	350	130	162	25,2	LEVER
4" x 3"	305	76	550	165	202	41,1	LEVER
5" x 4"	381	102	550	185	220	68	LEVER
6" x 4"	403	102	550	185	220	72	LEVER
8" x 6"	419	152	700	255	300	122	LEVER
INCH.	MILLIMETERS					Kg. =	TYPE

CLASS 300

Fig. 650-6

DN	RF	RJ	BW	D	E	H	H <sub>2</sub>	WEIGHT		OPERATOR
								RF-RJ	BW	
1 1/4" x 1"	229	229	229	25	350	86	111	10,3	8	LEVER
1 1/2" x 1 1/4"	241	241	241	32	350	98	130	15,5	12	LEVER
2" x 1 1/2"	292	295	292	38	350	110	142	19,1	15	LEVER
2 1/2" x 2"	330	333	330	51	550	140	175	34,5	22	LEVER
3" x 2"	356	259	356	51	550	140	175	39	26	LEVER
4" x 3"	432	435	432	76	550	163	198	75	53	LEVER
5" x 4"	508	511	508	102	700	200	198	140	95	LEVER
6" x 4"	559	563	559	102	700	200	245	150	105	LEVER
INCH.	MILLIMETERS							Kg. =	TYPE	

CLASS 600



Note

■ use trunnion ball valves fig. 130/160 for rating 66 to 102 bar

# Reduced Bore



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CT-s518-E June 2007