

# EN 558-1-2017 Valve Face to Face/End to End Dimension Comparison & Mirror to ASME/ANSI, EN/BS, API, EN/DIN

EN 558-1-2017 compares references face to face and centre to face dimensions major standards and allocates each one with a series number as shown in **Table 1**. **Table 2** shows the face to face/end to end and centre to end/centre to face dimensions of each series number. **Table 4** to **14** cross references the series number by valve type for each standard. ASME B16.10 table numbers referenced to in EN 558-1-2017 shown in **Table 1** were originally table numbers used in ASME B16.10 1986. As of ASME B16.10-2007 the table numbers started to change. EN 558-1 still shows the original B16.10 1986 table/column numbers shown only as a source reference in **Table 1** below. In the notes on the right hand side of **Table 1** the description of the ASME B16.10 valve type & class etc. is shown.

Where as ASME/EN/BS/DIN/API dimensions are often the same for different valve types, **Table 4** to **14** indicates where the series number is the same.

### Face-to-face dimensions (FTF)

(straight pattern valves)

Distance, in millimeters, between the two planes perpendicular to the valve axis located at the extremities of the body end ports or as specified in the relevant valve product standard.

### Centre-to-face dimensions (CTF)

(and pattern valves)

Distance, in millimeters, between the plane located at the extremity of either body end port and perpendicular to its axis and the axis of the other body end port.

**TABLE 1 - Series Number (from EN 558-1-2017) Origin of basic series**

Basic Series	Origin of Basic Series	In ISO 5752	Valve Type	Notes	Pressure Class	Standards where used or exact equivalent to
1	DIN 3202-1 - Series F 1	Series 1	Ball and Plug		PN6 ~ PN100, Class 125 ~ 300	
			Globe - straight and oblique pattern		PN6 ~ PN40, Class 125 ~ 300	
			Check - flanged type		PN6 ~ PN40, Class 125 ~ 300	
2	DIN 3202-1 - Series F 2	Series 2	Globe - straight and oblique pattern		PN63 ~ PN160	
			Check - flanged type		PN63 ~ PN100	
3	ASME/ANSI B16.10 (1986), Table 1, column 8 and 9	Series 3	Gate	ASME Class 125 & 150, Ends FF & RF, Face to face, Plug, Ball, Gate Wedge Double Disc & Conduit. Above DN40 this series does not apply to top entry full bore ball valves. Above DN300 this series does not apply to full bore ball and plug valves	PN6 ~ PN16, Class 125 ~ 150	Gate Valve 125LB MSS SP-70, 150LB API600 & API603, PN16 BSEN1171(BS5150 & BS5163)
			Ball and Plug		PN6 ~ PN16, Class 125 ~ 150	
4	ASME/ANSI B16.10 (1986), Table 2, column 11	Series 4	Gate	ASME Class 300, Ends RF & BW, Face to face, End to end, Plug, Ball, Gate Wedge Double Disc & Conduit	PN25 ~ PN40, Class 250 ~ 300	
			Ball and Plug		PN25 ~ PN40, Class 250 ~ 300	
5	ASME/ANSI B16.10 (1986), Table 4, column 5	Series 5	Gate	ASME Class 600, Ends RF & BW, Long Pattern, Face to face, End to end, Gate Wedge Dual Disc & Conduit. For Class 600 DN25, DN32 are for plug valves, regular pattern only - DN450, DN500, DN600 are for plug valves, venturi pattern only	Class 600	
			Ball and Plug		Class 300 ~ 600	
			Globe - straight and oblique pattern		Class 600	
			Check - flanged type		Class 600	

**TABLE 1 - Series Number (from EN 558-1-2017) Origin of basic series (cont'd)**

Basic Series	Origin of Basic Series	In ISO 5752	Valve Type	Notes	Pressure Class	Standards where used or exact equivalent to
7	BS 2080 Table 1 Series 7	Series 7	Gate	This series applies to copper alloy valve only; not to be used for cast iron or steel valves	PN6 ~ PN40, Class 125 ~ 300	
			Globe - straight and oblique pattern		PN6 ~ PN40, Class 125 ~ 300	
			Check - flanged type		PN6 ~ PN40, Class 125 ~ 300	
8	DIN 3202-1 - Series F 32	Series 8	Globe and Lift Check - angle pattern		PN10 ~ PN40, Class 250 ~ 300	
9	DIN 3202-1 - Series F 33	Series 9	Globe and Lift Check - angle pattern		PN63 ~ PN160, Class 600	
10	ASME/ANSI B16.10 (1986), Table 1, column 16	Series 10	Globe - straight and oblique pattern	ASME Class 125, 150, Ends RF, FF & BW, Face to face, End to end, Globe, Lift Check & Swing Check. For PN10, PN16 Class 150 globe valves in steel, use: 356 (DN125); 406 (DN150). For PN10, PN16 Class 150 globe valves in cast iron use: 965 (DN450). For PN16, Class 150 lift check valves in steel, use: 356 (DN125); 406 (DN150). For PN16 lift check valves in cast steel, use: 965 (DN450). For PN16 swing check valves in steel use: 864 (DN400)	PN6 ~ PN16, Class 125 ~ 150	Swing Check Valve 150LB API594, Cast Iron Swing Check Valve PN10/PN16 (up to 600NB) MSS SP-71 (125LB) and BSEN12334 (BS5153), Flanged Check Valve 150LB API594, Globe Valve 150LB API623, Globe Valve 125LB MSS SP-85, PN16 BSEN13789 (BS5152) Globe Valve
			Check - flanged type		PN6 ~ PN16, Class 125 ~ 150	
11	ASME/ANSI B16.10 (1986), Table 1, column 17	Series 11	Globe and Lift Check - angle pattern	ASME Class 150, Ends RF & BW, Face to face, End to end, Centre to face, Angle Globe and Lift Check. For PN10 ~ PN16 valves in cast iron use: 165 (DN125); 178 (DN150)		
12	ASME/ANSI B16.10 (1986), Table 1, column 3; BS 2080, Table 1, column 12	Series 12	Ball and Plug	ASME Class 125 & 150, Ends FF & RF, Face to face, Ball & Plug Regular & Venturi Pattern	PN6 ~ PN40, Class 125 ~ 150	
13	BS 2080, Table 1 Series 13	Series 13				Butterfly Valve BS5155, (now BSEN593) Flanged - short
14	DIN 3202-1 - Series F 4	Series 14	Gate	This series is used for grey cast iron valves isomorphic series (details see relevant product standards)	PN6 ~ PN16, Class 125 ~ 150	Butterfly Valve BS5155 (now BSEN593) Flanged - long
			Globe - straight and oblique pattern		PN6 ~ PN40	
			Check - flanged type		PN6 ~ PN16, Class 125 ~ 150	
15	DIN 3202-1 - Series F 5	Series 15	Gate		PN6 ~ PN40	
16	BS 2080, Table 1 Series 16	Series 16	Check - wafer type		PN6 ~ PN40, Class 125 ~ 150, Class 300	Butterfly Valve BS5155 (now BSEN 593) Wafer - long
18	BS 2080, Table 1 Series 18	Series 18	Gate	This series applies to copper alloy valves only; not to be used for cast iron or steel valves	PN6 ~ PN40, Class 125 ~ 300	
			Globe - straight and oblique pattern		PN6 ~ PN40, Class 125 ~ 300	
			Check - flanged type		PN6 ~ PN40, Class 125 ~ 300	
19	ASME/ANSI B16.10 (1986), Table 2, column 1	Series 19	Gate	ASME Class 250 & 300, Ends RF, Face to face, Gate Solid Wedge & Double Disc	PN25 ~ PN40, Class 250 ~ 300	Gate Valve 300LB API600 & API 603, 2500LB MSS SP-70, PN25 BS5163
20	ASME/ANSI B16.10 (1986), Table 9, columns 3 and 4	Series 20		ASME Class 150 & 125, Narrow & Wide Pattern, Face to face, Butterfly Lug & Wafer		Butterfly Valve API609-B and BS5155/BS5156 (now BSEN593) Wafer - short and MSS SP-67/MSS SP-68 Wafer - narrow (up to 350NB)
21	ASME/ANSI B16.10 (1986), Table 10, columns 16 and 18	Series 21	Globe - straight and oblique pattern	ASME Class 250 & 300, Ends RF, Check & Globe	PN25 ~ PN40, Class 250 ~ 300	Globe Valve 300LB API623, Check Valve 300LB API594, Globe Valve 250LB MSS SP-85
			Check - flanged type		PN25 ~ PN40, Class 250 ~ 300	
22	BS 2080, Table 1, Series 63	Series 22	Globe and Lift Check - angle pattern	This series applies to copper alloy valves only; not to be used for cast iron or steel valves	PN6 ~ PN40, Class 125 ~ 150	
23	BS 2080, Table 1, Series 63	Series 23	Globe and Lift Check - angle pattern	This series applies to copper alloy valves only; not to be used for cast iron or steel valves	PN6 ~ PN40, Class 125 ~ 300	
24	ASME/ANSI B16.10, Table 4, column 12	-	Globe and Lift Check - angle pattern		Class 250 ~ 300, Class 600	
25	BS 2080, Table 1, Series 64	Series 25				Butterfly Valve MSS SP-67/MSS SP-68 - wide
26	ASME/ANSI B16.10 (1986), Tabl 9, column 4	-	Gate		PN25 ~ PN100	
			Check - flanged type		PN63 ~ PN100	
27	DIN 3357-2 and following parts	-	Ball and Plug		PN6 ~ PN40	
28	DIN 3357-2 and following parts	-	Ball and Plug		PN63 ~ PN100	
29	NF E 29-377	-	Gate		PN6 ~ PN16	
30	NF E 29-377	-	Gate		PN6 ~ PN16	
32	ASME/ANSI B16.10 (1986), Table 2, column 17	-	Globe and Lift Check - angle pattern	ASME Class 250 & 300, Ends RF & BW, Centre to face, Globe Angle & Lift Check	Class 250 ~ 300	

**TABLE 1 - Series Number (from EN 558-1-2017) Origin of basic series (cont'd)**

Basic Series	Origin of Basic Series	In ISO 5752	Valve Type	Notes	Pressure Class	Standards where used or exact equivalent to
33	ASME/ANSI B16.10 (1986), Table 4, column 6	-	Gate	ASME Class 600, Ends BW, Short Pattern, End to end, Wedge & Double Disc Gate. These dimensions apply to pressure seal or flangeless bonnet valves. They may be applied at manufacturer's option to valves with flanged bonnets	Class 600	
36	IEC 60534-3-2, Table 1	-				
37	IEC 60534-3-2, Table 1	-				
38	IEC 60534-3-2, Table 1	-				
39	IEC 60534-3-2, Table 1	-				
40	Half the dimension of Series 37	-				
41	Half the dimension of Series 38	-				
42	Half the dimension of Series 39	-				
43	NF E 29-305-2	-	Ball and Plug		PN10	
45	NF E 29-305-2	-	Gate		PN25 ~ PN40	
46	NF E 29-331	-	Gate		PN63	
47	DIN 3202-1, Series F 19	-	Gate	This series applies to copper alloy valves only; not to be used for cast iron or steel valve	PN6 ~ PN40	
48	DIN 3202-1, Series F 6	-	Check - flanged type		PN6 ~ PN16	
49	DIN 3202-3, Series K 4	-	Check - wafer type		PN6 ~ PN40	
50	NF E 29-377	-	Check - wafer type		PN6 ~ PN40, Class 125 ~ 150, Class 300	
51	NF E 29-377	-	Check - wafer type		PN6 ~ PN40, Class 125 ~ 150, Class 300	
52	DIN 3202-3, Series K 5	-	Check - wafer type		Class 125 ~ 150, Class 300	
53	NF E 29-305-2, FR10	-				
54	ASME/ANSI B16.10 (1986), Table 5, column 5	-	Gate	Class 900, Ends RF & BW, Long Pattern, Face to face, End to end, Plug, Ball, Gate, Globe, Lift Check & Swing Check. DN25, DN32, DN40, DN50, DN65, DN80, DN100 are for plug valves, regular pattern only	Class 900	
			Ball and Plug		Class 900	
			Globe - straight and oblique pattern		Class 900	
			Check - flanged type		Class 900	
55	ASME/ANSI B16.10 (1986), Table 6, column 5	-	Gate	Class 1500, Ends RF & BW, Long Pattern, Face to face, End to end, Gate, Plug, Globe & Check. DN25, DN32, DN40, DN50, DN65, DN80, DN100 are for plug valves, regular pattern only- DN400 are for plug valves, venturi pattern only	Class 1500	
			Ball and Plug		Class 1500	
			Globe - straight and oblique pattern		Class 1500	
			Check - flanged type		Class 1500	
56	ASME/ANSI B16.10 (1986), Table 7, columns 1 and 2	-	Gate	ASME Class 2500, Ends RF & BW, Long Pattern, Face to face, End to end, Ball, Plug, Globe, Gate Solid Wedge & Double Disc, Swing Check	Class 2500	
			Ball and Plug		Class 2500	
			Globe - straight and oblique pattern		Class 2500	
			Check - flanged type			
57	ASME/ANSI B16.10 (1986), Table 5, column 7	-	Globe and Lift Check - angle pattern	ASME Class 900, Ends RF & BW, Long Pattern, Centre to face, Angle & Lift Check	Class 900	
58	ASME/ANSI B16.10 (1986), Table 6, column 7	-	Globe and Lift Check - angle pattern	ASME Class 1500, Ends RF & BW, Long Pattern, Centre to face, Globe Angle & Lift Check	Class 1500	
59	ASME/ANSI B16.10 (1986), Table 7, column 6	-	Globe and Lift Check - angle pattern	ASME Class 2500, Ends RF & BW, Long Pattern, Centre to face, Globe & Lift Check Angle Pattern	Class 2500	
69	ASME/ANSI B16.10 (1986), Table 5, columns 2 and 6	-	Gate	ASME Class 900, Ends BW, Short Pattern, End to end, Gate, Globe & Lift Check, Swing Check	Class 900	
			Globe - straight and oblique pattern		Class 900	
			Check - flanged type		Class 900	

**TABLE 1 - Series Number (from EN 558-1-2017) Origin of basic series (cont'd)**

Basic Series	Origin of Basic Series	In ISO 5752	Valve Type	Notes	Pressure Class	Standards where used or exact equivalent to
70	ASME/ANSI B16.10 (1986), Table 6, columns 2 and 6	-	Gate	ASME Class 1500, Ends BW, Short Pattern, End to end, Gate, Globe, Lift Check & Swing Check	Class 1500	
			Globe - straight and oblique pattern		Class 1500	
			Check - flanged type		Class 1500	
71	ASME/ANSI B16.10 (1986), Table 7, columns 2 and 5	-	Gate	ASME Class 2500, Ends BW, Short Pattern, End to end, Globe, Lift and Swing Check, Gate Solid Wedge & Double Disc	Class 2500	
			Globe - straight and oblique pattern		Class 2500	
			Check - flanged type		Class 2500	
77	ANSI/ISA S75.16-1994 table 1	-				
82	ASME/ANSI B16.10 (1986), Table 5, column 8	-	Globe and Lift Check - angle pattern	ASME Class 900, Ends BW, Short Pattern, Centre to face, Globe Angle & Tilt Check	Class 900	
91	DIN 3202-1, Series F9	-	Gate		PN250 ~ PN400	
			Check - flanged type		PN250 ~ PN400	
92	DIN 3202-1, Series F3	-	Globe - straight and oblique pattern		PN250 ~ PN400	
93	DIN 3202-1, Series F34	-	Globe and Lift Check - angle pattern		PN250 ~ PN400	
94	a	-	Gate	For flanged and wafer types	PN6 ~ PN40	
			Globe - straight and oblique pattern		PN6 ~ PN40	
95	a	-	Check - wafer type		PN6 ~ PN40	
96	a	-	Check - wafer type		PN6 ~ PN40	
97	a	-	Check - wafer type		PN6 ~ PN25, Class 125 ~ 150	
98	a	-	Ball and Plug		PN6 ~ PN160	
99	DIN 3202-1, Series F8	-	Gate		PN160 ~ PN400	
			Check - flanged type		PN160	
100	a	-	Ball and Plug	Series only for wafer type; alternative dimension is 183 (DN125)	PN6 ~ PN40, Class 125 ~ 150, Class 300	
101	a	-	Ball and Plug	Series only for wafer type	Class 600	
105	ANSI/ISA-75.08.06, Table 1 (long)	-				
106	ANSI/ISA-75.08.06, Table 1 (long)	-				
107	a	-	Ball and Plug		PN6 ~ PN160	
108	API 609 Table 2 lug and wafer type class 150	-		Catergory B wafer & lug type high performance butterfly		
109	API 609 Table 2 lug and wafer type class 300	-		Catergory B wafer & lug type high performance butterfly		
110	API 609 Table 2 lug and wafer type class 600	-		Catergory B wafer & lug type high performance butterfly		
111 to 112	ANSI/ISA-75.08.06, Table 1 (short)	-				
113 to 116	EN 26554, Series 1, 3, 5, 6	-				
117	API 594 Series Table 3	-	Check - wafer type		Class 125	
118	API 594 Series Table 3	-	Check - wafer type		Class 250	
119	API 594 Series Table 3	-	Check - wafer type		Class 150	
120	API 594 Series Table 3	-	Check - wafer type		Class 300	
121	API 594 Series Table 3	-	Check - wafer type		Class 600	
122 to 124	a	-				

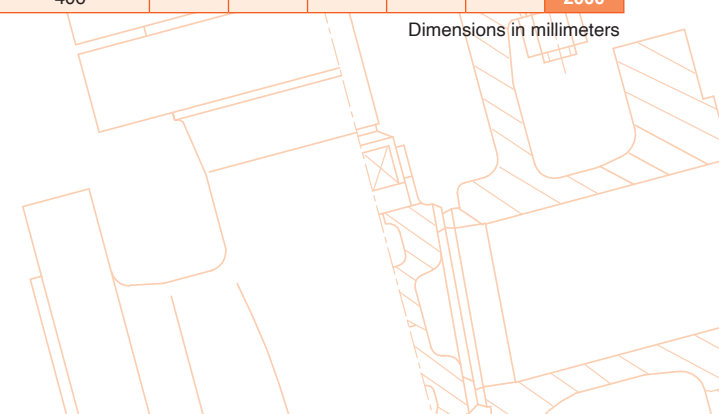
<sup>a</sup> According to agreements between and proposals of the CEN/TC 69 Working Bodies involved in the preparation of this European Standard.

**TABLE 2 - Dimensions of Basic Series**

DN	1	2	3	4	5	7	8 <sup>a</sup>	9 <sup>a</sup>	10	11 <sup>a</sup>	12	13	14	15	16	18	19	20	21	22 <sup>a</sup>	23 <sup>a</sup>	24 <sup>a</sup>	25	DN
10	130	210	102	-	-	108	90	105	-	-	130	-	115	-	-	80	-	-	-	65	70	-	-	10
15	130	210	108	140	165	108	90	105	108	57	130	-	115	-	-	80	140	-	152	65	70	83	-	15
20	150	210	117	152	190	117	95	115	117	64	130	-	120	-	-	90	152	-	178	70	75	95	-	20
25	160	230	127	165	216	127	100	115	127	70	140	-	125	120	-	100	165	-	216	80	85	108	-	25
32	180	230	140	178	229	146	105	130	140	76	165	-	130	140	-	110	178	-	229	90	95	114	-	32
40	200	260	165	190	241	159	115	130	165	83	165	106	140	240	33	120	190	33	241	95	100	151	-	40
50	230	260	178	216	292	190	125	150	203	102	203	108	150	250	43	135	216	43	267	105	115	146	-	50
65	290	300	190	241	330	216	145	170	216	108	222	112	170	270	46	165	241	46	292	115	125	165	-	65
80	310	340	203	283	356	254	155	190	241	121	241	114	180	280	64	185	283	46	318	125	135	178	49	80
100	350	380	229	305	432	305	175	215	292	146	305	127	190	300	64	229	305	52	356	135	146	216	56	100
125	400	430	254	381	508	356	200	250	330	178	356	140	200	325	70	-	381	56	400	-	-	254	64	125
150	480	500	267	403	559	406	225	275	356	203	394	140	210	350	76	-	403	56	444	-	-	279	70	150
200	600	550	292	419	660	521	275	325	495	248	457	152	230	400	89	-	419	60	533	-	-	330	71	200
250	730	650	330	457	787	635	325	390	622	311	533	165	250	450	114	-	457	68	622	-	-	394	76	250
300	850	775	356	502	838	749	375	450	698	349	610	178	270	500	114	-	502	78	711	-	-	419	83	300
350	980	900	381	762	889	-	425	515	787	394	686	190	290	550	127	-	572	78	838	-	-	-	92	350
400	1100	1025	406	838	991	-	475	575	914	457	762	216	310	600	140	-	610	102	864	-	-	-	102	400
450	1200	1150	432	914	1092	-	500	-	978	483	864	222	330	650	152	-	660	114	978	-	-	-	114	450
500	1250	1275	457	991	1194	-	-	700	978	-	914	229	350	700	152	-	711	127	1016	-	-	-	127	500
600	1450	1400	508	1143	1397	-	-	-	1295	-	1067	267	390	800	178	-	787	154	1346	-	-	-	154	600
700	1650	1600	610	-	1549	-	-	-	1448	-	-	292	430	900	229	-	-	165	1499	-	-	-	-	700
750	-	-	610	1397	1651	-	-	-	1524	-	-	-	-	-	-	-	-	165	190	1594	-	-	-	750
800	1850	-	660	-	1651	-	-	-	1676	-	-	318	470	1000	241	-	-	190	1778	-	-	-	-	800
900	2050	-	711	-	2083	-	-	-	1956	-	-	330	510	1100	241	-	-	200	203	208	-	-	-	900
1000	2250	-	813	-	-	-	-	-	-	-	-	410	550	1200	300	-	-	251	216	-	-	-	-	1000
1200	-	-	-	-	-	-	-	-	-	-	-	470	630	-	350	-	-	276	254	-	-	-	-	1200
1400	-	-	-	-	-	-	-	-	-	-	-	530	710	-	390	-	-	279	-	-	-	-	-	1400
1600	-	-	-	-	-	-	-	-	-	-	-	600	790	-	440	-	-	318	-	-	-	-	-	1600
1800	-	-	-	-	-	-	-	-	-	-	-	670	870	-	490	-	-	356	-	-	-	-	-	1800
2000	-	-	-	-	-	-	-	-	-	-	-	760	950	-	540	-	-	406	-	-	-	-	-	2000

<sup>a</sup> CTF dimensions for angle pattern valves

Dimensions in millimeters

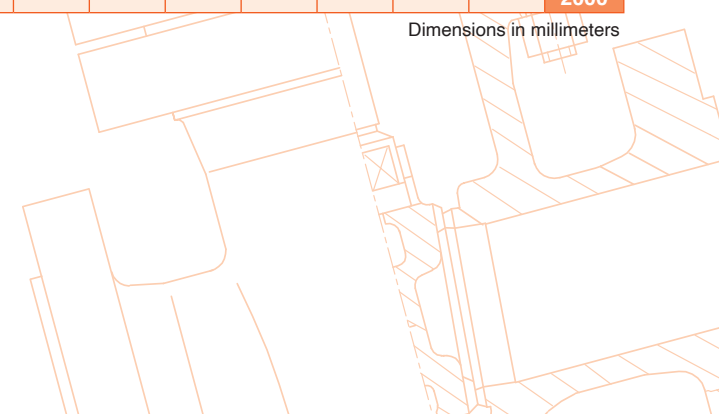


**TABLE 2 - Dimensions of Basic Series cont'd**

DN	26	27	28	29	30	32 <sup>a</sup>	33	36	37	38	39	40 <sup>a</sup>	41 <sup>a</sup>	42 <sup>a</sup>	43	45	46	47	48	49	50	51	52	53	54	DN	
10	-	115	130	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	
15	-	115	130	108	150	76	-	-	-	-	-	-	-	-	90	140	165	-	-	16	-	-	25	-	-	15	
20	-	120	150	117.5	160	89	-	76	-	-	-	-	-	-	100	152	250	75	-	19	-	-	31.5	-	229	20	
25	-	125	160	127	160	102	-	102	184	197	210	92	98	105	115	210	255	80	-	22	-	-	35.5	-	254	25	
32	-	130	180	127	180	108	-	-	-	-	-	-	-	-	130	230	265	90	-	28	-	-	40	-	279	32	
40	240	140	200	136	190	114	152	114	222	235	251	111	117	125	150	240	280	100	180	31.5	-	-	45	38	305	40	
50	250	150	230	142	200	133	178	124	254	267	286	127	133	143	170	250	300	110	200	40	54	54	56	40	368	50	
65	290	170	290	154	215	146	216	-	-	-	-	-	-	-	270	340	130	240	46	54	60	63	42	419	65		
80	310	180	310	160	230	159	254	165	298	317	337	149	159	168	-	280	360	150	260	50	57	67	71	44	381	80	
100	350	190	350	172	250	178	305	194	352	368	394	176	184	197	-	300	400	160	300	60	64	67	80	46	457	100	
125	400	325	400	186	275	200	381	-	-	-	-	-	-	-	-	350	450	200	350	90	70	83	110	48	551	125	
150	450	350	450	200	300	222	457	229	451	473	408	225	236	254	-	375	500	210	400	106	76	95	125	50	610	150	
200	550	400	550	228	350	279	584	243	543	568	610	272	284	305	-	425	600	-	500	140	95	127	160	60	757	200	
250	650	450	650	255	400	311	711	297	673	708	752	337	354	376	-	450	700	-	600	-	108	140	200	65	838	250	
300	750	500	750	285	425	356	813	338	737	775	819	368	387	410	-	500	800	-	700	-	143	181	250	75	965	300	
350	850	550	850	315	475	-	889	-	889	927	972	445	464	486	-	550	-	-	800	-	184	222	280	80	1029	350	
400	950	762	950	340	525	-	991	400	1016	1057	1108	508	529	554	-	600	-	-	900	-	191	232	-	95	1130	400	
450	1050	-	-	360	575	-	1092	457	-	-	-	-	-	-	-	-	-	-	1000	-	203	264	-	107	1219	450	
500	1150	914	1150	380	625	-	1194	508	-	-	-	-	-	-	-	-	-	-	1100	-	213	292	-	120	1321	500	
600	1350	-	-	425	725	-	1397	610	-	-	-	-	-	-	-	-	-	-	1300	-	222	318	-	144	1549	600	
700	1550	-	-	470	825	-	1546	-	-	-	-	-	-	-	-	-	-	-	1500	-	321	381	-	160	-	700	
750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180	-	750
800	1750	-	-	510	925	-	-	-	-	-	-	-	-	-	-	-	-	-	1700	-	356	489	-	195	-	800	
900	1950	-	-	555	1025	-	-	-	-	-	-	-	-	-	-	-	-	-	1900	-	368	-	-	210	-	900	
1000	2150	-	-	600	1125	-	-	-	-	-	-	-	-	-	-	-	-	-	2100	-	419	-	-	-	-	1000	
1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1200	
1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1400	
1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1600	
1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1800	
2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2000	

<sup>a</sup> CTF dimensions for angle pattern valves

Dimensions in millimeters

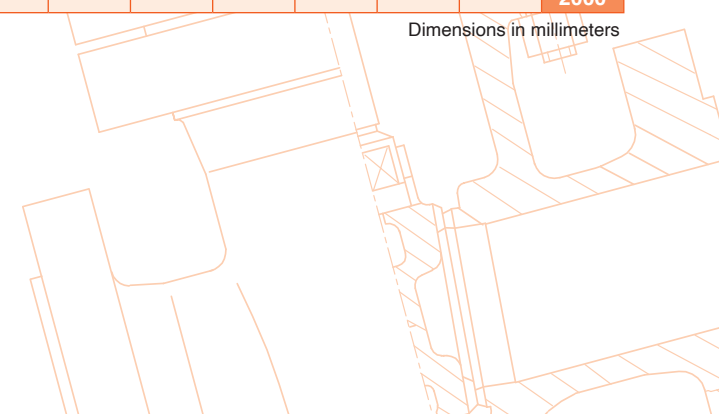


**TABLE 2 - Dimensions of Basic Series cont'd**

DN	55	56	57 <sup>a</sup>	58 <sup>a</sup>	59 <sup>a</sup>	69	70	71	77	82 <sup>a</sup>	91	92	93 <sup>a</sup>	94	95	96	97	98	99	100	101	105	106	DN
10	-	-	-	-	-	-	-	-	-	-	-	230	115	-	-	-	-	65	-	35	55	-	-	10
15	216	264	-	108	132	-	-	-	318	-	-	230	115	-	-	-	-	65	-	35	55	292	292	15
20	229	273	114	114	137	-	-	-	318	-	-	260	130	-	-	-	-	65	-	39	60	292	292	20
25	254	308	127	127	154	140	140	186	318	-	-	260	130	25	-	-	-	65	-	44	65	292	292	25
32	279	349	140	140	17	165	165	232	-	-	-	300	150	32	-	-	14	80	-	52	75	-	-	32
40	305	384	152	152	193	178	178	232	381	-	310	300	150	40	-	-	14	85	270	64	85	333	333	40
50	368	451	184	184	225	216	216	279	400	-	350	350	175	50	14	17	14	100	300	83	100	375	375	50
65	419	508	210	210	254	254	254	330	441	-	425	400	200	65	14	20	14	130	360	105	125	410	410	65
80	470	578	190	235	289	305	305	368	660	152	470	450	225	80	14	24	14	160	390	121	150	441	460	80
100	546	673	229	273	337	356	406	457	737	178	550	520	260	100	14	27	18	190	450	152	185	511	530	100
125	673	794	278	337	397	432	483	533	-	216	650	600	300	125	16	32	18	240	525	196	220	-	-	125
150	705	914	305	352	457	508	559	610	864	254	750	700	650	150	16	32	20	250	600	236	280	714	768	150
200	832	1022	368	416	511	660	711	762	1022	330	950	800	400	200	18	42	22	320	750	315	-	914	972	200
250	991	1270	419	495	635	787	864	914	1372	394	1150	900	-	-	35	47	26	-	900	-	-	991	1067	250
300	1130	1422	483	565	711	914	991	1041	1575	457	1350	1050	-	-	43	52	32	-	1050	-	-	1130	1219	300
350	1257	-	514	629	-	991	1067	1118	1803	495	1550	-	-	-	-	-	38	-	1200	-	-	1257	1257	350
400	1384	-	660	-	-	1092	1194	1245	-	-	1750	-	-	-	-	-	44	-	1350	-	-	1422	1422	400
450	1537	-	737	-	-	-	1346	1397	-	-	1950	-	-	-	-	-	50	-	1500	-	-	1727	1727	450
500	1664	-	825	-	-	-	1473	-	-	-	2150	-	-	-	-	-	56	-	1650	-	-	-	-	500
600	1943	-	991	-	-	-	-	-	-	-	-	-	-	-	-	-	62	-	-	-	-	-	-	600
700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	-	-	-	-	-	-	700
750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	750
800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	-	-	-	-	-	-	800
900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	-	-	-	-	-	-	900
1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000
1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1200
1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1400
1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1600
1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1800
2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2000

<sup>a</sup> CTF dimensions for angle pattern valves

Dimensions in millimeters



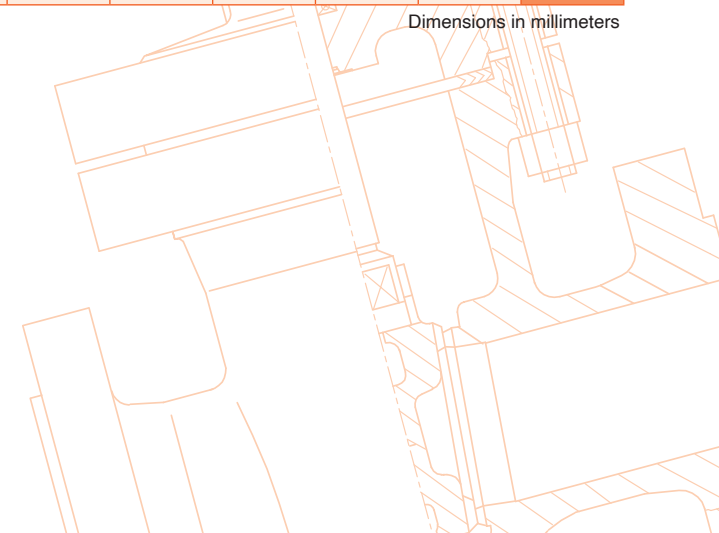


**TABLE 2 - Dimensions of Basic Series cont'd**

DN	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	DN
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
15	50	-	-	-	273	273	150	210	290	480	-	-	-	-	-	300	400	435	15
20	50	-	-	-	273	273	150	210	290	480	-	-	-	-	-	300	-	-	20
25	60	-	-	-	273	273	160	230	380	580	-	-	-	-	-	300	415	470	25
32	65	-	-	-	-	-	230	320	450	580	-	-	-	-	-	-	-	-	32
40	80	-	-	-	311	311	230	320	490	680	-	-	-	-	-	420	-	-	40
50	95	-	-	-	340	-340	230	320	580	680	54	54	60	60	60	416	440	-	50
65	110	-	-	-	-	-	290	-	-	-	60	60	67	67	67	-	-	-	65
80	145	48	48	54	387	406	310	-	-	-	67	67	73	73	73	-	-	-	80
100	170	54	54	64	464	483	350	-	-	-	67	67	73	73	79	-	-	-	100
125	-	-	-	-	-	-	-	-	-	-	83	83	-	-	-	-	-	-	125
150	-	57	59	78	600	692	-	-	-	-	95	95	98	98	136	-	-	-	150
200	-	64	73	102	781	838	-	-	-	-	127	127	127	127	165	-	-	-	200
250	-	71	83	117	864	991	-	-	-	-	140	140	146	146	213	-	-	-	250
300	-	81	92	140	1016	1130	-	-	-	-	181	181	181	181	229	-	-	-	300
350	-	92	117	155	-	-	-	-	-	-	184	222	184	222	273	-	-	-	350
400	-	102	133	178	-	-	-	-	-	-	191	232	191	232	305	-	-	-	400
450	-	114	149	200	-	-	-	-	-	-	203	264	203	264	362	-	-	-	450
500	-	127	159	216	-	-	-	-	-	-	213	292	219	292	368	-	-	-	500
600	-	154	181	232	-	-	-	-	-	-	222	318	222	318	438	-	-	-	600
700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700
750	-	-	-	-	-	-	-	-	-	-	305	368	305	368	505	-	-	-	750
800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	800
900	-	-	-	-	-	-	-	-	-	-	368	483	368	483	635	-	-	-	900
1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000
1200	-	-	-	-	-	-	-	-	-	-	524	629	524	629	-	-	-	-	1200

<sup>a</sup> CTF dimensions for angle pattern valves

Dimensions in millimeters





**TABLE 4 - Gate Valves**

PN / Class	FTF Series																							
	3	4	5	7 <sup>c</sup>	14 <sup>a</sup>	15	18 <sup>c</sup>	19	26	29	30	33 <sup>e</sup>	45	46	47 <sup>c</sup>	54	55	56	69	70	71	91	94 <sup>d</sup>	99
PN 6 - PN 10 - PN16	X			X	X	X	X			X	X				X								X	
PN 25 - PN 40		X		X		X	X	X	X				X		X								X	
PN 63 - PN 100									X					X <sup>b</sup>										
PN 160																								X
PN 250 - PN 320 - PN 400																						X		X
Class 125 - Class 150	X			X			X																	
Class 250 - Class 300		X		X			X	X																
Class 600			X									X												
Class 900																X			X					
Class 1500																	X			X				
Class 2500																		X			X			

<sup>a</sup> This series is used for grey cast iron gate valves isomorphous series (details see relevant product standards).

<sup>b</sup> This series applies only to PN 63.

<sup>c</sup> This series applies to copper alloy valves only; not to be used for cast iron or steel valves.

<sup>d</sup> For flanged and wafer types.

<sup>e</sup> These dimensions apply to pressure seal or flangeless bonnet valves. They may be applied at manufacturer's option to valves with flanged bonnets.

**TABLE 5 - Butterfly Valves and Butterfly Control Valves**

PN / Class	FTF Series								
	Flange type		Wafer type						
	13	14	16	20 <sup>b</sup>	25	53 <sup>a</sup>	108 CL 150	109 CL 300	110 CL 600
PN 2.5 - PN 6	X	X		X		X			
PN 10 - PN 16	X	X	X	X	X	X			
PN 25 - PN 40	X	X	X	X <sup>c</sup>	X				
Class 125 - Class 150	X	X	X	X <sup>c</sup>	X		X		
Class 300		X	X		X <sup>c</sup>			X	
Class 600		X							X

<sup>a</sup> For PN 2.5; PN 6, PN 10 only.

<sup>b</sup> Alternative dimension use: 25 (DN 20); 25 (DN 25); 33 (DN 32).

<sup>c</sup> Alternative dimension: 92 (DN 350) instead of 78.

**TABLE 6 - Ball and Plug Valves**

PN / Class	FTF Series														
	1	3	4	5	12	27	28	43 <sup>c</sup>	54	55	56	98	100 <sup>g</sup>	101 <sup>h</sup>	107
PN 6 - PN 10 - PN16	X	X <sup>a</sup>			X	X		X				X	X		X
PN 25 - PN 40	X		X <sup>b</sup>		X	X						X	X		X
PN 63 - PN 100	X						X					X			X
PN 160												X			X
Class 125 - Class 150	X	X <sup>a</sup>			X								X		
Class 250	X		X												
Class 300	X		X	X									X		
Class 600				X <sup>d</sup>										X	
Class 900									X <sup>e</sup>						
Class 1500										X <sup>f</sup>					
Class 2500											X				

<sup>a</sup> Above DN 40, this series does not apply to top entry full bore ball valves. Above DN 300, this series does not apply to full bore ball and plug valves.

<sup>b</sup> Alternative FTF dimensions for ball valves are 502 (DN 200); 568 (DN 250); 648 (DN 300).

<sup>c</sup> This series applies only to PN 10 ball valves.

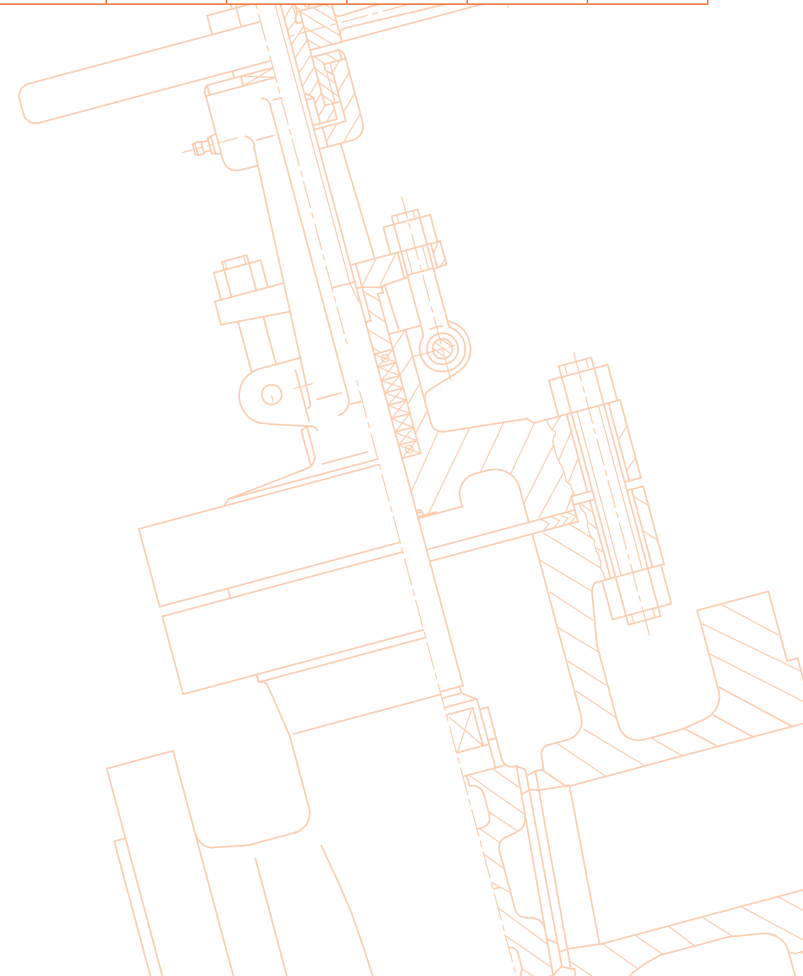
<sup>d</sup> DN 25; DN 32 are for plug valves, regular pattern only - DN 450; DN 500; DN 600 are for plug valves, venturi pattern only.

<sup>e</sup> DN 25; DN 32; DN 40; DN 50; DN 65; DN 80; DN 100 are for plug valves, regular pattern only.

<sup>f</sup> DN 25; DN 32; DN 40; DN 50; DN 65; DN 80; DN 100 are for plug valves, regular pattern only - DN 400 are for plug valves, venturi pattern only.

<sup>g</sup> Series only for wafer type; alternative dimensions is 183 (DN 125).

<sup>h</sup> Series only for wafer type.



**TABLE 7 - Diaphragm Valves**

PN / Class	FTF Series	
	1	7
PN 6		X
PN 10 - PN 16	X	X
PN 25 - PN 40	X	
Class 125 - Class 150	X	X

**TABLE 8 - Globe Valves - Sraight and Oblique Pattern**

PN / Class	FTF Series															
	1	2	5	7 <sup>d</sup>	10	14	18 <sup>d</sup>	21	54	55	56	69	70	71	92	94 <sup>e</sup>
PN 6 - PN 10 - PN16	X			X	X <sup>a, b</sup>	X	X									X
PN 25 - PN 40	X			X		X	X	X <sup>c</sup>								X
PN 63 - PN 100 - PN 160		X														
PN 250 - PN 320															X	
PN 400 - PN 500															X	
Class 125 - Class 150	X			X	X <sup>a, b</sup>		X									
Class 250 - Class 300	X			X			X	X <sup>c</sup>								
Class 600			X													
Class 900									X			X				
Class 1500										X			X			
Class 2500											X			X		

<sup>a</sup> For PN 10, PN 16, Class 150 valves in steel, use: 356 (DN 125); 406 (DN 150).

<sup>b</sup> For PN 10, PN 16, Class 150 valves in cast iron, use: 965 (DN 450).

<sup>c</sup> For PN 25, PN 40, Class 300 valves in steel, use: 203 (DN 25); 216 (DN 32); 229 (DN 40); 559 (DN 200).

<sup>d</sup> This series applies to copper alloy valves only; not to be used for cast iron or steel valves.

<sup>e</sup> For flanged and wafer types.

**TABLE 9 - Globe Valves and Lift Check Valves - Angle Pattern**

PN / Class	CTF Series											
	8	9	11	22 <sup>a</sup>	23 <sup>a</sup>	24	32	57	58	59	82	93
PN 6				X	X							
PN 10 - PN 16	X		X <sup>b</sup>	X	X							
PN 25 - PN 40	X			X	X							
PN 63 - PN 100 - PN 160		X										
PN 250 - PN 320												X
PN 400 - PN 500												X
Class 125 - Class 150			X	X	X							
Class 250 - Class 300	X				X	X	X					
Class 600		X				X						
Class 900								X			X	
Class 1500									X			
Class 2500										X		

<sup>a</sup> This series applies to copper alloy valves only; not to be used for cast iron or steel valves.

<sup>b</sup> For valves in cast iron use: 165 (DN 125); 178 (DN 150).

**TABLE 10 - Check Valves - Flanged Type<sup>a</sup>**

PN / Class	FTF Series																		
	1	2	5	7 <sup>b</sup>	10	14	18 <sup>b</sup>	21	26	48	54	55	56	69	70	71	91	92	99
PN 6 - PN 10 - PN16	X			X	X <sup>c, e, f</sup>	X	X			X									
PN 25 - PN 40	X			X			X	X <sup>d</sup>											
PN 63 - PN 100		X							X										
PN 160																			X
PN 250 - PN 320 - PN 400																	X		
Class 125 - Class 150	X			X	X <sup>c, e, f</sup>	X	X												
Class 250 - Class 300	X			X			X	X <sup>d</sup>											
Class 600			X																
Class 900											X			X					
Class 1500												X			X				
Class 2500													X			X			

<sup>a</sup> For lift check valves - angle pattern see Table 9.

<sup>b</sup> This series applies to copper alloy valves only; not to be used for cast iron or steel valves.

<sup>c</sup> For PN 16, Class 150 lift check valves in steel, use: 356 (DN 125); 406 (DN 150).

<sup>d</sup> For PN 40, Class 300 lift check valves in steel, use: 203 (DN 25); 216 (DN 32); 229 (DN 40); 559 (DN 200).

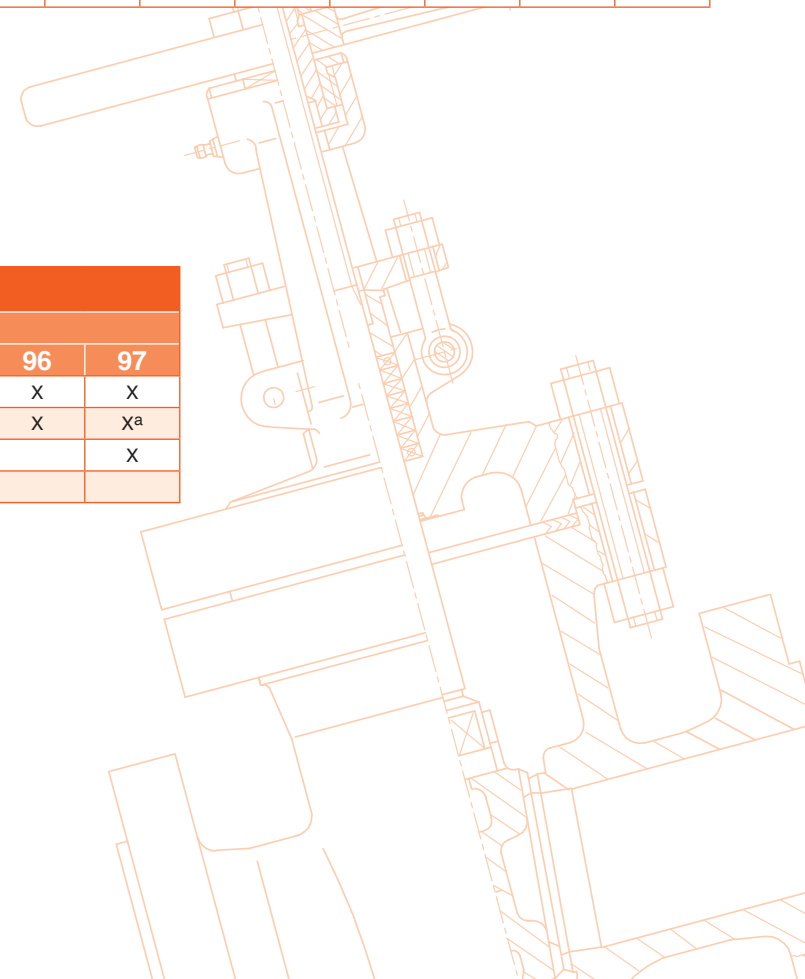
<sup>e</sup> For PN 16 valves in cast iron, use: 965 (DN 450).

<sup>f</sup> For PN 16 swing check valves in steel, use: 864 (DN 400).

**TABLE 11 - Check Valves - Wafer Type**

PN / Class	FTF Series							
	16	49	50	51	52	95	96	97
PN 6 - PN 10 - PN 16	X	X	X	X		X	X	X
PN 25 - PN 40	X	X	X	X		X	X	X <sup>a</sup>
Class 125 - Class 150	X		X	X	X			X
Class 300	X		X	X	X			

<sup>a</sup> Only for PN 25.



**TABLE 12 - Globe Control Valves**

PN / Class	FTF Series																			
	FTF Series (Straight Pattern)										CTF Series (Angle Pattern)									
	1	2	37	38	39	56	77	92	105	106	8	9	11	24	32	40	41	42	59	93
PN 10 - PN 16	X		X								X		X			X				
PN 25 - PN 40	X			X							X				X		X			
PN 63 - PN 100		X			X							X		X				X		
PN 160		X						X				X								
PN 250							X		X											X
PN 320							X													X
PN 400						X	X												X	
Class 150	X		X								X		X			X				
Class 300	X			X							X				X		X			
Class 600		X			X							X		X				X		
Class 900		X						X				X <sup>a</sup>								X <sup>a</sup>
Class 1500							X		X											X <sup>b</sup>
Class 2500						X	X												X <sup>c</sup>	

<sup>a</sup> For CTF Class 900, use half of the dimension of series 105.

<sup>b</sup> For CTF Class 1500, use half of the dimension of series 106.

<sup>c</sup> For CTF Class 2500, use half of the dimension of series 177.

**TABLE 13 - Eccentric Rotary Plug Control Valves and Segmented Ball Control Valves - Wafer Type and Flanged Type**

PN / Class	FTF Series	
	1	36
PN 10 - PN 16 - PN 25 - PN 40	X	X
PN 63 - PN 100	X <sup>a</sup>	X
Class 150 - Class 300 - Class 600		X

<sup>a</sup> Applies to eccentric rotary plug control valves only.

**TABLE 14 - Ball Control Valves**

PN / Class	FTF Series						
	1	3	4	5	12	38	39
PN 10 - PN 16	X	X			X		
PN 25 - PN 40	X		X <sup>a</sup>			X	
PN 40 - PN 100	X			X			X
Class 150		X			X		
Class 300			X <sup>a</sup>			X	
Class 600				X			X

<sup>a</sup> Use dimension 502 (DN 200); 568 (DN 250); 648 (DN 300).