

JIS

JAPANESE INDUSTRIAL STANDARD

**Face-to-Face and End-to-End
Dimensions of Valves**

JIS B 2002^{—1987}

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

JAPANESE INDUSTRIAL STANDARD

J I S

Face-to-Face and End-to-End
Dimensions of Valves

B 2002-1987

1. Scope

This Japanese Industrial Standard specifies face-to-face and end-to-end dimensions of valves to be used mainly for piping.

2. Definitions

For the purposes of this Standard the following definitions apply. Other terms and definitions shall be in accordance with JIS B 0100.

- (1) face to face and end-to-end dimensions The distance from end face to end face or from one end face to the centre line of valve, namely L or L_1 in Fig. 1, respectively.

Remark: L applies to straight-way type and L_1 to angle type of valves.

In the case where rubber seat, lining of inner side of valve casing, etc. constitute the end face of valve, the distance from end face including rubber, lining, etc. after connecting the valve with piping up to the end face or the distance from one end face to the centre line of valve, namely L or L_1 in Fig. 2.

- (2) flangeless type The type in which the valve casting is put between the pipe flanges and fastened by bolts and the like.

Remark: This means the same as the wafer type of JIS B 0100, but in the regulating valve in this Standard this term shall be used.

Applicable Standards:

JIS B 0100-Glossary of Terms for Valves

JIS B 2001-Nominal Size and Bore fo Valves

Corresponding International Standards:

ISO 5752-Metal valves for use in flanged pipe systems - Face-to-face and center-to-face dimensions

IEC 534-3-1-Face-to-face dimensions for flanged, two-way, globe-type control valves

IEC 534-3-2-Face-to-face dimensions for flangeless control valves except wafer butterfly valves

Reference Standards:

JIS B 2202-Screwed Type Steel Pipe Fittings

ISO 7268-Piping components - Definition fo nominal pressure

Fig. 1. Face-to-face and End-to-end Dimensions

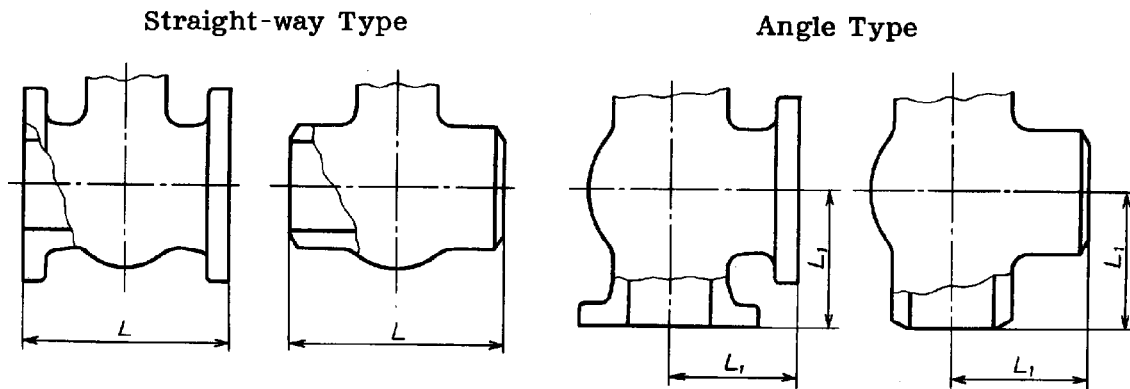
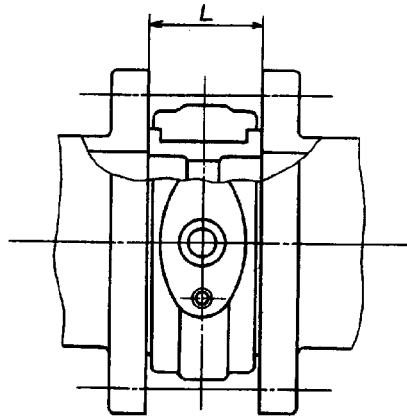
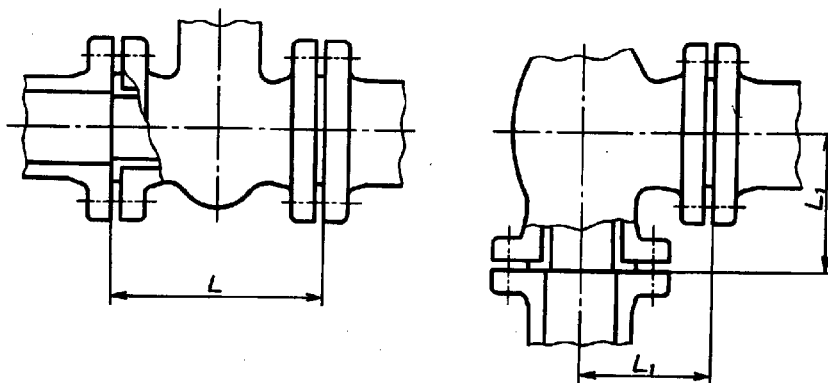


Fig. 2. Face-to-face and End-to-end Dimensions
(where rubber seat and the like constitute the end face)

Where rubber seat constitutes end face



Where lining constitutes end face



3. Uses of Valves

Uses of the valves of which face-to-face and end-to-end dimensions are specified in this Standard shall be as follows:

Further, the valves for general mechanical equipment may be used for ships and outdoor waterworks. However, in the case of applying for outdoor waterworks, the nominal diameter 75 shall be substituted for 80.

- (1) For General Mechanical Equipment To be used for general mechanical equipment.
- (2) For Ships To be used for ships
- (3) For Outdoor Waterworks To be used for outdoor waterworks.

4. Types of Valves

The valves of which face-to-face and end-to-end dimensions are specified in this Standard shall be classified as follows:

- (1) Gate Valve
- (2) Globe Valve (including lift check valve and screw-down stop check valve.)
- (3) Angle Valve (including angle type lift check valve and angle type screw-down stop check valve.)
- (4) Swing Check Valve
- (5) Ball Valve
- (6) Lubricated Plug Valve
- (7) Butterfly Valve (including butterfly check valve.)
- (8) Regulating Valve

Remark: The face-to-face and end-to-end dimensions of diaphragm valves are shown in Reference 1.

5. Nominal Pressure

The nominal pressures of valves of which face-to-face and end-to-end dimensions are specified in this Standard shall be as follows:

- (1) Where Nominal Pressure Symbol K Is Used (hereinafter referred to as K nominal pressure.)

2 K, 4.5 K⁽¹⁾, 5 K, 7.5 K⁽¹⁾, 10 K, 16 K, 20 K, 30 K, 40 K, 63 K, and 100 K⁽²⁾.

(2) Where Nominal Pressure Symbol PN Is Used (hereinafter referred to as PN nominal pressure)

Isomorphic⁽³⁾, PN1, PN1.6, PN2.5, PN4, PN6, PN10, PN16, PN20, PN25, PN40, PN50 or PN100.

Notes (1) To be used only for outdoor waterworks.

(2) To be used only for butt-welding type.

(3) The maximum permissible pressure that varies at 20°C dependent upon the nominal diameter. In the case of grey cast iron, it shall be as follows.

Reference: PN nominal pressure shall be the nominal pressure in accordance with ISO 7268.

Unit: MPa

Nominal diameter	40 to 150	200 to 300	350 to 500	600 to 700	800	900 to 1000
Maximum permissible pressure	1	0.6	0.4	0.25	0.16	0.1

6. Connection Ends

The connection ends of which face-to-face and end-to-end dimensions are specified in this Standard shall be as follows:

(1) Flange End

Reference: For nominal pressure K, excluding 4.5 K and 7.5 K, the flange of JIS B 2210, and for nominal pressure PN, the flange of ISO/DIS 7005 (Metallic flanges) shall, as a rule, be used.

(2) Butt-welding Type

(3) Wafer Type (Flangeless Type)

7. Nominal Diameter

The nominal diameter of valves of which face-to-face and end-to-end dimensions are specified in this Standard shall be in accordance with JIS B 2001. Further, the nominal diameter given in parentheses in Attached Table 2 should not preferably be used.

8. Series of Face-to-face and End-to-end Dimensions

Series of face-to-face and end-to-end dimensions of valves shall be classified according to the use, type, connection end and material of valve casing, and the series number shall be as follows:

- (1) The series number of face-to-face and end-to-end dimensions of valve for general mechanical equipment shall be as given in Attached Table 1-1.
- (2) The series number of face-to-face and end-to-end dimensions of valve for ship shall be as given in Attached Table 1-2.
- (3) The series number of face-to-face and end-to-end dimensions of valve for outdoor waterworks shall be as given in Attached Table 1-3.
- (4) The series number of face-to-face and end-to-end dimensions of regulating valve shall be as given in Attached Table 1-4.

Reference: The number of basic series of Attached Table 2 of ISO is in accordance with ISO 5752.

9. Face-to-face and End-to-end Dimensions of Valves

Face-to-face and end-to-end dimensions of valves shall be as follows:

- (1) The face-to-face and end-to-end dimensions of gate valve for mechanical equipment shall be as given in Attached Table 2-1.
- (2) The face-to-face and end-to-end dimensions of globe valve and swing check valve for general mechanical equipment shall be as given in Attached Table 2-2.
- (3) The face-to-face and end-to-end dimensions of angle valve for general mechanical equipment shall be as given in Attached Table 2-3.
- (4) The face-to-face and end-to-end dimensions of ball valve and plug valve for general mechanical equipment shall be as given in Attached Table 2-4.
- (5) The face-to-face and end-to-end dimensions of butterfly valve for general mechanical equipment shall be as given in Attached Table 2-5.
- (6) The face-to-face and end-to-end dimensions of gate valve for ship shall be as given in Attached Table 2-6.
- (7) The face-to-face and end-to-end dimensions of globe valve for ship shall be as given in Attached Table 2-7.
- (8) The face-to-face and end-to-end dimensions of angle valve for ship shall be as given in Attached Table 2-8.
- (9) The face-to-face and end-to-end dimensions of swing check valve shall be as given in Attached Table 2-9.

- (10) The face-to-face and end-to-end dimensions of butterfly valve for ship shall be as given in Attached Table 2-10.
- (11) The face-to-face and end-to-end dimensions of gate valve and butterfly valve for outdoor waterworks shall be as given in Attached Table 2-11.
- (12) The face-to-face and end-to-end dimensions of regulating valve shall be as given in Attached Table 2-12.

10. Regulation of Face-to-face and End-to-end Dimensions by Gasket Seat of Flange

Regulation of face-to-face and end-to-end dimensions by gasket seat of flange shall be as follows:

- (1) The face-to-face and end-to-end dimensions of valves using male-female flange and tongue and groove flange of nominal pressure K shall be L_2 or L_3 in Fig. 3 and determined by increasing or decreasing the regulation dimension of Table 1 to the dimension of Attached Table 2.

Fig. 3. Face-to-face and End-to-end Dimensions
(in the Case of Male-female and Tongue-and-groove Flanges)

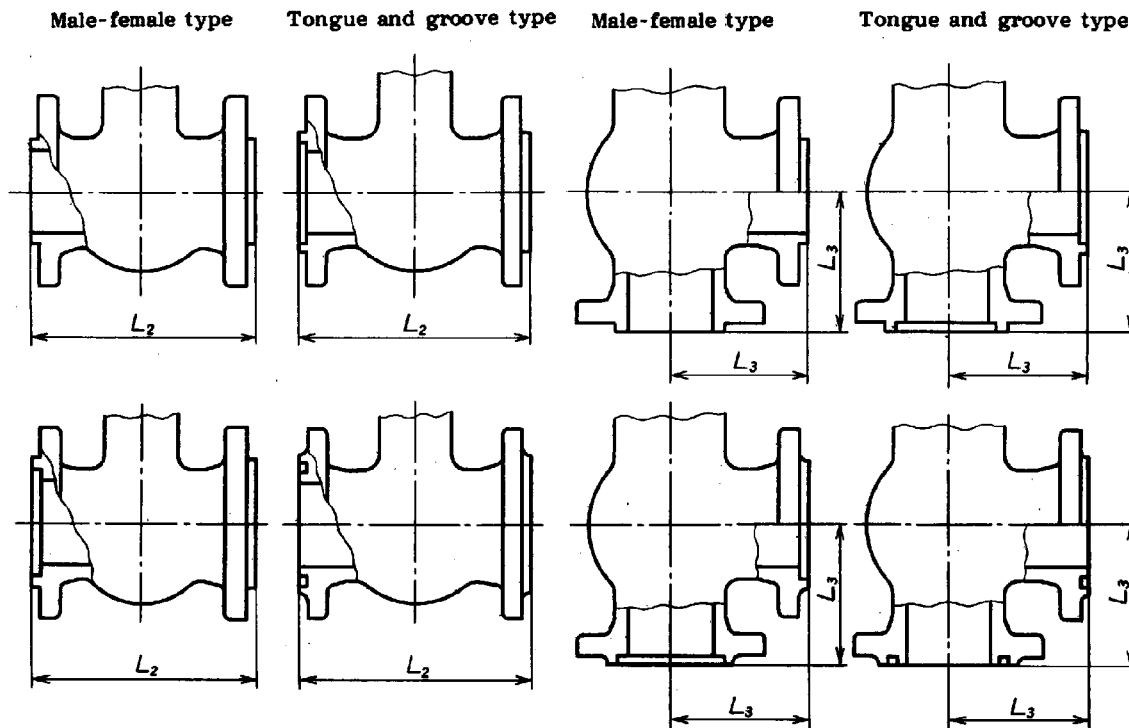


Table 1. Regulation Dimension (In the Case of Male-Female and Tongue-and-Groove Flanges of Nominal Pressure K)

Unit: mm

Type of valve casing Shape of gasket seat		Straight-way type	Angle type
		Male-female type	+ 12
Tongue and groove type	Female	+ 10	+ 5

- (2) The face-to-face and end-to-end dimensions of valves using male-female flange and tongue-and-groove flange of nominal pressure PN of PN20, PN50 and PN100 shall be L_2 or L_3 of Fig. 3 and be determined by increasing or decreasing the regulation dimension of Table 2 on the basis of the dimension of Attached Table 2.

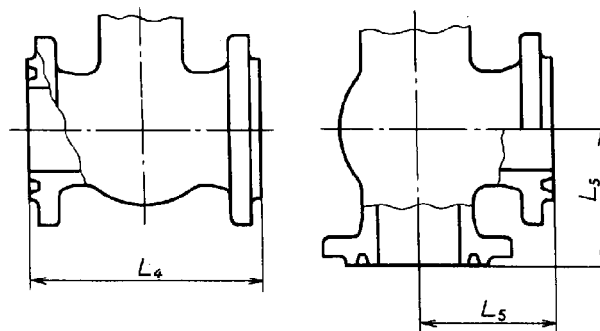
Table 2. Regulation Dimensions (In the case of male-female flange and tongue and groove flange of nominal pressure K)

Unit: mm

Nominal pressure Type of valve casing Shape of gasket seat		PN20		PN50		PN100	
		Straight-way type	Angle type	Straight-way type	Angle type	Straight-way type	Angle type
Male-female type	Male	+13	+7	+13	+7	0	0
	Tongue and groove type	Female	+10	+5	+10	+5	-3

- (3) The face-to-face and end-to-end dimensions of valves using ring joint type flange of nominal pressure PN of PN20, PN50 and PN100 shall be L_4 or L_5 of Fig. 4 and be determined by increasing or decreasing the regulation dimension of Table 3 on the basis of the dimension of Attached Table 2.

Fig. 4. Face-to-face and End-to-end Dimensions (In the Case of Ring-joint Flange of Nominal Pressure PN)



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Table 3. Regulation Dimension (In the case of ring-joint flange of nominal pressure PN)

Unit: mm

Nominal diameter	Nominal pressure Type of valve casing	PN 20		PN 50		PN 100	
		Straight-way type	Angle type	Straight-way type	Angle type	Straight-way type	Angle type
15		—	—	+11	+6	-2	-1
20		—	—				
25				+13	+7	0	0
32							
40							
50							
65							
80							
100							
125							
150		+13	+7	+16	+8	+3	+2
200							
250							
300							
350							
400							
450							
500				+19	+10	+6	+3
600				+22	+11	+10	+5
650		—	—				
700		—	—	+25	+13	+13	+7
750		—	—				
800		—	—				
850		—	—	+29	+15	+16	+8
900		—	—				

11. Dimensional Permissible Deviations

The dimensional permissible deviations on face-to-face and end-to-end dimensions shall be as follows:

- (1) The dimensional permissible deviations on face-to-face and end-to-end dimensions of valves of flange type and wafer type (flangeless) of nominal pressure 40 kg or under and nominal pressure PN shall be as given in Table 4.

Table 4. Dimensional Permissible Deviations

Unit: mm

Face-to-face and end-to-end dimensions	Dimensional permissible deviations
250 or under	± 2
Over 250 up to 500	± 3
Over 500 up to 800	± 4
Over 800 up to 1000	± 5
Over 1000 up to 1600	± 6
Over 1600 up to 2250	± 8

- (2) The permissible deviations on face-to-face and end-to-end dimensions of valves of butt-welding type and nominal pressure 63 K or over shall be as given in Table 5.

Table 5. Dimensional Permissible Deviations (Butt-welding type and the like)

Unit: mm

Nominal diameter \ Type of valve casing	Straight-way type	Angle type
	250 or under	± 1.5
300 or over	± 3.0	± 1.5

Attached Table 1-1. Series number of face-to-face and end-to-end dimensions of valves for general mechanical equipment

Type	Connection end	(1) Valve casing material	In the case of using nominal pressure K										In the case of using nominal pressure PN									
			2 K	5 K	10 K	16 K	20 K	30 K	40 K	63 K	100 K	iso-morphic	PN 1~6	PN 10	PN 16	PN 20	PN 25	PN 40	PN 50	PN 100		
Gate valve	Flange type	A	-	-	6	-	10	12	13	14	-	-	1	-	6	7	10	10	10	13		
		B	-	-	4	-	-	-	-	-	-	-	-	-	3	8(2)	8	8	8	-		
		F	-	2	5	9	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	
Globe valve and swing check valve	Butt-weld type	S	-	-	15	10	12	13	14	17	-	-	-	-	-	15	-	-	10	13		
		A	-	-	20	23	24	12	13	14	-	-	-	-	20	21	21	24	25	13		
		B	-	-	18	-	-	-	-	-	-	-	-	-	-	3	8(2)	-	8	-		
Angle valve	Flange type	F	-	-	19	22(4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		S	-	-	20	-	24	12	13	14	17	-	-	-	-	20	-	-	24	13		
		A	-	-	27	-	31	33	34	36	-	-	-	-	28	29	29	29	34	35		
Ball valve and lubricated plug valve	Butt-weld type	B	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		F	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		S	-	-	28	-	32	33	34	36	38	-	-	-	-	-	28	-	29	34		
Butterfly valve (7)	Flange type	A	-	-	6	10	12(6)	13(6)	14(6)	-	-	-	-	61	21	39	10	13	-	-		
		F	-	-	39(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		S	-	-	-	40(6)	12(6)	13(6)	14(6)	17(6)	-	-	-	-	-	-	1	1	-	-		
Butterfly valve (7)	Wafer type	A	-	-	43(6)	-	-	-	-	-	-	-	-	42	46	47	-	-	-	-		
		A	-	-	44(6)	-	-	-	-	-	-	-	-	-	46	47	-	-	-	-		
		A	-	-	45(6)	-	-	-	-	-	-	-	-	-	47	48	-	-	-	-		
		A	-	-	46	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-		
		A	-	-	47	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-		

Notes (1) The division of valve casing materials shall be as follows:

- (a) A applies to all materials.
- (b) S applies mainly to steels.
- (c) B applies mainly to bronze, and further may apply to stainless steel for building equipment.
- (d) F applies mainly to cast irons (grey cast iron, nodular graphite cast iron, and black heart malleable cast iron). This applies to pressure seal bonnet or bonnet-less type.

(2) This applies to the following:
(a) Parallel slide valve and double disc gate valve.
(b) Valve having valve seat with valve casing.

- (3) This applies to the following:
(a) Parallel slide valve and double disc gate valve.
(b) Valve having valve seat with valve casing.
(c) Union bonnet or bolted bonnet type valve.

(4) This does not apply to swing check valve.

(5) This applies only to lubricated plug valve.

(6) This applies only to ball valve.
(7) In the case of using nominal pressure K, this does not apply to butterfly check valve.

(8) This series is applicable until 5. 1. 1992.

Attached Table 1-2. Series number of face-to-face and end-to-end dimensions of valves for ship

Type	Connection end	Valve casing material ⁽¹⁾	Nominal pressure					
			5 K	10 K	16 K	20 K	30 K	40 K
Gate valve	Flange type	S	—	105	—	—	—	—
		B	101	103	—	—	—	—
		F	102	104	106	—	—	—
Globe valve	Flange type	A	107	—	—	—	—	—
		S	—	108	—	110	111	112
		B	—	—	109	—	—	—
		F	—	108	109	—	—	—
Angle valve	Flange type	S	—	114	—	116	117	118
		B	113	—	115	—	—	—
		F	113	114	115	—	—	—
Swing check valve	Flange type	S	—	—	—	—	—	—
		B	119	—	—	—	—	—
		F	120	121	—	—	—	—
⁽¹¹⁾ Butterfly valve	Flange type	S	122 ⁽⁹⁾ 123 ⁽⁹⁾	122 ⁽⁹⁾ 123 ⁽⁹⁾ 124 ⁽¹⁰⁾ 125 ⁽¹⁰⁾	124 ⁽¹⁰⁾ 125 ⁽¹⁰⁾	—	—	—
	Wafer type	F	43 ⁽⁹⁾ 44 ⁽⁹⁾	43 ⁽⁹⁾ 44 ⁽⁹⁾ 45 ⁽¹⁰⁾ 125 ⁽¹⁰⁾	45 ⁽¹⁰⁾ 125 ⁽¹⁰⁾	—	—	—

Notes ⁽⁹⁾ This is used for valve of central valve disc type.

⁽¹⁰⁾ This is used for valve of eccentric valve disc type.

⁽¹¹⁾ This is not applicable to butterfly check valve.

Attached Table 1-3. Series number of face-to-face and end-to-end dimensions of valves for outdoor waterworks

Type	Connection end	Valve casing material ⁽¹⁾	Nominal pressure				
			4.5 K	7.5 K	10 K	16 K	20 K
Gate valve	Flange type	A	201			7	
Butterfly valve	Flange type	A	202			—	

Attached Table 1-4. Series number of face-to-face and end-to-end dimensions of regulating valve

Type	Connection and	Valve casing material ⁽¹⁾	In the case of using nominal pressure K						In the case of using nominal pressure PN						
			5 K	10 K	16 K	20 K	30 K	40 K	PN 10	PN 16	PN 20	PN 25	PN 40	PN 50	PN 100
Two-way globe type regulating valve	Flange type	A	—	301	—	302	—	303	301			302			303
Flangeless type regulating valve	Flangeless type	A	—						304						

Note ⁽¹⁾ The division of valve casing materials shall be as follows:

- (a) A applies to all materials.
- (b) S applies mainly to steel.
- (c) B applies mainly to bronze.
- (d) F applies mainly to cast irons (grey cast iron, nodular graphite cast iron, and black heart malleable cast iron), and further may apply to stainless steel for building equipment.

Attached Table 2-1. Face-to-face and end-to-end dimensions of gate valve for general mechanical equipment
Unit: mm

Use	For general mechanical equipment										
	Gate valve										
Type	1	2	3	4	5	6	7	8	9	10	11
Series number	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type
Connection end	A	F	B	B	F	A	A	B	F	A	F
Valve casing material		5 K		10 K	10 K	10 K			16 K	20 K	
Nominal pressure	Isomorphie		PN 10, PN 16, PN 20, PN 25			PN 10, PN 16, PN 20	PN 10, PN 16, PN 20, PN 25, PN 40, PN 50	PN 10, PN 16, PN 20, PN 25, PN 40, PN 50		PN 25, PN 40, PN 50	PN 50
K	—	—	80	—	—	102	—	108	—	—	—
PN	—	—	80	—	—	108	—	108	—	140	140
10	—	—	90	—	—	117	—	117	—	152	152
15	—	—	100	100	—	127	—	127	—	165	165
20	—	—	110	110	—	140	—	146	—	178	178
25	—	—	120	125	—	165	—	159	—	190	190
32	—	—	135	140	—	180	—	190	—	216	216
40	140	160	165	170	—	190	—	216	—	241	241
50	150	170	185	190	—	200	—	230	—	283	283
65	170	180	—	—	—	210	—	—	—	—	—
80	180	190	—	—	—	230	—	—	—	—	—
(90)	—	200	—	—	—	250	—	—	—	—	—
100	190	220	—	—	—	270	—	—	—	—	—
125	200	240	—	—	—	290	—	—	—	—	—
150	210	—	—	—	—	330	—	—	—	—	—
(175)	—	—	—	—	—	350	—	—	—	—	—
200	230	260	—	—	—	400	—	—	—	—	—
(225)	—	—	—	—	—	—	—	—	—	—	—
250	250	300	—	—	—	330	—	—	—	—	—
300	270	—	—	—	—	350	—	—	—	—	—
350	290	—	—	—	—	381	—	—	—	—	—
400	310	—	—	—	—	406	—	—	—	—	—
450	330	—	—	—	—	432	—	—	—	—	—
500	350	—	—	—	—	457	—	—	—	—	—
550	—	—	—	—	—	483	—	—	—	—	—
600	390	—	—	—	—	508	—	—	—	—	—
650	—	—	—	—	—	559	—	—	—	—	—
700	430	—	—	—	—	610	—	—	—	—	—
750	—	—	—	—	—	660	—	—	—	—	—
800	470	—	—	—	—	711	—	—	—	—	—
(850)	—	—	—	—	—	—	—	—	—	—	—
900	510	—	—	—	—	711	—	—	—	—	—
1 000	550	—	—	—	—	811	—	—	—	—	—
Basic series of ISO (reference)	14	—	18	—	—	3	15	7	—	4	19

Attached Table 2-1 (Continued)

For general mechanical equipment

Unit: mm

Use	Type	Gate valve										
		12	13	14	15	10	12	13	16	14	17	
Series number	Flange type	Flange type	Flange type	Flange type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	
Connection end	A	A	A	A	S	S	S	S	S	S	S	
Valve casing material	30 K	40 K	63 K	10 K	20 K	30 K	40 K	—	63 K	100 K	—	
Nominal pressure	—	PN 100	—	PN 20	PN 50	—	PN 100	PN 100	—	—	—	
Nominal diameter	10	—	—	—	—	—	—	—	—	—	—	
	15	—	165	—	108	140	—	—	—	—	—	
	20	—	190	—	117	152	—	165	—	—	—	
	25	—	216	—	127	165	—	190	—	—	—	
	32	—	229	—	140	178	—	216	133	—	—	
	40	—	241	305	165	190	—	229	146	—	—	
	50	—	292	368	216	216	—	241	152	305	305	
	65	—	380	419	241	241	—	292	178	368	368	
	80	—	356	381	283	283	—	330	216	419	419	
	(90)	—	—	—	—	300	—	356	254	381	470	
	100	406	432	457	305	305	406	—	—	—	—	
	125	457	508	559	381	381	457	432	—	457	546	
	150	495	559	610	403	403	495	508	381	559	673	
	(175)	—	—	—	—	—	—	559	457	610	705	
	200	597	660	737	419	419	597	660	584	737	832	
	(225)	—	—	—	—	—	—	—	—	—	—	
	250	673	787	838	457	457	673	787	711	838	991	
	300	762	838	965	502	502	762	838	813	965	1 130	
	350	826	889	1 029	572	762	826	889	889	1 029	1 257	
400	902	991	1 130	610	838	902	991	991	1 130	1 384		
450	978	1 092	1 219	660	914	978	1 092	1 092	1 219	1 537		
500	1 054	1 194	1 321	711	991	1 054	1 194	1 194	1 321	1 664		
550	1 143	1 295	—	762	1 092	1 143	1 295	—	—	1 943		
600	1 232	1 397	1 549	813	1 143	1 232	1 397	1 397	1 549	—		
650	—	1 448	—	864	1 245	—	1 448	—	—	—		
700	—	—	—	914	1 346	—	—	—	—	—		
750	—	1 651	—	914	1 397	—	1 651	—	—	—		
800	—	—	—	965	—	—	—	—	—	—		
(850)	—	—	—	—	—	—	—	—	—	—		
900	—	—	—	1 016	—	—	—	—	—	—		
1 000	—	—	—	—	—	—	—	—	—	—		
Basic series of ISO (reference)	—	5	—	—	4	—	5	—	—	—		

Attached Table 2-2. Face-to-face and end-to-end dimensions of globe valve and check valve for general mechanical equipment
Unit: mm

Use		For general mechanical equipment												
Type	Globe valve and check valve													
Series number	3	18	19	20	21	8	22	23	24	12	13	Flange type	Flange type	
Connection end	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	
Valve casing material	B	B	F	A	A	B	F	A	A	A	A	A	A	
Nominal pressure	PN 10, PN 16, PN 20, PN 25	10 K	10 K	PN 10, PN 16, PN 20	PN 10, PN 16, PN 20, PN 25, PN 40, PN 50	PN 10, PN 16, PN 20, PN 25, PN 40, PN 50	16 K	20 K	20 K	20 K	20 K	20 K	30 K	
10	80	—	—	—	130	108	—	100	—	—	—	—	—	
15	80	85	—	108	130	108	—	110	152	—	—	—	165	
20	90	95	—	117	150	117	—	120	178	—	—	—	190	
25	100	110	—	127	160	127	—	130	216 203*	—	—	—	216	
32	110	130	140	140	180	146	—	160	229 216*	—	—	—	229	
40	120	150	190	165	200	159	—	180	241 229*	—	—	—	241	
50	135	180	200	203	230	190	—	230	267	—	—	—	292	
65	165	210	220	216	290	216	—	270	292	—	—	—	330	
80	185	240	240	241	310	254	—	300	318	—	—	—	356	
(90)	—	260	270	270	—	—	—	320	335	—	—	—	400	
100	—	280	290	292	350	—	—	350	356	—	—	—	432	
125	—	—	360	330 356*	400	—	—	430	400	—	—	—	508	
150	—	—	410	356 406*	480	—	—	500	444	—	—	—	559	
(175)	—	—	—	—	—	—	—	—	—	—	—	—	—	
200	—	—	500	495	600	—	—	570	538 559*	—	—	—	660	
(225)	—	—	—	—	—	—	—	—	—	—	—	—	—	
250	—	—	620	622	730	—	—	—	622	—	—	—	787	
300	—	—	700	698	850	—	—	—	711	—	—	—	838	
350	—	—	787	787	980	—	—	—	838	—	—	—	889	
400	—	—	—	914 864**	1 100	—	—	—	864	—	—	—	991	
450	—	—	—	978	1 200	—	—	—	978	—	—	—	1 092	
500	—	—	—	978	1 250	—	—	—	1 016	—	—	—	1 194	
550	—	—	—	1 067	1 350	—	—	—	1 118	—	—	—	1 295	
600	—	—	—	1 295	1 450	—	—	—	1 346	—	—	—	1 397	
650	—	—	—	1 295	1 550	—	—	—	1 346	—	—	—	1 448	
700	—	—	—	1 448	1 650	—	—	—	1 499	—	—	—	—	
750	—	—	—	1 524	1 750	—	—	—	1 594	—	—	—	1 651	
800	—	—	—	—	1 850	—	—	—	—	—	—	—	—	
(850)	—	—	—	—	—	—	—	—	—	—	—	—	—	
900	—	—	—	1 956	2 050	—	—	—	2 063	—	—	—	—	
1 000	—	—	—	—	2 250	—	—	—	—	—	—	—	—	
Basic series of ISO (reference)	18	—	—	10	1	7	—	—	21	—	—	—	5	

Note * This applies to steel globe valve. ** This applies to swing check valve.

Attached Table 2-2 (Continued) Unit: mm

Use	Globe valve and check valve											
	For general mechanical equipment											
Type	25	14	20	24	12	13	16	14	17	14	16	17
Series number	Flange type	Flange type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type
Connection end	A	A	S	S	S	S	S	S	S	S	S	S
Valve casing material												
Nominal pressure	PN 100	63 K	10 K	20 K	30 K	40 K	PN 100	63 K	100 K	PN 100	63 K	100 K
K	—	—	—	—	—	—	—	—	—	—	—	—
PN	PN 100	—	PN 20	PN 50	—	PN 100	PN 100	—	—	PN 100	—	—
10	210	—	—	—	—	—	—	—	—	—	—	—
15	210	—	108	152	—	165	—	—	—	—	—	—
20	230	—	117	178	—	190	—	—	—	—	—	—
25	230	—	127	203 216**	—	216	133	—	—	—	—	—
32	260	279	140	216 229**	—	229	146	279	279	146	279	279
40	260	305	165	229 241**	—	241	152	305	305	152	305	305
50	300	368	203	267	—	292	178	368	368	178	368	368
65	340	419	216	292	—	330	216	419	419	216	419	419
80	380	381	241	318	—	356	254	381	470	254	381	470
(90)	—	—	—	335	—	400	—	—	—	—	—	—
100	430	457	292	356	406	432	305	457	546	305	457	546
125	500	559	356 330**	400	457	508	381	559	673	381	559	673
150	550	610	406 356**	444	495	559	457	610	705	457	610	705
(175)	—	—	—	—	—	—	—	—	—	—	—	—
200	650	737	495	559 533**	597	660	584	737	832	584	737	832
(225)	—	—	—	—	—	—	—	—	—	—	—	—
250	775	838	622	622	673	787	711	838	991	711	838	991
300	900	965	698	711	762	838	813	965	1130	813	965	1130
350	1 025	1 029	787	838	—	889	—	1 029	1 257	—	1 029	1 257
400	1 150	—	914 864**	864	—	991	—	—	—	—	—	—
450	1 275	—	978	978	—	1 092	—	—	—	—	—	—
500	1 400	—	978	1 016	—	1 194	—	—	—	—	—	—
550	—	—	1 067	1 118	—	1 295	—	—	—	—	—	—
600	1 650	—	1 295	1 346	—	1 397	—	—	—	—	—	—
650	—	—	1 295	1 346	—	1 448	—	—	—	—	—	—
700	—	—	1 448	1 499	—	—	—	—	—	—	—	—
750	—	—	1 524	1 594	—	1 651	—	—	—	—	—	—
800	—	—	—	—	—	—	—	—	—	—	—	—
(850)	—	—	—	—	—	—	—	—	—	—	—	—
900	—	—	1 956	2 083	—	—	—	—	—	—	—	—
1 000	—	—	—	—	—	—	—	—	—	—	—	—
Basic series of ISO (reference)	2	—	10	21	—	5	—	—	—	—	—	—

Note ** This applies to swing check valve.

Attached Table 2-3. Face-to-face and end-to-end dimensions of angle valve for general mechanical equipment
Unit: mm

Use	For general mechanical equipment																					
	Angle valve																					
Series number	26	27	28	29	30	31	32	33	34	35	36	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	
Connection end	B	A	A	A	F	A	A	A	A	A	A											
Valve casing material	10 K	10 K	—	—	16 K	20 K	20 K	30 K	40 K	—	63 K											
Nominal pressure	PN	—	PN 10, PN 16, PN 20	PN 10, PN 16, PN 20, PN 25, PN 40, PN 50	—	—	—	—	PN 100	PN 100	—											
	10	—	—	85	—	70	—	—	—	105	—											
	15	62	57	90	—	70	—	—	83	105	—											
	20	65	64	95	—	75	—	—	95	115	—											
	25	80	70	100	—	85	—	—	108	115	—											
	32	85	76	105	—	95	—	—	114	130	—											
	40	90	82	115	—	100	114	—	121	130	—											
	50	100	102	125	120	120	133	—	146	150	—											
	65	—	108	145	130	—	146	—	165	170	—											
	80	—	121	155	150	—	159	—	178	190	—											
	(90)	—	—	—	160	—	168	—	200	—	—											
	100	—	146	175	170	—	178	203	216	215	229											
	125	—	180	200	200	—	200	228	234	250	279											
	150	—	203	225	225	—	222	248	279	275	305											
	(175)	—	—	—	—	—	—	—	—	—	—											
Nominal diameter	200	230	248	275	250	—	279	—	330	325	368											
	(225)	—	—	—	—	—	—	—	—	—	—											
	250	—	311	325	—	—	—	—	394	—	—											
	300	—	350	375	—	—	—	—	419	—	—											
	350	—	394	425	—	—	—	—	—	—	—											
	400	—	457	475	—	—	—	—	—	—	—											
	450	—	483	500	—	—	—	—	—	—	—											
	500	—	—	—	—	—	—	—	—	—	—											
	550	—	—	—	—	—	—	—	—	—	—											
	600	—	—	—	—	—	—	—	—	—	—											
	650	—	—	—	—	—	—	—	—	—	—											
	700	—	—	—	—	—	—	—	—	—	—											
	750	—	—	—	—	—	—	—	—	—	—											
	800	—	—	—	—	—	—	—	—	—	—											
	(850)	—	—	—	—	—	—	—	—	—	—											
	900	—	—	—	—	—	—	—	—	—	—											
	1 000	—	—	—	—	—	—	—	—	—	—											
Basic series of ISO (reference)	—	—	11	8	—	—	—	—	24	9	—											

Attached Table 2-3 (Continued)

Unit: mm

Use		For general mechanical equipment							
Type		Angle valve							
Series number		28	32	29	33	34	37	36	38
Connection end		Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type
Valve casing material		S	S	S	S	S	S	S	S
Nominal pressure	K	10 K	20 K	—	30 K	40 K	—	63 K	100 K
	PN	PN 20	—	PN 50	—	PN 100	PN 100	—	—
Nominal diameter	10	—	—	85	—	—	—	—	—
	15	57	—	90	—	83	—	—	—
	20	64	—	95	—	95	—	—	—
	25	70	—	100	—	108	—	—	127
	32	76	—	105	—	114	—	—	140
	40	82	114	115	—	121	—	—	152
	50	102	133	125	—	146	108	—	184
	65	108	146	145	—	165	127	—	210
	80	121	159	155	—	178	152	190	235
	(90)	—	168	—	—	200	—	—	—
	100	146	178	175	203	216	178	229	273
	125	178	200	200	228	254	216	279	336
	150	203	222	225	248	279	254	305	352
	(175)	—	—	—	—	—	—	—	—
	200	248	279	275	—	330	—	368	416
	(225)	—	—	—	—	—	—	—	—
	250	311	—	325	—	394	—	419	495
	300	350	—	375	—	419	—	483	565
	350	394	—	425	—	—	—	—	—
	400	457	—	475	—	—	—	—	—
	450	483	—	500	—	—	—	—	—
	500	—	—	—	—	—	—	—	—
	550	—	—	—	—	—	—	—	—
600	—	—	—	—	—	—	—	—	
650	—	—	—	—	—	—	—	—	
700	—	—	—	—	—	—	—	—	
750	—	—	—	—	—	—	—	—	
800	—	—	—	—	—	—	—	—	
(850)	—	—	—	—	—	—	—	—	
900	—	—	—	—	—	—	—	—	
1 000	—	—	—	—	—	—	—	—	
Basic series of ISO (reference)		11	—	8	—	24	—	—	—

Attached Table 2-4. Face-to-face and end-to-end dimensions of ball valve and lubricated plug valve for general mechanical equipment

Unit: mm

Use		For general mechanical equipment						
Type		Ball valve and lubricated plug valve						
Series number		5	6	39	21	10	12	13
Connection end		Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type
Valve casing material		F	A	A	A	A	A	A
Nominal pressure	K	10 K	10 K	*10 K	—	20 K	30 K	40 K
	PN	—	PN 10, PN 16, PN 20	PN 10, PN 16, PN 20	PN 10, PN 16, PN 20, PN 25, PN 40, PN 50	PN 25, PN 40, PN 50	—	PN 100
Nominal diameter	10	—	102	130	130	—	—	—
	15	—	108	130	130	140	—	165
	20	—	117	130	150	152	—	190
	25	—	127	140	160	165	—	216
	32	—	140	165	180	178	—	229
	40	165	165	165	200	190	—	241
	50	180	178	203	230	216	—	292
	65	190	190	222	290	241	—	330
	80	200	203	241	310	283	—	356
	(90)	—	216	—	—	300	—	—
	100	230	229	305	350	305	406	432
	125	—	254	356	400	381	457	508
	150	270	267	394	480	403	495	559
	(175)	—	—	—	—	—	—	—
	200	290	292	457	600	419 502***	597	660
	(225)	—	—	—	—	—	—	—
	250	330	330	533	730	457 568***	673	787
	300	350	356	610	850	502 648***	762	838
	350	—	381	686	980	762	—	889
	400	—	406	762	1 100	838	—	991
	450	—	432	864	1 200	914	—	1 092
	500	—	457	914	1 250	991	—	1 194
	550	—	—	1 016	—	1 092	—	1 295
	600	—	508	1 067	1 450	1 143	—	1 397
	650	—	—	—	—	—	—	—
	700	—	—	—	—	—	—	—
750	—	—	—	—	—	—	—	
800	—	—	—	—	—	—	—	
(850)	—	—	—	—	—	—	—	
900	—	—	—	—	—	—	—	
1 000	—	—	—	—	—	—	—	
Basic series of ISO (reference)		—	3	12	1	4	—	5

Note *** This applies to full ball type ball valve.

Attached Table 2-4 (Continued)

Unit: mm

Use		For general mechanical equipment						
Type		Ball valve and lubricated plug valve						
Series number		14	40	41	12	13	14	17
Connection end		Flange type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type	Butt-welding type
Valve casing material		A	S	S	S	S	S	S
Nominal pressure	K	63 K	20 K	—	30 K	40 K	63 K	100 K
	PN	—	PN 20, PN 50	PN 20, PN 50	—	PN 100	—	—
Nominal diameter	10	—	—	—	—	—	—	—
	15	—	—	—	—	165	—	—
	20	—	—	—	—	190	—	—
	25	—	—	—	—	216	—	—
	32	—	—	—	—	229	—	—
	40	305	190	190	—	241	305	305
	50	368	216	216	—	292	368	368
	65	419	241	241	—	330	419	419
	80	381	283	283	—	356	381	470
	(90)	—	300	—	—	—	—	—
	100	457	305	305	406	432	457	546
	125	559	381	—	457	508	559	673
	150	610	408	457	495	559	610	705
	(175)	—	—	—	—	—	—	—
	200	737	419	521	597	660	737	832
	(225)	—	—	—	—	—	—	—
	250	838	457	559	673	787	838	991
	300	965	502	635	762	838	965	1 130
	350	—	572	762	—	889	—	—
	400	—	610	838	—	991	—	—
	450	—	660	914	—	1 092	—	—
	500	—	711	991	—	1 194	—	—
	550	—	—	1 092	—	1 295	—	—
	600	—	813	1 143	—	1 397	—	—
	650	—	—	—	—	—	—	—
	700	—	—	—	—	—	—	—
750	—	—	—	—	—	—	—	
800	—	—	—	—	—	—	—	
(850)	—	—	—	—	—	—	—	
900	—	—	—	—	—	—	—	
1 000	—	—	—	—	—	—	—	
Basic series of ISO (reference)		—	—	4	—	5	—	—

Attached Table 2-5. Face-to-face and end-to-end dimensions of butterfly valve for general mechanical equipment

Unit: mm

Use		For general mechanical equipment							
Type		Butterfly valve							
Series number		42	1	43	44	45	46	47	48
Connection end	Flange type	Flange type	Wafer type	Wafer type	Wafer type	Wafer type	Wafer type	Wafer type	Wafer type
Valve casing material	A	A	A	A	A	A	A	A	A
Nominal pressure	K	—	—	5 K, 10 K, 16 K	5 K, 10 K, 16 K	5 K, 10 K, 16 K	5 K, 10 K, 16 K	5 K, 10 K, 16 K	5 K, 10 K, 16 K
	PN	PN 1~6, PN 10, PN 16, PN 20	PN 1~6, PN 10, PN 16, PN 20, PN 25	—	—	—	PN 1~6, PN 10, PN 16, PN 20	PN 1~6, PN 10, PN 16, PN 20	PN 1~6, PN 10, PN 16, PN 20
Nominal diameter	10	—	—	—	—	—	—	—	—
	15	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—
	25	—	—	—	—	—	—	—	—
	32	—	—	—	—	—	—	—	—
	40	106	140	—	—	—	33	—	33
	50	108	150	40	45	—	43	—	43
	65	112	170	40	45	—	46	—	46
	80	114	180	60	50	—	46	49	64
	(90)	—	—	—	—	—	—	—	—
	100	127	190	60	50	65	52	56	64
	125	140	200	60	55	70	56	64	70
	150	140	210	70	60	90	56	70	76
	(175)	—	—	—	—	—	—	—	—
	200	152	230	80	65	100	60	71	89
	(225)	—	—	—	—	—	—	—	—
	250	165	250	90	80	110	68	76	114
	300	178	270	90	90	110	78	83	114
	350	190	290	100	100	120	78	92	127
	400	216	310	110	110	130	102	102	140
	450	222	330	130	120	150	114	114	152
	500	229	350	140	140	160	127	127	152
	550	—	—	150	150	170	154	—	170
	600	267	390	160	160	200	154	154	178
	650	—	—	170	170	210	165	—	210
	700	292	430	180	180	220	165	—	229
	750	—	—	190	190	230	190	—	230
	800	318	470	200	200	240	190	—	241
(850)	—	—	—	—	—	—	—	—	
900	330	510	—	—	—	203	—	241	
1 000	410	550	—	—	—	216	—	300	
1 100	—	—	—	—	—	—	—	—	
1 200	470	630	—	—	—	254	—	350	
(1 300)	—	—	—	—	—	—	—	—	
1 350	—	—	—	—	—	—	—	—	
1 400	530	710	—	—	—	—	—	390	
1 500	—	—	—	—	—	—	—	—	
1 600	600	790	—	—	—	—	—	440	
1 800	670	870	—	—	—	—	—	490	
2 000	760	950	—	—	—	—	—	540	
Basic series of ISO (reference)	13	14	—	—	—	20	25	16	

Attached Table 2-6. Face-to-face and end-to-end dimensions of gate valve for ship

Unit: mm

Use	For ship						
Type	Gate valve						
Series number	101	102	103	104	105	106	
Connection end	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	
Valve casing material	B	F	B	F	S	F	
Nominal pressure	5 K	5 K	10 K	10 K	10 K	16 K	
Nominal diameter	15	90	—	100	—	—	
	20	100	—	110	—	—	
	25	110	—	120	—	—	
	32	130	—	140	—	—	
	40	140	—	150	—	—	
	50	—	180	—	200	200	210
	65	—	190	—	220	220	240
	80	—	200	—	230	230	260
	(90)	—	—	—	—	—	—
	100	—	230	—	250	250	290
	125	—	250	—	270	270	310
	150	—	270	—	290	290	330
	(175)	—	—	—	—	—	—
	200	—	290	—	320	310	370
	(225)	—	—	—	—	—	—
	250	—	330	—	380	340	430
	300	—	370	—	440	380	490
	350	—	410	—	500	420	540
	400	—	470	—	590	480	610
	450	—	500	—	640	—	—
500	—	550	—	710	—	—	
550	—	600	—	780	—	—	
600	—	660	—	850	—	—	
650	—	—	—	—	—	—	
700	—	—	—	—	—	—	
750	—	—	—	—	—	—	
800	—	—	—	—	—	—	

Attached Table 2-7. Face-to-face and end-to-end dimensions of gate valve for ship

Unit: mm

Use	For ship						
Type	Globe valve						
Series number	107	108	109	110	111	112	
Connection end	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	
Valve casing material	A	S, F	B, F	S	S	S	
Nominal pressure	5 K	10 K	16 K	20 K	30 K	40 K	
Nominal diameter	15	100	—	110	140	—	150
	20	110	—	120	160	—	170
	25	120	—	130	180	—	200
	32	140	—	160	190	—	—
	40	160	—	180	200	—	—
	50	210	220	—	230	—	—
	65	250	270	—	270	—	—
	80	280	300	—	300	—	—
	(90)	—	—	—	—	—	—
	100	340	350	—	350	410	—
	125	410	420	—	430	460	—
	150	480	490	—	500	500	—
	(175)	—	—	—	—	—	—
	200	570	570	—	560	—	—
	(225)	—	—	—	—	—	—
	250	740	740	—	660	—	—
	300	840	840	—	—	—	—
	350	940	—	—	—	—	—
	400	1 050	—	—	—	—	—
	450	—	—	—	—	—	—
500	—	—	—	—	—	—	
550	—	—	—	—	—	—	
600	—	—	—	—	—	—	
650	—	—	—	—	—	—	
700	—	—	—	—	—	—	
750	—	—	—	—	—	—	
800	—	—	—	—	—	—	

Attached Table 2-8. Face-to-face and end-to-end dimensions of angle valve for ship

Unit: mm

Use	For ship						
Type	Angle valve						
Series number	113	114	115	116	117	118	
Connection end	Flange type	Flange type	Flange type	Flange type	Flange type	Flange type	
Valve casing material	B, F	S, F	B, F	S	S	S	
Nominal pressure	5 K	10 K	16 K	20 K	30 K	40 K	
Nominal diameter	15	55	—	70	75	—	90
	20	60	—	75	80	—	95
	25	65	—	85	95	—	100
	32	80	—	95	100	—	—
	40	85	—	100	110	—	—
	50	100	120	—	125	—	—
	65	115	130	—	135	—	—
	80	130	140	—	150	—	—
	(90)	—	—	—	—	—	—
	100	150	160	—	170	205	—
	125	170	180	—	200	230	—
	150	190	205	—	225	250	—
	(175)	—	—	—	—	—	—
	200	220	230	—	280	—	—
	(225)	—	—	—	—	—	—
	250	275	290	—	310	—	—
	300	310	320	—	—	—	—
	350	360	360	—	—	—	—
	400	395	420	—	—	—	—
	450	440	—	—	—	—	—
	500	485	—	—	—	—	—
	550	550	—	—	—	—	—
	600	600	—	—	—	—	—
650	650	—	—	—	—	—	
700	700	—	—	—	—	—	
750	—	—	—	—	—	—	
800	—	—	—	—	—	—	

Attached Table 2-9. Face-to-face and end-to-end dimensions of swing check valve for ship

Unit: mm

Use	For ship		
Type	Swing check valve		
Series number	119	120	121
Connection end	Flange type	Flange type	Flange type
Valve casing material	B	F	F
Nominal pressure	5 K	5 K	10 K
Nominal diameter	15	—	—
	20	—	—
	25	110	—
	32	130	—
	40	140	—
	50	—	190
	65	—	220
	80	—	250
	(90)	—	—
	100	—	280
	125	—	330
	150	—	380
	(175)	—	—
	200	—	460
	(225)	—	—
	250	—	550
	300	—	—
	350	—	—
	400	—	—
	450	—	—
	500	—	—
	550	—	—
	600	—	—
	650	—	—
700	—	—	
750	—	—	
800	—	—	

Attached Table 2-10. Face-to-face and end-to-end dimensions of butterfly valve for ship

Unit: mm

Use	For ship							
Type	Butterfly valve							
Series number	122	123	124	125	43	44	45	125
Connection end	Flange type	Flange type	Flange type	Flange type	Wafer type	Wafer type	Wafer type	Wafer type
Valve casing material	S	S	S	S	F	F	F	F
Nominal pressure	5 K, 10 K	5 K, 10 K	10 K, 16 K	10 K, 16 K	5 K, 10 K, 16 K	5 K, 10 K, 16 K	5 K, 10 K, 16 K	10 K, 16 K
Nominal diameter	15	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—
	25	—	—	—	—	—	—	—
	32	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—
	50	40	45	—	—	40	45	—
	65	40	45	—	—	40	45	—
	80	60	50	—	—	60	50	—
	(90)	—	—	—	—	—	—	—
	100	60	50	65	75	60	50	65
	125	100	100	70	80	60	55	70
	150	100	100	90	90	70	60	90
	(175)	—	—	—	—	—	—	—
	200	100	100	100	100	80	65	100
	(225)	—	—	—	—	—	—	—
	250	110	110	110	110	90	80	110
	300	110	110	110	110	90	90	110
	350	120	120	120	120	100	100	120
	400	130	130	130	130	110	110	130
	450	150	150	150	150	130	120	150
500	160	160	160	160	140	140	160	
550	170	170	170	170	150	150	170	
600	170	170	200	200	160	160	200	
650	170	170	210	210	170	170	210	
700	180	180	220	220	180	180	220	
750	190	190	230	230	190	190	230	
800	200	200	240	240	200	200	240	

Attached Table 2-11. Face-to-face and end-to-end dimensions of valves for outdoor waterworks

Unit: mm

Use	For outdoor waterworks			
Type	Gate valve		Butterfly valve	
Series number	201	7	202	
Connection end	Flange type	Flange type	Flange type	
Valve casing material	A	A	A	
Nominal pressure	4.5 K, 7.5 K, 10 K	16 K, 20 K	4.5 K, 7.5 K, 10 K	
Nominal diameter	50	180	250	—
	65	—	—	—
	75	240	280	—
	(90)	—	—	—
	100	250	300	—
	125	260	325	—
	150	280	350	—
	(175)	—	—	—
	200	300	400	300
	(225)	—	—	—
	250	380	450	380
	300	400	500	400
	350	430	550	430
	400	470	600	470
	450	500	650	500
	500	530	700	530
	550	—	—	—
	600	560	800	560
	650	—	—	—
	700	610	900	610
	750	—	—	—
	800	690	1 000	690
	(850)	—	—	—
	900	740	1 100	740
	1 000	770	—	770
	1 100	800	—	800
	1 200	820	—	820
	(1 300)	—	—	—
	1 350	850	—	850
	1 400	—	—	—
1 500	900	—	900	
1 600	—	—	900	
1 650	—	—	900	
1 800	—	—	900	
2 000	—	—	900	
(2 100)	—	—	900	
2 200	—	—	900	
2 400	—	—	900	
2 600	—	—	900	

Attached Table 2-12. Face-to-face and end-to-end dimensions of regulating valve

Unit: mm

Type		Two-way type globe regulating valve			Flangeless regulating valve
Series number		301	302	303	304
Connection end		Flange type	Flange type	Flange type	Flange type
Valve casing material		A	A	A	A
Nominal pressure	K	10 K	20 K	40 K	—
	PN	PN 10,PN 16,PN 20	PN 25,PN 40,PN 50	PN 100	PN 10,PN 16,PN 20,PN 25,PN 40,PN 50,PN 100
Nominal diameter	20	(187)	(194)	(206)	76
	25	184	197	210	102
	40	222	235	251	114
	50	254	267	286	124
	65	(276)	(292)	(311)	—
	80	298	317	337	165
	100	352	368	394	194
	150	451	473	508	229
	200	543	568	610	243
	250	673	708	752	297
	300	737	775	819	338
	350	889	927	972	—
400	1 016	1 057	1 108	400	

Remark: The face-to-face and end-to-end dimensions given in parentheses should not preferably be used.

Reference 1. Face-to-Face and End-to-End Dimensions of Diaphragm Valve

The face-to-face and end-to-end dimensions of diaphragm valve are not specified in the body of the Standard but the valve of new design should preferably conform to ISO dimensions shown in Reference Table 1.

Further, for the valve processed with inside surface lining, 2.1 of the body shall be considered.

Reference 1 Table. Face-to-face and End-to-end Dimensions of Diaphragm Valve

Unit: mm

Use	For general mechanical equipment		
Type	Diaphragm valve		
Connection end	Flange type	Flange type	
Valve casing material	A	A	
Nominal pressure	PN 6,PN 10,PN 16, PN 20	PN 10,PN 16,PN 20, PN 25,PN 40,PN 50	
Nominal diameter	10	108	130
	15	108	130
	20	117	150
	25	127	160
	32	146	180
	40	159	200
	50	190	230
	65	216	290
	80	254	310
	100	305	350
	125	356	400
	150	406	480
	200	521	600
	250	635	730
300	749	850	
Basic series of ISO	7	1	

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Reference 2. Face-to-face and End-to-end Dimensions of Regulating Valve by Nominal Pressure of DIN

For the face-to-face and end-to-end dimensions of flanged two-way type globe regulating valve, besides those specified in the body, those of nominal pressure of DIN are specified in IEC.

They are not specified in the body but shown in Table of Reference 2 as informative reference.

Reference 2 Table. Face-to-face and end-to-end dimensions of regulating valve (related to DIN series)

Unit: mm

Type		Two-way type globe regulating valve		
Connection end		Flange type	Flange type	Flange type
Valve casing material		A	A	A
Nominal pressure	DIN	PN 10, PN 16, PN 25, PN 40	PN 64, PN 100, PN 160	PN 250
Nominal diameter	20	(150)	(230)	(260)
	25	160	230	260
	32	(180)	(260)	(300)
	40	200	260	300
	50	230	300	350
	65	(290)	(340)	(400)
	80	310	380	450
	100	350	430	520
	125	(400)	(500)	(600)
	150	480	550	700
	200	600	650	800
	250	730	775	—
	300	850	900	—
400	1 100	1 150	—	

Remark: The face-to-face and end-to-end dimensions given in perentheses should preferably not be used.

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