

Distance pieces for ship's hull

1. **Scope** This Japanese Industrial Standard specifies distance pieces* fitted to shell plating and sea chest of ships.

2. **Reference Standards** The following standards form part of the requirements of this Standard when quoted. The latest edition of these standards (including revisions and supplements) shall be applied.

Remark: This standard makes reference to the following standards:

JIS B 1181 – Hexagon nuts and hexagon thin nuts

JIS B 2238 – General rules for steel pipe flanges

JIS G 3101 – Rolled steel for general structure

JIS G 3106 – Rolled steel for welded structure

JIS G 3201 – Carbon steel forgings for general use

JIS G 3445 – Carbon steel tubes for machine structural use

JIS G 3454 – Carbon steel pipes for pressure service

JIS G 3455 – Carbon steel pipes for high pressure service

JIS G 3456 – Carbon steel pipes for high temperature service

JIS G 4051 – Carbon steel for machine structural use

JIS G 4303 – Stainless steel bars

3. **Classification** The distance pieces shall be classified as given in Table 1.

Table 1

Type	Shape	Main application
A	Pipe with flange	For sea suction valve, overboard discharge valve and air vent valve
A ₁	Pipe with flange	For overboard discharge valve
B	Flange	For blow-off valve
D	Flange	For sea suction valve and spigot type overboard discharge valve
E	Flange with spigot	For sea suction valve and overboard discharge valve

4. **Construction, shape and dimensions** The construction, shape and dimensions shall be as shown in Figs. 1, 2, 4, 6 and 8. The ribs for distance pieces shall withstand the moment created by the external force acting on the connection between the distance piece and shell plating where the ribs shall be so fitted as not to cause a stress concentration on the shell plating.

5. **Materials** The materials should be as shown in Figs. 3, 5, 7, 9 and 10

6. **Tests and inspection** The distance pieces shall be subjected to the following items of inspection.

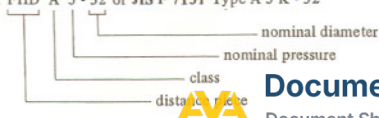
(1) **Visual inspection** Appearance shall be free from any defect.

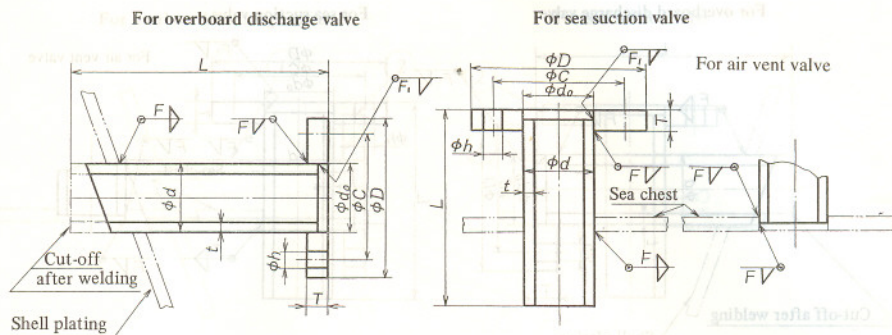
(2) **Hydraulic inspection** The distance pieces shall be tested under the test pressure of 0.5 MPa, and there shall be no abnormality in any part.

7. **Designation** The distance pieces shall be designated by the title, type nominal pressure and nominal diameter or type and symbol. JIS number may be used in place of the title.

Example: For a distance piece of Type A and nominal pressure 5 K, nominal diameter 32 mm:

Distance Piece for Ship's Hull Type A 5 K – 32 or FHD A 5 - 32 or JIS F 7131 Type A 5 K - 32



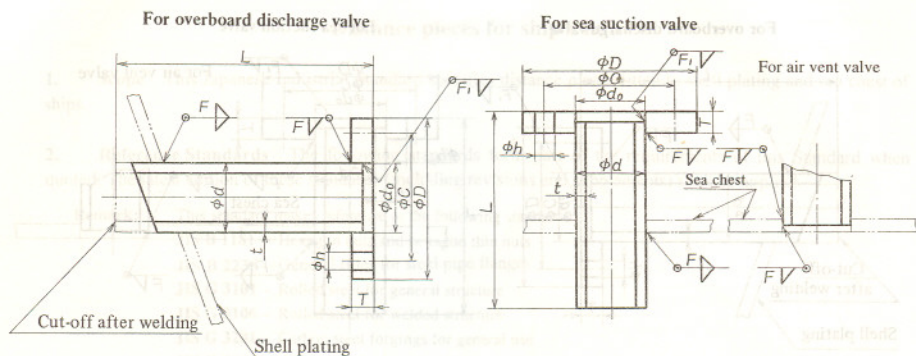


Unit: mm

Nominal pressure	Nominal dia.	Body		Flange							Nominal dia. of bolt
		d	t	D	d_0	T	Bolt holes				
							P.C. dia. C	No.	h		
5 K	32	50.8	7.0	115	51.4	12	90	4	15	M12	
	40	57.0		120	57.5	12	95	4	15	M12	
	50	65.0		130	65.5	14	105	4	15	M12	
	65	82.6	7.5	155	83.1	14	130	4	15	M12	
	80	89.1	7.6	180	90.0	14	145	4	19	M16	
	100	114.3	8.6	200	115.4	16	165	8	19	M16	
	125	139.8	9.5	235	141.2	16	200	8	19	M16	
	150	165.2	11.0	265	166.6	18	230	8	19	M16	
	200	216.3	12.7	320	218.0	20	280	8	23	M20	
	250	267.4		385	269.5	22	345	12	23	M20	
	300	320.0		430	322.5	22	390	12	23	M20	
	350	370.0		480	372.5	24	435	12	25	M22	
	400	425.0		540	427.5	24	495	16	25	M22	
	450	475.0		605	477.8	24	555	16	25	M22	
	500	525.0		655	528.0	24	605	20	25	M22	
	550	575.0		720	578.2	26	665	20	27	M24	
	600	625.0		770	628.4	26	715	20	27	M24	
	650	675.0		825	678.6	26	770	24	27	M24	
	700	725.0		875	728.8	26	820	24	27	M24	
	750	775.0		945	779.0	28	880	24	33	M30	
800	825.0	995	829.2	28	930	24	33	M30			
850	875.0	1 045	879.4	28	980	24	33	M30			
900	925.0	1 095	929.6	30	1 030	24	33	M30			
1 000	1 025.0	1 195	1 030.0	32	1 130	28	33	M30			

- Remarks:
1. When the thickness of body " t " is greater than the shell plating or sea chest plating, the thickness of body may be decreased to that of the shell plating or sea chest plating.
 2. Weld leg length (the welding guidance of pipe seam direction for nominal dia. 200 to 1 000 is included) shall be as given in the Attached Table 1.
 3. Dimensions of flange shall conform to the requirements for nominal pressure 5 K of JIS B 2210.
 4. The length " L ", requirement for reinforcement and bolt hole position of flanges shall be as specified by the purchaser.

Fig. 1 Type A



Unit: mm

Nominal pressure	Nominal dia.	Body		Flange						
		d	t	D	d _o	T	Bolt holes			Nominal dia. of bolt
							P.C. dia.C	No.	h	
10 K	15	32.0	7.0	95	32.5	12	70	4	15	M12
	20	34.0		100	34.5	14	75	4	15	M12
	25	42.7		125	43.2	14	90	4	19	M16
	32	50.8		135	51.4	16	100	4	19	M16
	40	57.0		140	57.5	16	105	4	19	M16
	50	65.0	7.5	155	65.5	16	120	4	19	M16
	65	82.6		175	83.1	18	140	4	19	M16
	80	89.1		185	90.0	18	150	8	19	M16
	100	114.3	8.6	210	115.4	18	175	8	19	M16
	125	139.8	9.5	250	141.2	20	210	8	23	M20
	150	165.2	11.0	280	166.6	22	240	8	23	M20
	200	216.3		330	218.0	22	290	12	23	M20
	250	267.4		400	269.5	24	355	12	25	M22
	300	320.0	445	322.5	24	400	16	25	M22	
	350	370.0	490	372.5	26	445	16	25	M22	
	400	425.0	12.7	560	427.5	28	510	16	27	M24
	450	475.0		620	477.8	30	565	20	27	M24
	500	525.0		675	528.0	30	620	20	27	M24
	550	575.0		745	578.2	32	680	20	33	M30
	600	625.0		795	628.4	32	730	24	33	M30
	650	675.0		845	678.6	34	780	24	33	M30
	700	725.0		905	728.8	34	840	24	33	M30
	750	775.0		970	779.0	36	900	24	33	M30
	800	825.0		1 020	829.2	36	950	28	33	M30
	850	875.0		1 070	879.4	36	1 000	28	33	M30
	900	925.0		1 120	929.6	38	1 050	28	33	M30
	1 000	1 025.0		1 235	1 030.0	40	1 160	28	39	M36

- Remarks: 1. When the thickness of body "t" is greater than the shell plating or sea chest plating, the thickness of body may be decreased to that of the shell plating or sea chest plating.
2. Weld leg length (the welding guidance of pipe seam direction for nominal dia. 300 to 1 000 are included) shall be as given in the Attached Table 1.
3. Dimensions of flange shall conform to the requirements for nominal pressure 10 K of JIS B 2210.
4. The length "L", requirement of reinforcement and bolt hole position of flanges shall be as specified by the purchaser.

Fig. 2 Type A

