



Shipbuilding – Cast iron hose valves

1. **Scope** This Japanese Industrial Standard specifies marine bronze hose valves (hereinafter referred to as "hose valve")

Remark: This standard makes reference to the standards as follows:

JIS B 0205 – Metric coarse screw threads

JIS B 0207 – Metric fine screw threads

JIS B 0222 – 29° trapezoidal screw threads

JIS B 2240 – Basic dimensions of copper alloy pipe flanges

JIS F 7102 – Shipbuilding – Piping system in machinery space – Application for gaskets and packings

JIS F 7335 – Shipbuilding – Hose connections and fittings

JIS F 7400 – Shipbuilding – Valves and cocks – General inspection requirement

JIS G 5501 – Gray iron castings

JIS H 3100 – Copper and copper alloy sheets, plates and strips

JIS H 3250 – Copper and copper alloy rods and bars

JIS H 3260 – Copper and copper alloy wires

JIS H 5111 – Bronze castings

2. **Pressure rating** The relation between fluid condition and maximum working pressure shall be as given in Table 1.

Table 1

Fluid conditon	Maximum working pressure MPa					
	Nominal pressure 5K			Nominal pressure 10K		
	Nominal diameter			Nominal diameter		
	15	25	40,50	15	25	40~65
Steam of 205℃ or less	0.5	—	—	1.0	—	—
Air		0.5	0.5		1.0	1.0
Pulsation water						
Non-shock water of 120℃ or less	0.7			1.4		

3. **Classification** The hose valves shall be classified as given in Table 2.

Table 2

Class			Designation	Symbol	Application	
Nominal pressure K	Nominal dia.	Shape				
5	15	Globe valve	Marine bronze 5 K – 15 hose glove valve	FHG 515	Steam for cleaning sea chest strainer, boiler and machinery, and for soda boiling	
		Angle valve	Marine bronze 5 K – 15 hose angle valve	FHL 515		
	25	Globe valve	Marine bronze 5 K – 25 hose glove valve	FHG 525	For air motor	
		Angle valve	Marine bronze 5 K – 25 hose angle valve	FHL 525		
	40	Globe valve	Marine bronze 5 K – 40 hose glove valve	FHG 540	Fire extinguishing, deck washing, reserve water shifting, draining of boiler water, etc.	
		Angle valve	Marine bronze 5 K – 40 hose angle valve	FHL 540		
	50	Globe valve	Marine bronze 5 K – 50 hose glove valve	FHG 550		
		Angle valve	Marine bronze 5 K – 50 hose angle valve	FHL 550		
10	15	Globe valve	Marine bronze 10 K – 15 hose glove valve	FHG 1015	Steam for cleaning sea chest strainer, boiler and machinery, and for soda boiling	
		Angle valve	Marine bronze 10 K – 15 hose angle valve	FHL 1015		
	25	Globe valve	Marine bronze 10 K – 25 hose glove valve	FHG 1025	For air motor	
		Angle valve	Marine bronze 10 K – 25 hose angle valve	FHL 1025		
	40	Globe valve	Marine bronze 10 K – 40 hose glove valve	FHG 1040	Fire extinguishing, deck washing, reserve water shifting, draining of boiler water, etc.	
		Angle valve	Marine bronze 10 K – 40 hose angle valve	FHL 1040		
	50	Globe valve	Marine bronze 10 K – 50 hose glove valve	FHG 1050		
		Angle valve	Marine bronze 10 K – 50 hose angle valve	FHL 1050		
	65	Globe valve	Marine bronze 10 K – 65 hose glove valve	FHG 1065	Fire extinguishing, deck washing, etc.	
		Angle valve	Marine bronze 10 K – 65 hose angle valve	FHL 1065		
10	15	Screwed type	Globe valve	Marine bronze 10 K – 15 screwed hose glove valve	FHGS 1015	Steam or other fluid for cleaning boiler and machinery, and for soda boiling
			Angle valve	Marine bronze 10 K – 15 screwed hose angle valve	FHLS 1015	

4. **Construction, shape and dimensions** The construction, shape and dimensions shall be as shown in Fig. 1 to 6. The permissible deviation of body thickness “a” shall be within $\begin{smallmatrix} +15 \\ -10 \end{smallmatrix} \%$, but when the calculated value is below 0.5 mm, the permissible deviation shall be 0.5 mm.
5. **Materials** The materials shall be as follows:
- (1) The body, bonnet, disc and stem shall be as shown in Fig. 1 to 6.
 - (2) The materials used for other parts shall be referred as shown in Fig. 1 to 6.

6. **Tests and inspection** The hose valve shall be subjected to the following (1) ~ (5) items of inspection in accordance with JIS F 7400.

- (1) Material inspection
- (2) Visual inspection
- (3) Dimensional inspection
- (4) Assembly inspection
- (5) Hydraulic inspection : To be tested under the pressure given in Table 3.

Table 3

Nominal pressure	Test pressure MPa		
	Watertight inspection for valve seat	Hydraulic inspection for body	Hydraulic inspection for base connection*
5 K	0.77	1.05	0.7
10 K	1.54	2.1	1.4

Note*: Under the condition that base connection is mounted on the body, base connection may be tested together with the body under the hydraulic test pressure for body.

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

Examples: 1. For a globe valve of nominal pressure 5 K and nominal diameter 15:

Marine Bronze 5 K - 15 Hose Globe Valve
or JIS F 7334-515 G

or FHG 5 15

nominal diameter

nominal pressure

marine hose globe valve

2. For a screwed globe valve of nominal pressure 10 K and nominal diameter 15:

Marine Bronze 10 K - 15 Screwed Hose Globe Valve

or JIS F 7334-1015 GS

or FHGS 10 15

nominal diameter

nominal pressure

marine hose globe valve (screwed type)

8. **Marking** The following particulars shall be marked on the body:

- (1) Nominal pressure and nominal diameter
Example: 5K - 15
- (2) Arrowhead indicating the direction of flow
- (3) Manufacturer's name or mark
- (4) Year and month of manufacture

Related standard:

ISO 5206 - Industrial valves - Pressure testing for valves

No.	Component	Material	No.	Component	Material
1	Body	JIS H 5111 – BC 6	10	Hexagon nut	JIS H 3250 – C 3604 BD
2	Bonnet	JIS H 5111 – BC 6 or JIS H 3250 – C 3771 BD or	11	Split pin	JIS H 3260 – C 2600 W
3	Disc	C 3771 BE	12	Bonnet lock	JIS H 3100 – C 2600 P
4	Disc nut	JIS H 5111 – BC 6 or	13	Disc lock washer	
5	Packing gland	JIS H 3250 – C 3771 BD or	14	Packing	JIS F 7102
6	Gland nut	C 3604 BD	15	Name plate	JIS H 3100 – C 2801 P
7	Stem	JIS H 3250 – C 3771 BD or	16	Seat ring	JIS H 3250 – C 3771 BD or
8	Cross recessed pan head machine screw	C 3771 BE	17	Cap	JIS F 7335
		JIS H 3260 – C 2700 W	18	Chain	
9	Handwheel	JIS G 5501 – FC 200	21	Body	JIS H 5111 – BC 6

Remark: Component in boldface show the materials specified in S. (I).

Fig. 1 (continued)