



# FREE FLOAT STEAM TRAP

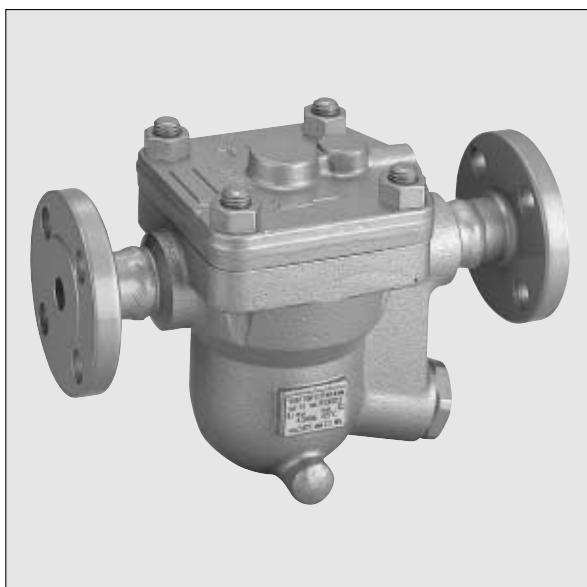
## MODEL JH5RL-X JH5RL-B/JH5RH-B

### FREE FLOAT STEAM TRAP WITH THERMOSTATIC AIR VENTING

#### Features

A reliable and durable cast steel steam trap for use on small to medium-size process equipment. JH5RL-B/JH5RH-B are also suitable for both superheated and high-pressure process equipment.

1. Self-modulating free float provides continuous, smooth, low-velocity condensate discharge as process loads vary.
2. Precision-ground float, constant water seal and three-point seating design ensure a steam-tight seal, even under no-load conditions.
3. Only one moving part, the free float, eliminates concentrated valve wear and provides a long maintenance-free service life.
4. **JH5RL-X:** Thermostatic capsule (X-element) with "fail open" feature vents air automatically at close-to-steam temperature.
5. **JH5RL-B/JH5RH-B:** Thermostatic bimetal air vent valve vents air automatically for rapid startup.
6. Built-in screen with large surface area ensures extended trouble-free operation.
7. Easy, inline access to internal parts simplifies cleaning and reduces maintenance costs.



#### Specifications

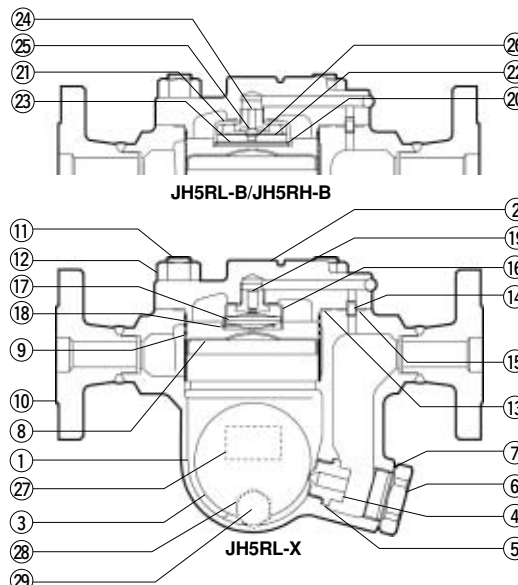
Model	JH5RL-X			JH5RL-B			JH5RH-B	
	Screwed	Socket Welded	Flanged	Screwed	Socket Welded	Flanged	Socket Welded	Flanged
Connection	Screwed	Socket Welded	Flanged	Screwed	Socket Welded	Flanged	Socket Welded	Flanged
Size (mm)	15, 20, 25	15, 20, 25, 40, 50		15, 20, 25	15, 20, 25, 40, 50		15, 20, 25, 40, 50	
Orifice No.	5, 10, 14, 22, 32			2, 5, 10, 14, 22, 32, 40, 46			80	
Maximum Operating Pressure (MPaG) PMO	0.5, 1.0, 1.4, 2.2, 3.2			0.2, 0.5, 1.0, 1.4, 2.2, 3.2, 4.0, 4.6			8.0	
Maximum Differential Pressure (MPa) ΔPMX	0.5, 1.0, 1.4, 2.2, 3.2			0.2, 0.5, 1.0, 1.4, 2.2, 3.2, 4.0, 4.6			8.0	
Minimum Operating Pressure (MPaG)	0.01			0.01			0.01	
Maximum Operating Temperature (°C) TMO	240			425			425	
Type of Air Vent	X-element (6 °C subcooling)			Bimetal (vents air up to approx. 100 °C)				

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): 1 MPa = 10.197 kg/cm<sup>2</sup>  
 Maximum Allowable Pressure (MPaG) PMA: 4.0 (JH5RL-X), 4.6 (JH5RL-B), 8.0 (JH5RH-B) Maximum Allowable Temperature (°C) TMA: 425



To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description	Material	JIS	ASTM/AISI <sup>1)</sup>
①	Body	Cast Steel	—	A216 Gr.WCB
②	Cover	Carbon Steel	—	A105
	Cover (JH5RH-B)	Cast Steel	—	A216 Gr.WCB
③ <sup>F</sup>	Float	Stainless Steel	SUS316L	AISI316L
④ <sup>R</sup>	Orifice	—	—	—
⑤ <sup>MR</sup>	Orifice Gasket	Soft Iron	SUYP	AISI1010
⑥	Orifice Plug	Cast Stainless Steel	SCS2A	A217 Gr.CA15
⑦ <sup>MR</sup>	Orifice Plug Gasket	Soft Iron	SUYP	AISI1010
⑧ <sup>R</sup>	Float Cover	Stainless Steel	SUS304	AISI304
⑨ <sup>R</sup>	Screen inside/outside <sup>2)</sup>	Stainless Steel	SUS430/304	AISI430/304
⑩	Flange/Socket <sup>3)</sup>	Carbon Steel	—	A105
⑪	Cover Bolt	Alloy Steel	SNB7	A193 Gr.B7
	Cover Bolt (JH5RH-B)	Alloy Steel	SNB16	A193 Gr.B16
⑫	Cover Nut	Carbon Steel	S45C	AISI1045
⑬ <sup>MR</sup>	Cover Gasket	Graphite/Stainless Steel	-/SUS316L	-/AISI316L
⑭	Connector	Stainless Steel	SUS416	AISI416
⑮ <sup>MR</sup>	Connector Gasket	Graphite/Stainless Steel	-/SUS316L	-/AISI316L
⑯ <sup>R</sup>	X-element Guide	Stainless Steel	SUS304	AISI304
⑰ <sup>R</sup>	X-element	Stainless Steel	—	—
⑱ <sup>R</sup>	Spring Clip	Stainless Steel	SUS304	AISI304
⑲ <sup>R</sup>	Air Vent Valve Seat	Stainless Steel	SUS420F	AISI420F
⑳ <sup>R</sup>	Snap Ring	Stainless Steel	SUS304	AISI304
㉑ <sup>R</sup>	Air Vent Case	Cast Stainless Steel	—	A351 Gr.CF8
㉒ <sup>R</sup>	Bimetal Plate	Bimetal	—	—
㉓ <sup>R</sup>	Air Vent Screen	Stainless Steel	SUS304	AISI304
㉔ <sup>R</sup>	Air Vent Valve Seat	Stainless Steel	SUS303	AISI303
㉕ <sup>R</sup>	Air Vent Valve Plug	Stainless Steel	SUS420F	AISI420F
㉖ <sup>R</sup>	Snap Ring	Stainless Steel	SUS304	AISI304
㉗	Nameplate	Stainless Steel	SUS304	AISI304
㉘	Drain Plug Gasket <sup>4)</sup>	Soft Iron	SUYP	AISI1010
㉙	Drain Plug <sup>4)</sup>	Carbon Steel	S25C	AISI1025

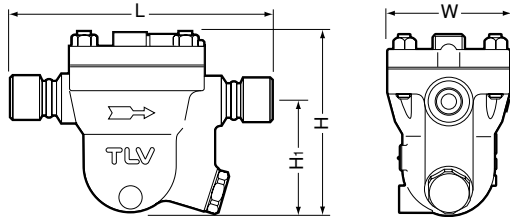


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<sup>1)</sup> Equivalent <sup>2)</sup> JH5RL-B, JH5RH-B: inside only <sup>3)</sup> Shown on reverse <sup>4)</sup> Option  
 Replacement kits available: (M) maintenance parts, (R) repair parts, (F) float

**Dimensions**

● **JH5RL-X/JH5RL-B** Screwed

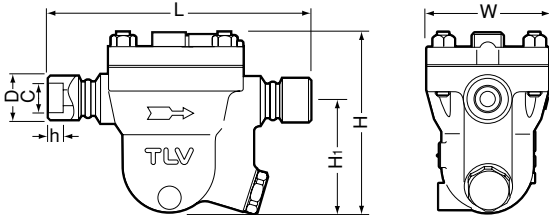


**JH5RL-X/JH5RL-B** Screwed\* (mm)

Size	L	H	H <sub>1</sub>	W	Weight (kg)
15	234	162	105	115	6.5
20	246				6.6
25	258				6.7

\* Rc(PT), other standards available

● **JH5RL-X/JH5RL-B/JH5RH-B** Socket Welded

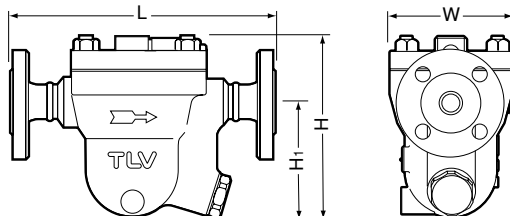


**JH5RL-X/JH5RL-B/JH5RH-B** Socket Welded(mm)

Size	L	H	H <sub>1</sub>	W	φD	φC	h	Weight (kg)
15	234	162	105	115	33	22.2	12	6.5 (10)
20	246				39.5	27.7	14	6.6 (10)
25	258				48	34.5		6.7 (10)
40	246				64	49.1	17	9.1 (13)
50					77.5	61.1		10 (14)

( ) JH5RH-B

● **JH5RL-X/JH5RL-B/JH5RH-B** Flanged



**JH5RL-X/JH5RL-B/JH5RH-B** Flanged (mm)

Size	L				H	H <sub>1</sub>	W	Weight** (kg)
	ASME Class							
	150RF	300RF	600RF	900RF*				
15	239	239	239	269	162 (175)	105 (107)	115 (125)	8.4 (14)
20	264	264	264	294				9.8 (16)
25	309	309	309	319				11 (20)
40	290	290	290	306				15 (24)
50	300	300	300	316				19 (36)

Other standards available, but length and weight may vary

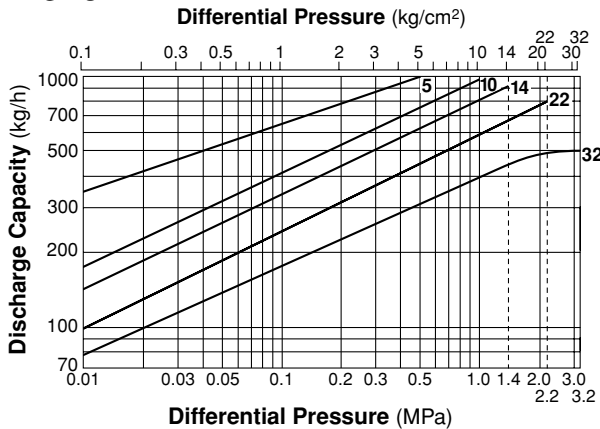
\* Not standard for JH5RL-X/JH5RL-B

\*\* Weight is for class 600 RF (JH5RL-X/JH5RL-B), 900 RF (JH5RH-B)

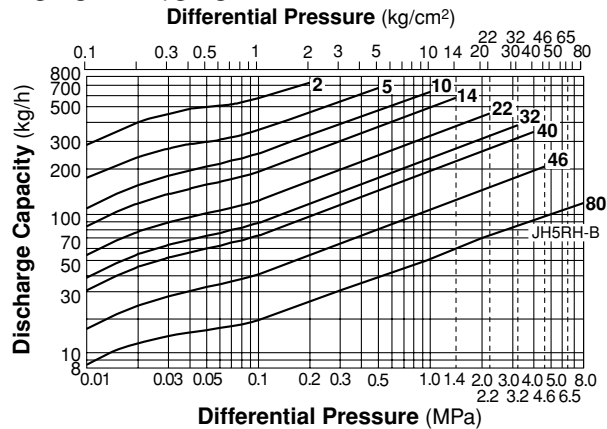
( ) JH5RH-B

**Discharge Capacity**

● **JH5RL-X**



● **JH5RL-B/JH5RH-B**



- Line numbers within the graph are orifice numbers.
- Differential pressure is the difference between the inlet and outlet pressure of the trap.
- Capacities are based on continuous discharge of condensate 6°C below saturated steam temperature.
- Recommended safety factor: at least 1.5.



Do not use traps under conditions that exceed maximum differential pressure, as condensate backup will occur!

Manufacturer

ISO 9001/ISO 14001

**TLV** CO., LTD.  
Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001

