



FREE FLOAT® STEAM TRAP

MODEL JH5RL-X JH5RL-B/JH5RH-B

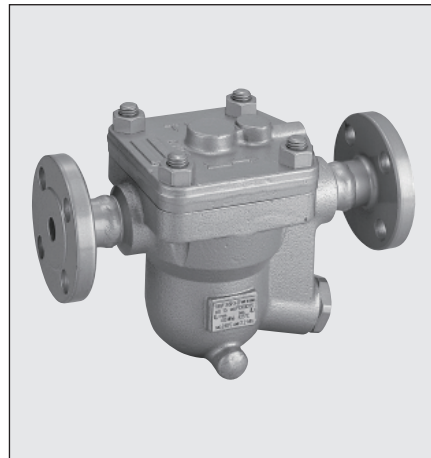
FREE FLOAT STEAM TRAP WITH THERMOSTATIC AIR VENTING

Benefits

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, prevents concentrated wear and provides a long maintenance-free service life.
4. Rugged float construction with up to 1740 or 2300 psig* hydraulic shock rating ensures excellent resistance to water hammer.
5. **JH5RL-X**: Thermostatic capsule (X-element) with "fail open" feature vents air automatically at close-to-steam temperature.
6. **JH5RL-B/JH5RH-B**: Thermostatic bimetal air vent valve vents air automatically for rapid startup.
7. Built-in screen with large surface area ensures extended trouble-free operation.

* Depending on orifice No.



Specifications

Model	JH5RL-X			JH5RL-B			JH5RH-B
	Screwed	Socket Welded	Flanged	Screwed	Socket Welded	Flanged	Socket Welded
Connection							
Size (in)	½, ¾, 1	½, ¾, 1	½, ¾, 1	¾, 1	¾, 1	1	¾
Orifice No.	5, 10, 14, 22, 32	5, 10, 14, 22, 32	5, 10, 14, 22, 32	2, 5, 10, 14, 22, 32, 40, 46	2, 5, 10, 14, 22, 32, 40, 46	2, 5, 10, 14, 22, 32, 40, 46	80
Maximum Operating Pressure (psig) PMO	75, 150, 200, 315, 450	75, 150, 200, 315, 450	75, 150, 200, 315, 450	30, 75, 150, 200, 315, 450, 600, 650	30, 75, 150, 200, 315, 450, 600, 650	30, 75, 150, 200, 315, 450, 600, 650	1150
Maximum Differential Pressure (psi) ΔPMX	75, 150, 200, 315, 450	75, 150, 200, 315, 450	75, 150, 200, 315, 450	30, 75, 150, 200, 315, 450, 600, 650	30, 75, 150, 200, 315, 450, 600, 650	30, 75, 150, 200, 315, 450, 600, 650	1150
Minimum Operating Pressure (psig)	Vacuum			1.5			1.5
Maximum Operating Temperature (°F) TMO	464			800			800
Maximum Allowable Pressure (psig) PMA	600			650			1150
Maximum Allowable Temperature (°F) TMA	800			800			800
Type of Air Vent	X-element (11 °F subcooling)			Bimetal (vents air up to approx. 212 °F)			

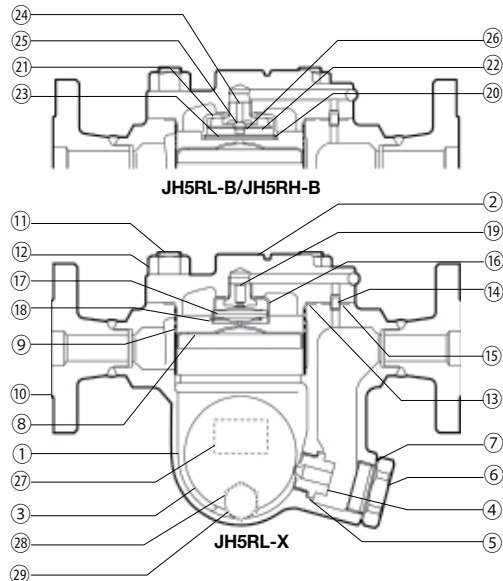
Connections and sizes in bold are standard

No.	Description	Material	ASTM/AISI*	JIS
①	Body	Cast Steel	A216 Gr.WCB	—
②	Cover	JH5RL-X/B Carbon Steel JH5RH-B Cast Steel	A105 A216 Gr.WCB	— —
③ ^F	Float	Stainless Steel	AISI316L	SUS316L
④ ^R	Orifice	—	—	—
⑤ ^{MR}	Orifice Gasket	Soft Iron	AISI1010	SUYP
⑥	Orifice Plug	Cast Stainless Steel	A351 Gr.CF8	—
⑦ ^{MR}	Orifice Plug Gasket	Soft Iron	AISI1010	SUYP
⑧ ^R	Float Cover	Stainless Steel	AISI304	SUS304
⑨ ^R	Screen inside/outside	Stainless Steel	AISI430	SUS430
⑩	Flange/Socket	Carbon Steel	A105	—
⑪	Cover Bolt	JH5RL-X/B Alloy Steel JH5RH-B Alloy Steel	A193 Gr.B7 A193 Gr.B16	SNB7 SNB16
⑫	Cover Nut	Carbon Steel	AISI1045	S45C
⑬ ^{MR}	Cover Gasket	Graphite/Stainless Steel	— /AISI316L	— /SUS316L
⑭	Connector	Stainless Steel	AISI416	SUS416
⑮ ^{MR}	Connector Gasket	Graphite/Stainless Steel	— /AISI316L	— /SUS316L
⑯ ^R	X-element Guide	Stainless Steel	AISI304	SUS304
⑰ ^R	X-element	Stainless Steel	—	—
⑱ ^R	Spring Clip	Stainless Steel	AISI304	SUS304
⑲ ^R	Air Vent Valve Seat	Stainless Steel	AISI420F	SUS420F
⑳ ^R	Snap Ring	Stainless Steel	AISI304	SUS304
㉑ ^R	Air Vent Case	Cast Stainless Steel	A351 Gr.CF8	—
㉒ ^R	Bimetal Plate	Bimetal	—	—
㉓ ^R	Air Vent Screen	Stainless Steel	AISI304	SUS304
㉔ ^R	Air Vent Valve Seat	—	—	—
㉕ ^R	Air Vent Valve Plug	—	—	—
㉖ ^R	Snap Ring	Stainless Steel	AISI304	SUS304
㉗	Nameplate	Stainless Steel	AISI304	SUS304
㉘	Drain Plug Gasket**	Soft Iron	AISI1010	SUYP
㉙	Drain Plug**	Carbon Steel	AISI1025	S25C

* Equivalent ** Option
Replacement kits available: (M) maintenance parts, (R) repair parts, (F) float

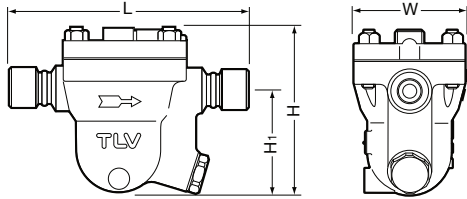


To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.



Dimensions

● JH5RL-X/JH5RL-B Screwed

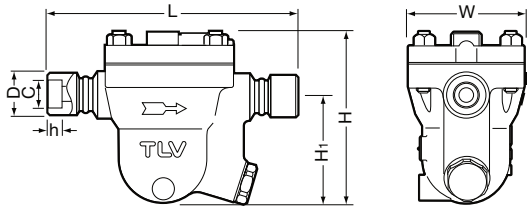


JH5RL-X/JH5RL-B Screwed* (in)

Model	Size	L	H**	H ₁ **	W	Weight (lb)
JH5RL-X	1/2	9 ³ / ₁₆	6 ³ / ₈	4 ¹ / ₈	4 ¹ / ₂	14
	3/4	9 ¹¹ / ₁₆				15
	1	10 ¹ / ₈				15
JH5RL-B	3/4	9 ¹¹ / ₁₆	6 ³ / ₈	4 ¹ / ₈	4 ¹ / ₂	15
	1	10 ¹ / ₈				15

* NPT, other standards available ** Approx.

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



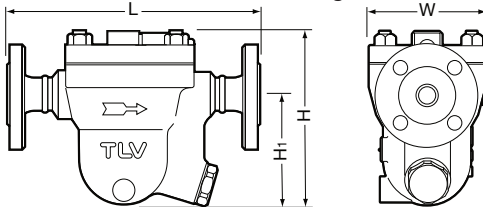
JH5RL-X/JH5RL-B/JH5RH-B Socket Welded*** (in)

Model	Size	L	H**	H ₁ **	W	φ D	φ C	h	Weight (lb)
JH5RL-X	1/2*	9 ³ / ₁₆	6 ³ / ₈	4 ¹ / ₈	4 ¹ / ₂	1 ⁵ / ₁₆	0.855	1/2	14
JH5RL-B	3/4	9 ¹¹ / ₁₆				1 ⁹ / ₁₆	1.065	9 ¹ / ₁₆	15
	1	10 ¹ / ₈				1 ⁷ / ₈	1.330		15
JH5RH-B	3/4	9 ¹¹ / ₁₆	7	4 ³ / ₁₆	4 ¹⁵ / ₁₆	1 ⁹ / ₁₆	1.065	9 ¹ / ₁₆	22

* Not available for JH5RL-B ** Approx.

*** ASME B16.11-2005, other standards available

● JH5RL-X/JH5RL-B Flanged



JH5RL-X/JH5RL-B Flanged (in)

Model	Size	L			H**	H ₁ **	W	Weight*** (lb)
		ASME Class						
		150RF*	300RF*	600RF				
JH5RL-X	1/2*	9 ³ / ₈	9 ³ / ₈	9 ³ / ₈	6 ³ / ₈	4 ¹ / ₈	4 ¹ / ₂	19
JH5RL-B	3/4*	10 ³ / ₈	10 ³ / ₈	10 ³ / ₈				22
	1	12 ³ / ₁₆	12 ³ / ₁₆	12 ³ / ₁₆				24

Other standards available, but length and weight may vary

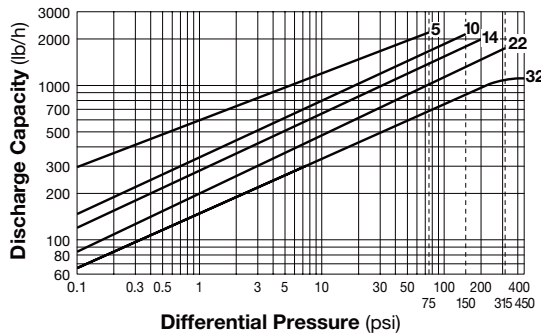
* Not available for JH5RL-B ** Approx.

*** Weight is for Class 600 RF

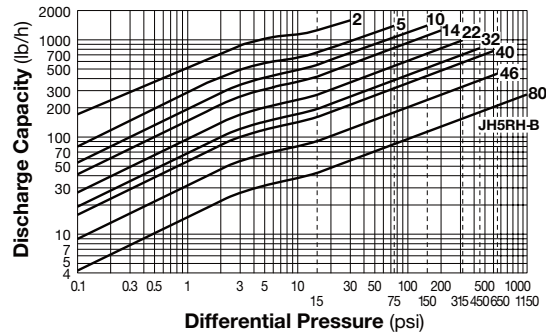
Flange classes in bold are standard

Discharge Capacity

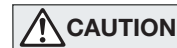
● JH5RL-X



● JH5RL-B/JH5RH-B



1. Line numbers within the graph are orifice numbers.
2. Differential pressure is the difference between the inlet and outlet pressure of the trap.
3. Capacities are based on continuous discharge of condensate 11 °F below saturated steam temperature.
4. Recommended safety factor: at least 1.5.



DO NOT use this product under conditions that exceed maximum differential pressure, as condensate backup will occur!



DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE. Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

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Manufacturer
TLV CO., LTD.
 Kagogawa, Japan
 is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001
 ISO 14001

