



FREE FLOAT® STEAM TRAP

MODEL JH7RL-X/JH7RL-B JH7RM-B CAST STEEL

FREE FLOAT STEAM TRAP WITH THERMOSTATIC AIR VENTING

Features

A reliable and durable cast steel* steam trap for use on medium-size process equipment. JH7RL-B/JH7RM-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. **JH7RL-X:** Thermostatic capsule (X-element) with "fail open" feature vents air automatically at close-to-steam temperature.
4. **JH7RL-B/JH7RM-B:** Thermostatic bimetal air vent valve vents air automatically for rapid startup.
5. Built-in screen with large surface area ensures extended trouble-free operation.
6. Easy, inline access to internal parts simplifies cleaning and reduces maintenance costs.

* Stainless Steel body available on request



Specifications

Model	JH7RL-X			JH7RL-B			JH7RM-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	1", 1½"	DN 20, 25, 40, 50		1", 1½"	DN 20, 25, 40, 50		DN 20, 25, 40, 50	
Orifice No.	2, 5, 10, 14, 22, 32			2, 5, 10, 14, 22, 32, 40, 46			65	
Maximum Operating Pressure (barg) PMO	2, 5, 10, 14, 22, 32			2, 5, 10, 14, 22, 32, 40, 46			65	
Maximum Differential Pressure (bar) ΔPMX	2, 5, 10, 14, 22, 32			2, 5, 10, 14, 22, 32, 40, 46			65	
Maximum Operating Temperature (°C) TMO	240			400*/425			400*/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):

Maximum Allowable Pressure (barg) PMA: 40 (JH7RL-X), 46 (JH7RL-B), 65 (JH7RM-B)

1 bar = 0.1 MPa

Maximum Allowable Temperature (°C) TMA: 400*/425

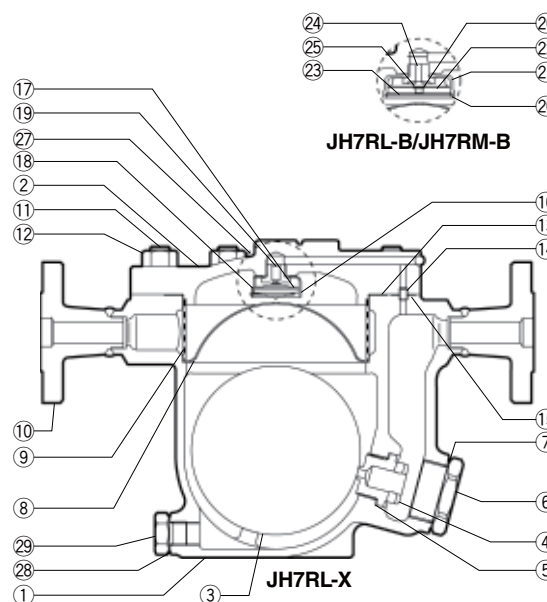
* With PN flange



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	DIN*	ASTM/AISI*
①	Body	Cast Steel A216 Gr.WCB	1.0619	—
②	Cover	Carbon Steel A105	1.0460	—
③ ^F	Float	Stainless Steel SUS316L	1.4404	AISI316L
④ ^R	Orifice	—	—	—
⑤ ^{MR}	Orifice Gasket	Soft Iron SUYP	1.1121	AISI1010
⑥	Orifice Plug	Cast Stainless Steel A351 Gr.CF8	1.4312	—
⑦ ^{MR}	Orifice Plug Gasket	Soft Iron SUYP	1.1121	AISI1010
⑧	Screen Holder	Stainless Steel SUS304	1.4301	AISI304
⑨ ^R	Screen inside/outside**	Stainless Steel SUS430/304	1.4016/1.4301	AISI430/304
⑩	Socket***/Flange	Carbon Steel A105	1.0460	—
⑪	Cover Bolt	Alloy Steel SNB7	1.7225	A193 Gr.B7
⑫	Cover Nut	Carbon Steel S45C	1.0503	AISI1045
⑬ ^{MR}	Cover Gasket	Graphite/Stainless Steel SUS316L	- /1.4404	- /AISI316L
⑭	Connector	Stainless Steel SUS416	1.4005	AISI416
⑮ ^{MR}	Connector Gasket	Graphite/Stainless Steel SUS316L	- /1.4404	- /AISI316L
⑯ ^R	X-element Guide	Stainless Steel SUS304	1.4301	AISI304
⑰ ^R	X-element	Stainless Steel	—	—
⑱ ^R	Spring Clip	Stainless Steel SUS304	1.4301	AISI304
⑲ ^R	Air Vent Valve Seat	Stainless Steel SUS420F	1.4028	AISI420F
⑳ ^R	Snap Ring	Stainless Steel SUS304	1.4301	AISI304
㉑ ^R	Air Vent Case	Cast Stainless Steel A351 Gr.CF8	1.4312	—
㉒ ^R	Bimetal Plate	Bimetal	—	—
㉓ ^R	Air Vent Screen	Stainless Steel SUS304	1.4301	AISI304
㉔ ^R	Air Vent Valve Seat	—	—	—
㉕ ^R	Air Vent Valve Plug	—	—	—
㉖ ^R	Snap Ring	Stainless Steel SUS304	1.4301	AISI304
㉗	Nameplate	Stainless Steel SUS304	1.4301	AISI304
㉘ ^{MR}	Drain Plug Gasket	Soft Iron SUYP	1.1121	AISI1010
㉙	Drain Plug	Carbon Steel S25C	1.1158	AISI1025

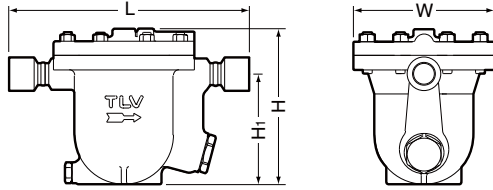
* Equivalent materials ** JH7RL-B, JH7RM-B: inside only *** Shown on reverse
Replacement kits available: (M) maintenance parts, (R) repair parts, (F) float



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Dimensions

● **JH7RL-X/JH7RL-B** Screwed

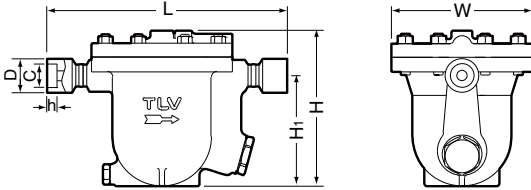


JH7RL-X/JH7RL-B Screwed* (mm)

Size	L	H	Hi	φW	Weight (kg)
1"	334	226	160	206	17
1½"	336				19

* BSP DIN 2999, other standards available

● **JH7RL-X/JH7RL-B/JH7RM-B** Socket Welded

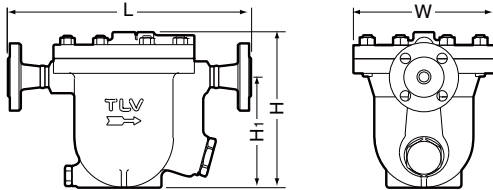


JH7RL-X/JH7RL-B/JH7RM-B Socket Welded* (mm)

DN	L	H	Hi	φW	φD	φC	h	Weight (kg)
20	322	226 (231)	160	206 (222)	41.5	27.2	14	17 (19)
25	334				50	33.9		
40	336				66	48.8		
50			79.5	61.2	17	20 (22)		

* ASME B16.11-2005, other standards available
() JH7RM-B

● **JH7RL-X/JH7RL-B/JH7RM-B** Flanged



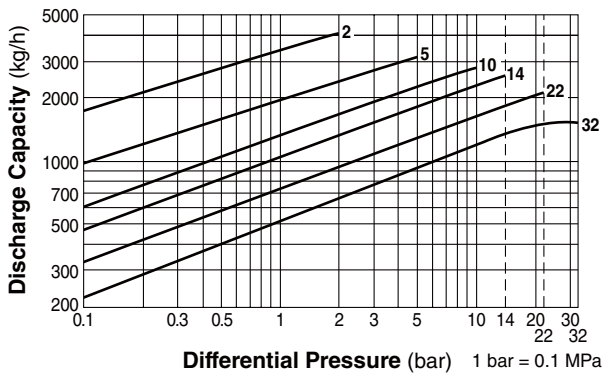
JH7RL-X/JH7RL-B/JH7RM-B Flanged (mm)

DN	L					H	Hi	W	Weight*** (kg)
	DIN 2501	ASME Class							
	PN25/40*	150RF	300RF	600RF	900RF**				
20	340	340	340	340	370	226 (231)	160	206 (222)	21 (25)
25	385	385	385	385	395				22 (29)
40	380	380	380	380	390				25 (34)
50	390	390	390	390	400				27 (46)

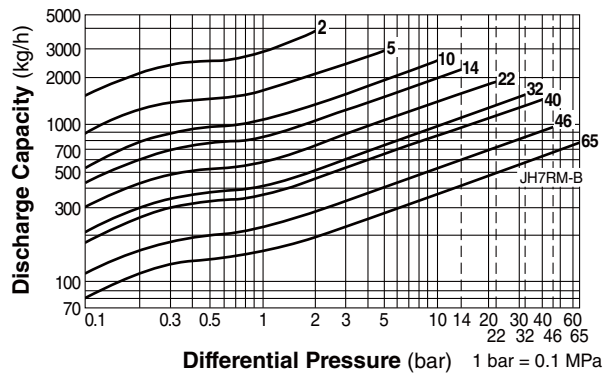
Other standards available, but length and weight may vary
* Not available for JH7RM-B
** Not available for JH7RL-X/JH7RL-B
*** Weight is for DIN PN 25/40 (JH7RL-X/JH7RL-B),
ASME Class 900 RF (JH7RM-B)
() JH7RM-B

Discharge Capacity

● **JH7RL-X**



● **JH7RL-B/JH7RM-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

