FREE FLOAT® STEAM TRAP

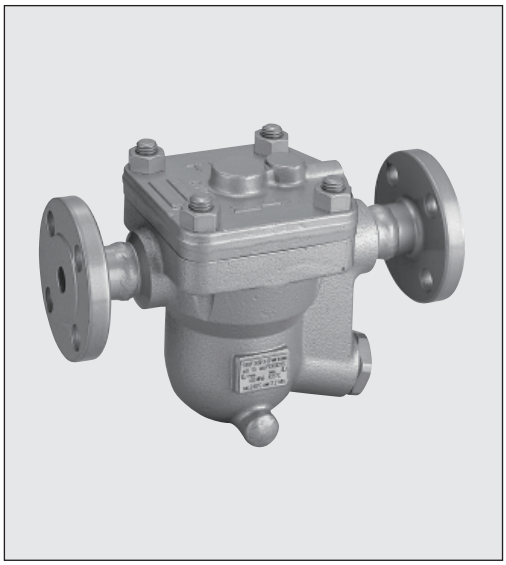
MODEL JH5RL-X/JH5RL-B JH5RH-B CAST STEELL

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, prevents concentrated 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.



Pressure Equipment Directive (PED)

Classification according to PED 2014/68/EU, fluid group 2

Size	Category	CE marking
DN 15 to 25	—*	Art. 4, Sec. 3 (sound engineering practice), CE marking not allowed
DN 40, DN 50	I	With CE marking and Declaration of Conformity

* Manufactured in accordance with sound engineering practice

Specifications

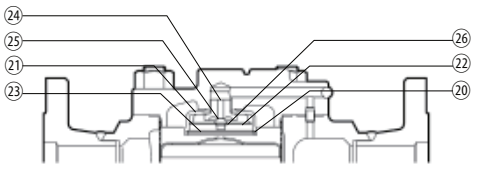
Model	JH5RL-X			JH5RL-B			JH5RH-B	
Connection	Screwed	Socket Welded	Flanged	Screwed	Socket Welded	Flanged	Socket Welded	Flanged
Size	½", ¾", 1"	DN15, 20, 25, 40, 50		½", ¾", 1"	DN15, 20, 25, 40, 50		DN15, 20, 25, 40, 50	
Orifice No.	5, 10, 14, 22, 32			2, 5, 10, 14, 22, 32, 40, 46			80	
Maximum Operating Pressure (barg) PMO	5, 10, 14, 22, 32			2, 5, 10, 14, 22, 32, 40, 46			80	
Maximum Differential Pressure (bar) ΔPMX	5, 10, 14, 22, 32			2, 5, 10, 14, 22, 32, 40, 46			80	
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): 1 bar = 0.1 MPa
Maximum Allowable Pressure (barg) PMA: 40 (JH5RL-X), 46 (JH5RL-B), 80 (JH5RH-B)
Maximum Allowable Temperature (°C) TMA: 400*/425 * With PN flange

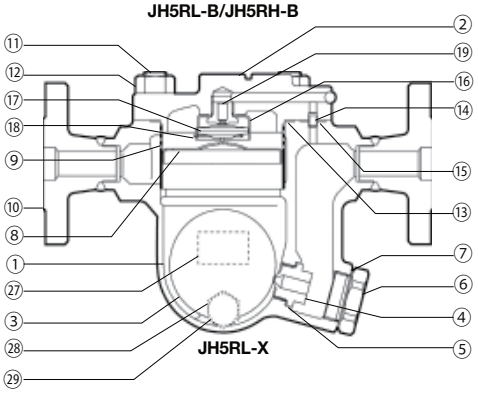
No.	Description	Material	DIN [1]	ASTM/AISI [1]
①	Body	Cast Steel A216 Gr.WCB	1.0619	—
②	Cover	Carbon Steel A105	1.0460	—
	Cover (JH5RH-B)	Cast Steel A216 Gr.WCB	1.0619	—
③F	Float	Stainless Steel SUS316L	1.4404	AISI316L
④R	Orifice	—	—	—
⑤MR	Orifice Gasket	Soft Iron SUYP	1.1121	AISI1010
⑥	Orifice Plug	Cast Stainless Steel A351 Gr.CF8	1.4312	—
⑦MR	Orifice Plug Gasket	Soft Iron SUYP	1.1121	AISI1010
⑧R	Float Cover	Stainless Steel SUS304	1.4301	AISI304
⑨R	Screen inside/outside [2]	Stainless Steel SUS430/304	1.4016/1.4301	AISI430/304
⑩	Socket [3]/Flange	Carbon Steel A105	1.0460	—
⑪	Cover Bolt	Alloy Steel SNB7	1.7225	A193 Gr.B7
	Cover Bolt (JH5RH-B)	Alloy Steel SNB16	1.7711	A193 Gr.B16
⑫	Cover Nut	Carbon Steel S45C	1.0503	AISI1045
⑬MR	Cover Gasket	Graphite/Stainless Steel SUS316L	– /1.4404	– /AISI316L
⑭	Connector	Stainless Steel SUS416	1.4005	AISI416
⑮MR	Connector Gasket	Graphite/Stainless Steel SUS316L	– /1.4404	– /AISI316L
⑯R	X-element Guide	Stainless Steel SUS304	1.4301	AISI304
⑰R	X-element	Stainless Steel	—	—
⑱R	Spring Clip	Stainless Steel SUS304	1.4301	AISI304
⑲R	Air Vent Valve Seat	Stainless Steel SUS420F	1.4208	AISI420F
⑳R	Snap Ring	Stainless Steel SUS304	1.4301	AISI304
㉑R	Air Vent Case	Cast Stainless Steel A351 Gr.CF8	1.4312	—
㉒R	Bimetal Plate	Bimetal	—	—
㉓R	Air Vent Screen	Stainless Steel SUS304	1.4301	AISI304
㉔R	Air Vent Valve Seat	—	—	—
㉕R	Air Vent Valve Plug	—	—	—
㉖R	Snap Ring	Stainless Steel SUS304	1.4301	AISI304
㉗	Nameplate	Stainless Steel SUS304	1.4301	AISI304
㉘	Drain Plug Gasket [4]	Soft Iron SUYP	1.1121	AISI1010
㉙	Drain Plug [4]	Carbon Steel S25C	1.1158	AISI1025

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

⚠ CAUTION 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.



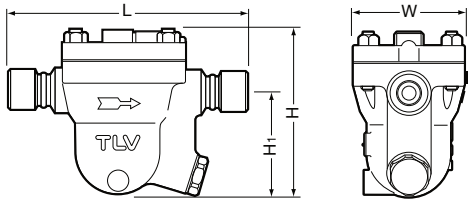
JH5RL-B/JH5RH-B



JH5RL-X

Dimensions

• JH5RL-X/JH5RL-B Screwed

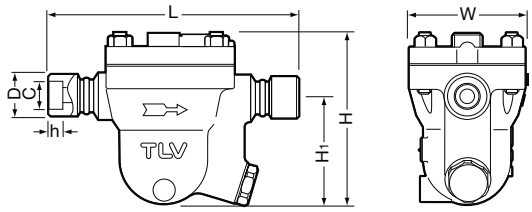


JH5RL-X/JH5RL-B Screwed* (mm)

Size	L	H**	H_1**	W	Weight (kg)
½”	234	165	105	115	6.5
¾”	246				6.6
1”	258				6.7

* BSP DIN 2999, other standards available ** Approx.

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

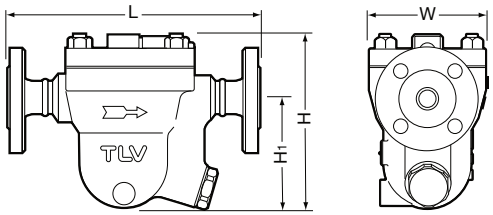


JH5RL-X/JH5RL-B/JH5RH-B Socket Welded* (mm)

DN	L	H**	H_1**	W	ϕD	ϕC	h	Weight (kg)
15	234	165 [175]	105 [110]	115 [125]	33	21.8	12	6.5 [10]
20	246				39.5	27.2	14	6.6 [10]
25	258				48	33.9		6.7 [10]
40	246				64	48.8		7.8 [13]
50					77.5	61.2	17	8.2 [14]

* ASME B16.11-2005, other standards available ** Approx.
[ ] JH5RH-B

• JH5RL-X/JH5RL-B/JH5RH-B Flanged



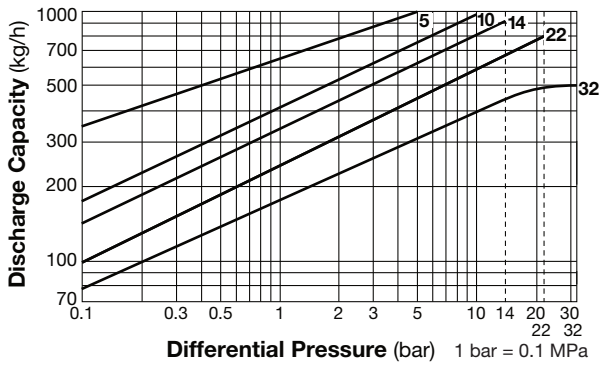
JH5RL-X/JH5RL-B/JH5RH-B Flanged (mm)

DN	L				H **	H_1 **	W	Weight *** (kg)
	DIN 2501	ASME Class						
	PN25*/40*	150RF	300RF	600RF				
15	239	239	239	239	165 [175]	105 [110]	115 [125]	9.2 [12]
20	264	264	264	264				9.6 [14]
25	309	309	309	309				11 [16]
40	290	290	290	290				14 [19]
50	300	300	300	300				16 [23]

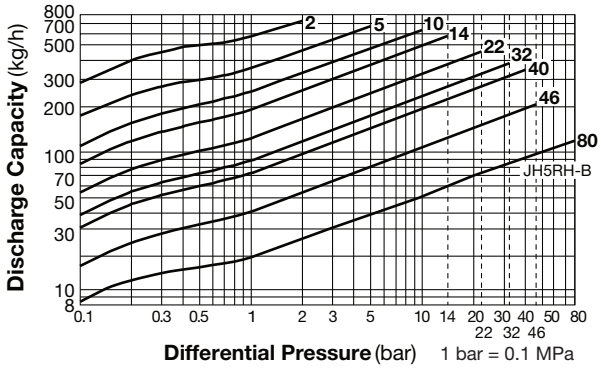
Other standards available, but length and weight may vary
* Not available for JH5RH-B ** Approx.
** Weight is for DIN PN 25/40 (JH5RL-X/JH5RL-B), ASME Class 600 RF (JH5RH-B)
[ ] JH5RH-B

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 6 °C below saturated steam temperature.
4. Recommended safety factor: at least 1.5.

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

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

ISO 9001
ISO14001

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Products for intended use only.
Specifications subject to change without notice.