



# FREE FLOAT<sup>®</sup> STEAM TRAP

## MODEL SH5NL/SH5NH

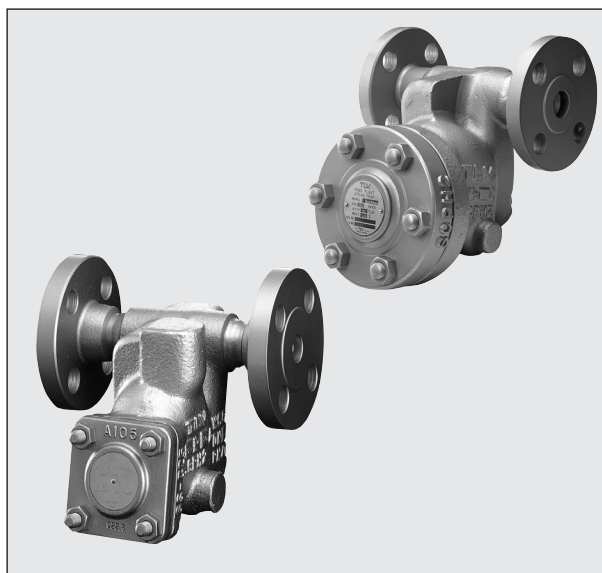
HIGH-PRESSURE FREE FLOAT STEAM TRAP WITH THREE-POINT SEATING AND THERMOSTATIC AIR VENTING

### Benefits

**Inline repairable trap with tight shut-off for drainage of superheated or high-pressure steam mains, equipment, and turbines.**

1. Self-modulating free float provides continuous, smooth, low-velocity condensate discharge.
2. Constant water seal and unique rotational seating design prevents concentrated wear to ensure long life.
3. Three-point seating ensures steam-tight seal, even under no-load conditions.
4. Easy, inline access to internal parts to simplify cleaning and lower maintenance costs.
5. Rugged float construction with up to 1740 or 2300 psig\* hydraulic shock rating ensures excellent resistance to water hammer.
6. Durable thermostatic air vent for exceptionally fast start-up.
7. Built-in screen for extended trouble-free service.

\* Depending on orifice no.



### Specifications

Model	SH5NL		SH5NH	
Connection	Socket Weld	Flanged	Socket Weld	Flanged
Size (in)	<b>1/2, 3/4, 1</b>	<b>1/2, 3/4, 1</b>	<b>3/4</b>	<b>Flanged</b>
Orifice No.	46, 65		80	
Maximum Operating Pressure (psig) PMO	650, 925		1150	
Maximum Differential Pressure (psi) ΔPMX	650, 925		1150	
Minimum Operating Pressure (psig)	1.5		1.5	
Maximum Operating Temperature (°F) TMO	800		800	
Maximum Allowable Pressure (psig) PMA	925		1150	
Maximum Allowable Temperature (°F) TMA	800		800	



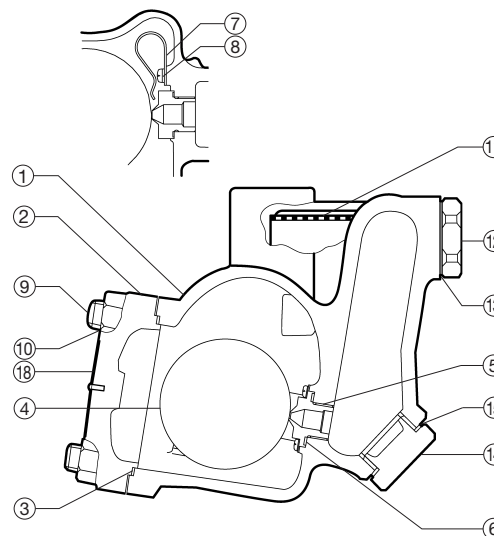
#### CAUTION

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.

Connections and sizes in bold are standard

No.	Description	Material	ASTM/AISI*	JIS
①	Body	Cast Steel	A216 Gr.WCB	—
②	Cover	SH5NL Carbon Steel	A105	—
		SH5NH Alloy Steel	A182 F11	—
③ <sup>MR</sup>	Cover Gasket	SH5NL Graphite/Stainless Steel	— /AISI316L	— /SUS316L
		SH5NH Graphite/Stainless Steel	— /AISI304	— /SUS304
④ <sup>F</sup>	Float	Stainless Steel	AISI316L	SUS316L
⑤ <sup>R</sup>	Orifice	—	—	—
⑥ <sup>MR</sup>	Orifice Gasket	SH5NL Graphite/Stainless Steel	— /AISI316L	— /SUS316L
		SH5NH Graphite/Stainless Steel	— /AISI316	— /SUS316
⑦ <sup>R</sup>	Air Vent Strip	Bimetal	—	—
⑧ <sup>R</sup>	Screw & Spring Washer	Stainless Steel	AISI304	SUS304
⑨	Cover Bolt	Alloy Steel	A193 Gr.B7	SNB7
⑩	Cover Nut	Carbon Steel	AISI1045	S45C
⑪ <sup>R</sup>	Screen	Stainless Steel	AISI430	SUS430
⑫	Screen Holder	Cast Stainless Steel	A743 Gr.CA40	—
⑬ <sup>MR</sup>	Screen Holder Gasket	Soft Iron	AISI1010	SUYP
⑭	Orifice Plug	Cast Stainless Steel	A743 Gr.CA40	—
⑮ <sup>MR</sup>	Orifice Plug Gasket	Soft Iron	AISI1010	—
⑯	Flange**	Carbon/Cast Steel***	A105/A216 Gr.WCB	—
⑰	Socket**	Forged Steel	AISI1025	S25C
⑱	Nameplate	Stainless Steel	AISI304	SUS304

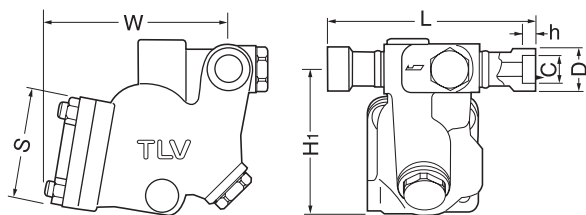
\* Equivalent \*\* Not shown \*\*\* Material depends on flange specifications  
Replacement kits available: (M) maintenance parts, (R) replacement parts, (F) float



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## Dimensions

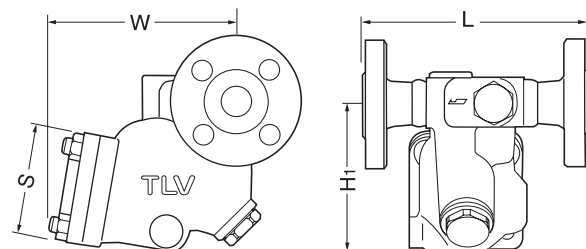
### ●SH5NL/SH5NH Socket Weld



### SH5NL/SH5NH Socket Weld (in)

Model	Size	L	H <sub>1</sub>	W	S	φ D	φ C	h	Weight (lb)
SH5NL	1/2	7 7/8	5 7/16	6 7/8	4 1/8	1 5/16	0.855	1/2	22
	3/4					1 9/16	1.065	9/16	
	1					1 15/16	1.330	9/16	
SH5NH	3/4	7 7/8	6 3/16	7 5/16	5 1/16	1 9/16	1.065	9/16	29

### ●SH5NL/SH5NH Flanged



### SH5NL/SH5NH Flanged (in)

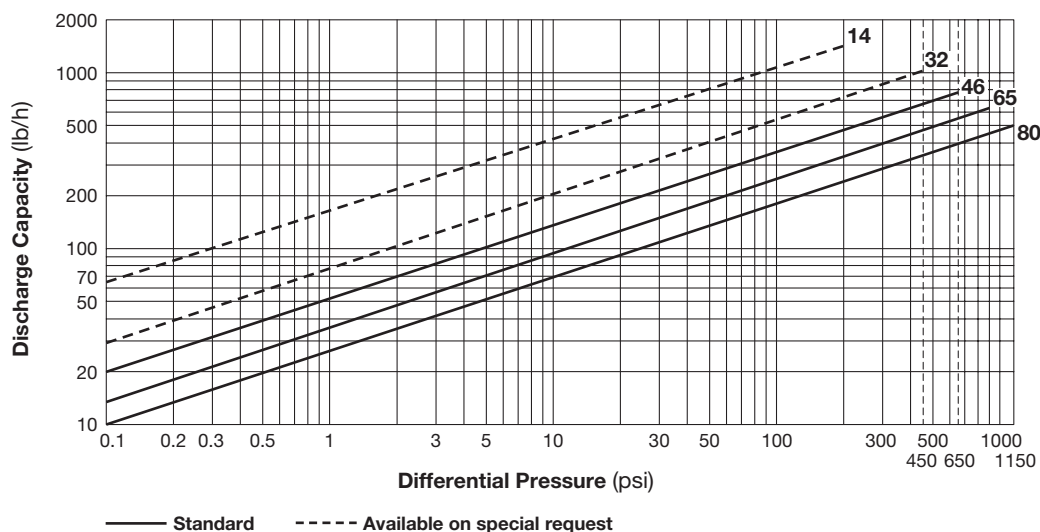
Model	Size	L Connects to ASME Class				H <sub>1</sub>	W	S	Weight* (lb)
		150, 300RF	600RF	900RF	1500RF				
SH5NL	1/2	8	8	8 3/8	8 3/8	5 7/16	6 7/8	4 1/8	28
	3/4			9	9				30
	1			9	9				35
SH5NH	3/4	—	8	8 3/8	8 3/8	6 3/16	7 5/16	5 1/16	36

Other standards available, but length and weight may vary

\* Weight is for Class 900RF

Note: SH5NL models shown. Configuration of SH5NH cover differs slightly.

## Discharge Capacity



- Line numbers within the graph refer to orifice numbers.
- Differential pressure is the difference between the inlet and outlet pressure of the trap.
- Capacities are based on continuous discharge of condensate 11 °F below saturated steam temperature.
- 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!



**CAUTION** 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.**

Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001  
ISO 14001

