



# FREE FLOAT® STEAM TRAP

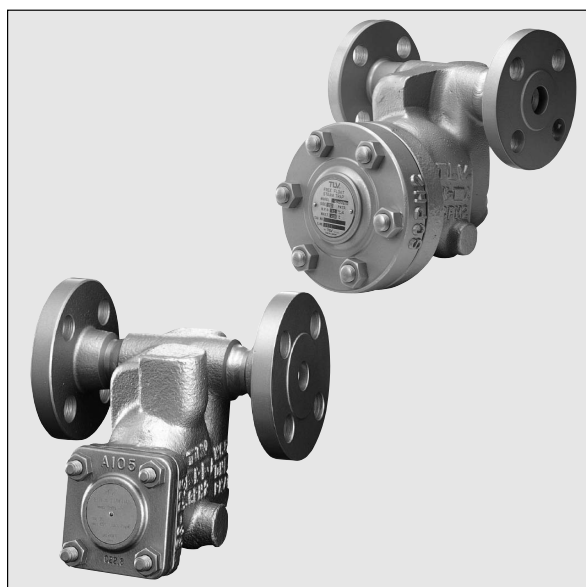
## MODEL SH5NL/SH5NH

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

#### Features

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

1. Self-modulating free float provides continuous, smooth, low velocity condensate discharge as 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 long maintenance-free service life.
4. Thermostatic air venting with bimetal strip allows fast start-up.
5. High rating against hydraulic shock offers excellent resistance of the float to water hammer.
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	SH5NL		SH5NH	
	Socket Welded	Flanged	Socket Welded	Flanged
Connection	Socket Welded	Flanged	Socket Welded	Flanged
Size (mm)	15, 20, 25, 40, 50		15, 20, 25	
Orifice No.	14, 32, 46, 65		80	
Maximum Operating Pressure (MPaG) PMO	1.4, 3.2, 4.6, 6.5		8.0	
Maximum Differential Pressure (MPa) ΔPMX	1.4, 3.2, 4.6, 6.5		8.0	
Minimum Operating Pressure (MPaG)			0.01	
Maximum Operating Temperature (°C) TMO			425	

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS):  
 Maximum Allowable Pressure (MPaG) PMA: 6.5 (SH5NL), 8.0 (SH5NH)  
 Maximum Allowable Temperature (°C) TMA: 425

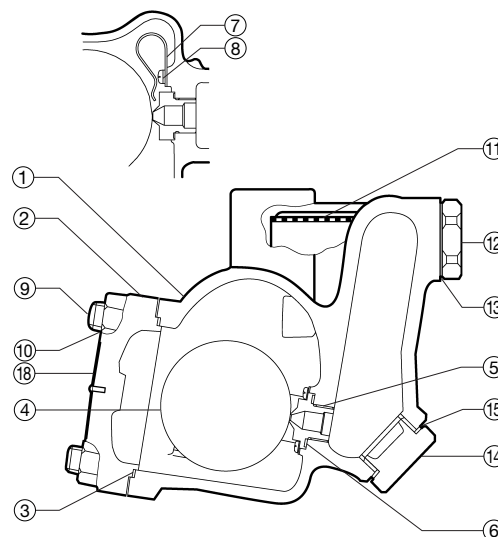
1 MPa = 10.197 kg/cm<sup>2</sup>



#### 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.

No.	Description	Material	JIS	ASTM/AISI*
①	Body	Cast Steel	—	A216 Gr.WCB
②	Cover	SH5NL	Carbon Steel	A105
		SH5NH	Cast Steel	A182 F11
③ <sup>MR</sup>	Cover Gasket	SH5NL	Graphite/Stainless Steel	-/SUS316L -/AISI316L
		SH5NH	Graphite/Stainless Steel	-/SUS304 -/AISI304
④ <sup>F</sup>	Float	Stainless Steel	SUS316L	AISI316L
⑤ <sup>R</sup>	Orifice	—	—	—
⑥ <sup>MR</sup>	Orifice Gasket	SH5NL	Graphite/Stainless Steel	-/SUS316L -/AISI316L
		SH5NH	Graphite/Stainless Steel	-/SUS316 -/AISI316
⑦ <sup>R</sup>	Air Vent Strip	Bimetal	—	—
⑧ <sup>R</sup>	Screw & Spring Washer	Stainless Steel	SUS304	AISI304
⑨	Cover Bolt	Alloy Steel	SNB7	A193 Gr.B7
⑩	Cover Nut	Carbon Steel	S45C	AISI1045
⑪ <sup>R</sup>	Screen	Stainless Steel	SUS430	AISI430
⑫	Screen Holder	Cast Stainless Steel	—	A351 Gr.CF8
⑬ <sup>MR</sup>	Screen Holder Gasket	Soft Iron	SUYP	AISI1010
⑭	Orifice Plug	Cast Stainless Steel	—	A351 Gr.CF8
⑮ <sup>MR</sup>	Orifice Plug Gasket	Soft Iron	SUYP	AISI1010
⑯	Flange**	Carbon/Cast Steel***	—	A105/A216 Gr.WCB
⑰	Socket**	SH5NL 15-25 mm,	Carbon Steel	S25C
		SH5NH	Carbon Steel	—
		SH5NL 40, 50 mm	Carbon Steel	A105
⑱	Nameplate	Stainless Steel	SUS304	AISI304

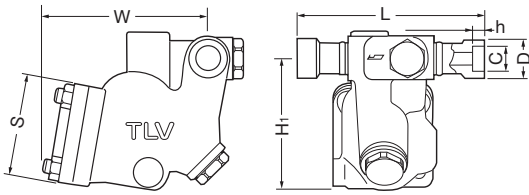


\* Equivalent \*\* Shown on reverse \*\*\* Material depends on flange specifications  
 Replacement kits available: (M) maintenance parts, (R) repair parts, (F) float

Copyright © TLV

**Dimensions**

● **SH5NL/SH5NH** Socket Welded

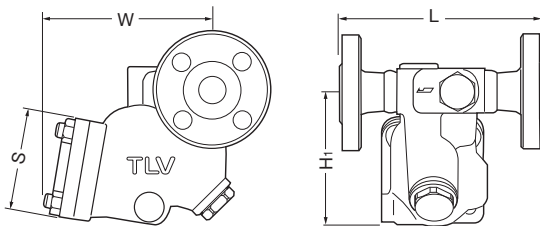


**SH5NL/SH5NH** Socket Welded (mm)

Model	Size	L	H1*	W*	S	ØD	ØC	h	Weight (kg)
SH5NL	15	200	140	175	105	32	22.2	12	9.9
	20					38	27.7		
	25					47	34.5	14	
	40	178				64	49.1	10	
	50					76.5	61.1		17
SH5NH	15	200	160	190	145	32	22.2	12	13
	20					38	27.7		
	25					47	34.5		

\* Approx.

● **SH5NL/SH5NH** Flanged



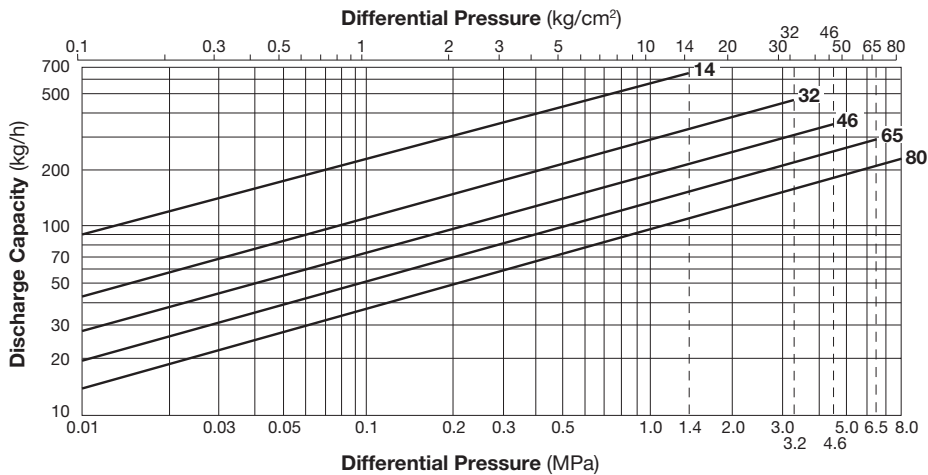
**SH5NL/SH5NH** Flanged (mm)

Model	Size	L ASME Class				H1*	W*	S	Weight** (kg)
		150, 300RF	600RF	900RF	1500RF				
SH5NL	15	202	202	212	—	140	175	105	13
	20			230					14
	25			270					16
	40			310					20
	50			310					28
SH5NH	15	—	202	212	160	190	145	16	
	20			230				17	
	25			230				19	

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

Other standards available, but length and weight may vary  
\* Approx. \*\* Weight is for Class 900RF

**Discharge Capacity**



1. Line numbers within the graph refer to 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.



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  
ISO 14001

