TLV®

FREE FLOAT DRAIN TRAP

MODEL **SH6NLG**

Features

High-pressure, inline repairable free float trap with tight shut-off for drainage of air and gas systems.

1. Constant water seal and unique rotational seating design eliminate concentrated wear to ensure long life.
2. Three-point seating provides a tight seal even under no-load conditions (with rubber orifice).
3. Easy, inline access to internal parts simplifies cleaning and lowers maintenance costs.
4. Built-in screen with large surface area ensures extended trouble-free service.

Specifications

Model	SH6NLG (Metal Orifice)		SH6NLG (Rubber Orifice)	
Connection	Socket Welded	Flanged	Socket Welded	Flanged
Size (mm)	25, 40, 50		25, 40, 50	
Orifice No.	G5, G10, G22, G40, G46		G10, G22, G40	
Maximum Operating Pressure (MPaG)　PMO*	0.5, 1.0, 2.2, 4.0, 4.6		1.0, 2.2, 4.0	
Maximum Differential Pressure (MPa)　ΔPMX*	0.5, 1.0, 2.2, 4.0, 4.6		1.0, 2.2, 4.0	
Minimum Operating Pressure (MPaG)	0.01		0.01	
Maximum Operating Temperature (℃)　TMO	220		150	
Minimum Condensate Load for Tight Sealing (kg/h)	3		0	

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) : 6.5　　1 MPa = 10.197 kg/cm²
Maximum Allowable Temperature (℃) : 220

* For specific gravities other than 1.00, use table below

| Orifice No.	Specific Gravity										
	1.00	0.99~ 0.95	0.94~ 0.90	0.89~ 0.85	0.84~ 0.80	0.79~ 0.75	0.74~ 0.70	0.69~ 0.65	0.64~ 0.60	0.59~ 0.55	0.54~ 0.50
	Maximum Operating Pressure PMO (MPaG) & Maximum Differential Pressure ΔPMX (MPa)										
G10 (Rubber)	1.0	0.98	0.88	0.78	0.67	0.57	0.46	0.36	0.25	0.15	0.05
G22 (Rubber)	2.2	2.2	2.2	2.17	1.88	1.59	1.3	1.0	0.71	0.42	0.13
G40 (Rubber)	4.0	4.0	4.0	4.0	3.73	3.15	2.57	2.0	1.42	0.84	0.26
G 5 (Metal)	0.5	0.5	0.5	0.5	0.49	0.41	0.34	0.26	0.18	0.11	0.03
G10 (Metal)	1.0	0.89	0.8	0.7	0.61	0.52	0.42	0.33	0.23	0.14	0.04
G22 (Metal)	2.2	2.2	2.15	1.9	1.64	1.39	1.13	0.88	0.62	0.37	0.11
G40 (Metal)	4.0	4.0	4.0	4.0	3.73	3.15	2.57	2.0	1.42	0.84	0.26
G46 (Metal)	4.6	4.6	4.6	4.6	4.6	3.98	2.72	1.46	0.2	—	—

⚠ 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.

CONSULT **TLV** for toxic, flammable, or otherwise hazardous gases.

No.	Description	Material	JIS	ASTM/AISI*
①	Body	Cast Steel	SCPH2	A216 Gr. WCB
②	Cover	Cast Steel	SCPH2	A216 Gr. WCB
③	Float	Stainless Steel	SUS316L	AISI316L
④	Orifice (Metal)	Stainless Steel+Stellite	SUS316L	AISI316L
	Orifice (Rubber)	Stainless Steel/Fluorine Rubber	SUS303/FPM	AISI303/D2000HK
⑤	Orifice Gasket	Stainless Steel/Graphite	SUS316L	AISI316L
⑥	Cover Gasket	Fluorine Resin	PTFE	PTFE
⑦	Cover Bolt	Alloy Steel	SNB7	A193 Gr. B7
⑧	Cover Nut	Carbon Steel	S45C	AISI1045
⑨	Screen	Stainless Steel	SUS430	AISI430
⑩	Screen Holder	Cast Stainless Steel	SCS2A	A217 Gr. CA15
⑪	Screen Holder Gasket	Soft Iron	SUYP	AISI1010
⑫	Plug	Cast Stainless Steel	SCS13A	A351 Gr. CF8
⑬	Plug Gasket	Soft Iron	SUYP	AISI1010
⑭	Socket	Carbon Steel	—	A105
⑮	Flange**	Carbon/Cast Steel***	—	A105/216 Gr. WCB
⑯	Nameplate	Stainless Steel	SUS304	AISI304

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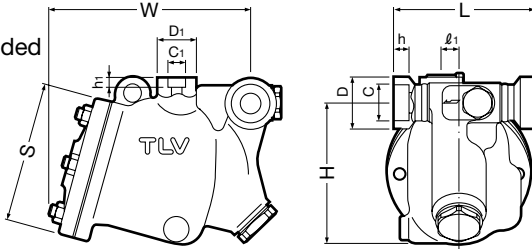* Equivalent ** Shown on reverse *** Material depends on flange specifications
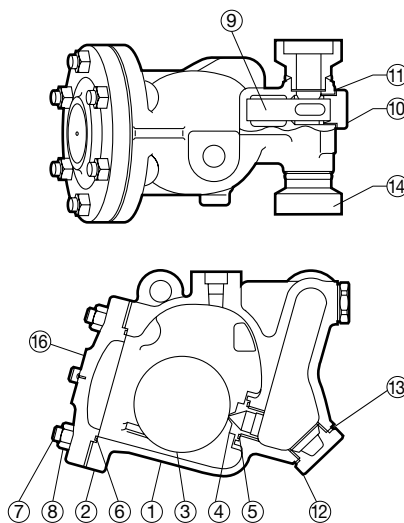
Options

1. Body material stainless steel.
2. Flanged or screwed balancing port connection.
3. Orifice material EPDM (Ethylene Propylene Rubber) with a TMO of 100 ℃.

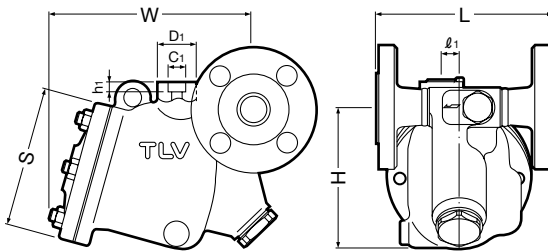## Dimensions

● **SH6NLG**
Socket Welded

● **SH6NLG**
Flanged

SH6NLG   Socket Welded   (mm)

Size	L	H	W	S	ϕD	ϕC	h	Weight (kg)
25					50	34.5	14	21
40	178	181	257	180	66	49.1	14	22
50					79.5	61.1	17	23

SH6NLG   Flanged   (mm)

Size	L			H	W	ϕS	Weight* (kg)
	ASME Class						
	150RF	300RF	600RF				
25	222	222	222	181	257	180	22
40	222	222	222				24
50	232	232	232				26

Other standards available, but length and weight may vary
* Weight is for Class 600 RF

NOTE:
A pressure-balancing line must be connected to the gas or air system from the balancing port at the top of the trap to a place above any possible condensate accumulation in the system. $\phi D_1 = 52$, $\phi C_1 = 22.2$, $h_1 = 13$, $\ell_1 = 23$.

Discharge Capacity

Differential Pressure (kg/cm²)

Discharge Capacity (kg/h)

Differential Pressure (MPa)
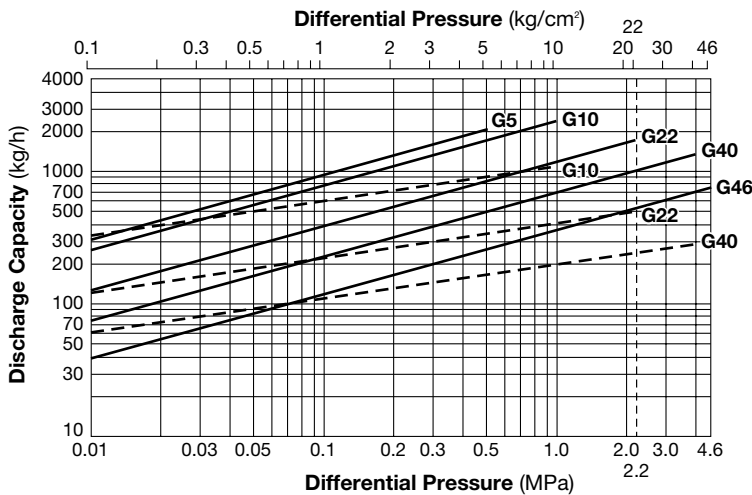
– – – – Rubber Orifice
———— Metal Orifice

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. The chart is applicable to condensate below 100 ℃.

4. The discharge capacity is for a liquid with a specific gravity of 1.

5. Recommended safety factor: at least 1.5.

⚠ **CAUTION**

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

Capacity Conversion Factors

Specific Gravity (S.G.)	0.95	0.9	0.85	0.8	0.75	0.7	0.65	0.6	0.55	0.5
Conversion Factor	1.03	1.06	1.08	1.12	1.16	1.19	1.24	1.29	1.35	1.41

Before using the capacity chart, multiply the required capacity (including safety factor) by the appropriate conversion factor for the specific gravity of the liquid. Choose from the table above or use the following formula: Conversion Factor = $\dfrac{1}{\sqrt{S.G.}}$

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Specifications subject to change without notice.