



FREE FLOAT DRAIN TRAP

MODEL SH7NLA/SH7NLG

DRAIN TRAP WITH TIGHT SHUT-OFF FOR INERT (SH7NLA) AND HAZARDOUS (SH7NLG) GASES

Benefits

High pressure, inline repairable free float trap with tight shut-off. Automatically drains condensate from 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.
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	SH7NLA-M*	SH7NLA-R*	SH7NLG-M*	SH7NLG-R*
Connection	Socket Weld	Flanged	Socket Weld	Flanged
Size (in)	1, 1½		1, 1½	
Orifice No.	5, 10, 22, 32, 46	10, 22, 40	G5, G10, G22, G32, G46	10, 22, 40
Maximum Operating Pressure (psig)	PMO**	75, 150, 315, 450, 650	75, 150, 315, 450, 650	150, 315, 600
Maximum Differential Pressure (psi)	ΔPMX**	75, 150, 315, 450, 650	150, 315, 600	75, 150, 315, 450, 650
Minimum Operating Pressure (psig)	Vacuum		Vacuum	
Maximum Operating Temperature (°F)	TMO	428	428	300
Maximum Allowable Pressure (psig)	PMA	925	925	925
Maximum Allowable Temperature (°F)	TMA	428	428	428

* M: Metal orifice, R: Rubber orifice ** For specific gravities other than 1.00, use table below

SH7NLA/SH7NLG are non-standard products, consult TLV for delivery time required.

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
	Max. Operating Pressure PMO (psig) & Max. Differential Pressure ΔPMX (psi)										
10	150	150	150	150	141	123	106	89	72	54	37
22	315	315	315	315	297	261	224	188	151	115	78
40	600	600	600	600	600	600	531	445	359	272	186
5	75	75	71	64	57	50	43	36	29	22	15
10	150	150	150	136	121	106	91	76	61	47	32
22	315	315	315	315	297	261	224	188	151	115	78
32	450	450	450	450	450	400	344	288	232	176	120
46	650	650	650	650	650	621	498	375	252	179	6

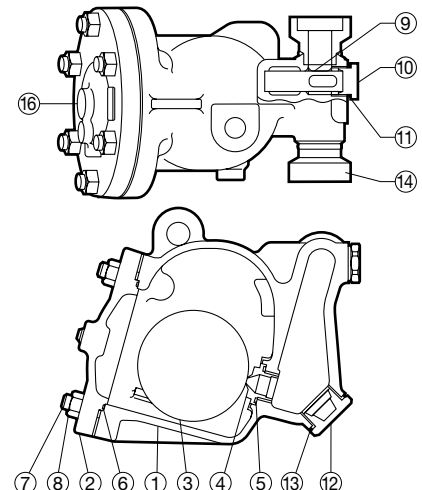


To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

For SH7NLG, consult TLV for toxic, flammable or otherwise hazardous gases; DO NOT USE SH7NLA for these gases.

No.	Description	Material	ASTM/AISI*	JIS
①	Body	Cast Steel	A216 Gr. WCB	SCPH2
②	Cover	Forged Carbon Steel	A105	—
③	Float	Stainless Steel	AISI316L	SUS316L
④	Orifice (Metal) SH7NLA-M	Stainless Steel	AISI420F	SUS420F
	(Metal) SH7NLG-M	Stainless Steel + Stellite	AISI316L	SUS316L
	(Rubber)	Stainl. Stl./Fluorine Rubber	AISI303/D2000HK	SUS303/FPM
⑤	Orifice Gasket	Stainl. Stl./Graphite	AISI316L	SUS316L
⑥	Cover Gasket	Fluorine Resin	PTFE	PTFE
⑦	Cover Bolt	Alloy Steel	A193 Gr. B7	SNB7
⑧	Cover Nut	Carbon Steel	AISI1045	S45C
⑨	Screen	Stainless Steel	AISI430	SUS430
⑩	Screen Holder	Cast Stainless Steel	A217 Gr. CA15	SCS2A
⑪	Screen Holder Gasket	Soft Iron	AISI1010	SUYP
⑫	Orifice Plug	Cast Stainless Steel	A351 Gr. CF8	SCS13A
⑬	Orifice Plug Gasket	Soft Iron	AISI1010	SUYP
⑭	Socket	Carbon Steel	A105	—
⑮	Flange**	Carbon Steel	A105	—
⑯	Nameplate	Stainless Steel	AISI304	SUS304

* Equivalent ** Shown on reverse

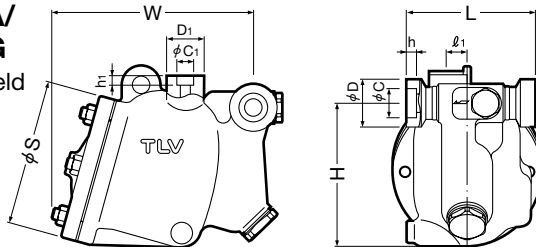


Options

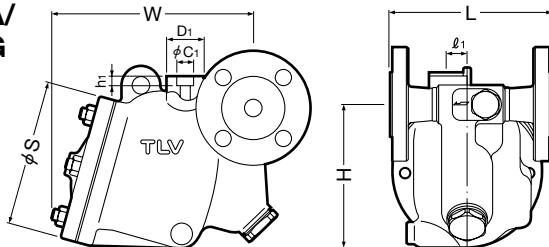
1. Body material stainless steel
2. Flanged or screwed balancing port connection
3. Orifice material NBR (Nitrile Rubber) or EPDM (Ethylene Propylene Rubber) with a TMO of 212 °F.

Dimensions

● **SH7NLA/SH7NLG**
Socket Weld



● **SH7NLA/SH7NLG**
Flanged



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. D1=2¹/₁₆, C1=7¹/₈, h1=1¹/₂, l1=1.

Leakage Rating

ANSI/FCI Leakage Rating Equivalent

Model	Metal Orifice	Rubber Orifice
SH7NLA	Class 3	Class 6
SH7NLG	Class 3	Class 6

SH7NLA/SH7NLG Socket Weld (in)

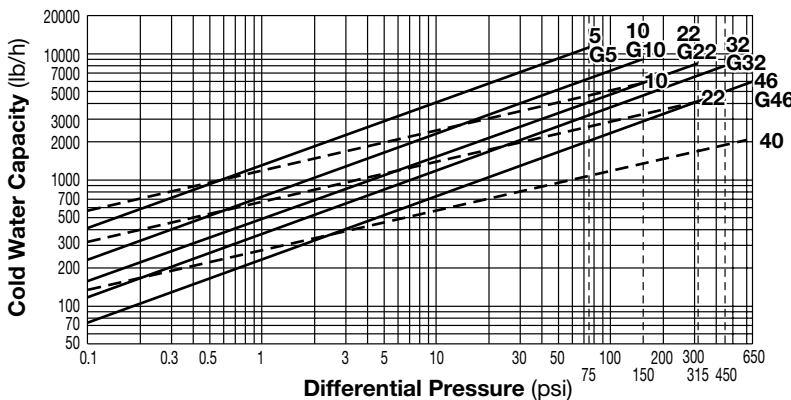
Size	D	C	h	L	H	W	S	Weight (lb)
1	1 ⁵ / ₁₆	1 ³ / ₈	9 ¹ / ₁₆	7	7 ³ / ₄	11 ¹ / ₈	8 ¹ / ₁₆	57
1 ¹ / ₂	2 ⁵ / ₈	1 ¹⁵ / ₁₆						62

SH7NLA/SH7NLG Flanged (in)

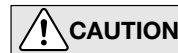
Size	L				H	W	φS	Weight* (lb)
	ASME Class							
	150RF	300RF	600RF	900RF				
1	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	9 ¹ / ₈	7 ³ / ₄	11 ¹ / ₈	8 ¹ / ₁₆	62
1 ¹ / ₂				10 ⁵ / ₈				71

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

Discharge Capacity



- 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 212 °F.
 4. The discharge capacity is for a liquid with specific gravity of 1.
 5. Recommended safety factor: at least 1.5.



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 = $\frac{1}{\sqrt{S.G.}}$

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

ISO 9001/ISO 14001

