



# FREE FLOAT<sup>®</sup> DRAIN TRAP

## MODEL SS1VG

FREE FLOAT DRAIN TRAP WITH TIGHT SHUT-OFF FOR AIR AND INERT GAS SERVICE

### Features

**Stainless steel trap to be installed in pipe ends. Automatically drains condensate from air and inert 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. Precision ground float ensures superior sealing.
4. Built-in screen with large surface area ensures extended trouble-free operation.
5. Self-modulating free float provides continuous, smooth, low velocity condensate discharge as process loads vary.



### Specifications

Model	SS1VG-R (Rubber Orifice)	SS1VG-M (Metal Orifice)
Connection	Screwed, Socket Welded, Flanged	
Size (mm)	15, 20, 25	
Orifice No.	10	G5, G10, G16, G21
Maximum Operating Pressure (MPaG) PMO**	1.0	0.5, 1.0, 1.6, 2.1
Maximum Differential Pressure (MPa) ΔPMX**	1.0	0.5, 1.0, 1.6, 2.1
Minimum Operating Pressure (MPaG)	0.01	0.01
Maximum Operating Temperature (°C) TMO	150	220
Minimum Condensate Load for Tight Sealing (kg/h)	0	0.5
Applicable Fluids	Air, Inert Gases*	

\* Do not use for toxic, flammable or otherwise hazardous fluids.

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 2.1  
Maximum Allowable Temperature (°C) TMA: 220

\*\* For specific gravities other than 1.00 use table below

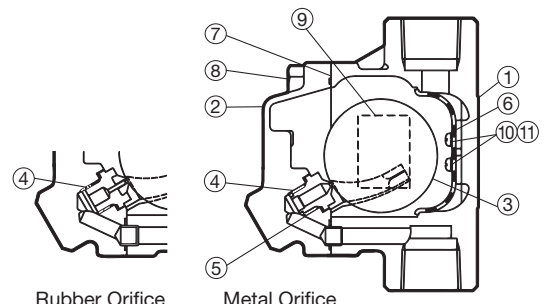
Model	Orifice No.	Specific Gravity										
		1.00	0.99-0.95	0.94-0.90	0.89-0.85	0.84-0.80	0.79-0.75	0.74-0.70	0.69-0.65	0.64-0.60	0.59-0.55	0.54-0.50
		Maximum Operating Pressure PMO (MPaG) & Maximum Differential Pressure ΔPMX (MPa)										
SS1VG-R	10	1.00	0.99	0.89	0.79	0.69	0.59	0.49	0.39	0.28	0.18	0.08
SS1VG-M	G5	0.50	0.49	0.44	0.39	0.34	0.29	0.24	0.19	0.14	0.09	0.04
	G10	1.00	0.99	0.89	0.79	0.69	0.59	0.49	0.39	0.28	0.18	0.08
	G16	1.60	1.50	1.35	1.20	1.04	0.89	0.74	0.59	0.43	0.28	0.13
	G21	2.10	2.06	1.85	1.64	1.43	1.22	1.01	0.80	0.59	0.38	0.17



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.

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

No.	Description	Material	JIS	ASTM/AISI*	
①	Body	Cast Stainless Steel	—	A351 Gr. CF8	
②	Cover	Cast Stainless Steel	—	A351 Gr. CF8	
③	Float	Stainless Steel	SUS316L	AISI316L	
④	Orifice	SS1VG-R	Fluorine Rubber/Stainl. Steel	FPM/SUS303	D2000HK/AISI303
		SS1VG-M	—	—	—
⑤	Orifice Gasket	Fluorine Resin	PTFE	PTFE	
⑥	Screen	Stainless Steel	SUS304	AISI304	
⑦	Cover Gasket	Fluorine Resin	PTFE	PTFE	
⑧	Cover Bolt	Stainless Steel	SUS304	AISI304	
⑨	Nameplate	Stainless Steel	SUS304	AISI304	
⑩	Screw	Stainless Steel	SUS304	AISI304	
⑪	Spring Washer	Stainless Steel	SUS304	AISI304	
⑫	Flange**	Cast Stainless Steel	—	A351 Gr. CF8	



Rubber Orifice

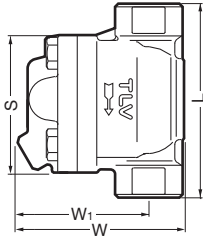
Metal Orifice

Copyright © TLV

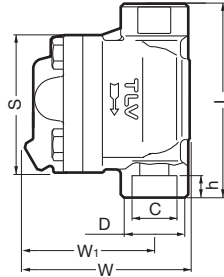
\* Equivalent \*\* Shown on reverse

**Dimensions**

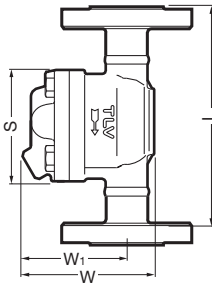
● **SS1VG Screwed**



● **SS1VG Socket Welded**



● **SS1VG Flanged**



**SS1VG Screwed\*** (mm)

Size	L	W	W <sub>1</sub>	S	Weight (kg)
15	110	103	82	85	1.6
20	120				1.7
25	130				1.8

\* Rc(PT), other standards available

**SS1VG Socket Welded** (mm)

Size	L	W	W <sub>1</sub>	S	φD	φC	h	Weight (kg)
15	110	103	82	85	30	22.2	13	1.6
20	120				36	27.7		1.7
25	130				44	34.5		1.8

**SS1VG Flanged\*** (mm)

Size	L		W	W <sub>1</sub>	S	Weight* (kg)
	ASME Class					
	150RF	300RF				
15	175	175	103	82	85	2.9
20	195	195				3.9
25	215	215				4.6

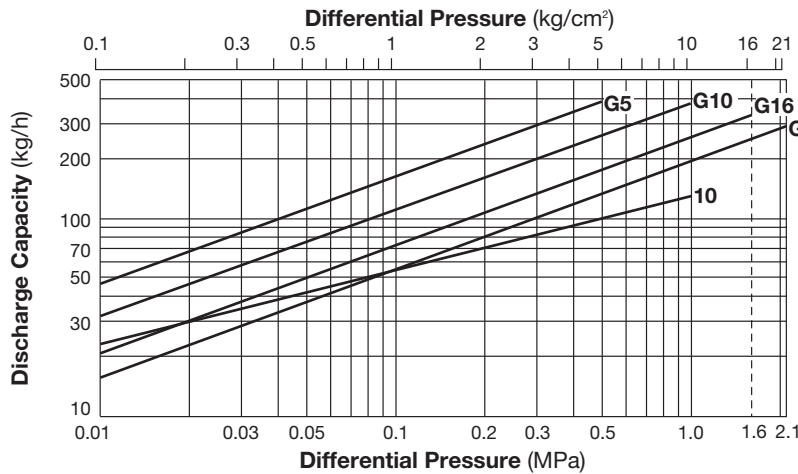
Other standards available, but length and weight may vary

\* Weight is for Class 300 RF

NOTE:

Install the shortest possible vertical condensate pipe to the trap to ensure unobstructed condensate flow.

**Discharge Capacity**



1. Line numbers within the graph refer to orifice numbers. Orifice numbers beginning with "G" are for SS1VG-M (metal orifice); other numbers are for SS1VG-R (rubber orifice).
2. Differential pressure is the difference between the inlet and outlet pressure of the trap.
3. The chart is applicable to condensate below 100 °C.
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	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 =  $\frac{1}{\sqrt{S.G.}}$

Manufacturer

**TLV** CO., LTD.

Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001  
ISO 14001

