



# FREE FLOAT® DRAIN TRAP

## MODEL SS1VG-M2 STAINLESS STEEL

**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 a longer service 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.



### Pressure Equipment Directive (PED)

Classification according to PED 2014/68/EU, fluid group 2

Size	Category	CE marking
½", ¾", 1"	—*	Art. 4, Sec. 3 (sound engineering practice), CE marking not allowed

\* Manufactured in accordance with sound engineering practice

### Specifications

Model	SS1VG-R-M2 (Rubber Orifice)	SS1VG-M-M2 (Metal Orifice)
Connection	Screwed	
Size	½", ¾", 1"	
Orifice No.	10	G5, G10, G16, G21
Maximum Operating Pressure (barg) PMO*	10	5, 10, 16, 21
Maximum Differential Pressure (bar) ΔPMX*	10	5, 10, 16, 21
Maximum Operating Temperature (°C) TMO	150	220
Minimum Condensate Load for Tight Sealing (kg/h)	0	0.5
Applicable Fluid	Air, Inert Gases**	

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

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

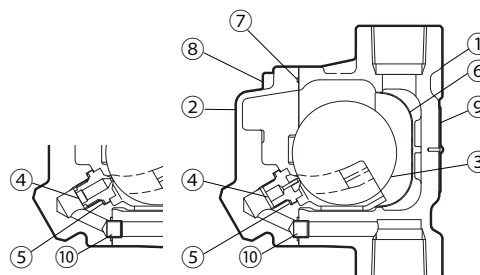
PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA: 21  
 Maximum Allowable Temperature (°C) TMA: 220  
 Minimum Allowable Temperature (°C): -40

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 (barg) & Maximum Differential Pressure ΔPMX (bar)													
SS1VG-R-M2	10	10.0	9.9	8.9	7.9	6.9	5.9	4.9	3.9	2.8	1.8	0.8	
SS1VG-M-M2	G5	5.0	4.9	4.4	3.9	3.4	2.9	2.4	1.9	1.4	0.9	0.4	
	G10	10.0	9.9	8.9	7.9	6.9	5.9	4.9	3.9	2.8	1.8	0.8	
	G16	16.0	15.0	13.5	12.0	10.4	8.9	7.4	5.9	4.3	2.8	1.3	
	G21	21.0	20.6	18.5	16.4	14.3	12.2	10.1	8.0	5.9	3.8	1.7	



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	DIN	ASTM/AISI*
①	Body	Cast Stainless Steel A351/A351M Gr.CF8	1.4312	—
②	Cover	Cast Stainless Steel A351/A351M Gr.CF8	1.4312	—
③	Float	Stainless Steel SUS316L	1.4404	AISI316L
④	Orifice	Rubber	—/	D2000HK/ AISI303
		Metal	Stainless Steel SUS316L + Stellite	1.4404
⑤	Orifice Gasket	Fluorine Resin PTFE	—	—
⑥	Screen	Stainless Steel SUS304	1.4301	AISI304
⑦	Cover Gasket	Fluorine Resin PTFE	—	—
⑧	Cover Bolt	Stainless Steel	—	—
⑨	Nameplate	Stainless Steel SUS304	1.4301	AISI304
⑩	Connector	Stainless Steel SUS304	1.4301	AISI304



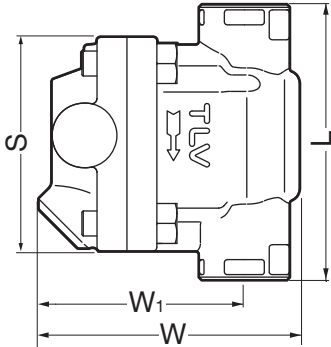
SS1VG-M-M2  
(Metal Orifice)

SS1VG-R-M2  
(Rubber Orifice)

\* Equivalent materials

**Dimensions**

● **SS1VG-M2** Screwed



**SS1VG-M2** Screwed\* (mm)

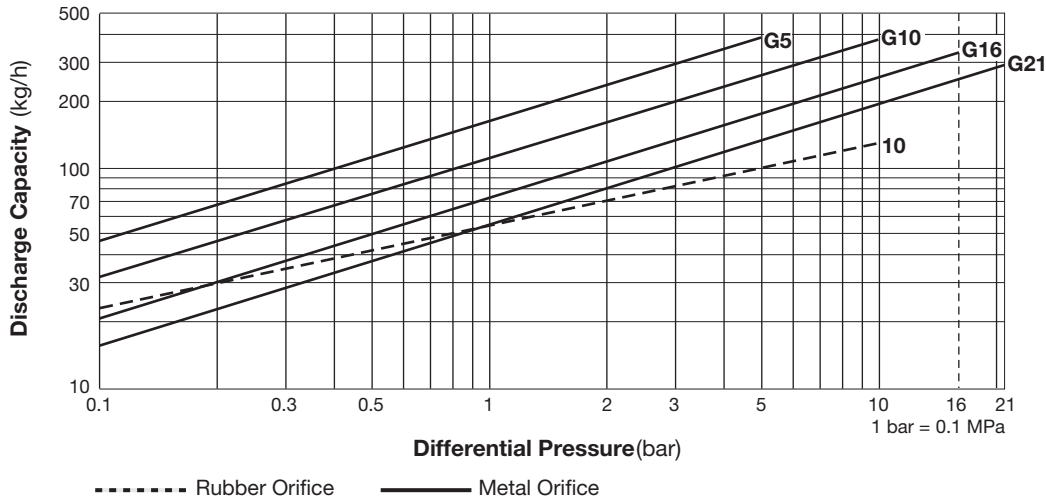
Size	L	W**	W <sub>1</sub> **	S	Weight (kg)
1/2"	110	110	85	85	1.5
3/4"	120				
1"	130				1.7

\* BSP DIN 2999, other standards available

\*\* Approx.

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.
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 liquids with a specific gravity of 1. See the Discharge Capacity Conversion Factors table for other specific gravities.
5. 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!

● **Discharge 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 discharge capacity chart, multiply the required capacity (including safety factor) by the appropriate conversion factor for the specific gravity of the liquid to be discharged.

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

