



# FREE FLOAT<sup>®</sup> STEAM TRAP

## MODEL SS1-M2

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

#### Features

**Inline repairable stainless steel steam trap for steam mains, tracer lines and small process applications.**

1. Self-modulating free float provides continuous, smooth, low velocity condensate discharge as process loads vary.
2. Constant water seal and unique three-point seating ensure steam-tight seal, even under no-load conditions.
3. Trap incorporates thermostatic air vent for fast startup.
4. Built-in screen with large surface area holds back impurities.
5. Only one moving part, the free float, reduces concentrated wear and provides a long service life.
6. Easy, inline access to internal parts simplifies cleaning and reduces maintenance costs.



#### Specifications

| Model                                    | SS1NL-M2                        | SS1VL-M2 | SS1NH-M2   | SS1VH-M2 |
|--|---------------------------------|----------|------------|----------|
| Installation                             | Horizontal                      | Vertical | Horizontal | Vertical |
| Connection                               | Screwed, Socket Welded, Flanged |          |            |          |
| Size (mm)                                | 15, 20, 25                      |          |            |          |
| Orifice No.                              | 5, 10, 21                       |          |            |          |
| Maximum Operating Pressure (MPaG) PMO    | 0.5, 1.0, 2.1                   |          |            |          |
| Maximum Differential Pressure (MPa) ΔPMX | 0.5, 1.0, 2.1                   |          |            |          |
| Minimum Operating Pressure (MPaG)        | 0.01                            |          |            |          |
| Maximum Operating Temperature (°C) TMO   | 220                             |          |            | 400      |

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS):

Maximum Allowable Pressure (MPaG) PMA: 2.1 (SS1N(V)L-M2), 2.5 (SS1N(V)H-M2)

Maximum Allowable Temperature (°C) TMA: 220 (SS1N(V)L-M2), 400 (SS1N(V)H-M2)

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

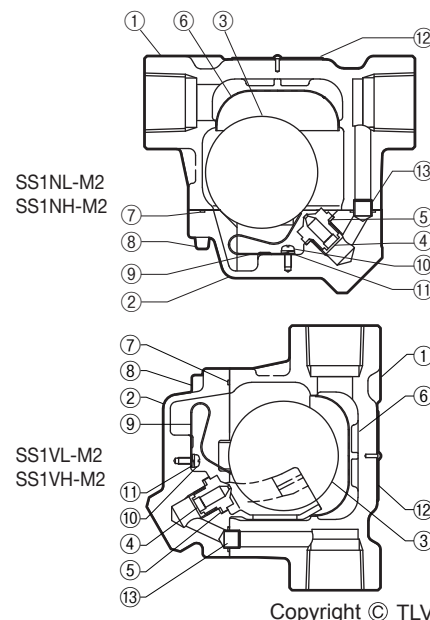


To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

| No.             | Description    | Material             | JIS                      | ASTM/AISI*             |
|-----------------|----------------|----------------------|--------------------------|------------------------|
| ①               | Body           | Cast Stainless Steel | —                        | A351/A351M Gr.CF8      |
| ②               | Cover          | Cast Stainless Steel | —                        | A351/A351M Gr.CF8      |
| ③ <sup>F</sup>  | Float          | Stainless Steel      | SUS316L                  | AISI316L               |
| ④ <sup>R</sup>  | Orifice        | —                    | —                        | —                      |
| ⑤ <sup>MR</sup> | Orifice Gasket | Stainless Steel      | SUS316L                  | AISI316L               |
| ⑥ <sup>R</sup>  | Screen         | Stainless Steel      | SUS304                   | AISI304                |
| ⑦ <sup>MR</sup> | Cover Gasket   | SS1N(V)L-M2          | Fluorine Resin           | PTFE                   |
|                 |                | SS1N(V)H-M2          | Graphite/Stainless Steel | — /SUS316L — /AISI316L |
| ⑧               | Cover Bolt     | Stainless Steel      | —                        | —                      |
| ⑨ <sup>R</sup>  | Air Vent Strip | Bimetal              | —                        | —                      |
| ⑩ <sup>R</sup>  | Screw          | Stainless Steel      | SUS304                   | AISI304                |
| ⑪ <sup>R</sup>  | Spring Washer  | Stainless Steel      | SUS304                   | AISI304                |
| ⑫               | Nameplate      | Stainless Steel      | SUS304                   | AISI304                |
| ⑬               | Connector      | Stainless Steel      | SUS304                   | AISI304                |
| ⑭               | Flange**       | Cast Stainless Steel | —                        | A351/A351M Gr.CF8      |

\* Equivalent \*\* Shown on reverse

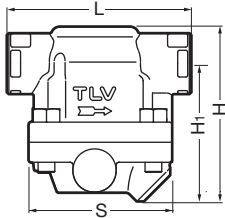
Replacement Kits available: (M) maintenance parts, (R) repair parts, (F) float



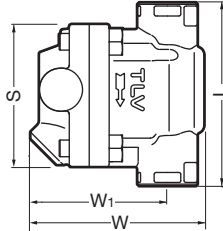
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Dimensions

● SS1NL-M2/SS1NH-M2  
Screwed



● SS1VL-M2/SS1VH-M2

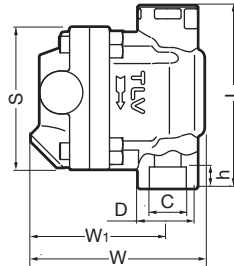
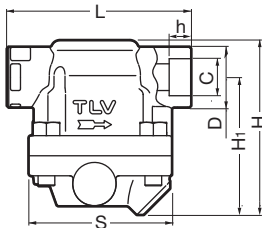


SS1N(V)L-M2/SS1N(V)H-M2 Screwed\* (mm)

| Size | L   | H/W** | H <sub>1</sub> /W <sub>1</sub> ** | S  | Weight (kg) |
|------|-----|-------|-----------------------------------|----|-------------|
| 15   | 110 | 110   | 85                                | 85 | 1.5         |
| 20   | 120 |       |                                   |    |             |
| 25   | 130 |       |                                   |    | 1.7         |

\* Rc(PT), other standards available  
\*\* Approx.

Socket Welded

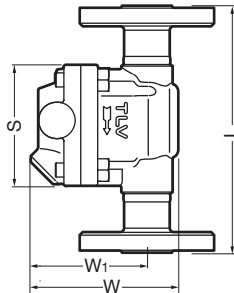
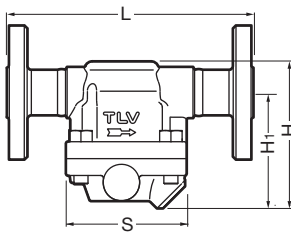


SS1N(V)L-M2/SS1N(V)H-M2 Socket Welded (mm)

| Size | L   | H/W* | H <sub>1</sub> /W <sub>1</sub> * | S  | φD | φC   | h  | Weight (kg) |
|------|-----|------|----------------------------------|----|----|------|----|-------------|
| 15   | 110 | 110  | 85                               | 85 | 34 | 22.2 | 13 | 1.5         |
| 20   | 120 |      |                                  |    | 39 | 27.7 |    |             |
| 25   | 130 |      |                                  |    | 48 | 34.5 |    | 1.7         |

\* Approx.

Flanged

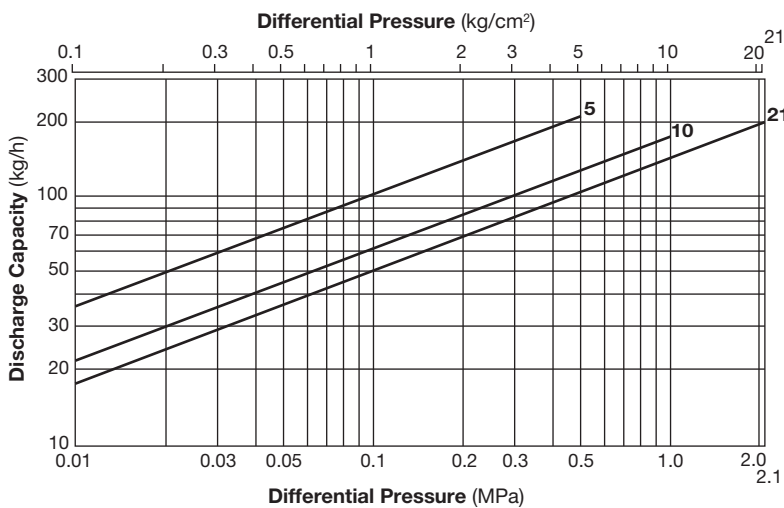


SS1N(V)L-M2/SS1N(V)H-M2 Flanged (mm)

| Size | L                |       | H/W* | H <sub>1</sub> /W <sub>1</sub> * | S  | Weight** (kg) |
|------|------------------|-------|------|----------------------------------|----|---------------|
|      | ASME Class 150RF | 300RF |      |                                  |    |               |
| 15   | 175              | 175   | 110  | 85                               | 85 | 2.9           |
| 20   | 195              | 195   |      |                                  |    | 3.9           |
| 25   | 215              | 215   |      |                                  |    | 4.6           |

Other standards available, but length and weight may vary  
\* Approx.  
\*\* Weight is for Class 300 RF

Discharge Capacity



- Line numbers within the graph refer to orifice numbers.
- Differential pressure is the difference between the inlet and outlet pressure of the trap.
- Capacities are based on continuous discharge of condensate 6°C below saturated steam temperature.
- 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

