



# FREE FLOAT® STEAM TRAP

## MODEL FS3 QuickTrap®

### UNIVERSAL FREE FLOAT STEAM TRAP WITH THERMOSTATIC AIR VENTING

#### Features

**Inline replaceable 2-bolt universal flange steam trap for steam mains, tracers and light process.**

1. Two-bolt flange connector permits trap replacement in minutes without disturbing piping.
2. Universal flange allows trap to be positioned in the correct attitude, regardless of pipeline configuration.
3. Precision-ground float, constant water seal and three-point seating design ensure a steam tight seal, even under no-load conditions.
4. Thermostatic air venting with bimetal strip allows for fast start-up.
5. One screen located in connector and one in trap ensure trouble-free operation.



#### Specifications

| Model                                    | FS3     |               |         |
|--|---------|---------------|---------|
|  | Screwed | Socket Welded | Flanged |
| Connection                               |         |               |         |
| Size (mm)                                |         | 15, 20, 25    |         |
| Orifice No.                              |         | 10, 21        |         |
| Maximum Operating Pressure (MPaG) PMO    |         | 1.0, 2.1      |         |
| Maximum Differential Pressure (MPa) ΔPMX |         | 1.0, 2.1      |         |
| Minimum Operating Pressure (MPaG)        |         | 0.01          |         |
| Maximum Operating Temperature (°C) TMO   |         | 400           |         |
| Connector Unit                           |         | F46           |         |
| Trap Unit                                |         | S3*           |         |

\* Designed for use with F46, F32 Connector Units and V1/V2/V1P/V2P Trap Stations.

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

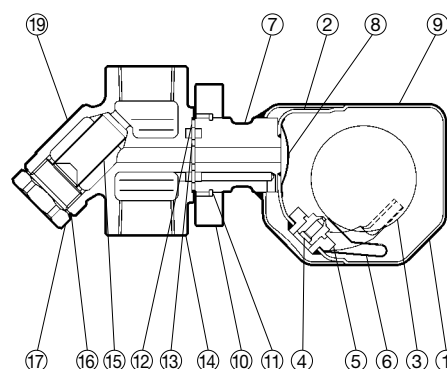
Trap and Connector Units sent as separate units for flexible installation.

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 2.4  
Maximum Allowable Temperature (°C) TMA: 400



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 <sup>T</sup>  | Trap Body              | Stainless Steel          | —                    | A240 Type 316L |             |
| ② <sup>T</sup>  | Inner Cover            | Stainless Steel          | —                    | A240 Type 316L |             |
| ③ <sup>T</sup>  | Float                  | Stainless Steel          | SUS316L              | AISI316L       |             |
| ④ <sup>T</sup>  | Orifice                | —                        | —                    | —              |             |
| ⑤ <sup>T</sup>  | Float Guide            | Stainless Steel          | —                    | A351 Gr.CF3M   |             |
| ⑥ <sup>T</sup>  | Air Vent Strip         | Bimetal                  | —                    | —              |             |
| ⑦ <sup>T</sup>  | Connector Joint        | Stainless Steel          | SUS304               | AISI304        |             |
| ⑧ <sup>T</sup>  | Trap Screen            | Stainless Steel          | SUS304               | AISI304        |             |
| ⑨ <sup>T</sup>  | Nameplate              | Stainless Steel          | SUS304               | AISI304        |             |
| ⑩ <sup>T</sup>  | Connector Flange       | Carbon Steel             | —                    | A105           |             |
| ⑪ <sup>T</sup>  | Snap Ring              | Carbon Steel             | SWRH57               | AISI1055       |             |
| ⑫ <sup>MT</sup> | Outer Connector Gasket | Graphite/Stainless Steel | -/SUS304             | -/AISI304      |             |
| ⑬ <sup>MT</sup> | Inner Connector Gasket | Graphite/Stainless Steel | -/SUS304             | -/AISI304      |             |
| ⑭               | Connector Body         | Cast Stainless Steel     | —                    | A351 Gr.CF8    |             |
| ⑮               | Screen inside/outside  | Stainless Steel          | SUS304/430           | AISI304/430    |             |
| ⑯ <sup>M</sup>  | Screen Holder Gasket   | Stainless Steel          | SUS316L              | AISI316L       |             |
| ⑰               | Screen Holder          | Cast Stainless Steel     | —                    | A351 Gr.CF8    |             |
| ⑱ <sup>T</sup>  | Connector Bolt**       | Alloy Steel              | SNB7                 | A193 Gr.B7     |             |
| ⑲               | Connector Nameplate    | Stainless Steel          | SUS304               | AISI304        |             |
| ⑳               | Flange**               | 15, 20 mm                | Cast Stainless Steel | —              | A351 Gr.CF8 |
|                 |                        | 25 mm                    | Stainless Steel      | SUS304         | AISI304     |



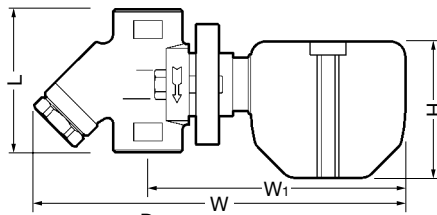
\* Equivalent \*\* Shown on reverse

Replacement kits available: (M) maintenance parts, (T) trap unit S3

Replacement parts for former connector body F32 differ from those for F46.

Dimensions

● FS3  
Screwed

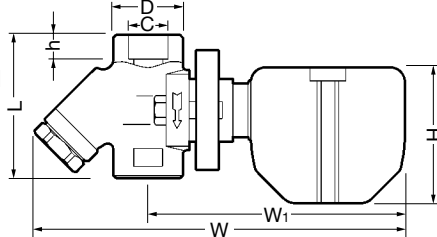


FS3 Screwed\* (mm)

| Size | L  | φH | W   | W <sub>1</sub> | Weight (kg) |
|------|----|----|-----|----------------|-------------|
| 15   | 80 | 77 | 204 | 140            | 1.7         |
| 20   |    |    |     |                |             |
| 25   | 96 |    | 206 | 144            | 2.0         |

\* (Rc)PT, other standards available

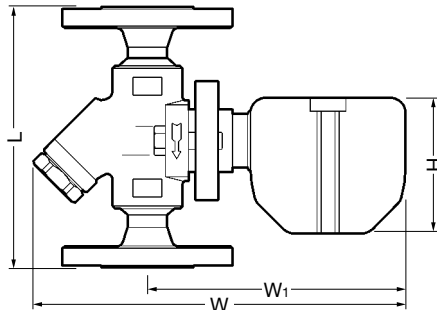
● FS3  
Socket Welded



FS3 Socket Welded (mm)

| Size | L  | φH | W   | W <sub>1</sub> | φC   | φD | h  | Weight (kg) |
|------|----|----|-----|----------------|------|----|----|-------------|
| 15   | 80 | 77 | 204 | 140            | 22.2 | 36 | 12 | 1.7         |
| 20   |    |    |     |                | 27.7 |    | 14 |             |
| 25   | 96 |    | 206 | 144            | 34.5 | 44 |    | 2.0         |

● FS3  
Flanged

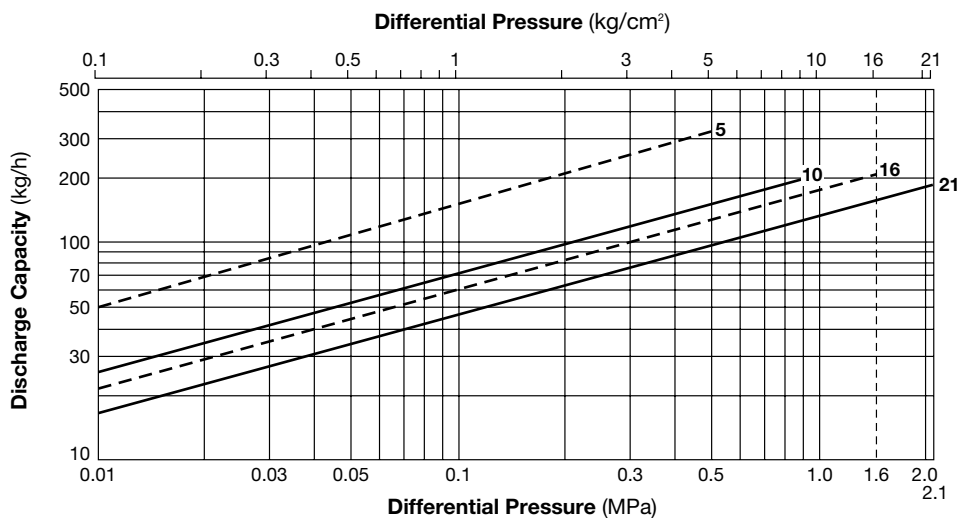


FS3 Flanged (mm)

| Size | L          |       | φH | W   | W <sub>1</sub> | Weight * (kg) |
|------|------------|-------|----|-----|----------------|---------------|
|      | ASME Class |       |    |     |                |               |
|      | 150RF      | 300RF |    |     |                |               |
| 15   | 150        | 150   | 77 | 204 | 140            | 3.2           |
| 20   |            |       |    |     |                | 4.6           |
| 25   | 160        | 160   |    |     |                |               |

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

Discharge Capacity



— Standard  
- - - Available on request



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

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. Capacities are based on continuous discharge of condensate 6°C below saturated steam temperature.
4. Recommended safety factor: at least 1.5.

Manufacturer

ISO 9001/ISO 14001

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

