



# FREE FLOAT® STEAM TRAP

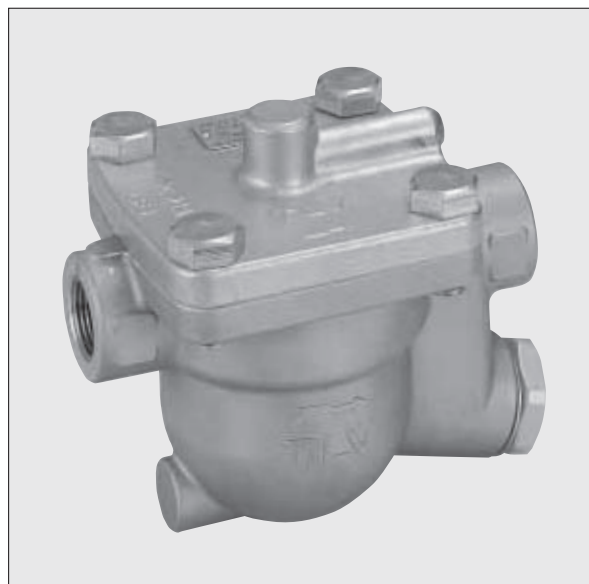
## MODEL J5S-X

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

#### Features

A reliable and durable stainless steel steam trap with tight shut-off for use on small to medium-size process equipment.

1. Self-modulating free float provides continuous, smooth, low velocity condensate discharge as process loads vary.
2. Precision-ground float, constant water seal and three-point seating design ensure a steam tight seal, even under no-load conditions.
3. Only one moving part, the free float, prevents concentrated wear and provides long maintenance-free service life.
4. Thermostatic capsule (X-element) with “fail open” feature vents air automatically until close-to-steam temperature.
5. Built-in screen with large surface area ensures extended trouble-free service.
6. Easy, inline access to internal parts simplifies cleaning and reduces maintenance costs.



#### Specifications

| Model                               |      | J5S-X                      |          |
|-------------------------------------|------|----------------------------|----------|
| Connection                          |      | Screwed                    | Flanged* |
| Size (mm)                           |      | 20, 25, 32, 40             | 20, 25   |
| Orifice No.                         |      | 2, 5, 10, 14, 21           |          |
| Maximum Operating Pressure (MPaG)   | PMO  | 0.2, 0.5, 1.0, 1.4, 2.1    |          |
| Maximum Differential Pressure (MPa) | ΔPMX | 0.2, 0.5, 1.0, 1.4, 2.1    |          |
| Minimum Operating Pressure (MPaG)   |      | 0.01                       |          |
| Maximum Operating Temperature (°C)  | TMO  | 220                        |          |
| Subcooling of X-element Fill (°C)   |      | up to 6 (option: up to 11) |          |
| Type of X-element                   |      | C6(option: C11**)          |          |

\* Sizes 32 mm, 40 mm and 50 mm available on request.

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

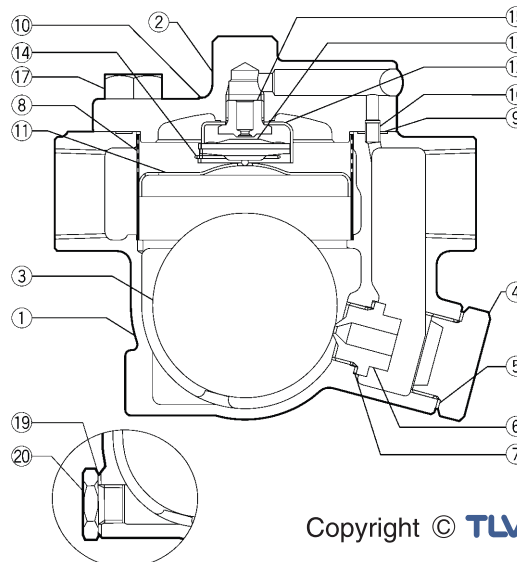
\*\* Trap discharge capacity will decrease slightly. Contact TLV for information.

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



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 Gr.CF8 |
| ②               | Cover                 | Cast Stainless Steel | —          | A351 Gr.CF8 |
| ③ <sup>F</sup>  | Float                 | Stainless Steel      | SUS316L    | AISI316L    |
| ④               | Orifice Plug          | Cast Stainless Steel | —          | A351 Gr.CF8 |
| ⑤ <sup>MR</sup> | Orifice Plug Gasket   | Stainless Steel      | SUS316L    | AISI316L    |
| ⑥ <sup>R</sup>  | Orifice               | —                    | —          | —           |
| ⑦ <sup>MR</sup> | Orifice Gasket        | Stainless Steel      | SUS316L    | AISI316L    |
| ⑧ <sup>R</sup>  | Screen inside/outside | Stainless Steel      | SUS430/304 | AISI430/304 |
| ⑨ <sup>MR</sup> | Cover Gasket          | Fluorine Resin       | PTFE       | PTFE        |
| ⑩               | Nameplate             | Stainless Steel      | SUS304     | AISI304     |
| ⑪ <sup>R</sup>  | Float Cover           | Stainless Steel      | SUS304     | AISI304     |
| ⑫ <sup>R</sup>  | X-element Guide       | Stainless Steel      | SUS304     | AISI304     |
| ⑬ <sup>R</sup>  | X-element             | Stainless Steel      | —          | —           |
| ⑭ <sup>R</sup>  | Spring Clip           | Stainless Steel      | SUS304     | AISI304     |
| ⑮ <sup>R</sup>  | Air Vent Valve Seat   | Stainless Steel      | SUS420F    | AISI420F    |
| ⑯               | Connector             | Stainless Steel      | SUS416     | AISI416     |
| ⑰               | Cover Bolt            | Stainless Steel      | SUS304     | AISI304     |
| ⑱               | Flange**              | Cast Stainless Steel | —          | A351 Gr.CF8 |
| ⑲               | Drain Plug Gasket***  | Stainless Steel      | SUS316L    | AISI316L    |
| ⑳               | Drain Plug***         | Stainless Steel      | SUS303     | AISI303     |



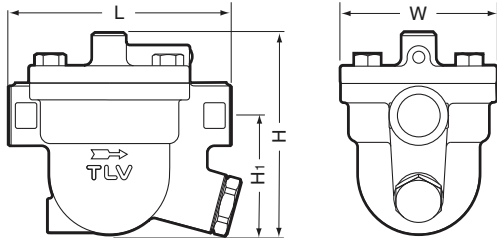
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\* Equivalent \*\* Shown on reverse \*\*\* Option

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

**Dimensions**

● **J5S-X** Screwed

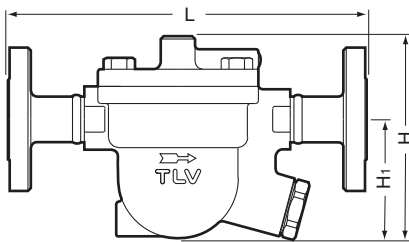


**J5S-X** Screwed\* (mm)

| Size | L   | H   | H <sub>1</sub> | W   | Weight (kg) |
|------|-----|-----|----------------|-----|-------------|
| 20   | 155 | 141 | 83             | 108 | 4.4         |
| 25   |     |     |                |     | 4.3         |
| 32   | 160 | 174 | 105            |     | 5.8         |
| 40   |     |     |                |     |             |

\* Rc(PT), other standards available

● **J5S-X** Flanged



**J5S-X** Flanged (mm)

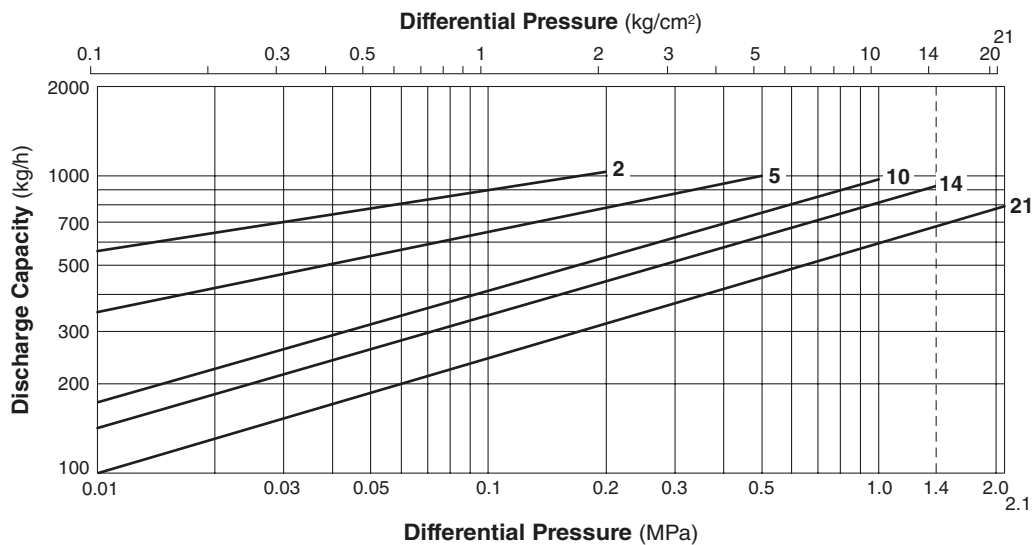
| Size* | L          |       | H   | H <sub>1</sub> | Weight** (kg) |
|-------|------------|-------|-----|----------------|---------------|
|       | ASME Class |       |     |                |               |
|       | 150RF      | 300RF |     |                |               |
| 20    | 250        | 250   | 141 | 83             | 6.6           |
| 25    | 270        | 270   |     |                | 7.2           |

Other standards available, but length and weight may vary

\* Sizes 32 mm, 40 mm and 50 mm available on request

\*\* Weight is for Class 300 RF

**Discharge Capacity**



1. Line numbers within the graph are 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.

**CAUTION** 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

