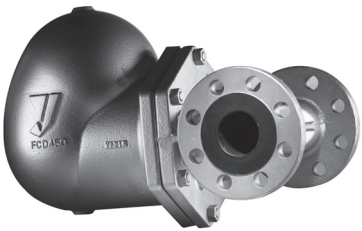
# TSF-13

Bucket | **Float** | Disc | Bellows
Bimetal | Wafer | By-pass | Stainless steel
Connector | **Side to side**





## ■Features

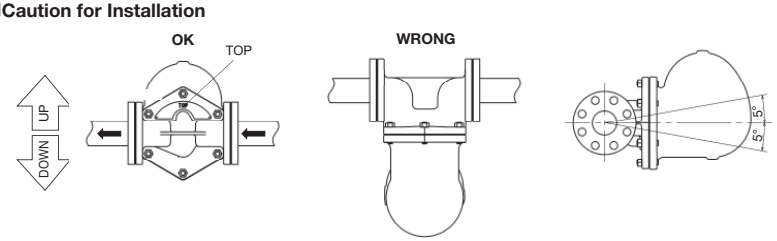
1. Reliable performance and large discharge capacity ensured by double-port structure.
2. All main parts such as valves, seats, air vents and floats are made of stainless steel that offer excellent corrosion resistance and durability.
3. By adopting the air vent, to exhaust the air in the steam piping system quickly, significantly shorten the equipment start-up time.
4. Stable operation realized by adopting large float.

## ■Specifications

| Model | | TSF-13 | TSF-13F | |
|---|---|---|---|---|
| Nominal size | | 40A, 50A | | |
| Application | | Steam Condensate | | |
| (Max. differential pressure ) ΔPMX | | TSF-13-5: 0.01-0.5 MPa<br>TSF-13-10: 0.01-1.0 MPa<br>TSF-13-14: 0.01-1.4 MPa | TSF-13F-5: 0.01-0.5 MPa<br>TSF-13F-10: 0.01-1.0 MPa | TSF-13F-5: 0.01-0.5 MPa<br>TSF-13F-10: 0.01-1.0 MPa<br>TSF-13F-14: 0.01-1.4 MPa |
| Maximum working pressure | | 1.6 MPa | 1.0 MPa | 1.6 MPa |
| Minimum differential pressure | | 0.01 MPa | | |
| Maximum temperature | | 220°C | | |
| Material | Body | Ductile cast iron | | |
| | Float | Stainless steel | | |
| | Valve, Valve seat | Stainless steel | | |
| Connection | | JIS Rc screwed<br>NPT screwed | JIS 10KRF<br>ASME class 150 | JIS20KRF<br>EN 1092 PN16 or PN25<br>ASME class 300 |

*1. Install a strainer (recommended: 80 mesh) at the inlet side to protect TSF-13 from scale or other substances. Due to the double-port structure, foreign substances stuck on the valve and valve seat may cause significant steam leakage.
*2. Check installation posture. Do not tilt the product during use.
Wrong posture hampers proper operation (The figure below is an image of the product piping situation when viewed from the side).
*3. Keep the product tilt within 5°. Support the product as needed.

## ■Caution for Installation



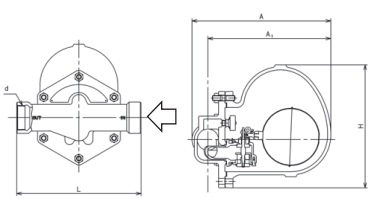
## ■Dimensions (mm) and Weights (kg)

### TSF-13

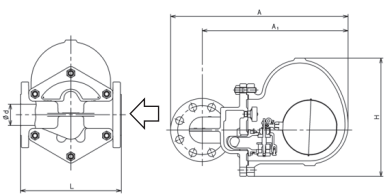
| Nominal size | Connection | d | L | A | $A_1$ | H | Weight |
|---|---|---|---|---|---|---|---|
| 40A | JIS Rc | Rc 1-1/2 | 270 | 313 | 281 | 290 | 19 |
| 50A | NPT | Rc 2 | 300 | 328 | 291 | 290 | 20 |

### TSF-13F

| Nominal size | Connection | d | L | A | $A_1$ | H | Weight |
|---|---|---|---|---|---|---|---|
| 40A | JIS 10KRF/20KRF | 40 | 228 | 423 | 353 | 290 | 24 |
| | EN 1092 PN16 or PN25 | 40 | 230 | 428 | 353 | 290 | 24.5 |
| | ASME Calss 150 | 40 | 221 | 416 | 353 | 290 | 23 |
| | ASME Calss 300 | 40 | 221 | 431 | 353 | 290 | 25.7 |
| 50A | JIS 10KRF/20KRF | 50 | 239 | 436 | 358 | 290 | 25 |
| | EN 1092 PN16 or PN25 | 50 | 230 | 441 | 358 | 290 | 25.3 |
| | ASME Calss 150 | 50 | 220 | 433 | 358 | 290 | 24.5 |
| | ASME Calss 300 | 50 | 239 | 441 | 358 | 290 | 26.8 |



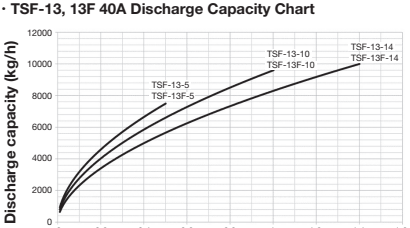

TSF-13



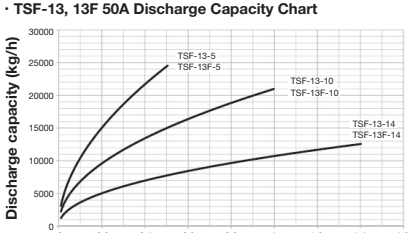

TSF-13F

## ■Maximum Continuous Discharge Capacity Chart

**· TSF-13, 13F 40A Discharge Capacity Chart**




**· TSF-13, 13F 50A Discharge Capacity Chart**




The discharge capacity shown in the charts on the above is the maximum value. In designing the system, select a steam trap with a sufficient safety factor(more than two times the regular level).