



BALANCED PRESSURE THERMOSTATIC STEAM TRAP

MODEL FL21/FL32 QuickTrap®

CARBON STEEL

UNIVERSAL BALANCED PRESSURE THERMOSTATIC TRAP WITH "FAIL OPEN" DESIGN

Features

Inline replaceable and cleanable two-bolt universal flange steam trap with high air venting capability. For steam mains, tracers, dryers and heaters.

1. Two-bolt flange connector permits trap replacement or cleaning in minutes without disturbing piping.
2. Universal flange allows trap to be positioned in the correct attitude, regardless of pipeline configuration.
3. Patented "fail open" feature for critical service.
4. Rugged yet light construction withstands superheat and water hammer.
5. Cyclic operation with fixed subcooling throughout the whole pressure range.
6. Built-in screens in connector and trap body protect and keep trap module replacement costs low.
7. Easily cleanable and repairable design.
8. Hardened stainless steel valve head and seat.
9. Models FL21-C and FL32-C with built-in check valve available upon request.



Pressure Equipment Directive (PED)

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

| Size | Category | CE marking |
|----------------|----------|---|
| DN 15 to DN 25 | —* | Art. 4, Sec. 3 (sound engineering practice), CE marking not allowed |

* Manufactured in accordance with sound engineering practice

Specifications

| Model | FL21 | FL32 |
|------------------------------------|---------------------------------|------|
| Connection | Screwed, Socket Welded, Flanged | |
| Size | 1/2", 3/4", 1" / DN 15, 20, 25 | |
| Max. Operating Pressure (barg) PMO | 21 | 32 |
| Min. Operating Pressure (barg) | 0.1 | |
| Maximum Back Pressure | 90% of inlet pressure | |
| Max. Operating Temp. (°C) TMO | see graph at right | |
| Subcooling of X-element Fill (°C) | up to 6 | |
| Type of X-element | C6 | |
| Connector Unit | F46 | |
| Trap Unit | L21* | L32* |

* Designed for use with the F46, F32 Connector Units and V1/V2 Trap Stations. 1 bar = 0.1 MPa
Trap and Connector Units sent as separate units for flexible installation.

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS):

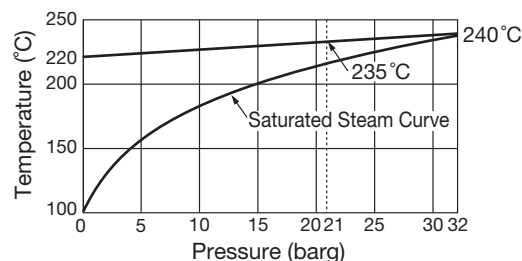
Maximum Allowable Pressure (barg) PMA: 32

Maximum Allowable Temperature (°C) TMA: 300

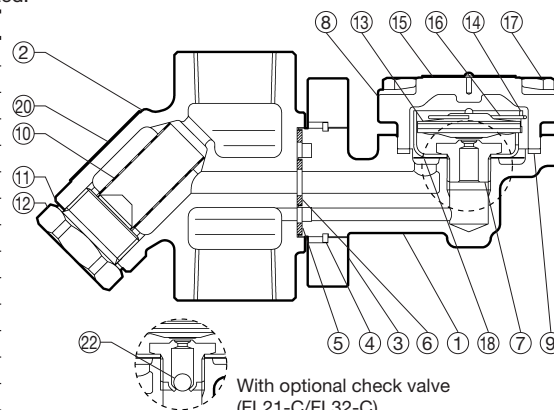


CAUTION

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 ^T | Trap Body | Cast Stainl. Steel A351/A351M Gr.CF8 | 1.4312 | — |
| ② | Connector Body | Cast Stainl. Steel A351/A351M Gr.CF8 | 1.4312 | — |
| ③ ^T | Connecting Flange | Carbon Steel A105/A105M | 1.0460 | — |
| ④ ^T | Snap Ring | Carbon Steel SWRH57 | 1.0535 | AISI1055 |
| ⑤ ^{MRT} | Outer Connector Gasket | Graphite/Stainl. Stl. SUS304 | -/1.4301 | -/AISI304 |
| ⑥ ^{MRT} | Inner Connector Gasket | Graphite/Stainl. Stl. SUS304 | -/1.4301 | -/AISI304 |
| ⑦ ^{RT} | Valve Seat | Stainless Steel SUS420F | 1.4028 | AISI420F |
| ⑧ ^T | Trap Cover | Carbon Steel A105/A105M | 1.0460 | — |
| ⑨ ^{MRT} | Cover Gasket | Graphite/Stainl. Stl. SUS316L | -/1.4404 | -/AISI316L |
| ⑩ ^R | Screen inside/outside | Stainless Steel SUS304/430 | 1.4301/1.4016 | AISI304/430 |
| ⑪ ^{MR} | Screen Holder Gasket | Stainless Steel SUS316L | 1.4404 | AISI316L |
| ⑫ | Screen Holder | Cast Stainl. Steel A351/A351M Gr.CF8 | 1.4312 | — |
| ⑬ ^{RT} | X-element | Stainless Steel | — | — |
| ⑭ ^{RT} | X-element Guide | Stainless Steel SUS304 | 1.4301 | AISI304 |
| ⑮ ^T | Nameplate | Stainless Steel SUS304 | 1.4301 | AISI304 |
| ⑯ ^{RT} | Spring Clip | Stainless Steel SUS304 | 1.4301 | AISI304 |
| ⑰ ^T | Cover Bolt | Alloy Steel A193/A193M Gr.B7 | 1.7225 | — |
| ⑱ ^{RT} | Trap Screen | Stainless Steel SUS304 | 1.4301 | AISI304 |
| ⑲ ^T | Connector Bolt** | Alloy Steel SNB7 | 1.7225 | A193/A193M Gr.B7 |
| ⑳ | Connector Nameplate | Stainless Steel SUS304 | 1.4301 | AISI304 |
| ㉑ | Flange*** | Cast Stainl. Steel A351/A351M Gr.CF8 | 1.4312 | — |
| | | Stainless Steel SUS304 | 1.4301 | AISI304 |
| ㉒ | Steel Ball (Check Valve) | Stainless Steel SUS440C | 1.4125 | AISI440C |



With optional check valve
(FL21-C/FL32-C)

* Equivalent materials ** Shown on reverse

*** Shown on reverse, shape and material depend on flange specifications

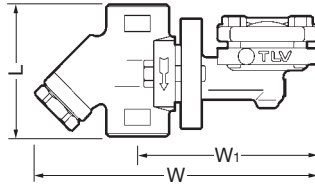
Replacement kits available:

(M) maintenance parts, (R) repair parts, (T) trap unit L21/L32
Replacement parts for former connector body F32 differ from those for F46.

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Dimensions

● FL21/FL32 Screwed

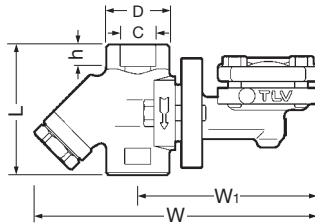


FL21/FL32 Screwed* (mm)

| Size | L | W | W ₁ | Weight (kg) |
|------|----|-----|----------------|-------------|
| 1/2" | 80 | 169 | 105 | 1.8 |
| 3/4" | | | | |
| 1" | 96 | 171 | 109 | 2.1 |

* BSP DIN 2999, other standards available

● FL21/FL32 Socket Welded

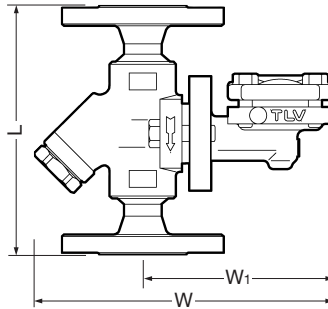


FL21/FL32 Socket Welded* (mm)

| DN | L | W | W ₁ | φD | φC | h | Weight (kg) |
|----|----|-----|----------------|----|------|----|-------------|
| 15 | 80 | 169 | 105 | 36 | 21.8 | 12 | 1.8 |
| 20 | | | | | 27.2 | 14 | |
| 25 | 96 | 171 | 109 | 44 | 33.9 | | 2.1 |

* ASME B16.11-2005, other standards available

● FL21/FL32 Flanged



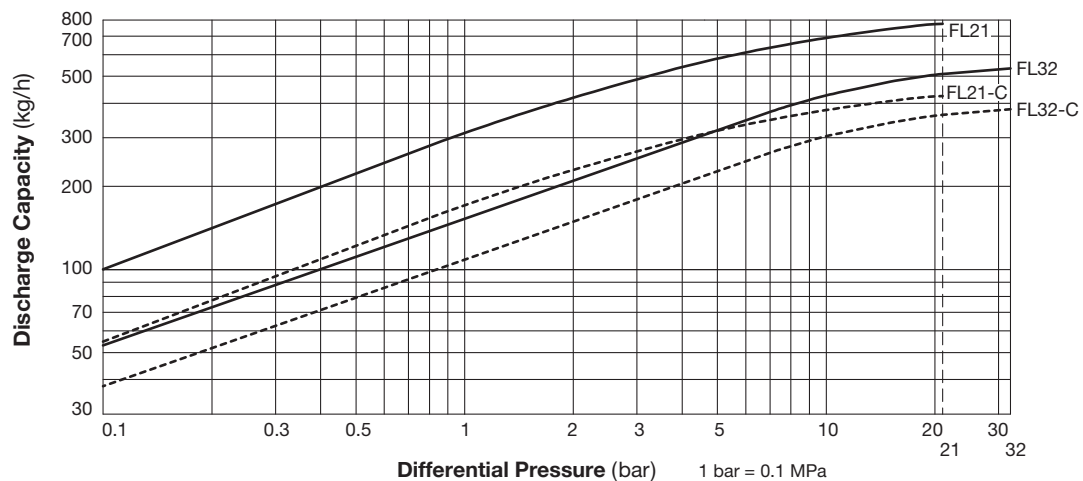
FL21/FL32 Flanged (mm)

| DN | L | | | | W | W ₁ | Weight* (kg) |
|----|----------|------------|-------|-------|-----|----------------|-----------------|
| | DIN 2501 | ASME Class | | | | | |
| | PN25/40 | 150RF | 300RF | 600RF | | | |
| 15 | 150 | 150 | 150 | 180 | 169 | 105 | 3.4 |
| 20 | | | | | | | 4.3 |
| 25 | | | | | | | 160 |

Other standards available, but length and weight may vary

* Weight is for DIN PN 25/40

Discharge Capacity



1. Differential pressure is the difference between the inlet and outlet pressure of the trap.
2. Recommended safety factor: at least 2.

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

ISO 9001
ISO 14001

