



CYCLONE SEPARATOR TRAP FOR STEAM

MODEL DC3S

SEPARATOR FOR STEAM WITH BUILT-IN STEAM TRAP

Benefits

Super cyclone-effect separator and steam trap combination unit provides high-quality dry steam.

1. Patented SCE separator's efficiency can deliver high quality steam of up to 99.8% dryness.
2. Self-modulating free float steam trap discharges condensate immediately.
3. Precision ground spherical float and positive three-point seating provide a complete seal, even under no-load conditions.
4. The large surface area of the built-in screen guarantees trouble-free service.
5. Only one moving part, the free float, reduces valve wear and increases service life.



Specifications

| Model | DC3S | | DC3* |
|--|--------------------|-----------------------|---------|
| | Screwed | Flanged | Flanged |
| Connection | | | |
| Size (in) | 1/2, 3/4, 1 | 1 1/2, 2, 3, 4 | 6 |
| Orifice No. | | 10, 21 | — |
| Maximum Operating Pressure (psig) PMO | | 150, 300 | 300 |
| Maximum Differential Pressure (psi) ΔPMX | | 150, 300 | — |
| Max. Operating Temperature (°F) TMO | | 428 | 428 |
| Max. Allowable Pressure (psig) PMA | | 300 | 300 |
| Max. Allowable Temperature (°F) TMA | | 428 | 428 |

Do not use for toxic, flammable or otherwise hazardous fluids.

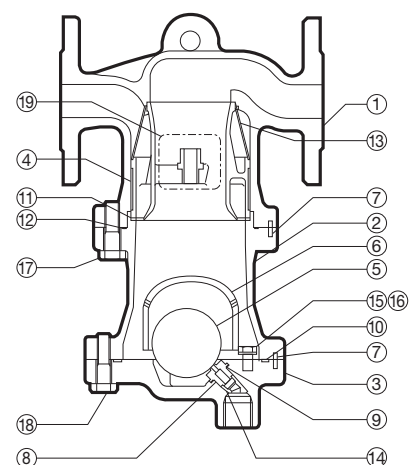
* DC3: without steam trap



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.

Connections and sizes in bold are standard

| No. | Description* | Material | ASTM/AISI** | JIS | |
|-----|-------------------|-------------------|----------------------|-------------|--------|
| ① | Body | Ductile Cast Iron | A536 | FCD450 | |
| ② | Separator Body | Ductile Cast Iron | A536 | FCD450 | |
| ③ | Trap Cover | Ductile Cast Iron | A536 | FCD450 | |
| ④ | Separator | 1/2" - 2" | Cast Stainless Steel | A351 Gr.CF8 | — |
| | | 3", 4" | Cast Stainless Steel | A351 Gr.CF8 | — |
| | | DC3 | Ductile Cast Iron | A536 | FCD450 |
| ⑤ | Float | Stainless Steel | AISI316L | SUS316L | |
| ⑥ | Float Cover | 1/2" - 2" | Cast Iron | A126 Cl.B | FC250 |
| | | 3", 4" | Ductile Cast Iron | A536 | FCD450 |
| ⑦ | Guide Pin | Stainless Steel | AISI304 | SUS304 | |
| ⑧ | Trap Valve Seat | — | — | — | |
| ⑨ | Valve Seat Gasket | Fluorine Resin | PTFE | PTFE | |
| ⑩ | Trap Cover Gasket | Fluorine Resin | PTFE | PTFE | |
| ⑪ | Wave Spring | Stainless Steel | AISI301 | SUS301 | |
| ⑫ | Body Gasket | Fluorine Resin | PTFE | PTFE | |
| ⑬ | Screen | Stainless Steel | AISI304 | SUS304 | |
| ⑭ | Bushing | Stainless Steel | AISI303 | SUS303 | |
| ⑮ | Float Cover Bolt | Carbon Steel | AISI1045 | S45C | |
| ⑯ | Spring Washer | Stainless Steel | AISI304 | SUS304 | |
| ⑰ | Body Bolt | Carbon Steel | AISI1045 | S45C | |
| ⑱ | Trap Cover Bolt | Carbon Steel | AISI1045 | S45C | |
| ⑲ | Nameplate | Stainless Steel | AISI304 | SUS304 | |
| ⑳ | Baffle*** | Stainless Steel | AISI304 | SUS304 | |
| ㉑ | Baffle Bolt*** | Stainless Steel | AISI304 | SUS304 | |
| ㉒ | Baffle Nut*** | Stainless Steel | AISI304 | SUS304 | |



1/2" - 2" DC3S shown. 3", 4" DC3S and 6" DC3 configuration differs slightly.

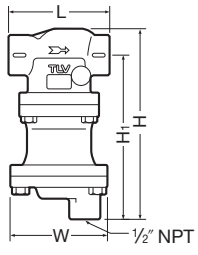
* Parts shown are for DC3S, some parts may not apply for DC3

** Equivalent *** 3", 4", DC3; above float cover, not shown

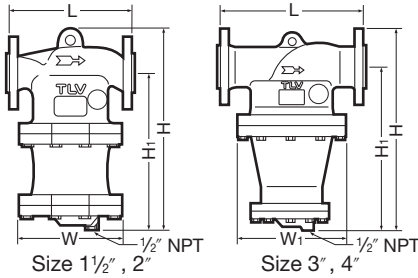
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Dimensions

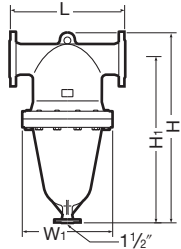
● DC3S Screwed



● DC3S Flanged



● DC3 Flanged



DC3, 6" requires the installation of an external steam trap. Condensate discharge capacity depends on the trap used.

DC3S Screwed*

| Size | L | H | H ₁ | W | Weight (lb) |
|------|-------|----------|----------------|-------|-------------|
| 1/2 | 5 7/8 | 9 9/16 | 8 1/4 | 4 1/8 | 13 |
| 3/4 | | 10 15/16 | 9 1/2 | 5 7/8 | 21 |

* NPT, other standards available

DC3S Flanged

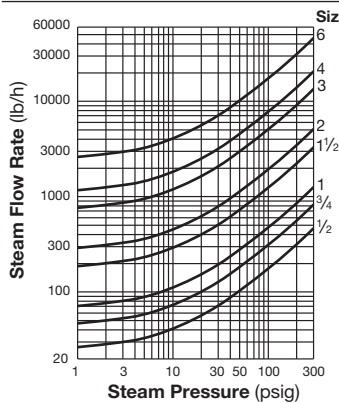
| Size | L | | H | H ₁ | W (φW ₁) | Weight** (lb) |
|-------|------------------------|----------|---------|----------------|----------------------|---------------|
| | Connects to ASME Class | | | | | |
| | 150RF | 300RF | | | | |
| 1 1/2 | 8 9/16 | 8 7/8 | 13 7/8 | 10 9/16 | 6 1/2 | 40 |
| 2 | 10 1/8 | 10 3/8 | 16 7/16 | 12 5/8 | 7 11/16 | 69 |
| 3 | 14 3/4 | 15 1/8 | 20 1/2 | 16 15/16 | 11 | 165 |
| 4 | 17 1/16 | 17 11/16 | 25 3/8 | 20 1/2 | 13 3/4 | 265 |
| 6* | 25 5/8 | — | 43 3/4 | 37 7/8 | 20 7/8 | 816 |
| | — | 26 9/16 | 43 7/8 | 38 | | |

Other standards available, but length and weight may vary

* DC3 ** Weight is for Class 300 RF

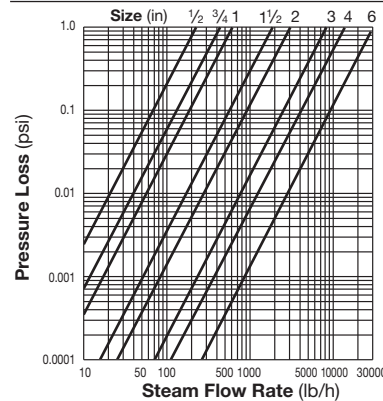
Flange classes in bold are standard

Steam Flow Rate



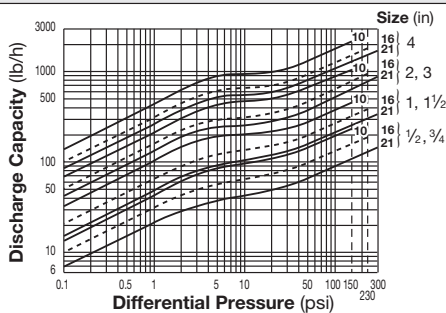
The chart at the left is used to determine the steam flow rate through the DC3S separator. It is based on a steam velocity in the piping of 100 ft/s. For other velocities, calculate the flow rate as follows:
Flow rate at V ft/s = flow rate at 100 ft/s × $\frac{V}{100}$
It is recommended that velocities not exceed 100 ft/s.

Pressure Loss



The pressure loss chart is based on a steam pressure of 150 psig. For other pressures, multiply the steam flow rate by the correction factor given in the table below. Use the result on the pressure loss chart.

Condensate Discharge Capacity



— Standard
- - - Available on special request

- Line numbers within the left-hand graph refer to orifice numbers.
- Differential pressure is the difference between the separator inlet and its trap outlet pressure.
- Capacities are based on continuous discharge of condensate 11°F 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!



DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE. Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

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Manufacturer

TLV CO., LTD.

Kakogawa, Japan

is approved by LRA Ltd. to ISO 9001/14001

ISO 9001
ISO 14001

