

High Pressure Steam Traps

Series 460D3 and 515D3

The Yarway High Pressure Integral Strainer Trap is designed with a removable capsule incorporating high pressure disc trap technology. These traps are designed for a variety of high pressure applications found in utility, industrial and marine service. Typical applications include steam tracing, steam main drip and turbine drain.

The small, lightweight design and broad range of operating pressures are among the many advantages when compared to mechanical traps of the same pressure rating. In addition, the quick change capsule design is renewable in-line with factory assembled internals without the need to disturb the piping.



Series 460D3

Features

- Renewable in-line
- Designed to fail open
- Self-draining and freeze resistant
- Install in horizontal and vertical (down) piping
- Easy to install, no supports
- Integral strainer.
- 1/2" socketwelding blow-off connection optional
- Designed for superheat.

Applicable Codes and Standards

Pressure ratings per ANSI/FCI-69-1. Performance testing per ANSI/ASME PTC-39.1. End connections per ANSI B16.11.

How it Works

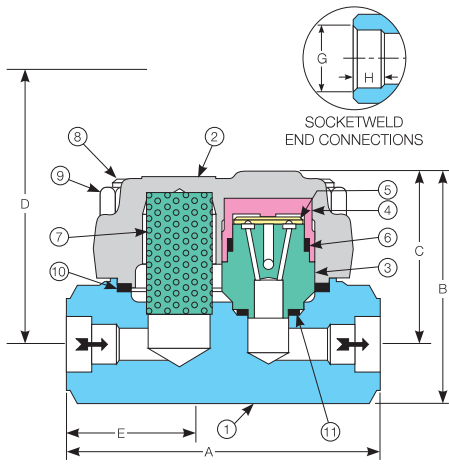
Disc traps use the energy in hot condensate and steam to open and close the valve disc. The trap senses the difference between cool and hot liquid, and gases or vapors. Initially, cool condensate and gases push the valve disc off the seat uncovering the inlet

and outlet ports. Condensate flowing across the inlet port experiences a pressure drop. If the condensate temperature is near its vapor pressure, flashing will take place. The flash creates increased pressure above the disc, while at the same time creating low pressures under the disc. The disc closes and flow ceases until the pressure above the disc decreases to a value which will permit the inlet pressure to once again force the disc off the seat. A key feature is the closing on subcooled condensate, maintaining a water seal and preventing steam loss.

Materials and Specifications

| Part No. | Part | Series 460D3 | | Series 515D3 | |
|----------|---------------|--------------------|--------------------------------|--------------------|--------------------------------|
| | | Material | Specification | Material | Specification |
| 1 | Body | Forged Chrome Moly | ASME SA-182 F-11 .15 Max. C | Forged Chrome Moly | ASME SA-182 F-11 .15 Max. C |
| 2 | Trap Bonnet | Forged Chrome Moly | ASME SA-182 F-11 .15 Max. C | Forged Chrome Moly | ASME SA-182 F-11 .15 Max. C |
| 3 * | Seat | Stainless Steel | AISI Series 400 Heat Treated | Stainless Steel | AISI Series 400 Heat Treated |
| 4 * | Cap | Stainless Steel | AISI Series 400 Heat Treated | Stainless Steel | AISI Series 400 Heat Treated |
| 5 * | Disc | Stainless Steel | AISI Series 400 Heat Treated | Stainless Steel | AISI Series 400 Heat Treated |
| 6 * | Cap Gasket | Grafoil | — | Grafoil | Spiral Wound Non-Asbestos |
| 7 | Screen | Stainless Steel | AISI Series 300 — 0.020" Perf. | Stainless Steel | AISI Series 300 — 0.020" Perf. |
| 8 | Studs | Steel | ASME SA-193 B-16 | Steel | ASME SA-193 B-16 |
| 9 | Nuts | Steel | ASTM A-194 B-7 | Steel | ASTM A-194 B-7 |
| 10 | Bonnet Gasket | Inconel/Graphite | Spiral Wound Non-Asbestos | Inconel/Graphite | Spiral Wound Non-Asbestos |
| 11 | Seat Gasket | Inconel/Graphite | Spiral Wound Non-Asbestos | Inconel/Graphite | Spiral Wound Non-Asbestos |

Supplied in Renewal Kit * Supplied as a preassembled capsule



Dimensions/Weights

| Series | Size (in.) | Dimension (in.) | | | | | | | Weight (lb.) |
|--------|------------|-----------------|--------|--------|--------|-------|------|-----|--------------|
| | | A | B | C | D | E* | G | H | |
| 460D3 | 1/2 | 4-13/16 | 3-9/16 | 2-9/16 | 5-5/16 | 1-7/8 | .860 | 3/8 | 10-1/2 |
| | 3/4 | | | | | | | | |
| | 1 | | | | | | | | |
| 515D3 | 1/2 | 5-1/2 | 4-1/8 | 3-1/8 | 5-3/4 | 2-1/4 | .860 | 3/8 | 16 |
| | 3/4 | | | | | | | | |
| | 1 | | | | | | | | |

* 1/2" socketweld blow-off optional

Shell/Pressure/Temperature Ratings

Back Pressure Ratings

Back pressure to 80%. Back pressures are based on absolute pressure.

Trap Operating Conditions

Max. Operating Pressure: 900 psig
 Min. Operating Pressure: 150 psig
 Max. Operating Temperature: 900°F

How to Interpret the Curves

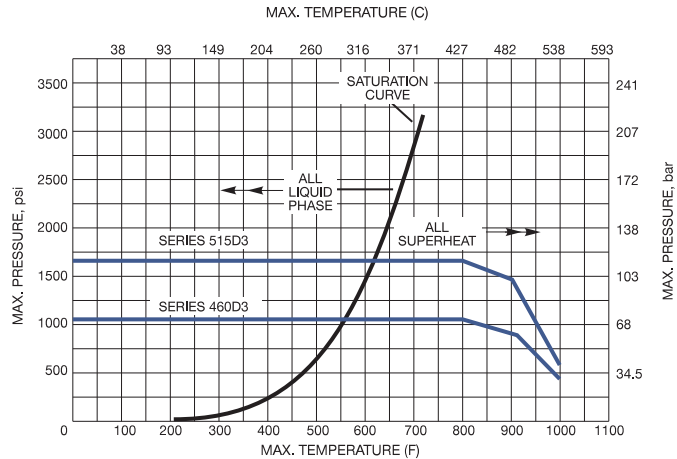
First, use the shell pressure/temperature curves to confirm that the trap selected is suitable for the design maximum pressure and temperature of the application.

Then, select the trap on the basis of operating pressure.

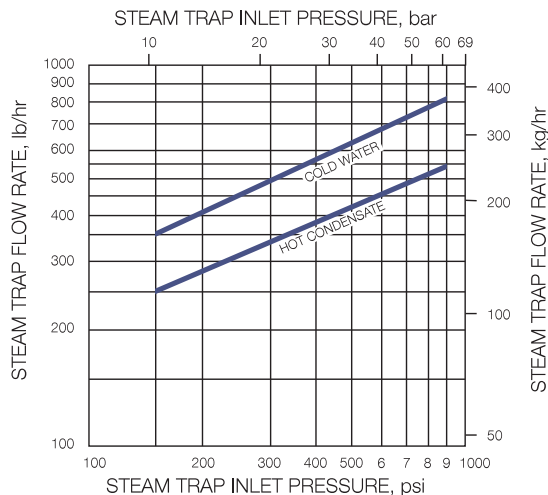
How to Specify and Order

Typical Specification — The trap shall be an Integral Strainer Disc Trap with Removable Capsule, and shall require neither bucket, bellows nor bimetallic element for operation.

Ordering — (1) Designate size of end connections (weights and dimensions table). (2) Designate figure number (selector guide). (3) Designate "R" for commercial. Example: 3/4" 460D3 SWR.



Operating Pressure Ranges vs. Condensate Capacity Near Steam Temperature (For steam trap sizing)



Yarway Corporation reserves the right to change the designs and materials of its products without notice.



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