



Gas



Liquid & Slurry



Solid & Powder



Steam & Water

SENTRY TSV THERMAL SHUTOFF VALVE

Thermal Protection Valves

SAMPLE CONDITIONING

The Sentry® TSV is a self-contained, mechanical device that protects operators, analyzers and sampling components from high temperature liquids. It is an economical and reliable mechanical replacement for a solenoid shutoff valve and temperature controller, requiring no external source of electricity, air or hydraulics.

The sensor/actuator is directly exposed to the sample medium. High temperatures actuate the device in less than five seconds. Some of the causes of high temperatures include loss of cooling water, insufficient cooling water pressure or flow, high cooling water temperature, high sample flow rate, a ruptured coil in the sampler cooler, or a fouled or plugged sample cooler.

MODEL

TSV

BENEFITS

A reliable mechanical solution that requires no electricity to operate, the Sentry TSV provides positive closure. It must be manually reset after a trip, which ensures that sample flow is not resumed before the cause of the system upset has been corrected.

The Sentry TSV should be installed downstream of the pressure-reducing device and upstream of analyzers, flowmeters and other low-pressure devices. After a trip, the upstream side of the Sentry TSV will be exposed to the full source pressure.

A red indicator readily provides visual indication of valve position, and an optional switch is available to provide a signal for a remote alarm.

FEATURES

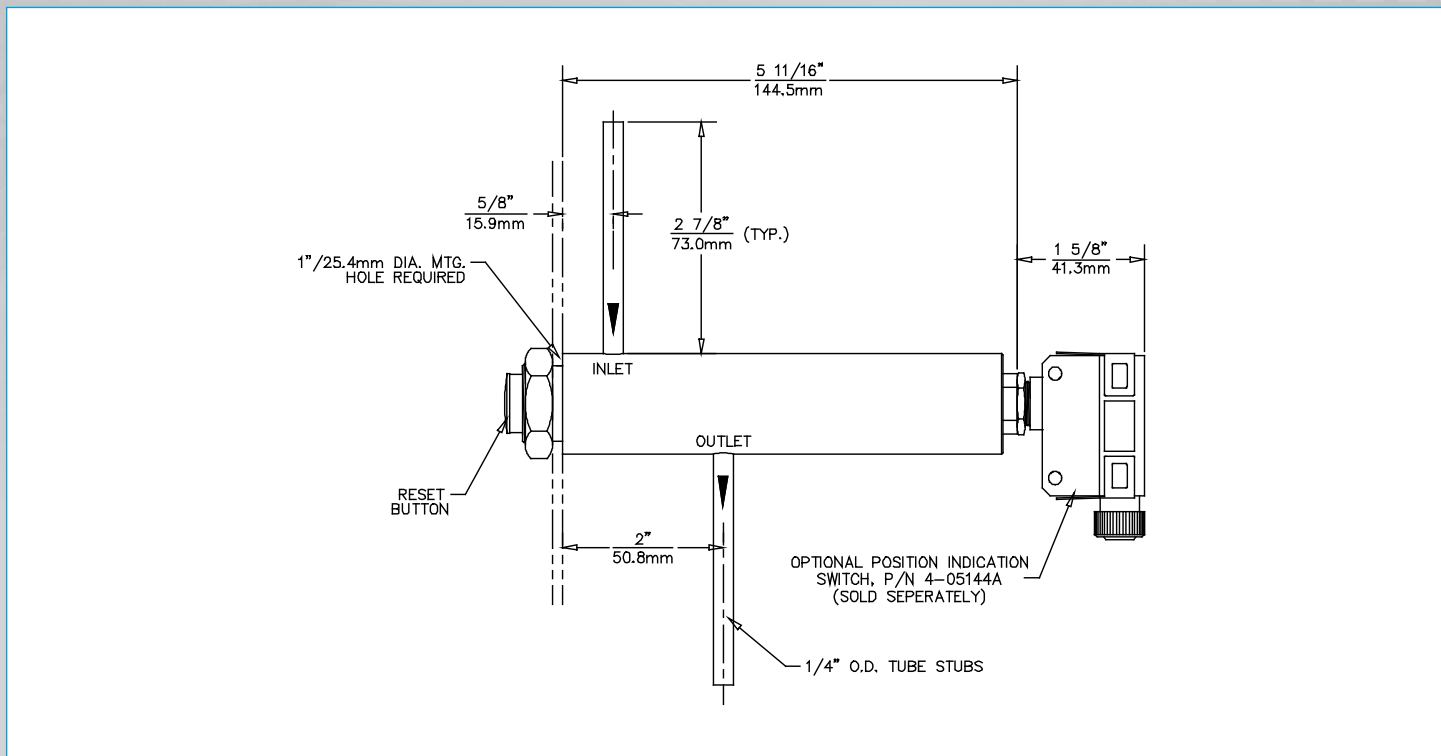
- Protects operators and equipment
- Suitable for system pressures up to 4400 psi (303 bar)
- Flow shutdown in less than five seconds
- Completely mechanical design requires no electricity, air or hydraulics
- Push-button reset
- Optional dry contact for remote alarm indication
- Visual trip indication
- Standard trip temperature is 120°F (49°C) with other temperatures available

Wetted materials

- 316 stainless steel and elastomers compatible with boiler water and steam
- Consult us for use with other media
- Option: Kalrez elastomers suitable for hydrocarbon applications (limited setpoints available)



Manufactured under one or more U. S. patents: 5,826,790



SPECIFICATIONS

| | |
|---|--|
| pressure rating | 4400 psi (303 bar) |
| downstream pressure rating | 250 psi (17 bar) |
| temperature rating | 250°F (121°C) |
| trip temperature | 120°F (49°C); other temperature settings available |
| pressure drop | Cv=0.21 |
| wetted materials | 316 SS, Viton®, PEEK |
| connections | 1/4 in tube stubs |
| shutoff time | less than 5 seconds after temperature reaches set point |
| reset time | temperature must drop 2–3°F (1–2°C) below set point |
| shipping weight | 1.75 lb (794 g) |
| optional elastomer | Kalrez® |
| optional position indicating dry contact specifications | configuration: SPDT (form C) - NOHC as used |
| | enclosure: NEMA 1, 2, 3, 4 & IEC IP-67 |
| | terminations: screw type |
| | contact ratings: 10 A at 125 and 250 VAC; 0.5 A at 125 VDC; 0.25 A at 250 VDC; NEMA A300 |

Viton and Kalrez are registered trademarks of E. I. Du Pont de Nemours and Company.



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