

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.

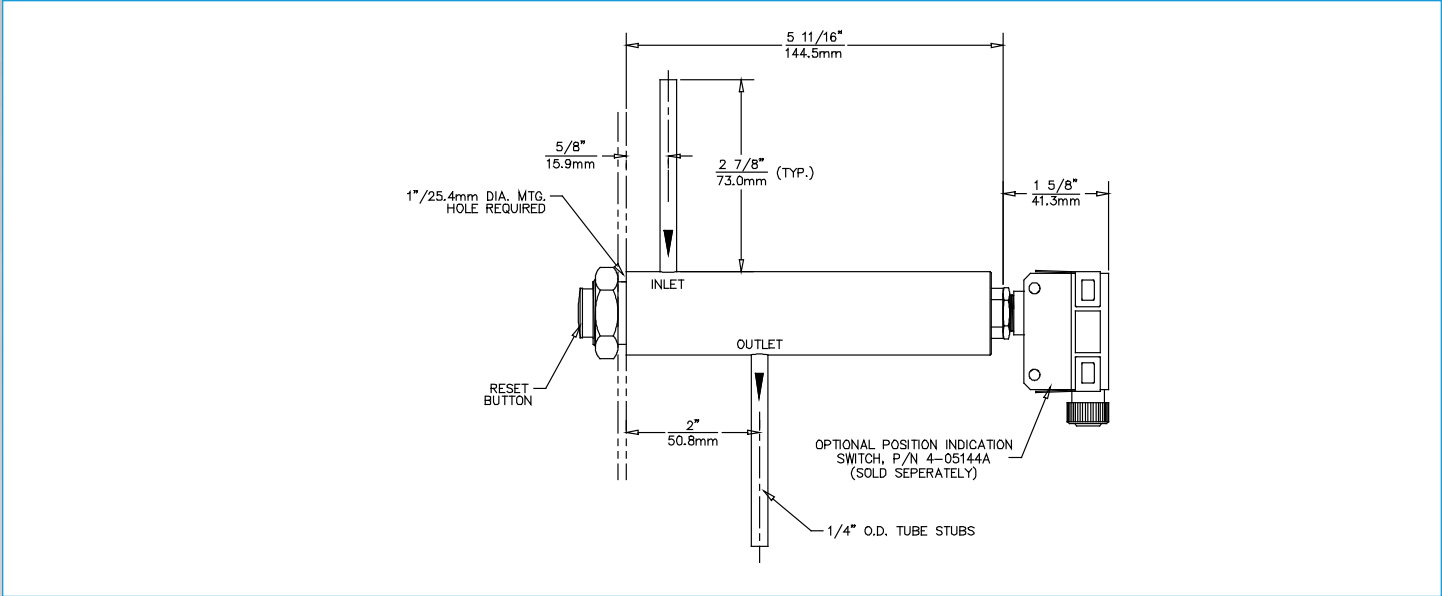
A red indicator readily provides visual indication of valve position, and an optional switch is available to provide a signal for a remote alarm.

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)
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

trip temperature	part number
95°F (35°C) set point	7-01137T 7-03634T - W/Switch
104°F (40°C) set point	7-01137F 7-03634F - W/ Switch
109°F (43°C) set point	7-01137J 7-03634J - W/Switch
120°F (49°C) set point	7-01137E 7-03634E - W/Switch
131°F (55°C) set point	7-01137S 7-03634S - W/Switch

trip temperature	part number
140°F (60°C) set point	7-01137H 7-03634H - W/Switch
153°F (67°C) set point	7-01137M 7-03634M - W/ Switch
160°F (71°C) set point	7-01137G 7-03634G - W/Switch
194°F (90°C) set point	7-01137L 7-03634L - W/Switch
203°F (95°C) set point	7-01137P 7-03634P - W/Switch

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