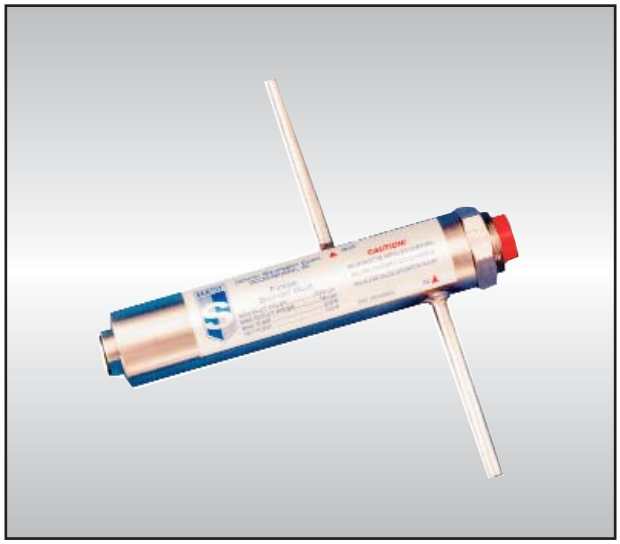


# TSV
# THERMAL SHUT-OFF VALVE

## *Protection For Instrumentation and Personnel*

U.S. Patent No. 5,826,790

- Protects Analyzers and Personnel
- Fully Mechanical
- Visual Trip Indication
- Optional Contact for Remote Alarm
- Flow Shut Down in Less Than 5 Seconds

- Disponibile anche con switch ATEX, codice 7-05435A
-Altre temperature disponibili:
 * 35°C
 * 40°C
 * 43°C
 * 49°C
 * 55°C
 * 60°C
 * 67°C
 * 71°C
 * 90°C
 * 95°C

### Description

The Sentry TSV is a self contained, mechanical device that requires no external source of electricity, air, or hydraulics. The sensor/actuator is directly exposed to the sample medium providing near instantaneous reaction to an upset.

The standard trip temperature is 120°F (49°C), other temperature settings are available upon request.

The TSV provides positive closure. It must be manually reset after a trip - ensuring that sample flow is not resumed before the cause of the upset has been corrected. A red indicator readily provides visual indication of valve position. An optional switch is available to provide a signal for a remote alarm.

Wetted materials are 316 stainless steel and elastomers which are compatible with boiler water and steam. Consult factory on other sample media if in doubt.

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 TSV will be exposed to the full source pressure.

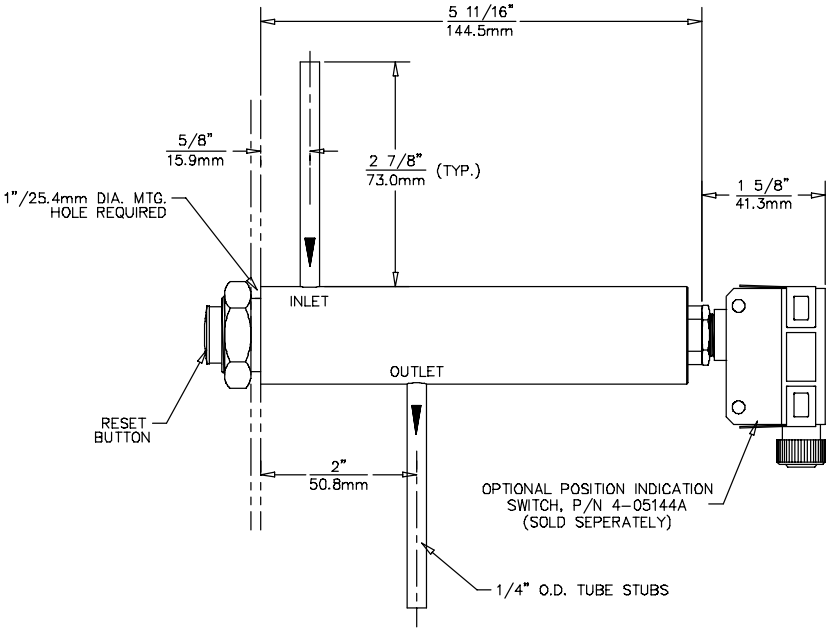
### Causes of High Temperature

- Loss of cooling water
- Insufficient cooling water pressure or flow
- High cooling water temperature
- High sample flow rate
- Ruptured coil in the sample cooler
- Fouled or plugged sample cooler

# 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:** | 316SS, Viton, PEEK |
| **Weight:** | 1.75 pounds (794 g) |
| **Connections:** | 1/4" tube stubs |
| **Shut Off Time:** | Less than five seconds after temperature reaches setpoint |
| **Reset Time:** | Temperature must drop 2-3°F (1-2°C) below setpoint. If the ambient temperature is above the setpoint, it may be neces sary to hold the valve open for a few seconds until the sample flow cools the valve. |
| **Part Number:** | 7-01137E |

## OPTIONAL POSITION INDICATING DRY CONTACT SPECIFICATIONS

| | |
|---|---|
| **Configuration:** | SPDT (form C)<br>(NOHC as used) |
| **Enclosure:** | NEMA 1, 2, 3, 4 & IEC IP-60 |
| **Terminations:** | Screw Type |
| **Estimated Life:** | 10M Operations |
| **Contact Rating:** | 10A at 125 and 250 VAC<br>0.5 A at 125 VDC<br>0.25 A at 250 VDC<br>NEMA A300 |
| **Part Number:** | 4-05144A |

**Note:** TSV will not function properly if the downstream pressure exceeds 250 psi (17 barg). For Installation & Operating Instructions, see Bulletin SPD13.1.2.