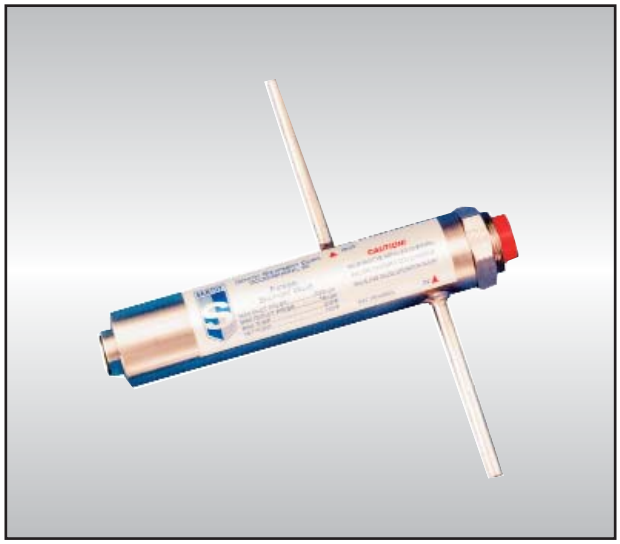


TSV
THERMAL SHUT-OFF VALVE
Protection For Instrumentation and Personnel

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

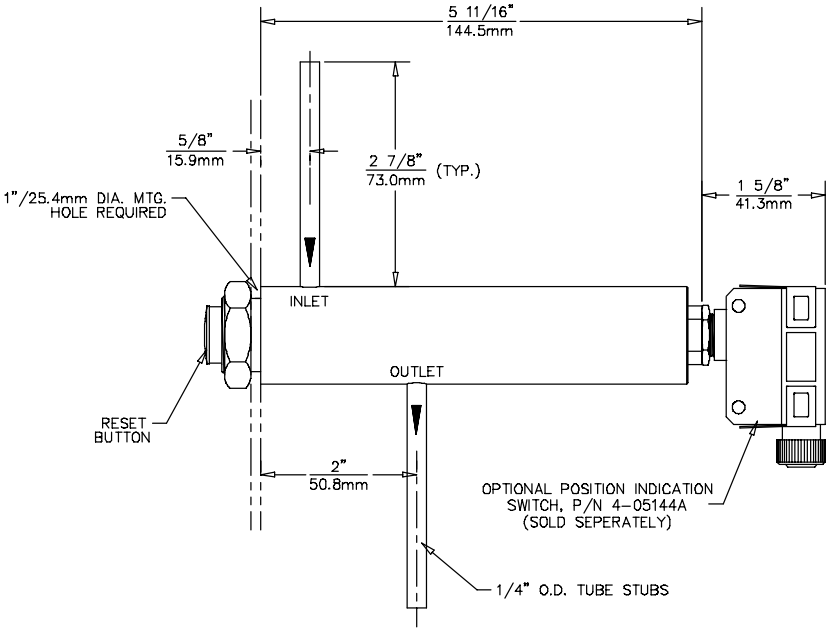
Weight: 1.75 pounds (794 g)

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)
(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
0.5 A at 125 VDC
0.25 A at 250 VDC
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.

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Gas
Liquid & Slurry
Solid & Powder
Steam & Water

SENTRY W270 HI-TEMP SHUT-OFF VALVE

Thermal Protection Valves

SAMPLE CONDITIONING

The Sentry® high-temperature shut-off valve is designed for use with sampling systems to shut off flow when the sample temperature becomes too hot.

The valve is suitable for grab sample or instrument applications that could experience a loss of coolant or surges in sample flow rates, which would cause the sample temperture to rise suddenly.



MODELS

W270

BENEFITS

The valve can be installed directly downstream of the primary cooler to protect more vulnerable components further down the line. This is advantageous for the protection of personnel and instruments that could otherwise be harmed by high temperature samples.

The valve responds only to temperature. Under normal operation the valve is fully open. If the sample temperature reaches 115°F, the thermal element within the valve begins to close the inlet orifice. The inlet orifice is fully closed when the sample reaches 125°F. The valve automatically opens as the element cools.

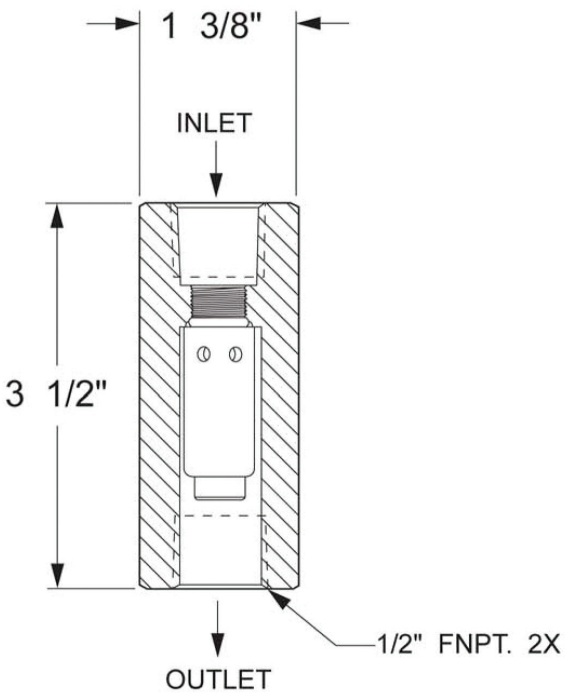
FEATURES

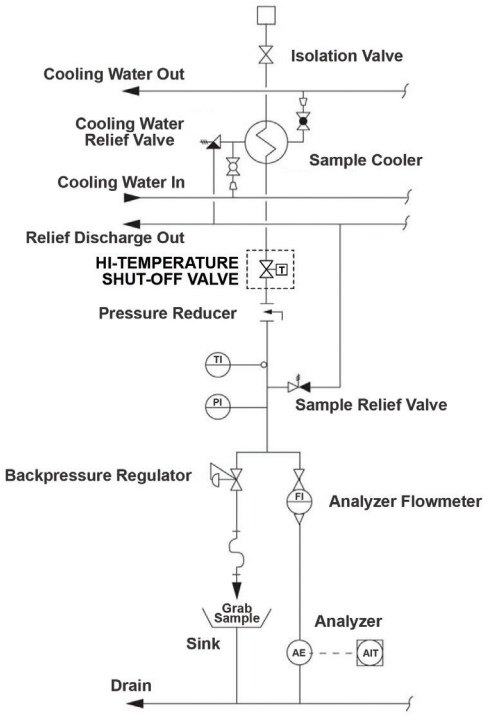
- The valve is automatic, with no reset or operator involvement required
- Features corrosion-resistent stainless steel and EPDM materials to reduce contamination of sample stream
- The valve is compact, and the low mass means fast response – the overall size is 1-3/8-inch diameter by 3-1/2-inch length
- Reliable shut-off with a ram-type plug design for a tight seal upon shut-off

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Disponibili queste temperature:
* 38°C (WD172174)
* 46°C (standard in 303SS,  WD172117;  versione in 316SS WD172246)
* 54°C (WD172208)
* 60°C  (WD172389)

Oltre alla tenuta interna in EPDM,
è disponibile la tenuta in Viton e metallica 316SS
```

Sample. Monitor. Measure.
SENTRY
Any Application. Anywhere.





SPECIFICATIONS

wetted materials	stainless steel and epdm
maximum pressure	3000 psi (207 bar)
maximum temperature	250°F (121°C)
sample connections	1/2 in. FNPT
flow coefficient	Cv = 0.075
part number	WD172117

NOTE: Other wetted materials and temperature setpoints available.

sentry-equip.com

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