

4532 Average Temperature Sensors

Intrinsically safe temperature measurement for inventory control and custody transfer tank gauging applications



Highlights

- Continuous measurement of average liquid and /or average vapor temperature – Temperature profile throughout the tank is available by reading the position and temperature of each element
- Measurements based on API (American Petroleum Institute) Manual of Petroleum Measurement Standard, Chapter 7
- Easy Configuration using Varec's 6000 Servo Tank Gauge or 4590 Tank Side Monitor
- Variety of process connections and cable entries available to meet worldwide classifications
- ATEX and FM Approved for use in hazardous areas

Applications

The 4532 Average Temperature Sensor and Converter (ATC) provides 2–6 resistance elements (Pt100), which have a fixed interval (2 m or 3 m) that measure the average product temperature in bulk liquid storage tanks. The measured value is converted into a HART® compatible output for use in temperature compensated volumetric calculations.

They can be combined with various HART compatible devices and tank sensors, such as Varec's 6000 Servo Tank Gauge, 7500 and 7200 Radar Tank Gauges and 4590 Tank Side Monitor.

Product Options

Approvals

- FM
- Contact Varec for ATEX or IECEx approved devices

Process Connection (SUS304)

- 2 in, 150 lb RF or DN50 PNO B1

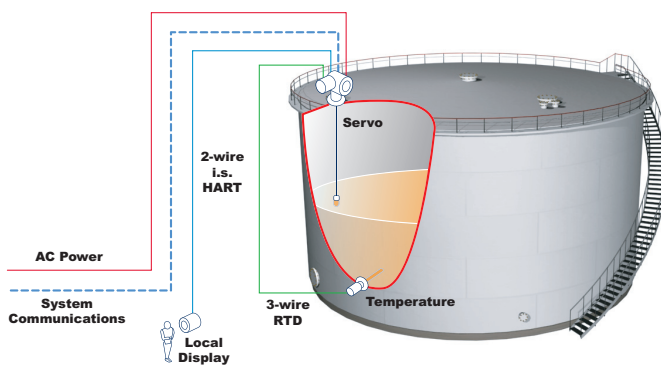
Number of Elements

- 2 through 6 elements, lengths from 2500 mm to 18500 mm

Installation Options

- Anchors
- Tension wires

Note: Please complete an Application Data Sheet for this equipment to facilitate proper selection of options for your unique application. Contact your Varec Sale Representative for more information.



Typical Tank Gauging System Diagram

4532 ATC Technical Specifications

Functional

Number of elements	2 – 6 points, fixed interval of 2 to 3 meters
Measuring range	-20... + 100 °C, -4... +212 °F (standard)
Accuracy of conversion	±0.15 °C (±0.27 °F), or better Based on IEC 60751 class A standard
Output Communication	2-wire, HART multi drop

Physical

Material Elements	Elements : Class A Pt100, IEC PUB 751 1995 Housing : Aluminium diecast (IP65) Temp probe : SUS316 flexible tube (IP68) Flange: SUS304 PF 3/4" (NPS 3/4") universal coupling
Flexible tube minimum installation height	400 mm from tank bottom

Power

Power supply	DC16–30V Normally the 6000 Servo Tank Gauge or the 4590 Tank Side Monitor will supply DC24V ±10% on i.s. HART communication line.
Current consumption	Average 6.0 mA constantly.

Environmental

Ambient temperature	-40 °F and +185 °F (-40 °C and +85 °C) Converter (housing)
Climate class	DIN EN 60068-2-38 (test Z/AD)

Certifications and Approval

CE approval Factory Mutual (FM) Intrinsically Safe – Class I, Division 1, Groups A/B/C/D
