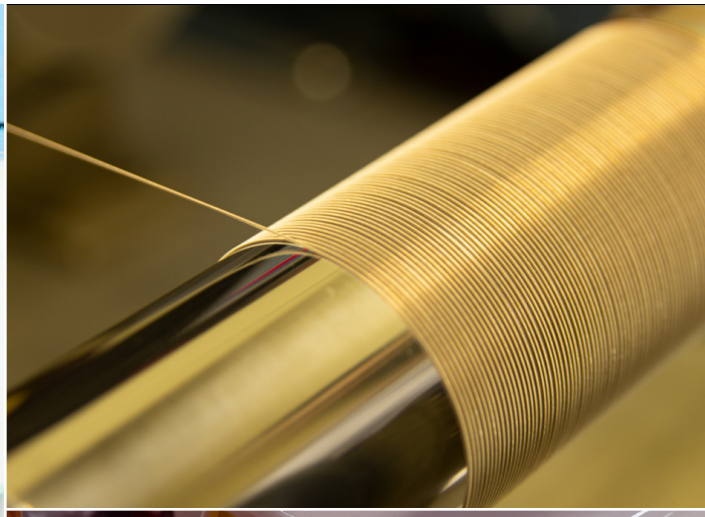
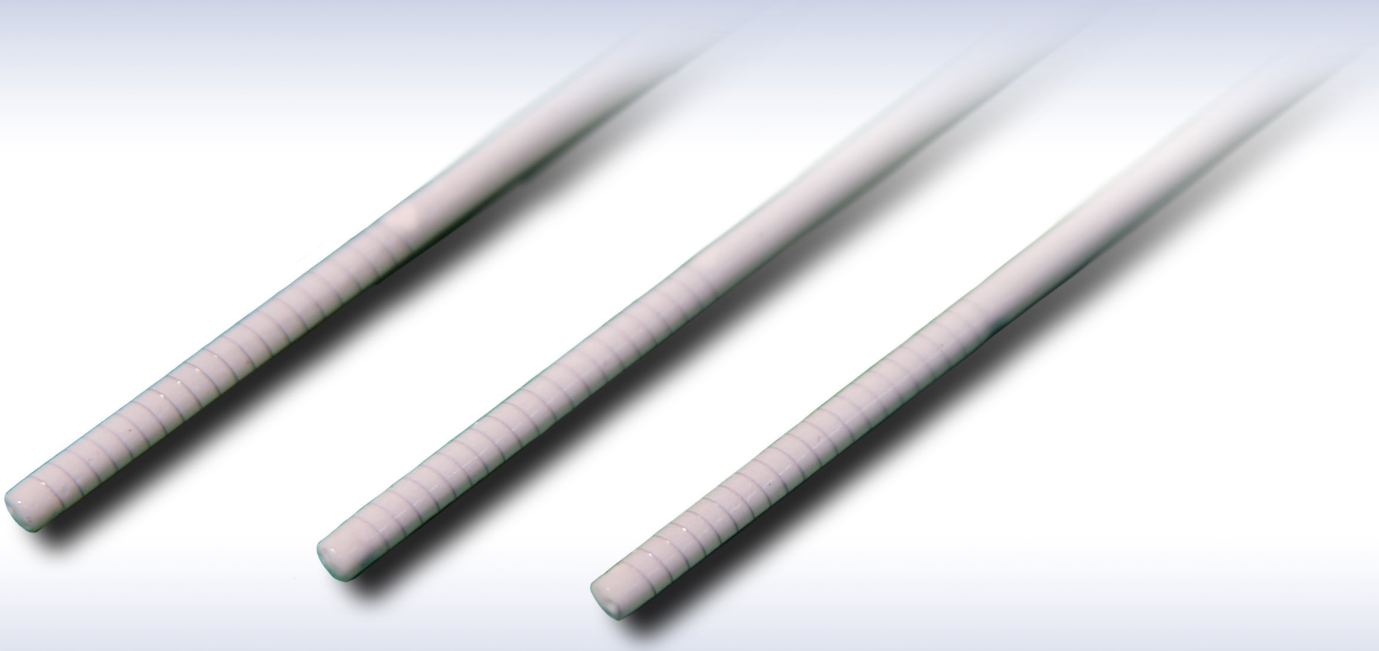
Sensor Technology





EW- Thermal Flow Meter Element

Externally Wound Platinum Heater/Sensor

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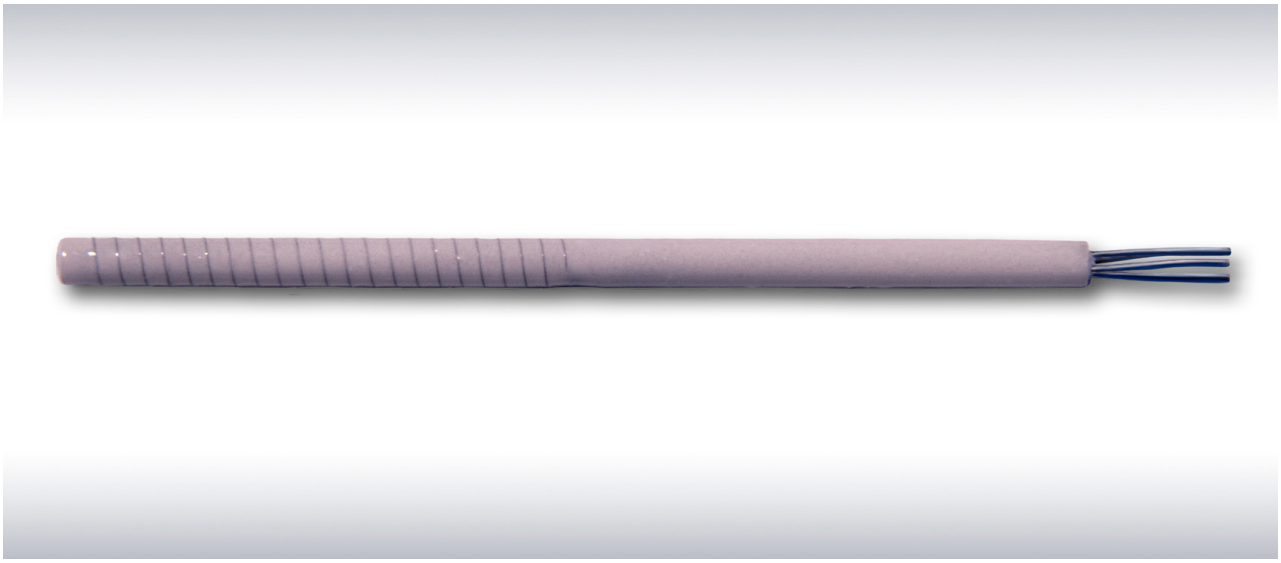


Thermal flow meters measure fluid flow based upon the concept of convective heat transfer. There are two main types thermal flowmeters: Constant Temperature Differential Flowmeter and Constant Current Flowmeter.

Constant temperature differential flowmeter: Sensor 1 measures the gas temperature. Sensor 2 is heated to a constant temperature, maintaining a fixed ΔT between the two sensors. Flow is measured as a function of the power required to maintain the temperature of Sensor 2.

Constant current flowmeter: Sensor 1 measures the gas temperature. Sensor 2 is heated via a constant current. Flow across the heated sensor causes cooling. Flow is measured as a function of the temperature difference between the 2 sensors

The EW-Thermal Flow Meter Element was specifically designed for use in fluid flow instruments, providing repeatable and accurate measurement.

Applications: The same EW element can be used as both a heater (thermal flow measurement principle) and a temperature sensor in flow measurement units that use the principle of constant temperature differential technology to measure flow rate.

Construction: A platinum coil is wound around a high-purity aluminum oxide ceramic core. The exterior is coated in glass to provide a mechanical and environmental seal. Shear force-resistant connection wires assure a secure termination to extension wire, bonding pads, etc.

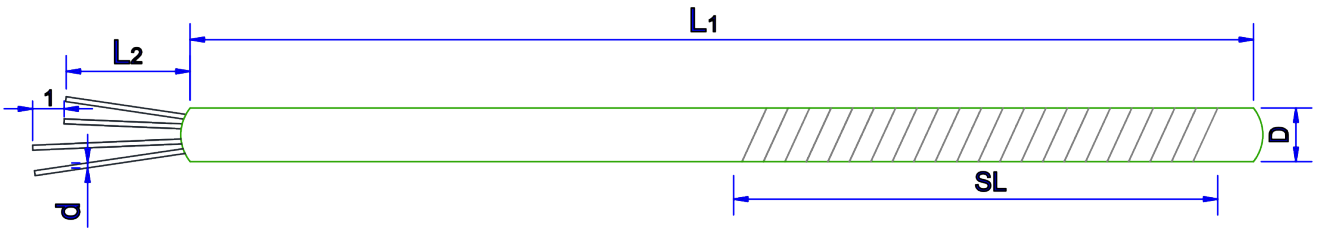
Advantages: - Performance: The robust design provides consistent, reliable operation under harsh conditions over a wide operating range.

- On-demand design: Sensor Technology works with “on demand” products. We can manufacture a micro-heater according to each customer’s specification, providing a suitable element specifically designed for the application.

- Dimensional flexibility: Design and manufacturing flexibility allow external dimensions to be adapted to meet application requirements.

- Quality: Sensors are manufactured under strict process control, with custom-designed process equipment, to ensure the quality and consistency of the end-product.

Ordering Example



Ordering Code

EW 99999 XX999(9) S99 9XX99/9-9 T9.99(9)

- Accuracy (Ω) @ 0°C
- Lead Wire Length (mm)
- Measurement point (mm)
- 9 - Number of Lead Wires (e.g. 2 or 4)
  XX - Lead wire material (e.g.PdAu or PtAu)
  99 - Lead wire diameter (e.g. 0.20 or 0.27mm)
- Sensing Length
- XX - Resistance material
  999(9)- Nominal resistance @°C
  e.g. Pt45; Pt8.4; Pt100
- Length **(L)** and Diameter **(D)** of the sensor (mm)

e.g.: EW 30170 Pt25.5 S16 4Pd27/8-10 T0.15

* the standard measurement point is located at 2 mm from the end of the leads.

Ver: 09/2020 Technical modifications