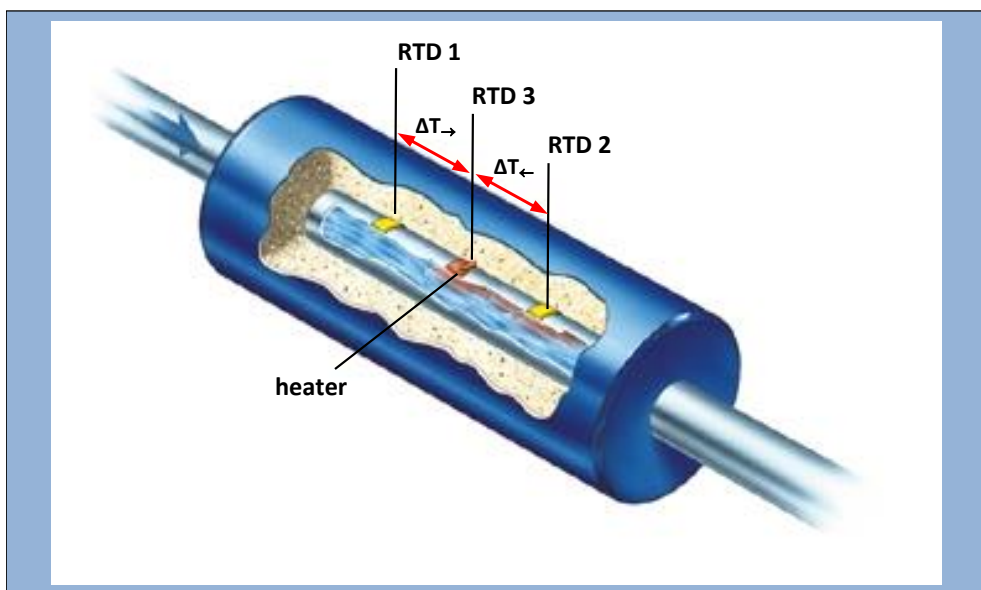


# **RHEOTHERM<sup>®</sup>**

## **FLOW INSTRUMENTS**

# **Model 213 Bidirectional Flow Meters**

Using a series of Resistance Temperature Detectors (RTDs), Bionetics' patented Rheotherm flow meters are able to measure both flow and direction. Two RTDs measure fluid temperature and a third RTD measures the temperature of a constant low-power heater which is cooled by the flowing fluid. The temperature differential between the heated and unheated RTDs provides the primary flow signal and flow direction is determined by comparing the temperature of the unheated RTDs.



*Compact inline assembly for measurement of liquid and gas flows*

As the fluid flows from left to right, RTD1 measures the temperature of the fluid entering the sensor, and RTD2 measures the temperature of the fluid downstream of heater, which is at a higher temperature when compared to RTD1 and allows the flow direction to be determined. When the fluid is flowing in the opposite direction, RTD2 measures the fluid temperature as it enters the sensor and RTD1 is located downstream of the heater, the temperature of RTD1 is now higher than the temperature at RTD2 indicating flow from right to left..

- **No moving parts**
- **Choice of wetted materials**
- **Advanced signal processing electronics**
- **Field adjustable**
- **Maintenance-free**
- **Long-term reliability**

- Extended temperature compensation for reliable flow measurement over wide range of process conditions
- Up to 4 calibration settings to support different fluids or flow ranges
- Factory calibration is field adjustable as process changes to reduce need for recalibrations
- Variety of process connections and component configurations available simplifies integration
- Proprietary design using unstressed components providing years of reliable operation and reduced maintenance cost.
- Designed and manufactured under ISO-9001:2015 certified Quality Assurance program for maximum reliability
- FM approved, explosion-proof, and radiation hardened units available to meet the most demanding applications

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