

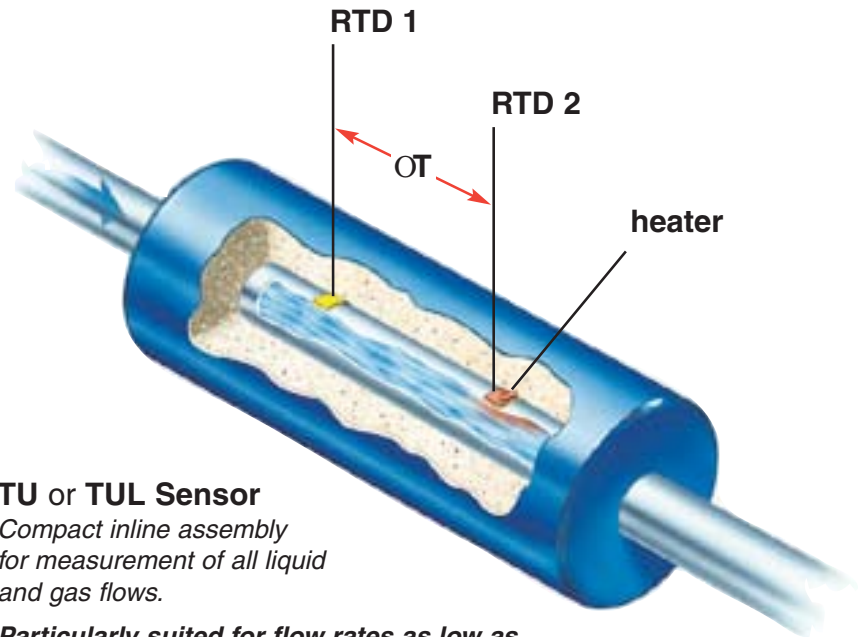
RHEOTHERM[®] THERMAL FLOW MEASUREMENT

Method of Operation

The patented RHEOTHERM thermal measurement method employs two Resistance Temperature Detectors (RTDs) to measure flow. One RTD measures the fluid temperature, and the other 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.

At higher flow rates, the cooling effect on the heated RTD is greater, so the temperature differential decreases. This differential signal is a logarithmic function of the flow rate. Since the cooling effect is a function of the mass flow rate, pressure compensation for gases is not required.

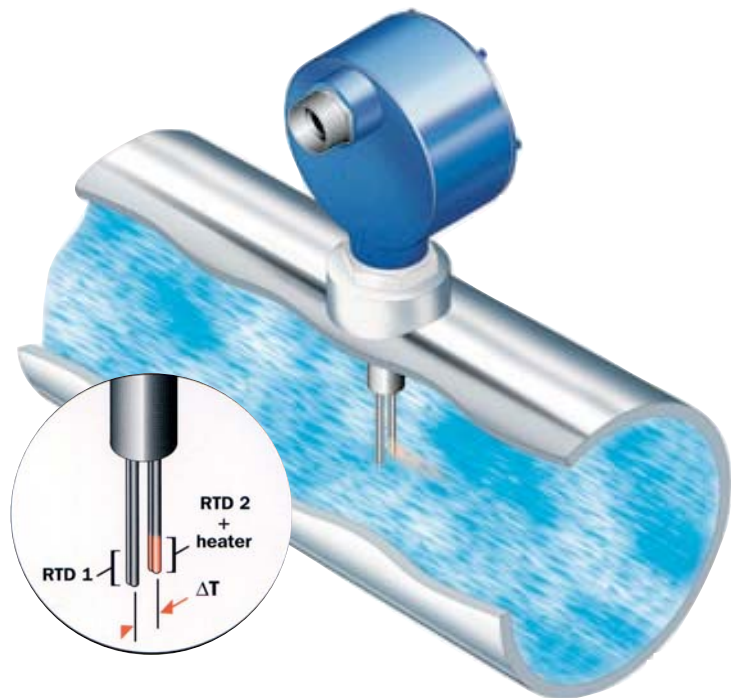
This patented measurement method has been used in thousands of installations since 1978. RHEOTHERM technology provides the most precise thermal flow meter available, and is recognized as the ultimate in low flow measurement.



TU or TUL Sensor

Compact inline assembly for measurement of all liquid and gas flows.

Particularly suited for flow rates as low as 10cc per day (one gallon per year) and gases down to 20 sccm.



Insertion Probe

For gas flows in 1" and larger ducts and pipes and for limited low-velocity liquid flows (below 2 fps). Installs with thread, flange or hot tap connection.

RHEOTHERM® FLOW INSTRUMENTS

All RHEOTHERM flow instruments are backed by an ISO-9001:2000 certified Quality Assurance program. CE or FM certification is available on selected models.

FEATURES:

- Maintenance-free operation with no moving parts
- Wide rangeability
- Compatibility with virtually all industrial chemicals
- Lowest pressure drop
- TU/TUL design has unobstructed fluid path

APPLICATIONS:

Liquids: Homogeneous liquids are measured with high repeatability using TU or TUL sensors.

- Sensor is not damaged by over-ranging or by solids in the stream.
- Ideal for continuous additive or catalyst injection at a low rate.
- Used with adhesives, alcohols, defoamers, dyes, fermentation feeds, hydrocarbons, liquified gases, lubricants, perfumes, solvents, sterilizing fluids, and water/waste treatment chemicals, among others.

Gases: Mass flow and volume flow of air or other process gases can be accurately measured.

- Pressure or temperature correction is not required.
- The sensor is not plugged or damaged by liquid carryover.
- Electropolished and cleaned flow tubes are available to maintain gas purity.
- Intrinsically safe and explosion-proof options are available for hazardous gases.

OUTPUT ELECTRONICS:

Intek offers a selection of electronics for temperature compensation and conditioning of the differential flow signal. Flow data can be routed to a process computer or a local digital display. Output options:

- Analog or digital
- Log or linearized
- Integral or offline configuration

For assistance with any flow application, contact an application engineer at INTEK, *the leader in precision thermal flow metering.* Call **888-LOW FLOW** (569-3569).

Low Flow Meters



Accurate, repeatable measurement of liquid flows as low as one gallon per year (10cc per day), and gas flows down to 20 sccm.

Gas Mass Flow Sensors



One-piece insertion probe installs easily into 1" and larger pipes and ducts for reliable measurement of mass or standard volumetric gas flow rates.

Flow Switches



Insertion probe or TU/TUL sensor for monitoring of liquids, gases and slurries. Factory-set switch point can be easily adjusted in the field.



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