

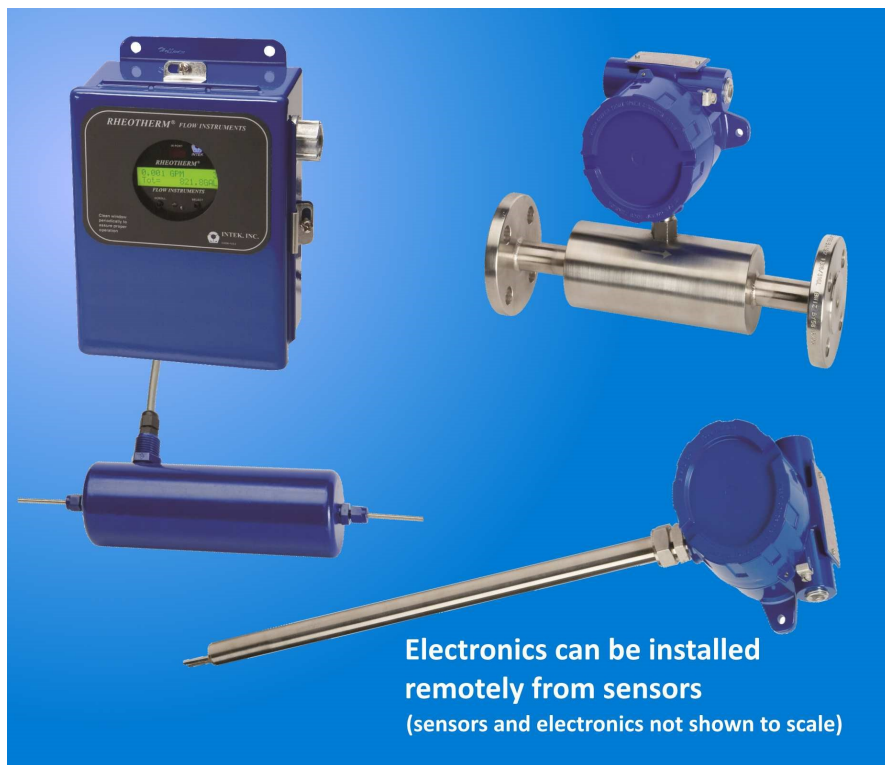
RHEOTHERM®

FLOW INSTRUMENTS

Model 210 Flow Meter

Trusted Rheotherm precision with added versatility, functionality and safety

- Precision low flow meters with signal processing electronics integrally mounted to the sensor, installable at the process site
- Capable of measuring liquid as well as gas flows
- Measures liquid flows as low as one gallon per year and gases as low as 30 sccm
- Chemically compatible with most process liquids and gases
- Little or no maintenance, no moving parts, high reliability
- Extended temperature compensation for reliable flow measurement under a wide range of process conditions
- Self diagnostics
- Available with inline sensors and insertion probe sensors
- Optional remote electronics configuration
- CE marked (24 Vdc models only)
- FM and cFM approved options for hazardous locations (see reverse)



Bionetics -

Your Process Flow Partner

For over 40 years, Rheotherm flow meters have proven to be a robust and accurate solution for industrial and aerospace flow measurement applications. A low maintenance design with no moving parts and excellent chemical compatibility leads to a long useable equipment life—15 to 20 years is not uncommon. The unobstructed flow path of the in-line TU and TUL style sensors minimizes pressure drop across the meter and is suitable for high pressure applications. Quality is assured with Intek's ISO-9001:2015 certified quality assurance program.

Model 210 Features

- Advanced temperature compensation
- Multiple calibration data storage: 4 liquid or gas calibrations at 4 temperatures each
- Wide turndown capability: 10:1 standard, 200:1 extended, up to 2000:1 with multiple ranges
- Enhanced self diagnostics
- Field adjustable calibration

Applications

- Low flow: liquids as low as 10 cc/day, and gases as low as 30 sccm
- Gas mass, volume, or velocity flow rates in ducts: 50 sfpm and higher
- Homogeneous slurries
- Hazardous environment options:
 - FM approved intrinsically safe sensors with remote electronics*
 - FM and cFM approved explosion-proof integral design**
- Choice of fittings and cleaning options for use in sanitary or high purity applications
- Choice of wetted material for chemical compatibility includes stainless steel, Hastelloy C®, Monel®, Super Duplex and other alloys

*Class I, Division 1, Groups A, B, C, and D

Class I, Zone 1, IIB+H2 (US Only)

Class II, Division 1, Groups E, F, and G

Class III, Division 1

** Same as above, except Group A is not included

Model 210 Specifications

Line Size

- 1/16 OD or larger

Response Time

- 1 second

Time Constant (63% of flow change)

- 3 to 5 seconds (typical)

Repeatability

- $\pm 0.5\%$ of reading (typical)

Accuracy

- $\pm 1\%$ of reading (typical)

Enclosure

- Standard: NEMA 4X/NEMA 7
- Optional: NEMA 4/NEMA 7/Panel Mount/Lab (remote electronics)

Display

- "Blind" (no display)
- 2 x 16 backlit LCD displays all of the following:
 - Mass/volume flow rate
 - Temperature in °C or °F
 - Total accumulated flow

Output

- Standard: 4/20 mA (flow rate only)
- Optional:
 - 0-10 Vdc or 0-5 Vdc (flow rate, temperature)
 - Pulse (open collector, 5 Vdc, remote electronics only)
 - SPDT switch (remote electronics only)
 - 4/20mA (temperature, remote electronics only)

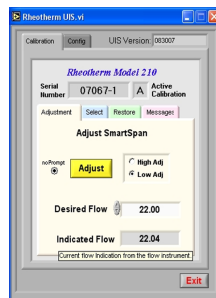
Input Power

- Standard: 24 Vdc
- Optional: 85-250 Vac (remote electronics only)

Multiple Calibrations

Up to four independent calibrations can be stored. These can be selected for changes of fluid or to cover additional flow ranges, while maintaining high accuracy. Channel A is the primary factory calibration, with additional factory or user calibrations stored in channels B, C and D.

Field Adjustment



Calibration performed on the actual fluid typically do not require adjustment. When substitute fluids must be used for calibration, field adjustments to the actual fluid are easily accomplished using the display interface or connecting a Windows based PC to meters without a display. A two-point Hi/Lo adjustment automatically adjusts the entire calibration. Factory calibration is easily recoverable.

Self Diagnostics

Fault detection is per NAMUR NE 43 using 4/20 mA output.

Configurations

The Model 210 is available as an integrated one-piece design or with the electronics mounted remotely (Model 210R) from the sensor up to 200 feet away.

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