



MODEL# 600-9/9500P Thermal Mass Flow Meter

PROVIDING FEATURES THAT
OFFER VALUE ADDED BENEFITS



- ◇ Flow Rate Measurement of Gases & Liquids
- ◇ Available as Flow Switch
- ◇ Completely unobstructed flow path
- ◇ Sturdy 316 Stainless Steel Material Standard
- ◇ Corrosion Resistant Materials Available such as Hastelloy, Monel, Inconel, and others
- ◇ Redundant Non-Wetted Sensors
- ◇ 10:1 Turndown or greater. Multiple Ranges Available.
- ◇ No Moving Parts
- ◇ Negligible Pressure Drop
- ◇ Numerous Process Connections
- ◇ Available as small as 1/16" ID
- ◇ NIST Traceable Calibration
- ◇ Designed & Manufactured in the USA

Our Model # 600-9 Thermal Mass Flow Meter allows for a perfect marriage between your process piping and our flow measurement instrument. This model is also available as a Flow Switch.

The unobstructed flow path provides a clear pathway for your process fluid, with negligible pressure drop for both liquid and gas applications. Our instruments are known for providing years of service and accurate measurement.

Our Model # 9500P Integral Electronics allows local viewing of Flow Rate and Totalized Flow Rate on a bright LED display, as well as providing a 4-20mA flow output. All flow elements are also available with Remote Electronic Transmitters that provide information such as Flow Rate, Totalized Flow Rate, and Flow Alarms.

Thermal Instrument can manufacture custom face to face dimensions to easily plumb into existing process piping when necessary. Available process connections include Flange, MNPT, Tube Ends, and Sanitary connections to meet your application.

simplifying

MASS FLOW MEASUREMENT

Thermal Instrument Mass Flow Meters

Unobstructed Inline Mass Flow Meter Available with Integral or Remote Electronics

Design Features:

- Non-wetted sensors mounted on outer surface of the flow tube allow for measurement of Gases, Liquids, and Slurries
- Built in Redundant Sensors
- 316SS construction material standard. Hastelloy, Monel, Titanium, and others are available by request
- Protective and high release coatings available
- ¼" up to 4" line size standard. Larger sizes available from factory upon request.
- Bi-Directional capability for measuring flow coming from both directions
- 4-20mA Flow Output standard. Pulse, Hart, and RS485 Modbus Communication available.
- Isolated 4-20mA Temperature Output available

Design Specifications:

Wetted Materials	316SS (Std.) Consult Factory for others
Process Connections	Tube, MNPT, Flange, VCR, VCO, Tri-Clamp. Others available upon request

Standard Installation:

10 pipe diameters before meter and 5 pipe diameters after meter without any piping changes (Note: We can calibrate to installation conditions if above cannot be met)

Fluids:

Gases:

All inert, clean, UHP, and non-condensing
Flammable, Hydrogen, Hydrocarbons, and corrosive

Liquids:

Water, Oil, Hydrocarbons, and solvents

Contact factory for others

As Pictured below:

Model 600-9/9500P Integral Electronics with Flow & Total Flow Rate Display/ Flange Process Connection/ Protective Polymer Coating applied to inner flow tube and flange.



Engineering Specifications:

Accuracy:	±0.50% of Full Scale or 1% of reading under 20% of flow range Process Fluid Temperature Span ±50°F
Repeatability:	± .20% of Rate
Turndown	10:1 Std. 1000:1 Application Dependent
Response Time:	Gases—1 to 2 Seconds Liquids— < 500ms.
Pressure Rating	0—1200 psig (Std.)
Mass Flowrates	Gas 40—50,000 SFPM Liquid .02—20 FPS
Temperature	-40—350°F (Std) , -40—175°C (Std.) Optional High Temps to 500°F (260°C)

Transmitter Specifications (Integral or Remote):

Display	8 Digit Flow Rate & Total Flow Rate
Power	120 / 240 VAC, 50/60 Hz 24 VDC, 1 Amp
Output	4-20MADC Flow (Std.) Pulse Output (Opt.) 4-20 MA Process Fluid Temp. (Opt.) 0-5 VDC, 0-10 VDC Optional Modbus RS 485, Hart Communication (Opt.)
Remote	Up to 4000'. Signal Cable- 18 Gauge, 2 Pair with shield
Communication via RS-232 Cable & 4 Button Menu System (Opt.)	

Adjustable Variables:

Filter Factor, Flow Full Scale, Flow Factor, Pipe ID, Zero Cutoff %

Enclosure Specifications:

Cast Aluminum, Epoxy painted with window or blind	
Connection	¾" FNPT Power & Signal
Ratings	Nema 4, Explosion Proof, Class 1, Div 1 Groups B, C, D Weatherproof
Temperature	Ambient -13 to 140°F (-25 to 60°C)



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