

HOW DOES THERMAL MASS FLOW MEASUREMENT BENEFIT YOU?

- Direct Mass Flow – No need for separate temperature or pressure transmitters
- High Accuracy and Repeatability – Precision measurement and optimal control of your process
- Rangeable over at least a range of 100 to 1 and as high as 1000 to 1
- Low-End Sensitivity – Detects leaks, and measures as low as 5 SFPM!
- Negligible Pressure Drop – Will not impede the flow nor waste energy
- No Moving Parts – Eliminates costly bearing replacements, and prevents undetected accuracy shifts
- Dirt Insensitive – Provides sustained performance
- Low cost of ownership

WHAT ARE THE BENEFITS THAT SAGE PRIME THERMAL MASS FLOW METERS OFFER YOU?

- Powerful state-of-the-art microprocessor technology designed for high performance mass flow measurement, at a low cost-of-ownership
- Rugged, user-friendly packaging with easy terminal access
- Proprietary digital sensor drive circuit provides enhanced signal stability and is unaffected by process temperature and pressure changes
- Low power dissipation, under 2.5 Watts (e.g. under 100 ma at 24 VDC)
- High contrast photo-emissive OLED display with numerical Flow Rate, Total and Temperature, as well as Graphical Flow Indicator
- Displays calibration milliwatts (mw) for ongoing diagnostics
- Remote Style has Lead-Length Compensation. Remote electronics up to 1000 ft from probe, and the Junction Box has no electronics
- Modbus® compliant RS485 RTU communications
- Ease of installation, and convenient mounting hardware
- Flow conditioning built in to In-line flow meters (3/4" and up)



Flow Control Magazine
2006 Innovations Awards
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SAGE PRIME™ INDUSTRIAL FLOW METER SPECIFICATIONS

Sage Prime™ is a thermal dispersion type of Flow Meter, utilizing the constant temperature difference method of measuring Gas Mass Flow Rate. It contains two reference grade platinum RTD sensors clad in a protective 316 SS sheath. It features direct Mass Flow for gases, wide rangeability, low pressure drop, very low end sensitivity, and no moving parts.

The Prime is microprocessor based, does not have any potentiometers, and has Modbus® RS485 RTU communications. It is powered by 24 VDC (15 VDC optional, or 115/230 VAC). The power dissipation is under 2.5 watts (e.g. under 100 ma at 24 VDC) for the DC version. The power and output terminals are in a separate compartment for ease of installation.

The enclosure is an Explosion Proof, NEMA 4X, windowed, dual compartment enclosure with display. The display is a high contrast photoemissive OLED display, and it displays Mass Flow Rate, Totalized Flow and Temperature as well as a graphical representation of Flow Rate in a horizontal bar graph format. In addition, the calibration milliwatts (mw) is continuously displayed, providing ongoing diagnostics. Outputs include a 4-20 ma signal (ground based) proportional to Mass Flow Rate, and Pulsed Outputs of Totalized Flow (24VDC solid state [sourcing] transistor drive) , as well as Modbus® compliant RS485 RTU communications.



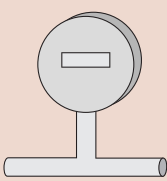
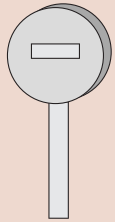
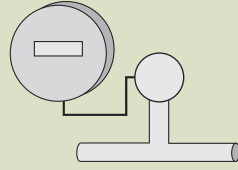
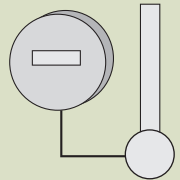
The Flow Element (Integral and Remote, Insertion Style) consists of a 1/2" OD probe (3/4" optional) with lengths up to 36" long (typically 15" long) suitable for insertion into the center of a process pipe. Mounting hardware choices (such as Isolation Valve Assemblies, Compression Fittings, and Flange Mounts) are optionally available.

The Flow Element (Integral and Remote, In-line Style) consists of a choice of 316 Stainless Steel Schedule 40 Flow Bodies sized from 1/4" x 6" long to 4" x 12" long. Male NPT ends are standard, with flanged ends, tube, or butt weld optionally available. Note 3" and 4" Flow Bodies have flanged ends as standard.

Calibration is NIST traceable, and covers a wide variety of gas calibrations. Sage Prime™ can measure gas flow up to 500°F (-40°F to 350°F standard, 500°F optional) at pressures up to 500 PSIG (1000 PSIG , optional).

Calibration Self Check: Flow Meter has built in diagnostics—a display of the calibration milliwatts (mw) can be used to check the sensor's operation by being compared to the original reported "zero flow" value noted on last line of meter's Certificate of Conformance.

Accuracy is +/- 0.5% of Full Scale +/- 1% of reading with a turn-down of up to 1000 to 1. Higher accuracy available with lower turndown (contact Sage). Repeatability of 0.2%. The Flow Meter is Sage Metering, Inc. SIP Series (Integral Style) or SRP (Remote Style), with the trade name Sage Prime™.

INTEGRAL		REMOTE	
 <p>SIP Series</p>		 <p>SRP Series¹</p>	
IN-LINE	INSERTION	IN-LINE	INSERTION
			

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Styles, the Flow Element's Junction Box is Explosion Proof (Class 1, Div 1, Groups B, C, D), and ny electronics – only a wiring terminal block. The Flow Element will be connected to the 5 feet of lead-length compensated cable. The cable (6-conductor) can be lengthened or short-fecting accuracy (max loop resistance 10 ohms, over 1000 feet).