MAJOR BENEFITS OF THERMAL MASS FLOW METERS

- Direct Mass Flow – No need for separate temperature or pressure transmitters
- High Accuracy and Repeatability – Precision measurement and extraordinary repeatability
- Turndown of 100 to 1 and resolution as much as 1000 to 1
- Low-End Sensitivity – Measures as low as 5 SFPM (e.g., 1 SCFM in a 6” pipe)
- Negligible Pressure Drop – Will not impede the flow or waste energy
- No Moving Parts – Eliminates costly bearing replacements, and prevents undetected accuracy shifts
- Ease of installation and convenient mounting hardware

SPECIFIC BENEFITS OF THE SAGE PARAMOUNT

- Features in-situ “Field Zero Calibration Check” of sensor’s performance – verifies that the sensor is clean, and assures that there is no drift, or shift in the flow meter
- Each Paramount order includes a free copy of the powerful SageCom™ validation and configuration software
- Compact design of enclosure is only 4.33” dia. by 8” deep
- High contrast photo-emissive OLED display with numerical Flow Rate, Total and Temperature, as well as Graphical Flow Indicator
- Calibration milliwatts (mw) is continuously displayed, providing for ongoing diagnostics
- Features both 1/2” dia. probe as well as optional rugged 3/4” probe and sensor with double seal (for insertion style)
- Measures velocities as high as 35000 SFPM (e.g., 3100 SCFM in a 4” Pipe)
- Proprietary digital sensor drive circuit provides enhanced signal stability and unaffected by process temperature & pressure changes
- Modbus® compliant RS485 RTU communications (HART™ optional) as well as separate USB communication channel
- Isolated 4-20 mA output and pulsed output of Totalized Flow
- Rugged, user-friendly packaging with well marked and easy terminal access including separate USB port
- Remote style has Lead-Length Compensation. Allows remote electronics up to 1000 feet from probe; Explosion Proof Junction Box has no circuitry, just terminals (suitable for harsh environments)
- Low power dissipation, under 2.5 Watts (e.g. under 100 mA at 24VDC)
- Flow conditioning built into In-Line flow meters (1/2” and up)
- Captive Flow Conditioners for Insertion meter applications, if required
SAGE Paramount™ Styles and Specifications

Sage Metering is your source for monitoring, measuring and controlling the gas mass flow in your industrial process, building management system or environmental application. Our high performance, NIST Traceable, Thermal Mass Flow Meters will help increase productivity, reduce energy costs, maximize product yields, and/or help reduce environmental insult. Sage provides high quality In-Line and Insertion Thermal Mass Flow Meters for a wide variety of industrial, commercial, and environmental monitoring needs, including carbon credit verification and Flare Gas monitoring.

**PARAMOUNT 401/402**

Standard accuracy is +/- 0.5% of Full Scale +/- 1% of reading with a turn-down of 100 to 1 and resolution as much as 1000 to 1. Repeatability is 0.2%.

**NOTE:** Enhanced accuracy optionally available with limited turn-down.

The electronics has an isolated 4 to 20 mA output proportional to Mass Flow Rate as well as pulsed outputs of Totalized Flow (24VDC solid state transistor drive). In addition, Modbus RS485 RTU communications is standard, along with a USB channel.

**INTEGRAL STYLE ELECTRONICS**

Electronics is Integral style, with rugged windowed dual compartment NEMA 4X enclosure with local display. The display is a high contrast photo-emissive OLED display, and 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.

**REMOTE STYLE ELECTRONICS**

Electronics is Remote style, with rugged windowed dual compartment NEMA 4X enclosure with display. The display is a high contrast photo-emissive OLED display, and 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. Includes Remote Mounting Hardware.

The Flow Element’s Junction Box is Expl Proofs (Class 1, Div 1, Groups B, C, D), and does not have any electronics—only a wiring terminal block. The Junction Box is connected to the Remote Electronics by 25 ft of lead-length compensated cable. The cable (6-conductor) can be lengthened or shortened without affecting accuracy (max loop resistance 10 ohms, over 1000 ft), if grounded properly, at transmitter.

**SAGE PARAMOUNT™ STYLES AND SPECIFICATIONS**

**401 SERIES – INTEGRAL**

Flow Element is In-Line style consisting of a choice of 316 Stainless Steel Schedule 40 Flow Bodies sized from 1/4” x 6” long to 4” x 12” long

**402 SERIES – REMOTE**

Flow Element is In-Line style consisting of a choice of 316 Stainless Steel Schedule 40 Flow Bodies sized from 1/4” x 6” long to 4” x 12” long

1. Male NPT ends are standard, with flanged ends, tube, or butt weld optionally available
2. Mounting hardware such as Isolation Valve Assemblies, Compression Fittings, and Flanges, are optional
3. Chart of Flow Body length “X” shown in the table on the right
4. Enhanced accuracy available upon request, especially if turndown limited. Contact Sage
5. Flow Conditioners are built into In-Line style flow bodies from 1/2” to 4”
6. 10 Amp Dry Contact external relay available for Totalized Flow (specify DCR-DC accessory)

**IN-LINE METER DIMENSIONS**

<table>
<thead>
<tr>
<th>Pipe Size x Flow Body Length</th>
<th>1/4” x 6”</th>
<th>1-1/4” x 10”</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8” x 6”</td>
<td>1-1/2” x 12”</td>
<td></td>
</tr>
<tr>
<td>1/2” x 7”</td>
<td>2” x 12”</td>
<td></td>
</tr>
<tr>
<td>3/4” x 7”</td>
<td>2-1/2” x 12”</td>
<td></td>
</tr>
<tr>
<td>1” x 8”</td>
<td>3” x 12”</td>
<td></td>
</tr>
<tr>
<td>4” x 12”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remote Mounting Hardware (included)

Optional SVA05 Isolation Valve Assembly

---

**Sage Metering, Inc.** / B Harris Court / Bldg D-1 / Monterey, CA 93940 / 866-677-SAGE (7243) / 831-242-2030 / Fax 831-655-4965 / www.sagemetering.com

PAGE 2 Rev C-400-0119