



SURE FLOW PRODUCTS

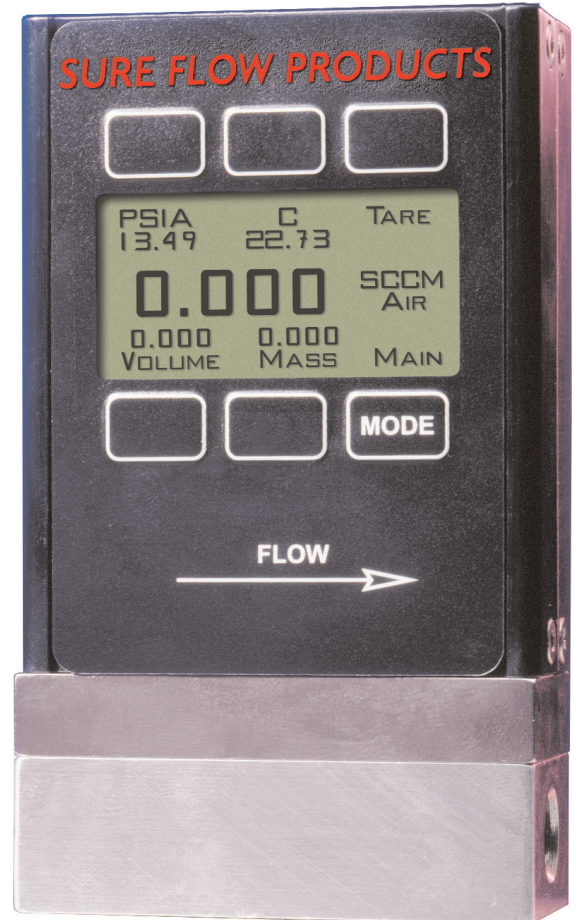
Mass & Volumetric Gas Flow Meters

The **SURE FLOW PRODUCTS GM and GV Series** flow meters use two of the best-studied physical properties of gases to measure flow: Pressure and Viscosity. Differential pressure measurement, across a laminar flow element, results in a flow meter that is inherently linear and accurate. These flow meters measure differential pressure within the laminar region, to achieve a turndown ratio better than 100:1 typical. Gas units are available with full-scale flow ranges from 0.5 (S)CCM to 1000 SLPM (2100 SCFH) with related process connection sizes of 1/8, 1/4, 1/2, and 3/4 inch NPTF.

The **GM Series "NON-THERMAL" Mass Flow Meters** use discrete Differential Pressure, Absolute Pressure, and Temperature Sensor measurements within the laminar flow region to determine mass flow. The integral microprocessor provides a software-based STP calculation compensated for pressure and temperature to standard conditions (1 atmosphere 25°Celsius). The GM Series addresses the limitations of thermal mass flow technologies, as there is no "Hot Wire" drift. The unit has an adjustable response time starting from 10 milliseconds. The dynamic display shows mass flow, volumetric flow, temperature, and absolute pressure simultaneously. A totalizing display is also available. The push button interface allows the user to select from the primary display, the required gas (14 standard gases featured), adjust meter response time, or tare the meter at zero flow.

The optional 9-volt battery pack (Series GM-P) makes this unique Mass Flow Meter portable and ideal for as a hand held test and calibration tool.

The **GV Series Volumetric Gas Flow Meters** are designed for applications venting to atmosphere, with little to no backpressure. They do not include absolute pressure or discrete temperature sensors, which makes them an affordable alternative to mass flow meters. As with the GM Series, the volumetric flow meters use discrete differential pressure sensor measurements within the laminar flow region to determine flow.



Why SURE FLOW PRODUCTS Flow Meters?

- No Mechanical Moving Parts to Service or Fail
- Continuous Display of Flow Rate, Pressure, and Temperature - total optional
- Outputs for flow and temperature or flow and pressure
- User Friendly Push Button Interface
- No Hot Wire Thermal Drift
- NIST Traceability
- Accurate Low-Flow Measurements
- CE

Design Features

- Full Scale Ranges from 0.5(S)CCM to 1000 SLPM +
- Response time of 10 milliseconds typical
- Repeatability of .25% of Rate
- Typical Low Pressure Drop of 10" Water Column or better
- Turndown Ratio of 100:1 typical
- Position Insensitive
- Push Button Tare
- Accuracy of +/- 1% full scale with optional +/- 0.5% full scale
- 14 Gas Selectability without re-calibration (with display only)

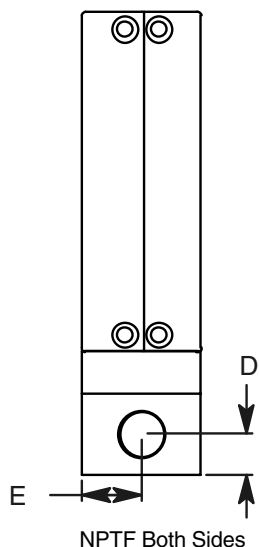
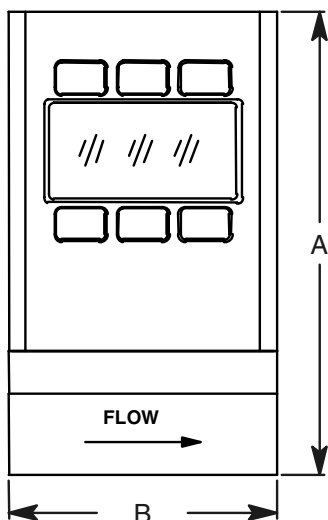
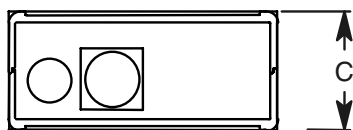
Options

- Portable
- Totalization Display
- Flow Controller
- Manual Valve
- Outputs: 4-20mA, 0 to 5 Volts, RS232
- Electrical Cables/Pin Connectors
- AC/DC Power Adapter
- Special Gas Blends
- Remote Digital Displays (LCD)
- Customized Pressure Drop
- Independent Output of Variables

Applications

- Weld Shielding Gases
- Burner Gas
- Gas Consumption
- Gas Blending
- Gas Chromatography
- Leak Testing
- Assist Gases
- Medical
- Industrial
- Process Control
- Laboratory
- OEM
- Thermal Mass Meter Replacement

SPECIFICATIONS	MASS	VOLUMETRIC	ENGINEERING UNITS	MAXIMUM FLOW RATE	
Accuracy *	+/- 1% (0.5% opt)	+/- 1% (0.5% opt)	Full Scale	0.5 (S)CCM	
Repeatability	+/- 0.5%	+/- 0.5%	Full Scale	1 (S)CCM	
Turndown Ratio	100: 1	100: 1	Full Scale	2 (S)CCM	
Response Time (adjustable)	+/- 10	+/- 10	Milliseconds	5 (S)CCM	
Pressure Drop (≤ 20 SLPM) **	0.4	0.4	PSID	10 (S)CCM	
(≤ 50 SLPM)	0.8	0.8	PSID	20 (S)CCM	
(≤ 500 SLPM)	1.25	1.25	PSID	50 (S)CCM	
(≤ 1000 SLPM)	3.25	3.25	PSID	100 (S)CCM	
Operating Temperature	0 to +50	0 to +50	°C	200 (S)CCM	
Zero Shift	0.02% / ATM	0.02%	Full Scale / °C	500 (S)CCM	1 (S)CFH
Span Shift	0.02% / ATM	0.02%	Full Scale / °C	1 (S)LPM	2 (S)CFH
Humidity Range	0-100%	0-100%	Non-Condensing	2 (S)LPM	4 (S)CFH
Over Range of Full Scale	+ 2.4%	+ 2.4%	Full Scale	5 (S)LPM	10 (S)CFH
Maximum Pressure	125	125	PSIG	10 (S)LPM	21 (S)CFH
Supply Current (Typical)	30	30	Milliamp	20 (S)LPM	42 (S)CFH
Supply Voltage	7-30	7-30	Volts DC	50 (S)LPM	105 (S)CFH
Outputs ***	0-5V dc, 0-10V dc, 4-20mA, RS-232		Mass, Vol., PSI or °C	100 (S)LPM	210 (S)CFH
Electrical Connections	8 pin	8 pin	Circ. Mini DIN/Multi Pin	250 (S)LPM	530 (S)CFH
Process Connections	1/8" \leq 20SLPM		NPTF	500 (S)LPM	1060 (S)CFH
	1/4" \leq 100SLPM			1000 (S)LPM	2100 (S)CFH
	1/2" \leq 250SLPM				
	3/4" \leq 1000SLPM				
Wetted Materials	Anodized AL, 303 and 302 Stainless Steel, Viton®, Silicone RTV, Glass Reinforced Nylon				



NOTES:

* 0.5% Option not available on 0.5(S)CCM or 100(S)LPM + Flow ranges

** For controllers, please consult SURE FLOW PRODUCTS

*** Battery powered flow meters are not available with 4-20mA output or 0-10Vdc

Please consult SURE FLOW PRODUCTS for information regarding flow controllers, alarm outputs, totalizers, remote displays, and other available accessories.

Flow Range	A*	B	C	D	E	NPT SIZE
to 20 SLPM	4.082	2.375	1.050	.358	.525	.125
21 to 50 SLPM	4.417	2.626	1.050	.358	.525	.250
51 to 100 SLPM	4.367	3.500	1.675	.390	.800	.500
101 to 250 SLPM	4.967	4.000	1.600	.913	.800	.500
251 to 1000 SLPM	4.970	4.000	1.600	.800	.800	.750

NOTE: All dimensions are shown in inches.

*For Portable/Battery Pack Meters add 2.25

Inches



SURE FLOW PRODUCTS, Inc.

2310 Chief Lane • Wixom, MI 48393 U.S.A.

Phone: 248 960-3685 • Fax: 248 926-9753

Email: sureflowproducts@juno.com • www.sureflowproducts.com

SURE FLOW PRODUCTS, Inc. reserves the right to make changes to any product herein to improve reliability,