



Eldridge Products, Inc.

a leading manufacturer of thermal gas flow meters since 1988

Eldridge Products, Inc. has pursued innovation and excellence in thermal dispersion gas mass flow measurement since 1988. Thermal flow meters offer simple, low cost operation for accurate, economical and reliable gas flow measurement for compressed air, natural gas, aeration basins, bio/digester gas, HVAC systems — virtually any gas flow. With all of the major industry approvals and a variety of configuration and installation choices, our Master-Touch™ flowmeters could be solving your measurement challenges, too.

Master-Touch™ Series 9800MP Flow Meters

MP Series flowmeters are approved for use in hazardous locations (see specifications)

Insertion style thermal mass flowmeters include a sensor & probe assembly that is inserted into the process gas flow conduit to allow the process gas to flow across the flow inlet tube. Our insertion style flowmeters are available with 1/2", 3/4", or 1" OD probes. Tube fittings and ball valve retractor assemblies, with or without a mounting flange, are also available from the factory as options. The tube length is determined by the size of the process pipe. Large ducts or stacks may require multiple averaging tubes to achieve the very best accuracy. For problematic or unique installations, please consult the factory.



Integral style thermal mass flowmeters have all of the electrical components and connections located within one enclosure. This enclosure may be rated for either hazardous environments (MP Series) or for ordinary, non-hazardous environments (MPNH Series), as necessary. The enclosure is mounted directly to the inline flow section or to the insertion probe assembly at the point of measurement. The enclosure includes the all of the electrical connections as well as the linearizing electronics and the display/keypad assembly.

Our patented **Flow Averaging Tubes™ (FAT™)** use the principle of convective heat transfer to directly measure mass flow, and are well suited to most applications with limited available straight run. In many installations, the up-stream straight run can be reduced to three diameters. The probe has a number of large diameter inlet ports along the length of the upstream impact surface. The pressure at each inlet port is averaged inside the tube to create the axial flow through the tube and across our flow sensor. The gas returns to the main flow stream through the ports located near the sensing elements. Anomalies in the actual flow profile or installations in non-circular ducts may still some require minor adjustment to achieve the best accuracy.



THERMAL GAS MASS FLOW MEASUREMENT APPLICATIONS —

Compressed Air Monitoring

Natural Gas Consumption

Ventilation Hood Alarms

Water & Wastes Aeration

Bio / Digester Gas Production

Landfill Gas Recovery

Boiler Combustion Efficiency

Stack / Flue Gases

Pharmaceutical Clean Rooms

Semiconductor Fabrication

Food Processing

Nitrogen Purging

Pulp & Paper Mills

and many more!



Specifications

Linear signal output.....	0–5 VDC & 4–20 mA (Flow and Temperature)
Signal Interface.....	RS232 & RS485 Modbus RTU embedded Optional HART or Profibus DP LCD (flow rate, flow total, gas temperature)
Accuracy, including linearity (Ref.: 21°C)*	±(1% of Reading + 0.5% of Full Scale + GTC)
Repeatability	±0.2% of Full Scale
Sensor response time	1 second to 63% of final value
Turn down ratio.....	100:1 @ 15,000 SFPM/76 NMPS minimum FS
Electronics PCB temperature range	-40° to 158°F (-40° to +70°C)
Environmental temperature range	-40° to 140°F (-40° to +60°C)
Gas temperature range	40°–150°F (5°–65°C)
Gas temperature coefficient (GTC)	0.05% Full Scale/°C @ 40°–100°F (5°–40°C) 0.10% Full Scale/°C @ 100°–150°F (40°–65°C)
Gas pressure effect.....	Negligible over ± 20% of absolute calibration pressure
Pressure rating maximum	500 PSI
Input power requirement.....	24VDC @ 250mA 115 VAC 50/60 Hz optional 230 VAC 50/60 Hz optional
Flow Transmitter power requirements	5 watts maximum
RAM Back-up	Lithium Battery
Wetted materials	316 Stainless Steel (Hastelloy optional)
Standard temperature & pressure (STP)	70°F & 29.92" Hg (Air .075 lb./cubic foot)
NIST traceable calibration	Standard

* The accuracy specification applies to the instrument only. EPI is not responsible for measurement errors due to flow profile irregularities caused by installation piping configurations, corrosion on inner pipe surfaces, valve placement, etc.

NOTE: Specifications subject to change without notice. Consult our web site, www.epiflow.com, at time of order.

NOTE: Eldridge Terms & Conditions for sales available on our web site, www.epiflow.com.

Approval Choices

MP Series Flow Transmitter — CSA/CUS, ATEX, IECEx, KOSHA (customer to specify)

Flow Transmitter Assembly

Model Number	OD"	Length
9840MP	1/2"	to 36"
9860MP	3/4"	to 60"
9880MP	1"	to 84"

Not available for Oxygen service.

APPROVAL CHOICES

**CSA/CUS
APPROVED INSTRUMENT**
For use in hazardous area locations; Class I Division 1 Group B, C, D; Class II Group E, F, G; Class III: Encl Type 4X; Class I Zone I; AEx d IIB+H2 IP66; Ex d IIB+H2 IP66; T2 or T3 or T4 as marked; Ta = 0°C to 50°C

**ATEX
APPROVED INSTRUMENT**
For use in hazardous area locations; Ta = 0°C TO 50°C; IP66; Ex d IIB+H2 T4 Gb/ Ex t IIIC T135°C Db or Ex d IIB+H2 T3 Gb/EX t IIIC T200°C Db or Ex d IIB+H2 T2 Gb/EX t IIIC T300°C Db; SIRA 12ATEX1302

**IECEx
APPROVED INSTRUMENT**
For use in hazardous area locations; T2 or T3 or T4 as marked; Ta = 0°C to 50°C; Ex d IIB+H2 T2...T4 Gb IP66; Ex tD A21 IP66 T135°C...T300°C IECEx CSA 11.0014

**KOSHA
APPROVED INSTRUMENT**
For use in hazardous area locations; Class I Group B, C, D; Class II Group E, F, G; Class III; Encl Type 4X; Class I Zone I; AEx d IIB+H2 IP66 Ex d IIB+H2 T2...T4 Gb IP66; Ex tD A21 IP66