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 9800MPNH Flow Meters

MPNH Series flowmeters are approved for use in ordinary 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
Turn down ratio	100:1 @ 15 SFPM (.076 NMS) Minimum Reading
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.

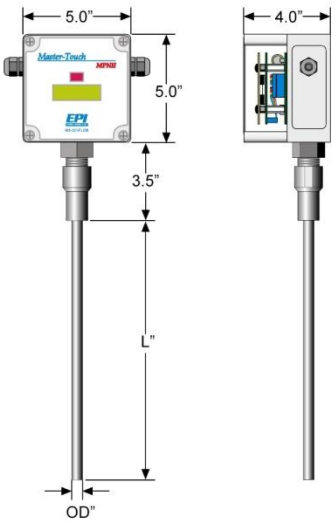
NOTE: Specifications subject to change without notice. Consult our web site, www.epiflow.com, at time of order.

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

Approval Choice

M

Flow Transmitter Assembly



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

Not available for Oxygen service.

APPROVAL

CSA/CUS
APPROVED INSTRUMENT
Class 2252-03 Process Control Equipment for Ordinary Locations; Class 2252-80 Process Control Equipment for Ordinary Locations

Certified to US CSA/CUS Standards: Class 2252-03 Process Control Equipment for Ordinary Locations; Class 2252-80 Process Control Equipment for Ordinary Locations

Certified to US Requirements