



Eldridge Products, Inc.

Manufacturer of Master-Touch™ Thermal Gas Mass Flowmeters

Eldridge Products, Inc. has pursued innovation and excellence in thermal dispersion gas mass flow measurement for 25 years. 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 Flowmeters

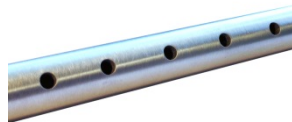
MPNH Series flowmeters are approved for use in ordinary locations (see specifications)

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.



HAUSNET S.R.L.

Tel Argentina: (+54-11) 5219-2211

Tel Chile: (+56-2) 2897-3999

E-Mail: hausnet@hausnet.com.ar

Web: www.hausnet.com.ar

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!



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Specifications

Linear signal output	0–5 VDC & 4–20 mA
Signal Interface.....	RS232 & RS485 Modbus RTU embedded HART, Profibus DP (optional)
Accuracy, including linearity (Ref.: 21°C)*	±[1% of Reading + (.5% + .05%/°C of Full Scale)]
Repeatability	±0.2% of Full Scale
Sensor response time.....	1 second
Turn down ratio.....	100:1 (1500 SFPM/7.6 NMPS minimum)
Electronics temperature range.....	-40°–85°C (-40°–185°F)
Gas temperature range	-40°–65°C (-40°–150°F)
Gas pressure effect.....	Negligible over ± 20% of absolute calibration pressure
Pressure rating maximum	500 PSI Std., > 500 PSI special
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.

Approval Choice

MPNH Series Enclosure — Ordinary (Non-Hazardous) area locations (standard)

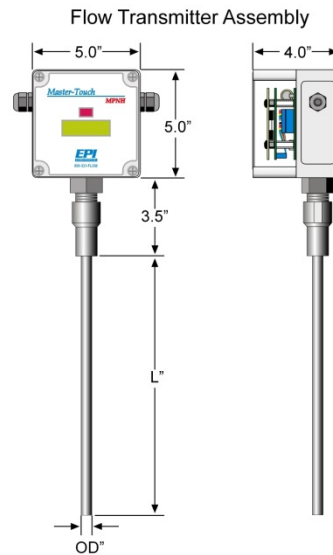
APPROVAL

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

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



Not available for Oxygen service.

Eldridge Products, Inc. • 465 Reservation Road • Marina, CA 93933 USA
 T: 1.831.648.7777 • F: 1.831.648.7780 • E: sales@epiflow.com • www.epiflow.com