



# 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 9200MPNH 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.



**Remote style thermal mass flowmeters** utilize two enclosures. One enclosure is mounted at the point of measurement on the flow section or on the probe assembly. This enclosure may be rated for either hazardous environments or for ordinary, non-hazardous environments, as necessary. The second (remote) enclosure is usually placed in a readily accessible location rated for non-hazardous conditions. (Contact the factory for information concerning remote explosion-proof enclosure). The remote 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
Ambient electronics temperature range.....	-40°–120°F (-40°–50°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](http://www.epiflow.com), at time of order.

**NOTE:** Eldridge Terms & Conditions for sales available on our web site, [www.epiflow.com](http://www.epiflow.com).

## Approval Choice

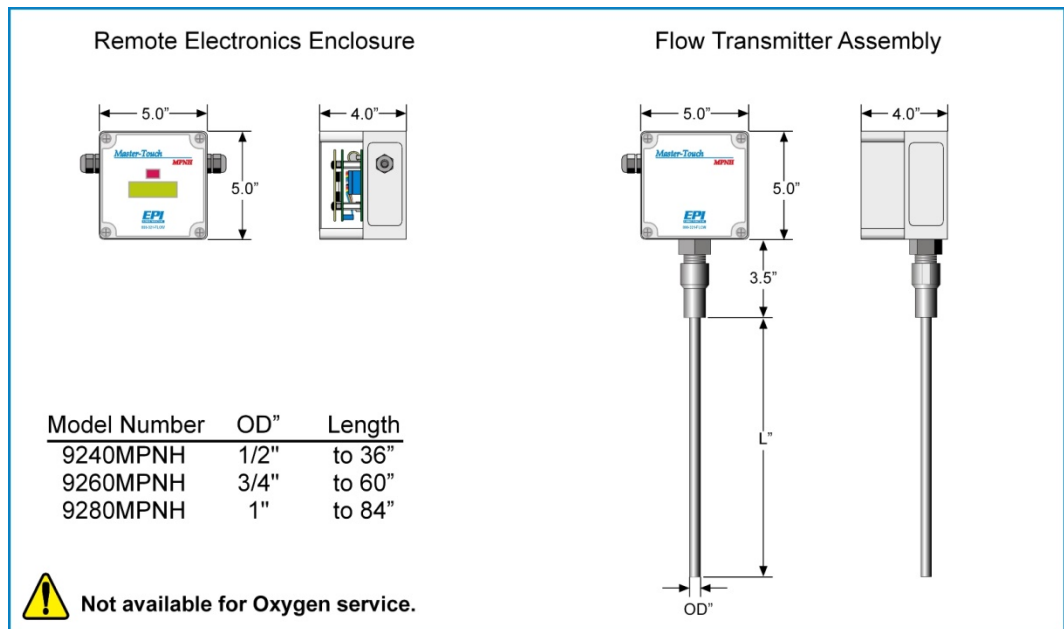
MPNH Series Enclosure — Ordinary (Non-Hazardous) area locations (standard)

### 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



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