



# 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 9200MP Flowmeters

**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.

**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
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 Choices

MP Series Flow Transmitter —	CSA/CUS, ATEX, IECEx, KOSHA (customer to specify)
MP Series Remote Enclosure —	Ordinary (Non-Hazardous) area locations (standard) CSA/CUS, ATEX, IECEx, KOSHA (optional; customer to specify)

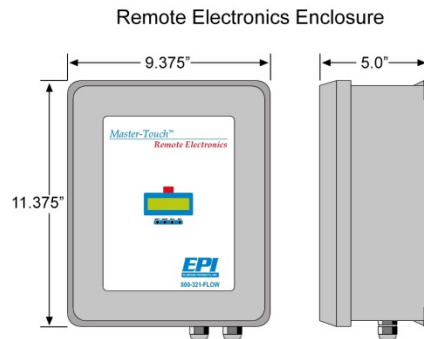
### APPROVAL CHOICES

**CSA/CUS**  
**APPROVED INSTRUMENT**  
 For use in hazardous area locations; Class I Group B, C, D; Class II Group E, F, G; Class III; End 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

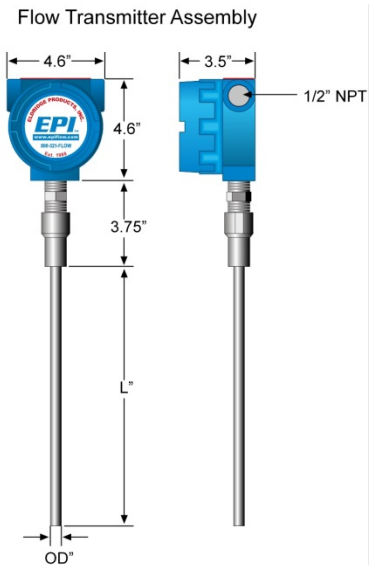
**IECEx**  
**APPROVED INSTRUMENT**  
 For use in hazardous area locations; T2 or T3 or T4 as marked; Ta = 0°C to 50°C; Ex d IIB+H2 T2...T4 Gb IP66; Ex tD A21 IP66 T135°C...T300°C IECEx CSA 11.0014

**KOSHA**  
**APPROVED INSTRUMENT**  
 For use in hazardous area locations; Class I Group B, C, D; Class II Group E, F, G; Class III; End Type 4X; Class I Zone I; AEx d IIB+H2 IP66 Ex d IIB+H2 T2...T4 Gb IP66; Ex tD A21 IP66 T135°C...T300°C



Four- or six-wire\*, twisted pair interconnect cable required between Remote Electronics and Flow Transmitter. Length to be specified  
 \* Six-wire for Temperature Output

Model Number	OD"	Length
9240MP	1/2"	to 36"
9260MP	3/4"	to 60"
9280MP	1"	to 84"



Not available for Oxygen service.

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