

Series 800HPN

A leading manufacturer of Thermal Mass Flow Meters Since 1988.



Ultra High Purity
Electro-Polished Finish
with VCR ends shown here

SERIES 800HPN

Eldridge Products, Inc. (EPI) Series 800HPN is the ideal solution for measuring gas flow in Ultra High Purity (UHP) and High Purity (HP) industry segments that require a clean hygienic flow meter. The 800HPN is recommended for use in UHP and HP industries such as Semiconductor & Display, Pharmaceutical, Biotechnology, Food & Beverage...

Master-Touch Series 800HPN Flow Meters are in-line style instruments. The Flow section is specified to match the user's flow conduit and is then plumbed directly into the process line, with all electronics mounted integrally on the flow section in a Type 4x, IP66 enclosure. All input power and signal output connections are accessible through this double-sided enclosure. The Series 800HPN features a VCR style sensor for easy removal and cleaning. This design has the sensing elements mounted directly in the flow section for exposure to the process gas. The internal wetted surface may be electropolished to either a 10 Ra or 25 Ra surface finish. Inlet flow conditioning plates are optionally available on flow sections from 3/4" to 6". Mounting is via butt weld ends. Optional end configurations include - Tri-Clamp style ends, or male VCR style ends for 1/2" - 3/4" or 1" tubes.

A 2-Line, 16-Character Transflective LCD display with a 4-button keypad, displays the flow rate, totalized flow total, gas temperatures, electronics temperature, sensor milliwatts, event / alarm relay status. It also provides access to the menuing system for change of user accessible variables. Included are 0-5 VDC and 4-20 mA outputs proportional to flow, as well as RS232; RS485; Modbus RTU; BACnet communications.

THERMAL GAS MASS FLOW MEASUREMENT APPLICATIONS-

Compressed Air Monitoring
Ventilation Hood Alarms
Bio / Digester Gas production
Boiler Combustion Efficiency
Pharmaceutical Clean Rooms
Food Processing
Pulp & Paper Mills
and many more.....

Natural Gas Consumption
Water & Waste Aeration
Landfill Gas Recovery
Stack / Flue Gases
Semiconductor Fabrication
Nitrogen Purging

Master-Touch™

Series 800HPN

RTD's (Resistance Temperature Detectors)



Thermal mass flow meters use the principle of convective heat transfer to directly measure mass flow. EPI's proprietary thermal mass flow sensors use two **precisely matched**, reference-grade platinum **Resistance Temperature Detectors (RTDs)**. The sensor elements are hermetically sealed in 316L Stainless Steel (or optional Hastelloy C276) thin wall sheaths. Our microcontroller operated smart sensor technology preferentially heats one RTD; the other RTD acts as the temperature reference. The process gas flow dissipates heat from the first RTD, causing an increase in the power required to maintain a balance between the RTDs. This increase is directly related to the molecular gas flow rate. Our sensors are temperature compensated for a wide process gas temperature range and insensitive to pressure changes, therefore the flow meter output signal is a true direct mass flow rate value.

Specifications

Linear signal output	0–5 VDC & 4–20 mA (Flow and Temperature)
Event Relays (Two)	2 one-amp SPTD relays
Communication Protocols	RS232 & RS485 Modbus RTU. Optional HART, BACnet or Profibus DP
Display LCD 2-line 16-character transreflective	Rate, Total, milliwatts, Temperature, Event
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; down to 15 SFPM (0.076 NMPS), wider available
Withstands Ambient temperature (electronics)	-40° to 158°F (-40° to 70°C)
Suitable Process Gas temperature range**	-40° to 392°F (-40° to 200°C) Extended range available
Gas temperature coefficient (GTC)	0.02% Full Scale/°C
Gas pressure effect	Negligible over ± 50% of factory calibration pressure
Pressure rating maximum	500 PSI Std.
Input power requirement	6 Watts 24 Vdc @ 250mA 120 Vac 50/60 Hz optional 240 Vac 50/60 Hz optional 240 Vac 50/60 Hz optional
Flow Meter power requirements	5 watts maximum
Date/Time RAM Back-up	Lithium Button Cell, ten-year life, quantity 1
Wetted materials	316L Stainless Steel (Optional Hastelloy C276)
Standard temperature & pressure (STP)	70°F & 29.92" Hg (Air 0.075 lb./cubic foot) Optional 0°C & 1.0132 BarA (Air 0.081 lb./cubic foot) Or user specified STP at time of order
NIST traceable calibration	Standard

* EPI is not responsible for measurement errors due to flow profile irregularities caused by installation, piping configurations, surface corrosion or scale, valve placement, etc.

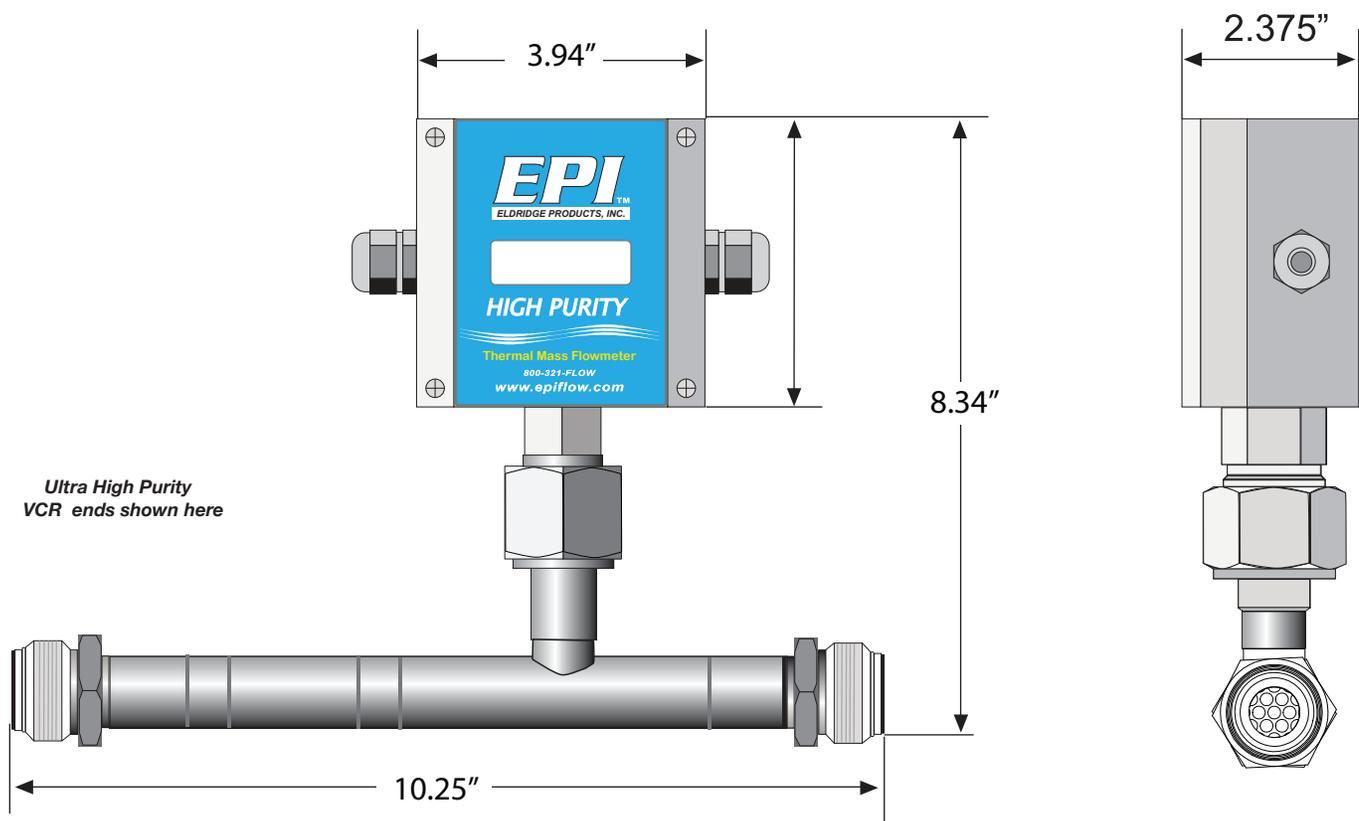
** Specify average process operating temperature, with high & low limits. Consult Factory for options required for 150° to 392° F (66° to 200° C)

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.

Dimensional Specifications

Flow Transmitter Assembly



Certification Choices

Currently no agency approvals. (Enclosure Certifications by Manufacturer Standard Type4X)

See dimensional chart for additional options and style configurations, or give our factory a call.

SERIES 800XPX DIMENSIONS / FLOW BODY SIZE AND LENGTH OPTIONS

INCH SIZE TUBE DIMENSIONS FOR ULTRA HIGH PURITY FLOW METERS						
Tube Size Inch O.D./ Wall	Butt Weld (BW) Body Length Inch / mm	Body & Screens Length Inch / mm	Body & Tri-Clamp™ Ends Length Inch / mm	Body & Screens & Tri-Clamp™ Ends Length Inch / mm	Body & VCR™ Ends Length Inch / mm	Body & Screens & VCR™ Ends Length Inch / mm
0.500 0.065	4.3 109	N/A	N/A	N/A	6.3 160	N/A
0.750	4.3 108	6.3 160	N/A	N/A	6.3 160	8.3 211
1.000	5.00 127	7.0 178	7.3 185	9.3 236	7.0 178	9.0 229
1.500	5.50 140	8.5 216	7.8 198	10.8 274	N/A	N/A
2.000	6.50 165	10.5 267	8.8 224	12.8 325	N/A	N/A
3.000	7.50 191	13.5 343	9.8 249	15.8 401	N/A	N/A
4.000	8.50 216	16.5 419	10.8 274	18.8 478	N/A	N/A

****Check with Factory for larger sizes**

JIS Sch 5 PIPE DIMENSIONS FOR ULTRA HIGH PURITY FLOW METERS				
Pipe Sizes JIS Sch 5 Inch	Butt Weld (BW) Body Length Inch / mm			Body & Screens Length Inch / mm
15A 1/2"	4.8			6.8
	122			173
20A 3/4"	5.0			7.0
	127			178
25A 1"	5.0			8.0
	127			203
32A 1-1/4"	6.0			9.0
	152			229
40A 1-1/2"	6.0			10.0
	152			254
50A 2"	6.8			10.8
	173			274
65A 2-1/2"	8.50	7.3	16.5	13.3
	216	185	419	338
80A 3"	8.0			15.0
	203			381
100A 4"	10.0			19.0
	254			483

****Check with Factory for larger sizes**

ORDER
YOURS
TODAY



Series 800HPN

WANT TO LEARN MORE...



Visit:
www.epiflow.com



Call us at:
800.321.FLOW



To place an order, email:
sales@epiflow.com