

High Purity Gas Applications

The UP Series offers a robust set of features for any application requiring high purity and high quality.

Eldridge Products, Inc. (EPI) manufactures thermal instrumentation to measure and control virtually all gas flows. Built with over thirty years experience in thermal mass flow meter design and production, our Master-Touch™ flowmeters are accurate, economical and reliable measurement tools.

Our UP Series includes a feature set designed for a variety of high purity and ultra high purity applications including pharmaceutical production, semi-conductor fabrication, and other processes require clean – and cleanable – flow instrumentation.

Master-Touch™ UP Features

Master-Touch™ Series 8600UP-8700UP flowmeters are inline style instruments 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 features a VCR style sensor for easy removal and cleaning. The flow section is electro-polished to a 7-10RA internal finish. An inlet flow conditioning plate is available as an option on flow sections from 3/4" to 6". Mounting options included butt weld, VCR or Tri-Clover™ ends. A 2-line, 16-character display/4-button keypad displays the flow rate on the top

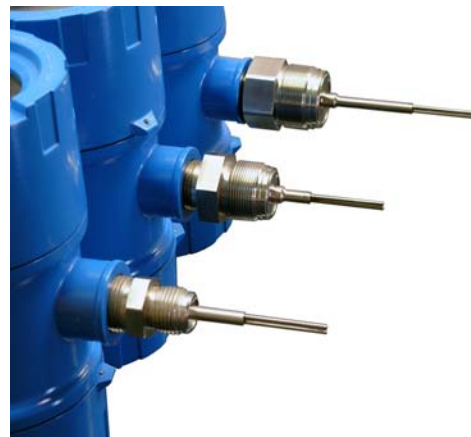


line and the elapsed flow total on the second line. It also provides access to the menuing system for complete control of flow range adjustments, and for relay programming of the alarms, pulsed outputs, trip points, etc. Both 0-5 VDC and 4-20 mA outputs proportional to flow, as well as RS232 and

RS485 ASCII/Modbus RTU communications, are included at no additional cost. HART and LightWIRE™ infrared communications are optionally available.

EPI's Flow Technology

Thermal mass flowmeters use the principle of convective heat transfer to directly measure mass flow. EPI's VCR sensors consist of two resistance temperature detectors (RTDs). One RTD is heated; 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 gas molecular rate of flow.



Multiple VCR sizes available for replacement of existing flowmeters

Our VCR sensors are temperature compensated and insensitive to pressure changes, so the output signal is a true mass flow rate signal which can be directly interfaced with your data acquisition system without the need for further temperature and pressure instrumentation.

For more information about EPI, please visit us at www.epiflow.com or epiflow.blogspot.com.

Master-Touch™ Advantages

The Master-Touch flowmeter provides you with a powerful set of features that include:

- Continuous, real-time flow tracking;
- A wide turndown ratio of at least 100:1 with a minimum velocity of 1500 SFPM;
- Onboard or remote (PC) data-logging of a variety of flow variables;
- Time and date stamping of maximum and minimum flow rates;
- User-programmable Low Flow cutoff;
- A 2-line, 16-character display for rate, total, and relay status;
- Up to four independent metering ranges;
- RS232 & RS485 ASCII/Modbus RTU (HART & LightWIRE™ infrared optional).

Specifications

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|---|---|
| Linear signal output | 0-5 VDC & 4-20 mA |
| Signal Interface | RS232 & RS485 ASCII or Modbus RTU (user-selectable) (HART and LightWIRE™ infrared optional) |
| Display / Keypad | 2-line, 16-character LCD with 4 tactile buttons |
| Accuracy (including linearity) | ± [1.0% of Reading + (0.5% Full Scale + 0.02%/°C)] |
| Repeatability | ± 0.2% of Full Scale |
| Sensor response time (stainless) | 1 second (time constant per step change) |
| Turn down ratio | 100:1 minimum with 1500 SFPM |
| Electronics temperature range | -40° to 85°C (-40° to 185°F) |
| Gas temperature range | -40° to 66°C (-40° to 150°F), extended ranges available |
| Gas temperature effect | 0.02%/°C |
| Gas pressure effect | Negligible over ± 20% of absolute calibration pressure |
| Pressure rating maximum | 500 PSI |
| Transmitter power requirements | 5 Watts or less |
| Wetted materials | 316 Stainless Steel 7-10RA electro-polished internal finish |
| Standard temperature & pressure (STP) | 70°F & 29.92" Hg (Air .075 lb./cubic foot) |
| NIST traceable calibration | Standard |
| Enclosure manufacturer rating* (flowmeter not yet rated) | Class I Div 1 Groups B, C and D; Class II Groups E, F and G; Class III; Type 4X Ex d IIB+H2, IP66 Class I Zone 1 AEx d IIB+H2; IP66 CE 0344; EX II 2 G D / EEx d IIB+H2; IP66 |
| * EPI Series UP flowmeters | CSA/CUS/ATEX pending |

SPECIFICATION NOTICE

The specifications contained herein are subject to change without notice. EPI cannot guarantee the applicability or suitability of our products in all situations since it is impossible to anticipate or control every condition under which our products and specifications may be used.

LIMITED WARRANTY

EPI warrants its products to be free from defects in materials and workmanship for one year from the date of factory shipment. If there is a defect, the purchaser must notify EPI of the defect within the warranty period. Upon receipt of the defective product, EPI will either repair or replace the defective product at its sole option. EPI MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AS TO THE PRODUCTS. EPI MAKES NO WARRANTY THAT THE GOODS SOLD TO ANY PURCHASER ARE FIT FOR ANY PARTICULAR PURPOSE. FURTHERMORE, EPI MAKES NO WARRANTY OF MERCHANTABILITY WITH RESPECT TO ANY PRODUCTS SOLD TO ANY PURCHASERS. There are no other warranties that extend beyond the description on any brochure or price quote.

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