Series 500 ValuMass™ Flowmeters

Low Cost / High Value

Eldridge Products, Inc. (*EPI*) is a proven leader in gas flow measurement. Our Master-Touch™ thermal dispersion gas mass flowmeters and patented Flow Averaging Tubes set the standard for innovation, performance and reliability. Now our **Series 500 ValuMass™** flowmeters offer a **lower cost** option for many flow applications with the **high value** associated with all of *EPI*'s flow measurement instrumentation.

The Series 500 ValuMass™ flowmeters include 16-bit linearization technology for excellent flow rate accuracy and rugged construction of 316/316L stainless steel wetted parts. The robust feature set includes:

- a 0 – 5 or 0 – 10 VDC output
- a 4 – 20mA output
- RS485 Modbus RTU communications
- a 0 – 1 kHz output proportional flow
- an RS232C port
- an optional 2-line, 16-character backlit LCD and 4-button keypad
- a programmable dry contact Relay for alarms or pulsed output totalization

Our ValuMass™ inline and insertion style flowmeters accommodate virtually all common installation requirements. The insertion style flowmeters are available with ½" OD probes in 6", 12" or 18" lengths and a compression fitting is included with all insertion style flowmeters. The inline style flowmeters are available for line sizes from ¼" to 2". The 3 ½" long flow sections have MNPT ends as standard for easy mounting in the process line. ValuMass™ flowmeters accept 24VDC, 115VAC or 230VAC input power as specified at the time of purchase.

Insertion Inline

Thermal Technology

EPI's thermal dispersion flowmeters are solid state instruments that use the principle of convective heat transfer to directly measure gas mass flow. *EPI*'s sensors consist of two resistance temperature detectors (RTDs). A digital bridge preferentially heats one RTD; the other RTD acts as the temperature reference. The 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.

Our sensors are temperature compensated and insensitive to pressure changes, so no additional instrumentation or calculations are required. The output signal is a true mass flow rate signal which can be directly interfaced with your data acquisition system.

Model Numbers

Model	Style	Size
540 0406	insertion	½" x 6" probe
540 0412	insertion	½" x 12" probe
540 0418	insertion	½" x 18" probe
500 S4002	inline	¼" x 3 ½" flow section
500 S4003	inline	⅜" x 3 ½" flow section
500 S4004	inline	½" x 3 ½" flow section
500 S4006	inline	¾" x 3 ½" flow section
500 S4008	inline	1" x 3 ½" flow section
500 S4010	inline	1 ¼" x 3 ½" flow section
500 S4012	inline	1 ½" x 3 ½" flow section
500 S4016	inline	2" x 3 ½" flow section

Display and Keypad

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Series 500 **ValuMass**™ Thermal Flowmeters

Specifications

Accuracy (including linearity)	± [2% of Reading + (0.5% Full Scale + 0.05% / °C)]
Repeatability	± 0.5% of Full Scale
Linear Signal Output	0 – 5 or 0 – 10VDC, 4 – 20 mA, RS485 Modbus RTU 0 – 1 kHz (proportional to flow for total/counter)
Sensor Response Time	1 second
Turndown Ratio	100:1 (not less than 15 SCFM / FT^2)
Transmitter Operating Temperature	0° – 130°F (-18° – 55°C)
Temperature Compensation	Standard 0° – 150°F (-18 – 66°C) **Optional** 0° – 250°F (-18° – 121°C)
Gas Pressure Effect	Negligible over ± 20% of absolute calibration pressure
Pressure Rating Maximum:	
Inline Flowmeters	500 PSIG
Insertion Flowmeters	225 PSIG (Stainless Steel ferrule) 25 PSIG (Teflon™ ferrule)
Input Power Requirement	24 VDC @ 250mA 115 VAC 50/60 Hz 100mA optional 230 VAC 50/60 Hz 50mA optional
Transmitter Power Requirements	5 Watts or less
Relay Output Rating	1 Amp @ 30VDC (33W)
Communications	RS-232C, RS485 Modbus RTU
Display	Optional 2-line, 16-character backlit LCD and 4-button keypad
Wetted Materials	316 & 316L Stainless Steel
Standard Temperature & Pressure (STP)	70°F & 29.92" Hg (Air = 0.075 Lbs. / FT^3)
NIST Traceable Calibration	Standard
Enclosure Rating	NEMA 4X (IP66)
Approvals	CE Mark

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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