

Fast Response Ultra Stable Mass Flow Meter

FEATURES

- Fast 200 millisecond response to changes in flow rate
- Field Proven Ultra stable Glass/Ceramic flow sensor
- Small footprint for in-line bodies at 1/4 inch to 3/4
- Exceptional sensitivity over a wide range of flows:
 - Minimum < 0.5 slpm (0.02 scfm)
 - Maximum > 700 slpm (25 scfm)
 - Always calibrated to individual needs
- Low pressure loss
- Available in 316 Stainless Steel and Anodized Aluminum
- Direct mass flow monitoring eliminates need for separate temperature and pressure inputs

FastTrak™ 730



DESCRIPTION

Sierra Instruments' FastTrak™ 730 Flow Meters provide outstanding measurement accuracy and 200 millisecond response time at a competitive price.

The FastTrak measures the mass flow rate of air and many process gases. The FastTrak meter is available in pipe sizes from 1/4-inch to 3/4-inch and delivers an electronic output signal proportional to total gas mass flow rate.

The FastTrak meter is ideal for monitoring flows of non-corrosive gases compatible with the device's wetted materials, and applications requiring fast time response. Gas mass velocity is monitored with Sierra's field-proven fast response thermal mass flow sensor—distinguished by its exceptional accuracy and speed of response.

FastTrak meters are available in several configurations to satisfy every flow monitoring application. Output signal options include 0 to 5 VDC, or 4 to 20 mA, all proportional to gas mass flow rate, in your choice of engineering units.



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PERFORMANCE SPECIFICATIONS

Accuracy

+/- 1.0% of full scale over 32° to 120°F (0° to 50°C) and 5 to 30 psia (0.3 to 2 barg)

Repeatability

+/- 0.2% of full scale

Temperature Coefficient

+/- 0.02% of reading per °F within +/- 50°F (25°C) of customer specified conditions

+/- 0.03% of reading per °F within +/- 50° to 100°F (25°C to 50°C) of customer specified conditions

Pressure Coefficient

0.02% per psi for air, consult factory for other gases

Response Time

200 milliseconds to 63% of final velocity value

PHYSICAL SPECIFICATIONS

Wetted Material

316 stainless steel or anodized aluminum; glass-coated sensor; epoxy; Viton® "O"-rings

Enclosure

Anodized aluminum NEMA 2

OPERATING SPECIFICATION

Gases

Most non-combustible, non-corrosive gases including Air, Argon, CO₂ Helium and Nitrogen

Gas Pressure

Maximum 120 psig (8 barg)

Mass Flow Rate

Standard flow rates shown below. Lower and higher flow rates are available upon request. Ranges change with other gases (contact factory).

| NPT Size | Mass Flow Rate For Air | | | |
|----------|------------------------|---------|-------------------|----------|
| | Flow Range (scfm) | | Flow Range (slpm) | |
| | Minimum | Maximum | Minimum | Maximum |
| 1/4 inch | 0 to 0.02 | 0 to 7 | 0 to 0.5 | 0 to 200 |
| 1/2 inch | 0 to 1 | 0 to 12 | 0 to 34 | 0 to 340 |
| 3/4 inch | 0 to 2.5 | 0 to 25 | 0 to 70 | 0 to 700 |

Pressure Drop

Negligible

Gas & Ambient Temperature

Gas 15° to 176°F (-10° to 80°C)

Ambient 32° to 120°F (0° to 50°C)

Leak Integrity

1 X 10⁻⁴ atm cc/sec of helium maximum

Power Requirements

15 to 18 VDC, 300 mA

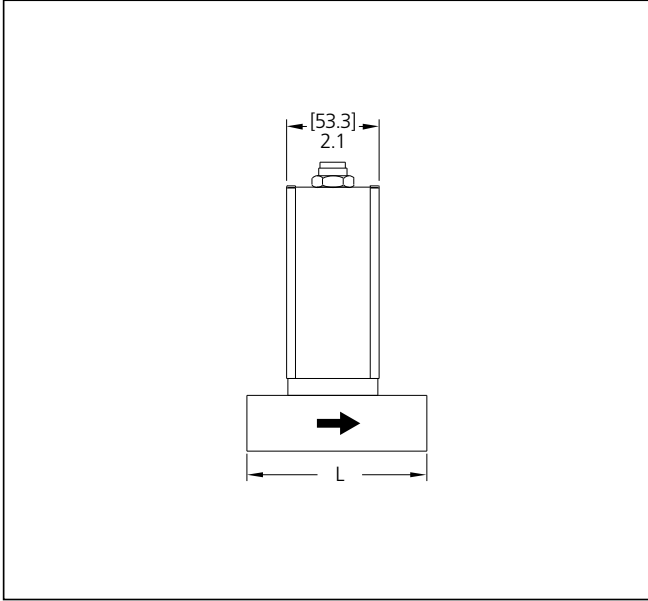
Output Signal (choice of one)

Linear 0 to 5 VDC proportional to mass flow rate, 1000 ohms minimum load resistance

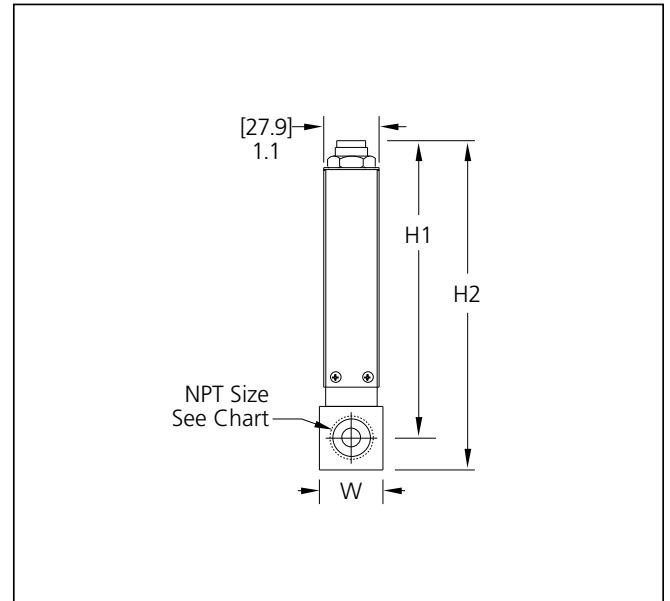
Linear 4 to 20 mA proportional to mass flow rate, 400 ohms maximum loop resistance

All dimensions are inches. Millimeters are in parentheses. Certified drawings are available on request.

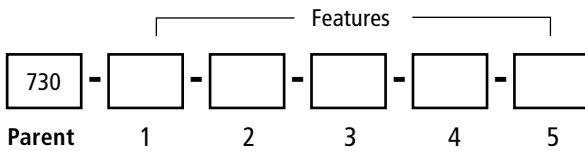
1/4 to 3/4-inch NPT - Front View



1/4 to 3/4-inch NPT - Outlet View



| Model 730 Dimensions | | | | |
|----------------------|--------------|--------------|--------------|--------------|
| NPT Size | L | H1 | H2 | W |
| 1/4-inch (Female) | 3.1 (79) | 5.8 (147) | 6.4 (163) | 1.2 (163) |
| 1/2-inch (Female) | 4.0 (102) | 5.8 (147) | 6.4 (163) | 1.2 (163) |
| 3/4-inch (Female) | 4.0 (102) | 5.8 (147) | 6.4 (163) | 1.2 (163) |



Instructions: To order a 730 please fill in each number block by selecting the codes from the corresponding features below.

| Parent Number | |
|---------------|---|
| 730 | FastTrak® In-line Mass Flow Meter. 15 -18 VDC input power; linear 0-5 VDC or 4-20 mA output; 200 msec response; Calibrated temperatures up to 176°F (80°C) and pressures up to 120 psig (8 barg). |

| Feature 1: Body Size | |
|----------------------|---------------------------------------|
| N1-1 | 1/4-inch Female NPT-Anodized Aluminum |
| N2-1 | 1/2-inch Female NPT-Anodized Aluminum |
| N3-1 | 3/4-inch Female NPT-Anodized Aluminum |
| N1-2 | 1/4-inch Female NPT-316SS |
| N2-2 | 1/2-inch Female NPT-316SS |
| N3-2 | 3/4-inch Female NPT-316SS |

| Feature 2: Electronics Enclosure | |
|----------------------------------|--|
| EO | NEMA 2 Enclosure. Mounted directly on the body |

| Feature 3: Input Power | |
|------------------------|-----------|
| PV1 | 15-18 VDC |
| PV-2 | 24 VDC |

| Feature 4: Output | |
|-------------------|------------------|
| V1 | 0-5 VDC, Linear |
| V3 | 0-10 VDC, linear |
| V4 | 4-20 mA, Linear |

| Feature 5: Gas | |
|----------------|-----------------------|
| 0 | Air |
| 1 | Argon |
| 2 | Carbon dioxide |
| 6 | Helium |
| 10 | Nitrogen |
| 99 | Other-Consult Factory |

Note: Consult Page 3.

