

SERIES 800 FLOW METER

Type 804 EXP

External Power Electromagnetic Insertion Flow Meter

Teledyne Valeport Water's Type 804 EXP is a fully waterproof, electromagnetic insertion flow meter that offers industry standard performance coupled with robust build quality and reliability, all backed up with Teledyne's exceptional customer service and support mechanisms.

The Type 804 flow meter will measure bi-directional flow rates as low as 0.02 m/s^{-1} (0.07 f/s) and up to 5 m/s^{-1} (16 f/s) with accuracies of better than 0.002 m/s^{-1} (0.006 f/s) possible. Add a real-time temperature measurement and flexible interfacing protocols, here is a tool that can help manage your water distribution networks.

A highly cost effective solution due to reliability, ease of installation and recovery, with no interruption to supply, for pipe diameters from 100 mm to 2000 mm (4 in to 80 in).

- The External Power version of the Type 804 is powered by a 12 to 28 Vdc supply
- The flexibility to interface to all data loggers, telemetry or SCADA systems through fully documented and open data protocols
 - Pulse
 - RS485 | Modbus RTU



Key Features:

- High accuracy at low velocities
- Bi-directional flow measurement
- Low power
- Digital signal processing
- Direct data output
 - open protocols
- Internal self check in accordance with OIML R49, type P
- Integrated temperature
- Pressure monitoring port (max 20 bar, 290 psi)

Operations:

- Flow monitoring:
 - night flow
 - meter testing
- DMA & zoning surveys
- Leak detection
- Metering:
 - reservoirs | treatment and pumping stations
- Expert mode for data diagnostics
- External Power 12 to 28 Vdc
- Hot tap installation
 - with a safety chain
- Permanent installation

DATA SHEET

Product Details



FLOW METER



ELECTROMAGNETIC INDUCTION



UTILITY SOFTWARE CONFIGURE

CERTIFICATION



Sensor: Technical Specifications

The Type 804 EXP measures the flow of water based on Faraday's law of induction to generate a voltage proportional to the flow speed of the water.

Operational Performance

Bi-Directional Flow

| | | | |
|--|----------------------------------|---------------------------|-------------------------|
| Range | Minimum | 0.02 m/s ⁻¹ | 0.065 f/s ⁻¹ |
| | Maximum | 5.0 m/s ⁻¹ | 16 f/s ⁻¹ |
| Accuracy | in steady, fully developed flow: | | |
| | < 0.1 m/s ⁻¹ | ±0.002 m/s ⁻¹ | |
| | < .33 f/s ⁻¹ | ±0.0065 f/s ⁻¹ | |
| | > 0.1 m/s ⁻¹ | ±2% | |
| | > .33 f/s ⁻¹ | ±2% | |
| <i>minimum conductivity of 20 µs/cm required</i> | | | |
| Temperature | Operational | 0 °C to 50 °C | 32 °F to 122 °F |
| | Storage | -20 °C to 60 °C | -4 °F to 140 °F |
| | Accuracy | ±0.5° unit | |

Operational Characteristics

| | | | |
|---|---|------------------|----------------------------------|
| Temperature | Electronics | -20 °C to +60 °C | -4 °F to 140 °F |
| | Resolution | Sensor element | -20 °C to +60 °C -4 °F to 140 °F |
| Resolution | Accuracy | ±0.5° unit | |
| | Pressure Internal to Pipe | Maximum | 20 bar |
| <i>safety chain to be fitted</i> | | | |
| Humidity | Potted electronics for all environments | | |
| IP68 NEMA 6 | 10 Meters (33 ft) for 72 hrs with connector mated | | |
| Units - User Selectable Options: | | | |
| mm Meter Foot | | | |
| Second Minute Hour Day | | | |
| Liter Megaliter Meter ³ Kilometer ³ | | | |
| Ft ³ Kilo Ft ³ | | | |
| Imp Gallon Kilo Imp Gallon Mega Imp Gallon | | | |
| US Gallon Kilo US Gallon Mega US Gallon | | | |
| Centigrade Fahrenheit | | | |

Power

| | |
|--------------------|-------------------------|
| External | 12 to 28 Vdc |
| Consumption | 0.7 mA—typical scenario |

Calibration

The Type 804 series is calibrated in a purpose built facility against multiple flow speeds to a traceable standard.

Software

Valeport Configure, a Windows software App is available here for instrument set up.

Physical Characteristics

Materials All materials in contact with the water are approved by WRAS:
Stainless Steel - 316 | Brass | Nickel plated Brass | PVC | PVDF | Nitrile Rubber - 4470

Dimensions (mm) – Type 804 EXP

| | | | |
|-------------------|--------------------|------------------|------------|
| Resolution | Insertion Length | 300 500 mm | 12 20 in |
| | Sensor Diameter | 22 mm | .866 in |
| | Stem Diameter | 19 mm | .748 in |
| | Electronics Module | diameter: 106 mm | 4.17 in |
| | | height: 80 mm | 3.15 in |

Pipe Connection 1" NPT

Weight <3 kg

Communications

The Type 804 EXP has both serial and analogue output capability. Setup is over serial COMs only—RS485 a PC App—Valeport Configure is supplied, licence free

Analogue 2 pulse outputs—isolated, four options:
flow | direction
+ve flow | -ve flow
+ve flow | temperature
dose output +ve | dose output -ve
up to a maximum of 50Hz

Digital

RS485 Modbus RTU 4800 up to 38400 | 8N1 or 8E1

Data Available Point Velocity | Average Velocity | Flow
(Noise estimate available)
Totalisers: Positive | Negative | Net
Temperature

Ordering

Contact Teledyne ISCO

Type 804 EXP Insertion Flow Meter External Power (12 to 28 Vdc)

604480006 300 mm (12 in) insertion depth
604480011 500 mm (20 in) insertion depth

604480055 Type 804 | PC interface cable
604480060 Type 804 System Interface cable (4 m)

