

SERIES 800 FLOW METER

Type 804 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 Valeport Water's exceptional customer service and support mechanisms.

The Type 804 flow meter will measure bi-directional flow rates as low as 0.02 ms^{-1} and up to 5 ms^{-1} with accuracies of better than 0.002 ms^{-1} 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.

- The External Power version of the Type 804 can be powered by a 12 to 28 V DC supply
 - a single internal battery will cover power outages
- The flexibility to interface to all data loggers, telemetry or SCADA systems through fully documented and open data protocols
 - Digital output: RS232 | RS485 | Modbus RTU
 - Analogue output: Pulse



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 20bar)

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 28V DC
- Hot tap installation
 - with a safety chain
- Permanent installation
- Temporary deployment



DATA SHEET

Product Details



FLOW METER



ELECTROMAGNETIC
INDUCTION



UTILITY SOFTWARE
CONFIGURE

CERTIFICATION



Certified to
NSF/ANSI/CAN 61

Sensor: Technical Specifications

The Type 804 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 ms ⁻¹
	Maximum	5.0 ms ⁻¹
Accuracy	in steady, fully developed flow:	
	less than 0.1 ms ⁻¹	±0.002 ms ⁻¹
	greater than 0.1 ms ⁻¹	±2% <i>minimum conductivity of 20µs/cm required</i>
Temperature	Operational	0° C to 50° C
	Storage	-20° C to 60° C
	Accuracy	±0.5° unit

Operational Characteristics

Temperature	Electronics	-20° C to +60° C
	Sensor element	-20° C to +60° C
	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 1.5 m for 100 hrs with connector mated

Units - User Selectable Options:

mm | Metre | Foot
 Second | Minute | Hour | Day
 Litre | Megalitre | metre³ | Kilometre³
 Ft³ | Kilo Ft³
 Imp Gallon | Kilo Imp Gallon | Mega Imp Gallon
 US Gallon | Kilo US Gallon | Mega US Gallon
 Centigrade | Fahrenheit

Power

Battery Internal: Lithium primary cell (19.0 Ah x 2)

External 12 to 28 V DC

Consumption 0.7mA - typical scenario

Connector Souriau - 10 way (UTS712E10P) [male]

Calibration

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

Software

Teledyne 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

Insertion Length 300 | 500 | 700 | 1000 | special
 Sensor Diameter 22
 Stem Diameter 19
 Electronics Module diameter: 106 | height: 80

Pipe Connection 1" (25 mm) BSP | 1" NPT

Weight <3 kg

Communications

The Type 804 EXP has both serial and analogue output capability. Setup is over serial COMs only - RS232 or RS485 (factory setting) 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

RS232 | RS485 Modbus RTU 4800 up to 38400 | 8N1 or 8E1
(RS232/RS485 is a factory setting)

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

Ordering

Contact Teledyne Valeport Water

080402-EXP-00X-YYY Type 804 EXP Insertion Flow Meter
 External Power (12-28 VDC)

X = insertion length 1 = 300 mm
 2 = 500 mm
 3 = 700 mm
 4 = 1000 mm
contact Teledyne Valeport Water for alternative lengths

YYY = fitting size BSP or NPT

Related Products -

contact Teledyne Valeport Water for details

080402-3-00X-YYY Type 804 Insertion Flow Meter

0804-021 Type 804 Display Hub

080400-10X-YYY Pipe Internal Diameter Gauge (1" and 2" fittings)



Datasheet Reference: Type 804 EXP EM Insertion Flow Meter | June 2025

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