## SERIES 800 FLOWMETERS

# Type 804 - External Power Electromagnetic Insertion Flowmeter

Valeport's Type 804 ExP and Type 804 ExP mini are fully waterproof, electromagnetic insertion flowmeters that offer industry standard performance coupled with robust build quality and reliability, all backed up by Valeport Water's exceptional customer service and support mechanisms.

Our Type 804 insertion flowmeters will measure bi-directional flow rates as low as 0.02ms<sup>-1</sup> and up to 5 ms<sup>-1</sup> with accuracies of better than 0.002ms<sup>-1</sup>. Add a real time temperature measurement and we can help you 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 70mm (Type 804 mini) to 2000mm

- 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
  - Pulse
  - RS232 | RS485 | Modbus RTU

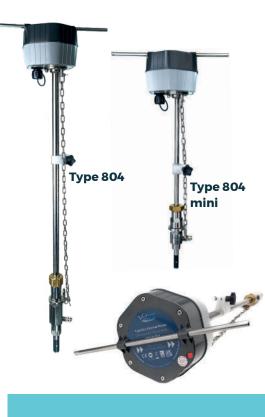


#### **Key Features:**

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

#### 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**







ELECTROMAGNETIC INDUCTION



UTILITY SOFTWARE CONFIGURE

CERTIFICATION











#### **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

#### **Operational Performance**

	Flow

Range	from a minimum of to a maximum of	0.02 ms <sup>-1</sup> 5.0 ms <sup>-1</sup>	
Accuracy	in steady, fully develop less than 0.1 ms <sup>-1</sup>	dy, fully developed flow: an 0.1 ms <sup>-1</sup> ±0.002 ms <sup>-1</sup>	
	greater than 0.1 ms <sup>-1</sup>	±2%	

Temperature from a minimum of 0°C to a maximum of

50° C ±0.5° unit Accuracy

Operational Characteristics				
Temperature	<b>Electronics</b> from a minimum of to a maximum of	-20° C +60° C		
	<b>Sensor Element</b> from a minimum of to a maximum of	0° C +60° C		
Pressure Internal to Pipe	to a maximum of	20 bar	safety chain to be fitted	
Humidity	potted electronics for all environments  10 metres for 72 hrs with connector mated			
IP68   NEMA 6				

#### **Units - User Selectable Options:**

mm | Metre | Foot Second | Minute | Hour | Day Litre | Megalitre | metre<sup>3</sup> | Kilometre<sup>3</sup> 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 x1 **External** 12 to 28 V DC Consumption 0.7mA - typical scenario Connector Souriau - 10 way (UTS712E10P)

#### **Calibration**

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

[Male]

#### **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

Insertion Length 300 | 500 | 700 | 1000 | special

Sensor diameter 22 Stem Diameter 19

Electronics Module diameter: 106 | height: 80

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

Weight <3 kg

Dimensions (mm) - Type 804 mini

Insertion Length 200 Sensor diameter 16 Stem Diameter 123

Electronics Module diameter: 106 | height: 80

¾" hot tap | BSP or NPT **Pipe Connection** 

Weight <2 ka

#### **Communications**

The Type 804 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

2 pulse outputs - isolated, four options: Analogue flow | direction

+'ve flow | -'ve flow +'ve flow | temperature

dose output +'ve | dose output -'ve up to a maximum of 50Hz

**Digital** 

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

**Modbus RTU** 

Data Available Point Velocity | Average Velocity | Flow

(Noise estimate available)

Totalisers: Positive | Negative | Net

Temperature Battery capacity

#### **Ordering**

Contact Valeport Water

#### 080402-ExP-00X-YYY Type 804 Insertion Flowmeter

1 = 300mm X = insertion length

> 2 = 500mm 3 = 700mm

4 = 1000mm contact Valeport Water for alternative lengths

**080403-ExP-001-YYY** Type 804 mini Insertion Flowmeter

YYY = fitting size BSP or NPT

#### **Related Products** contact Valeport Water for details

080402-3-00X-YYY Type 804 Insertion Flowmeter

080403-3-001-YYY Type 804 mini Insertion Flowmeter

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





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