

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^{-1} and up to 5ms^{-1} with accuracies of better than 0.002ms^{-1} . 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



FLOWMETER



ELECTROMAGNETIC
INDUCTION



UTILITY SOFTWARE
CONFIGURE

CERTIFICATION

UK
CA

NSF

CE

Certified to
NSF/ANSICAN 61

Valeport Water Limited
St. Peter's Quay, Totnes,
Devon TQ9 5EW United Kingdom

Telephone: +44 (0) 1803 227910
Email: info@valeportwater.co.uk
www.valeportwater.co.uk



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	from a minimum of to a maximum of	0.02 ms ⁻¹ 5.0 ms ⁻¹
Accuracy	in steady, fully developed flow: less than 0.1 ms ⁻¹ greater than 0.1 ms ⁻¹	±0.002 ms ⁻¹ ±2% <i>minimum conductivity of 20µs/cm required</i>
Temperature	from a minimum of to a maximum of Accuracy	0° C 50° C ±0.5° unit

Operational Characteristics

Temperature	Electronics from a minimum of to a maximum of	-20° C +60° C
	Sensor Element from a minimum of to a maximum of	0° C +60° C
Pressure Internal to Pipe	to a maximum of	20 bar <i>safety chain to be fitted</i>
Humidity	potted electronics for all environments	
IP68 NEMA 6	10 metres for 72 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 x1
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

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" (25mm) BSP 1" NPT
Weight	<3 kg

Dimensions (mm) - Type 804 mini

Insertion Length	200
Sensor diameter	16
Stem Diameter	12.3
Electronics Module diameter: 106 height: 80	
Pipe Connection	¾" hot tap BSP or NPT
Weight	<2 kg

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

Analogue	2 pulse outputs - isolated, four options: flow direction +ve flow -ve flow +ve flow temperature dose output +ve dose output -ve <i>up to a maximum of 50Hz</i>
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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 Valeport Water

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

X = insertion length	1 = 300mm 2 = 500mm 3 = 700mm 4 = 1000mm <i>contact Valeport Water for alternative lengths</i>
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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)



Datasheet Reference: Type 804 (m) Exp EM Insertion Flowmeter | February 2023

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