

# EuroMag 2200/2500 Electromagnetic Flow Meter

MAINS OR BATTERY POWERED DN25...2000mm / PN 16... PN40

## Description

The **EuroMag 2200/2500 series** of electromagnetic sensors represent new technology for the accurate measurement for water reticulation and process applications.

This **new generation** sensor incorporates improvements to the signal protection as well as the magnetic distribution elements to create a unique electromagnetic field profile that ensures accuracy in turbulent, transitional, and laminar flow regimes. These new extended linearity EuroMag meters are capable of measurement in a range of more than **1000:1** without the aid of linearization software.

## Electronic Design

The meters are fitted with EuroMag's latest low power consumption electronic multiple output MC608 model transmitter with either mains or battery powered options.

The transmitter is IP67 rated when mounted on the meter or in an application with flooding potential the transmitter can be remote mounted with an IP68 rating for continuous underwater use to a depth of 10 meters. The transmitters large LCD backlit display provides full data interface via the 4 push buttons located below the display including Volume, Totalizers, Flow rates, Battery condition, flow direction, alarms, data logging, Serial output for device control, remote reading or output to telemetry is standard, as is the in-built 4 megabyte 200,000 lines 5 parameters per line data logger function.

Refer EuroMag MC608 A/B leaflet.

## Special Features

- No moving parts
- Hastelloy C 22 electrodes standard
- Grounding electrode eliminates ground rings
- Sealed electrode and coil assembly provides immunity to humidity variation and IP68 protection
- Unique field generation structure providing 1000:1 turndown
- Wide rangeability with a single unit
- No pressure drop
- Bidirectional capability
- Battery or mains powered
- Large full function display
- Low power consumption
- Integrated data logging
- Easy read + windows programming
- ISO / OIML conformity



## Application

The EuroMag 2200 and 2500 series meters are suitable for any application of on-line full pipe fluid measurement. These meters are typically used in the measurement of :

- ⇒ Potable water transfer
- ⇒ Network reticulation monitoring
- ⇒ Leak detection monitoring
- ⇒ Reuse water measurement
- ⇒ Municipal effluent
- ⇒ Agricultural irrigation
- ⇒ Industrial process liquids
- ⇒ Food Process
- ⇒ Slurry and concretes

## Reference standards

The EuroMag magnetic meters are marked CE and are manufactured according to the following standards :

- \* CEI EN 61010-1
- \* EN50081-1
- \* UNI EN ISO 6817
- \* EN50082-1
- \* EN 1434
- \* ISO 4064-1-2006
- \* OIML-R49-2005

## Meter specification

<b>Accuracy</b>	±0.2% of reading with velocity greater than 0.2 m/s	<b>Meter Sizes</b>	25mm up to 2000mm
<b>Repeatability</b>	±0.1%	<b>Max Operating Pressure</b>	16 bar standard. Up to 150bar on request
<b>Max Fluid Velocity</b>	10 m/s	<b>Max Temp Range</b>	Dependent on liner material when electronics remotely mounted Ebonite: -40° to 80°C (food grade) PTFE: -40° to 180°C
<b>Tube Material</b>	304 Stainless steel	<b>Max Cable Length</b>	100 meters (remote mounted converter)
<b>Flange Material</b>	Steel drilled to carbon steel to AS4087 PN16 Fig B5 Coating Fusions Bond Epoxy	<b>Min Conductivity</b>	5 µS/cm, 20 µS/cm for DI water
<b>Electrode Material</b>	Hastelloy C 22 (standard)	<b>Rating</b>	IP 68 up to a depth of 10m with remote mount option
<b>Liner Material</b>	PTFE: 25mm to 100mm Ebonite (Food grade): 150mm to 2000mm Other materials on request	<b>CE Declaration</b>	EN 61326:1997 to EN1326/A3:2003
		<b>Straight Run</b>	5D upstream and 3D downstream minimum

## Flow range meter size selection guide

Figures in **blue** are suggested ideal system flow for meter size selection.

	DN	VELOCITY [m/s]			
		0.05	0.5	5	10
EuroMag 2200	25	0.088 m³/h	<b>0.883 m³/h</b>	<b>8.835 m³/h</b>	17.671 m³/h
	32	0.14 m³/h	<b>1.45 m³/h</b>	<b>14.48 m³/h</b>	28.95 m³/h
	40	0.23 m³/h	<b>2.26 m³/h</b>	<b>22.62 m³/h</b>	45.24 m³/h
	50	0.35 m³/h	<b>3.53 m³/h</b>	<b>35.34 m³/h</b>	70.69 m³/h
	80	0.9 m³/h	<b>9.05 m³/h</b>	<b>90.48 m³/h</b>	180.96 m³/h
	100	1.41 m³/h	<b>14.14 m³/h</b>	<b>141.37 m³/h</b>	282.74 m³/h
	150	3.18 m³/h	<b>31.81 m³/h</b>	<b>318.08 m³/h</b>	636.17 m³/h
	200	5.65 m³/h	<b>56.55 m³/h</b>	<b>565.49 m³/h</b>	1130.97 m³/h
	250	8.84 m³/h	<b>88.36 m³/h</b>	<b>883.57 m³/h</b>	1767.15 m³/h
	300	12.72 m³/h	<b>127.23 m³/h</b>	<b>1272.35 m³/h</b>	2544.69 m³/h
	350	17.32 m³/h	<b>173.18 m³/h</b>	<b>1731.8 m³/h</b>	3463.61 m³/h
400	22.62 m³/h	<b>226.19 m³/h</b>	<b>2261.95 m³/h</b>	4523.89 m³/h	
EuroMag 2500	450	28.63 m³/h	<b>286.28 m³/h</b>	<b>2862.78 m³/h</b>	5725.55 m³/h
	500	35.34 m³/h	<b>353.43 m³/h</b>	<b>3534.29 m³/h</b>	7068.58 m³/h
	550	42.76 m³/h	<b>427.65 m³/h</b>	<b>4276.49 m³/h</b>	8552.99 m³/h
	600	50.89 m³/h	<b>508.94 m³/h</b>	<b>5089.38 m³/h</b>	10178.76 m³/h
	650	59.73 m³/h	<b>597.3 m³/h</b>	<b>5972.95 m³/h</b>	11945.91 m³/h
	700	69.27 m³/h	<b>692.72 m³/h</b>	<b>6927.21 m³/h</b>	13854.42 m³/h
	750	79.52 m³/h	<b>795.22 m³/h</b>	<b>7952.16 m³/h</b>	15904.31 m³/h
	800	90.48 m³/h	<b>904.78 m³/h</b>	<b>9047.79 m³/h</b>	18095.57 m³/h
	900	114.51 m³/h	<b>1145.11 m³/h</b>	<b>11451.11 m³/h</b>	22902.21 m³/h
	1000	141.37 m³/h	<b>1413.72 m³/h</b>	<b>14137.17 m³/h</b>	28274.33 m³/h
	1200	203.58 m³/h	<b>2035.75 m³/h</b>	<b>20357.52 m³/h</b>	40715.04 m³/h
	1300	238.92 m³/h	<b>2389.18 m³/h</b>	<b>23891.81 m³/h</b>	47783.62 m³/h
	1400	277.09 m³/h	<b>2770.88 m³/h</b>	<b>27708.85 m³/h</b>	55417.69 m³/h
	1500	318.09 m³/h	<b>3180.86 m³/h</b>	<b>31808.63 m³/h</b>	63617.25 m³/h
	1600	361.91 m³/h	<b>3619.11 m³/h</b>	<b>36191.15 m³/h</b>	72382.29 m³/h
	1700	408.56 m³/h	<b>4085.64 m³/h</b>	<b>40856.41 m³/h</b>	81712.82 m³/h
	1800	458.04 m³/h	<b>4580.44 m³/h</b>	<b>45804.42 m³/h</b>	91608.84 m³/h
2000	565.49 m³/h	<b>5654.87 m³/h</b>	<b>56548.67 m³/h</b>	113097.34 m³/h	

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