

MODEL 801 Electromagnetic Flow Meter



The Model 801 Electromagnetic Flow Meters measure the speed of water in Open Channel environments with exceptional accuracy. Two sensor types are available, to suit different application requirements, but both offer excellent durability, reliable, accurate data and are suitable for use in clean water as well as dirty or difficult environments.

Specifications

Model 801 - Cylindrical Type

Range:	-5m/s to +5m/s
Accuracy:	±0.5% of reading plus 5mm/s
Zero Drift:	<5mm/s
Sensing Volume:	Sphere of approx. 12cm around sensor
Minimum Depth:	15cm

Model 801 - Flat Type

Range:	-5m/s to +5m/s
Accuracy:	±0.5% of reading plus 5mm/s
Zero Drift:	<5mm/s
Sensing Volume:	Cylinder of approx. 20mm Ø x 10mm high
Minimum Depth:	5cm



Calibration

Both instruments are calibrated at Valeport's own premises up to speeds of 1m/s. Higher speed measurements are based on linear extrapolation. Specific high speed calibrations can be arranged at a third party facility on request.

Control Display Unit

Size:	244mm x 163mm x 94mm, 2kg
Environmental:	Sealed to IP67
Power:	8x alkaline C cells, up to 37 hrs operation
Operating Temp:	-5°C to +50°C (display unit) -5°C to + 40°C (sensor)

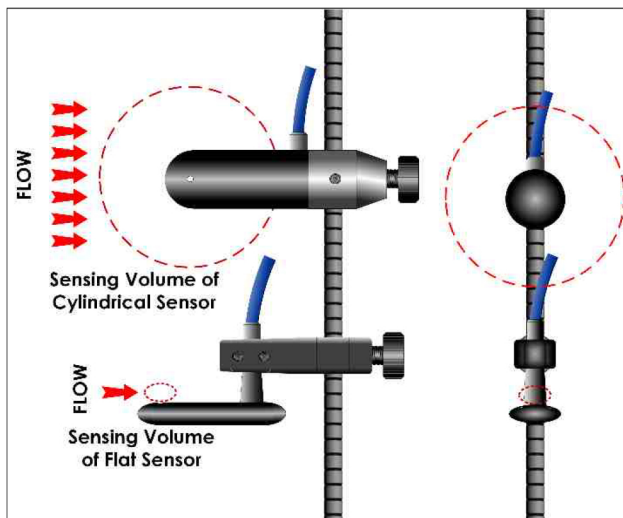
Configuration

Both instruments are available for use as hand held "Wading Sets" only, with the operator standing in the channel, holding the instrument in position. The system is supplied with 1.5m wading rod (3x 0.5m sections), graduated in cm, and a 3m cable from instrument to display unit.

Alternatively, a "top-setting" wading rod system is available, which allows the vertical position of the instrument to be set without removing the wading rods from the water.

Software

System is supplied with CDUExpress Windows based PC software, for data extraction from display unit. CDU Express is license free.



What's the Difference?

The smaller sampling volume of the flat sensor makes it very much more suitable for shallow flows, or measurements in confined spaces. However, it is also very much more sensitive to turbulent flows, which may manifest as apparently noisy real time readings. This effect can be minimised by using a long (>30secs) average period. The larger sampling volume of the cylindrical sensor effectively eliminates the turbulence noise, but also means that a greater depth of water is required for measurements.

Data Acquisition

The Model 801 Flow Meters are supplied with a dedicated Control Display Unit that both drives the sensor and provides data display of the measured water velocity. Data is updated at 1Hz, and may be averaged over any number of seconds from 1 to 600. The display will show real time speed data at a resolution of 1mm/s, as well as the result of the data average, and a Standard Deviation figure to give added data confidence. A solid state memory records all results (up to 999 averaged readings), and the data may be downloaded to PC using the RS232 interface lead supplied.