



## 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 and dirty or difficult environments.

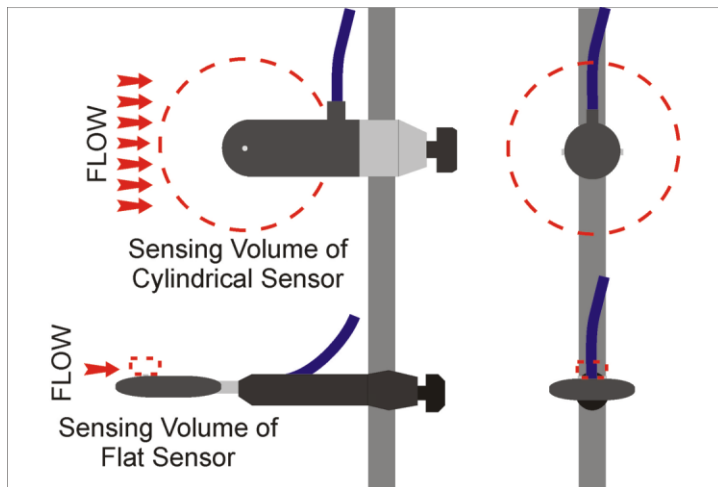
### Specifications

#### Model 801 - Cylindrical Type

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

#### Model 801 - Flat Type

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



### 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 surface display unit, which 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.

### Calibration

Both instruments are calibrated to NAMAS traceable standards 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.

### Display Unit

Size: 244mm x 163mm x 94mm, 2kg  
 Environmental: Sealed to IP67  
 Power: 8 x alkaline C cells, lasting for up to 37 hours  
 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 (3 x 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.

### Shipping

Standard: 62 x 42 x 34cm, 9kg (wading set)

### Ordering

0801001 Single axis cylindrical sensor, c/w 3m cable, control display unit (with logging facility), and operation manual. Supplied in ABS transit case.  
 0801002 Single axis flat sensor, c/w 3m cable, control display unit (with logging facility), and operation manual. Supplied in ABS transit case.  
 0801003 Wading rod set c/w 3 x 0.5m graduated rods, base, direction knob, and canvas carrying bag.  
 0801011 Option - Large transit case to take instrument and wading rods.

Datasheet Reference: MODEL 801 version 2A, Feb 2011