



**EMV-500™ SIZE A**



**EMV-500™ SIZE B**

## Electromagnetic Velocity Open Channel Flowmeter Sensor

The EMV-500™ is a water/wastewater electromagnetic velocity open channel flowmeter sensor which is available in two sizes:

- SIZE A is suited for pipes or channels from 150 mm to 500 mm diameter
- SIZE B is suited for pipes or channels from 500 mm to 2.000 mm diameter.

The sensor is encapsulated in an IP68 submersible ultra high molecular polyethylene body to be mounted with a special sensor mounting band in the pipe.

When combined with the appropriate level sensor, the EMV-500™ constitutes an efficient electromagnetic area/velocity flowmeter measuring both velocity and level in the same cross-section (or slice of pipe). This is a requirement necessary for accurate flow rate measurement using the continuity equation:  $Q = v \times A$

In addition, electromagnetic sensors are totally unaffected by the concentration of debris or dilution of wastewater by rain.



Vertegenwoordigd Flow-tronics in Nederland

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## TECHNICAL SPECIFICATIONS EMV-500™

### Velocity Measurement

|          |  |
|----------|--|
| Method   | Electromagnetic (Faraday's Law)                                |
| Range    | 0 to +6 m/s  |
| Accuracy | ± 1% of measured value or ±0,03 m/s (whatever value is bigger) |

Min. conductivity of the medium needed 10µS/cm

### Velocity Measurement Method

The principle of magnetic-inductive flow measurements utilizes the Faraday's law, where a conductor moving in a magnetic field induces a voltage of amplitude proportional to the velocity of the conductor. The conductor is the media being measured.

### Material & Dimensions

|                 |  |
|-----------------|--|
| Material        | Ultra High Molecular Polyethylene (PE-UHM)<br>Stainless steel 316 electrodes |
| Protection rate | IP68   |
| Dimensions      | Size A: 165 mm L, 40 mm W, 25 mm H<br>Size B: 190 mm L, 60 mm W, 45 mm H     |
| Weight          | Size A: 0,300 Kg (without cable)<br>Size B : 0,750 Kg (without cable)        |

### Operating Temperature Range and Pressure

0° to 80°C (depending on pressure)  
Max. pressure 4 bar (depending on temperature)

### Sensor Cable

|          |  |
|----------|--|
| Material | Polyurethane jacketed  |
| Length   | 10 m (standard)<br>20 m, 30 m or length up to 100 m (optional) |

### Converter for EMV-500™ (included)

|                 |   |
|-----------------|---|
| Operating temp. | -10° to +50°C   |
| Protection rate | IP66  |
| Power supply    | 18...36 VDC   |
| Output          | One 4...20 mA analog output for velocity (m/s) to be connected to a PLC or the UNI-TRANS™ for flow conversion |
| Max. impedance  | 500 Ohm   |

### Application fields

- Drinking water supplies
- Water treatment plants
- Cooling water control and monitoring
- Chemical and pharmaceutical plants
- Flow measurements in industry

Specifications are subject to change without notice  
Updated: 11/04/2013



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