

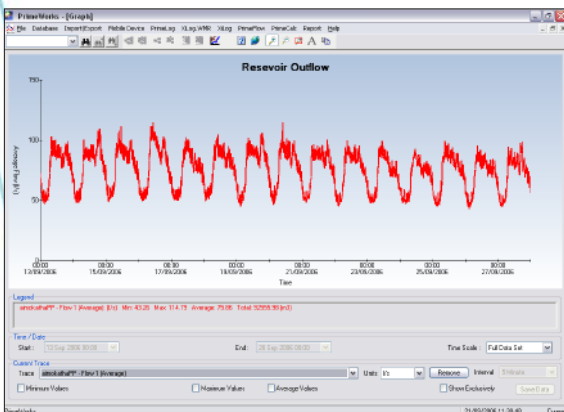
# PrimeMag®

Electro-magnetic flow meter for potable water

PrimeMag is an electromagnetic flowmeter designed specifically for water industry applications. It is available in sizes 25mm to 2000mm, giving high performance coupled to substantial benefits.

## Benefits

- **No moving parts**
  - prevents under-registration
  - no pressure-loss
- **Sensors can be buried**
  - eliminates the need for expensive chambers
  - quicker installation
- **Battery and/or mains power**
- **Battery operation**
  - up to 10 years
  - easier installation in difficult locations
- **Long product life**



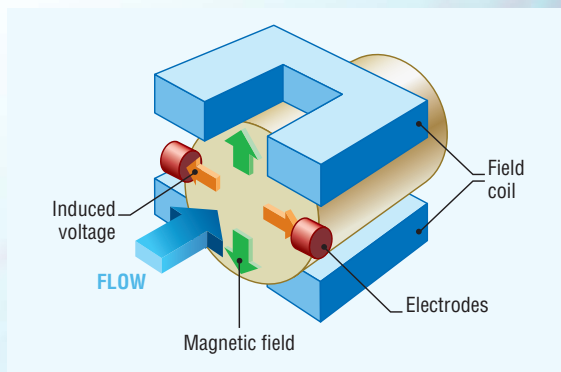
## Applications

- **District metering** - leakage control and network management
- **Water and waste water** - use in many applications where the fluid has a conductivity of  $>5 \mu\text{Siemens}$
- **Revenue metering** - high accuracy and no obstruction to flow
- **Industrial** - an effective flow measurement tool, anywhere in the water network



## Principle

The PrimeMag uses Faraday's Law of Electromagnetic Induction. This states that any conductor (water) which moves through a magnetic field will create a voltage and that voltage will be proportional to the velocity of flow. The PrimeMag convertor performs all calculations for presenting accurate flow rate.



Excitation of copper coils creates a magnetic field within the confines of the sensor. When the conductive fluid passes through this field, a voltage is created, which is picked-up by the electrodes and sent to the converter.

## Sensor

PrimeMag sensors less than 150mm use a polypropylene lining and sensors of 150mm diameter and larger are supplied with an Ebonite lining (a hard rubber composite).

PN16 flanges are standard on all PrimeMag sensors. Upon request, PrimeMag can be supplied with alternative flange-drilling (ISO, ANSI, JIS, etc).

To reduce cost, PrimeMag sensors can optionally be supplied 'flangeless' (wafer-type), whereby the sensor is inserted between the two flanged-ends of a pipe and the flanged-ends are tightened via four connecting rods.



## Ease of Installation

PrimeMag sensors are designed for safe, simple, low-cost installation.

- Sensor can be buried – no need for expensive chambers
- No periodic maintenance required. Eliminates the need for bypasses to be installed (with associated strainers, valves, etc)
- Potentially no need for qualified electrical engineers when battery powered
- Battery operation means that equipment for pressure measurement can be kept in the same roadside kiosk as the PrimeMag converter

## Converter

Three converter options are available for use with the PrimeMag Sensor:

- **PrimeMag-250:** Provides for mains and battery power in one unit and has external programming keys
- **PrimeMag-110:** Mains powered Converter with internal programming keys and additional 4-20mA output. Low cost alternative to above
- **PrimeMag-210:** Mains powered Converter with internal keypad and 8-line graphic display. Extended cable length available



Converters provide a comprehensive local display of information; flow-rate; velocity, totalisation and alarms. Critical data is password-protected, with three levels of user access - totalisers are resettable on a password basis.

The user interface is menu driven and all parameters can be changed via the local keypad. Transmitters placed in arduous conditions can be programmed without the need for a laptop or associated cables.



## A Total Solution to Network Management

PrimeMag has galvanic isolated pulse and alarm outputs that are compatible with Primayer data loggers, and loggers from other manufacturers.

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