

# Integrated measuring systems for the whole water cycle



## Electromagnetic Insertion Probe **HydrINS 2<sup>®</sup> EO**



Velocity as low as 2 cm/s  
(0.066 ft/sec)

Accuracy  $\pm 2$  mm/s (0.006  
ft/sec)

Encoded output  
compatible with most  
endpoints

Fixed and variable mode  
available

Long battery life, 3 years,  
depending on options

IP68 / NEMA6P

## Application

The HydrINS 2<sup>®</sup> EO flowmeter, developed by Hydreka, is an easily deployed and cost effective flow meter providing highly accurate bi-directional flow measurement for water distribution and raw water pipelines.

The highly versatile unit is widely used throughout the world and available in various lengths, equally well deployed for permanent integration within AMR/AMI radio systems. The HydrINS 2<sup>®</sup> EO can be used throughout the water distribution network:

- Metering at resevoirs, treatment works,
- Pumping stations, water pipes,
- Zoning and DMA ,
- Night flow monitoring and meter testing.

## Key benefits

### Operational

- Bidirectional flow measurement with same accuracy in both directions,
- Encoded output compatible with most endpoints,
- "Hot tap" installation with no interruption to supply,
- Fixed and variable mode available,
- Easily deployed, moved and calibrated,
- Self-checking of operation,
- Long battery life, 3 years, depending on options,
- Versatile - can be deployed over a large range of pipe diameters from 70 mm to over 2 000 mm (0.23 ft to over 6.56 ft),
- High quality digital signal processing gives accurate measurement of low velocities (to 2 cm/s at  $\pm 2$  mm/s - 0.066 ft/sec at  $\pm 0.006$  ft/sec),
- Robust and watertight (IP68) with easy maintenance and calibration to ensure long term accuracy,
- Velocity profiling to validate accuracy of measurement point and many measurement options.

### Economical

- Highly cost effective flowmeter,
- Ease of installation compared to traditional electromagnetic magmeter or mechanical flowmeter,
- Keeps unaccounted for water under control to optimize revenue water,
- Water meter check campaign to decrease billing issue due to over/undercounting,
- Durability and trust in the equipment you can easily install or remove for calibration.

## Technical Specifications

<b>Measurement range</b>	Bidirectional from 0.02 m/s to 5 m/s (0.06 ft/sec to 16.40 ft/sec), limited only by the stability of the probe in the flow. Fluid conductivity needs to be minimum of 20 $\mu$ s/cm.	
<b>Accuracy</b>	$\pm 2\%$ if $V \geq 10$ cm/s and $\pm 2$ mm/s (0.33 ft/sec and $\pm 0.006$ ft/sec) of reading value for $V < 10$ cm/s (0.33 ft/sec).	
<b>Units</b>	Selectable: mm, meters, feet, litres, Megalitre, m <sup>3</sup> , ft <sup>3</sup> , ImpGal, USGal, MegalmpGal, MegaUSGal, seconds, minutes, hours, days.	
<b>Power</b>	Internal lithium batteries giving up to 3 years of battery life for 1 measurement/30 seconde.	
<b>Sensor Information</b>	Calibration, serial N°, date of calibration and files historical.	
<b>Calibration</b>	Factory calibration against traceable standards.	
<b>Self-checking</b>	Internal checking in accordance with OIML R49 Type P (Permanent) requirements.	
<b>Internal logging</b>	Negative Totalizer / Positive Totalizer / Net Totalizer.	
<b>Outputs</b>	<b>RS232</b>	RS 232 Programmable, instantaneous flow and totalized volume.
	<b>Encoder</b>	Sensus Ui1203 (R20) encoder output protocol, fixed or variable format selectable.
<b>Connector</b>	IP68/NEMA 6 Watertight 10 way mil spec connector.	
<b>Display</b>	Display A & C available.	
<b>Software</b>	Winfluid Programming.	
<b>Temperature Range</b>	Electronics -20°C to +60°C (-4°F to 140° F). Insertion element: non frozen water up to +60 °C (140°F).	
<b>Max Pressure</b>	20 bars (290 PSI). Integral to BSP quick fit pressure connector.	
<b>Ingress Rating</b>	IP68/NEMA6 for immersion to 10 m (32.81") during 72 hours (with connectors secured).	
<b>Installation</b>	Connection on a 1 inch hot tap BSP (25 mm) (1" NPT: option). Safety chain.	
<b>Insertion lengths</b>	<b>HydrINS EO</b> : Mini (200 mm / 7, 87"), 300 mm (11.81"), 500 mm (19.69"), 700 mm (27.56") and 1000 mm (39.37").	
<b>Dimensions</b>	Sensor diameter : 22 mm (0.87") for Hydrins 2 EO and 15 mm ( 0,6") for Hydrins 2 EO Mini Stem diameter : 19 mm (0.75") for Hydrins 2 EO and 12,3 mm ( 4,84") for Hydrins 2 EO Mini Head diameter: 106 x 80 mm (4.17" x 3.15").	
<b>Weight</b>	<3.5 kg (<7.7 lb).	
<b>Construction</b>	Insertion components: Stainless Steel 316. PVC WRAS approved n°0307509 / ACS approved n°13ACCLY528 (Hydrins2) 14ACCLY334 (Hydrins2Mini). Nitrile joints WRAS approved N° 0470NBRFD. External components: Stainless Steel 316. Bronze C2121- Probe head: Strengthened ABS	
<b>Warranty</b>	36 months.	
<b>Certification</b>	Calibrated to reference meters to COFRAC procedures and traceability.	

Products available for sales. Please contact us for more information.

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