

## Noise-resistant Flowmeter Yields Stable, Accurate Pulp Slurry Measurements

Erratic, unreliable output has plagued pulp and paper production for decades. The unique characteristics of pulp slurry operations demand reliable instruments that deliver accurate measurements in spite of inherent slurry noise, electrochemical or AC noise. Pulp abrasion and scaling, and high temperature operating requirements also compound application complexity.

Yamatake Corp. applied their extensive pulp and paper application knowledge and their design expertise to develop high-performance, high reliability magnetic flowmeters that improve productivity in pulp production, preparation and papermaking processes in:

- **pulp stock flow to headbox**
- **de-inked pulp**
- **pulp from screen**
- **green, black and white liquor**
- **high consistency pulp**
- **dyes, pigments, sizing and additives**
- **bleached and unbleached pulp**

The MagneW 3000 PLUS HENRI (High-Energy Noise-Resistant Instrument) electromagnetic flowmeter line is specifically designed to alleviate traditional pulp slurry process challenges. Available in detector sizes ranging from 1.5 to 16 inch (40 to 400 mm) diameters, the HENRI series features:

- **stable, accurate measurement**
- **lining options suited to your applications**
- **welded stainless steel detector housing to ensure long service life**
- **custom face-to-face dimension of the detector that eliminates on-site spool piece fabrication**
- **FOUNDATION Fieldbus, Hart and DE communications protocol models**
- **large backlit LCD converter display and infrared sensor one-touch operation**

### Reliable, Repeatable Measurement

The Yamatake HENRI flowmeter series is designed to mitigate the effects of noise in slurry applications.

The proven high-frequency pulsed DC excitation enables HENRI flowmeters to minimize noise-induced output fluctuations and to deliver a stable and accurate flow.



### Easy Operation Converter

**Communication Protocols** – The MagneW 3000 PLUS HENRI series converter fully complies with FOUNDATION Fieldbus interoperability. Hart and DE communications options are also available. Built-in AI control function block programming provides process variables for regulatory control.

**Converter Display** – The large backlit converter display is easy to read in sunlight or dark rooms. It displays three values simultaneously:

- **percent flow rate (%)**
- **actual flow rate (GPM)**
- **and totalized value**

The one-touch infrared ray sensor enables you to display parameter settings without opening the converter cover – saving time and reducing the converter electronics' exposure to harsh environments.

### Durable, Long-life Detector Operation

**Lining Options** – The MagneW HENRI PFA lining withstands fluid temperatures up to 320° F (160° C) and process pressure up to 426 PSI (2.94MPa). Additionally, the unique mirror finish significantly reduces scaling.

The ETFE lining reduces downtime and maintenance costs in high abrasion applications such as high consistency pulp, screened and unscreened pulp, and refiner pulp. The ETFE lining extends operating life more than 15 times that of PFA linings.

**Detector Housing** – The detector body is fully welded stainless steel, much more impervious to corrosion and leakage than painted steel units. Manufactured to withstand corrosive chemical environments, the stainless steel detector body ensures virtually maintenance free operation.

**Custom Face-to-face Dimension Detector** – Order the detector with the specific length you need and eliminate on-site spool piece fabrication.

**HENRI Converter Specification Overview\***

Type	Remote
Power Supply	90 to 264 VAC 50/60Hz
Structure	IEC IP66, NEMA 4X
Outputs	4-20 mA DC Pulse/Contact Options HART, DE, FOUNDATION Fieldbus
Inputs	Contact inputs (2 max.)
Display	Green backlit display
Data Setting	Infrared touch sensor
Power Consumption	30W max.
Housing	Aluminum alloy
Ambient Temp.	-13 to +122°F (-25 to +50°C)
Ambient Humidity	5 to 100% RH
Mounting	Wall/2 in. (50mm) pipe
Elec. Conductivity	20 μS/cm minimum
Functions	Empty pipe detection, data setting protection, communication, etc.
Accuracy	±0.5% of rate

**HENRI Detector Specification Overview\***

Diameter	1.5, 2, 3, 4, 6, 8, 10, 12, 14, 16 inch (40, 50, 80, 100, 150, 200, 250, 300, 350, 400mm)
Type	Remote
Structure	IEC IP67, NEMA 4X
Pipe Connections	Flange/Wafer (ANSI 150/300, JIS 10/20/30K) DIN PN 10/16/25/40
Face-to-face Dimensions	ISO standard dims., Yamatake standard dims., custom dims.
Electrodes	SS316L, Hastelloy C, Titanium, Zirconium, Tungsten carbide, Tantalum, Platinum/Iridium, others
Grounding Rings	SS316, Hastelloy C, Titanium, Zirconium, Tantalum, Platinum, others
Lining	PFA, ETFE
Housing	Stainless Steel 1.5 to 8 inch (40 to 200 mm). Carbon Steel 10 to 16 inch (250 to 400 mm).
Fluid Temp.	-40 to +320° F (-40 to +160°C)
Ambient Temp.	-22 to +176° F (-30° to +80°C)
Ambient Humidity	5 to 100% RH

\* These HENRI Converter and Detector specifications are a summary. Contact Yamatake America Inc. to request publication SS2-MGH200-0100 for complete specifications.

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**Broad Portfolio**

In addition to the HENRI model for high noise immunity applications Yamatake also offers a broad range of quality electromagnetic flowmeters from 0.1 to 44 inch (2.5 to 1100mm). To help reduce installation costs the loop-powered MagneW Two-Wire PLUS is available in 0.1 to 8 inch (2.5 to 200mm) diameters.