ABB MEASUREMENT & ANALYTICS

WaterMaster electromagnetic flowmeter
The perfect fit for all water
industry applications

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Measurement made easy

The perfect balance of power, performance, flexibility and control from the Masters of Flow.

See how the operational and business benefits stack up.

WaterMaster

Unrivaled in its scope and applications expertize, ABB offers the world's most comprehensive range of flow measurement products. Our electromagnetic family of products is unsurpassed in the number of proven measurement techniques and scope of applications.

Getting the best levels of efficiency and performance from your production process requires reliable, accurate instrumentation. WaterMaster provides the flexibility to solve your most demanding water applications, enabling previously unattainable operational and financial benefits.

WaterMaster is the ultimate solution for flow measurement and management in sectors as diverse as water, wastewater, sewage and effluent.
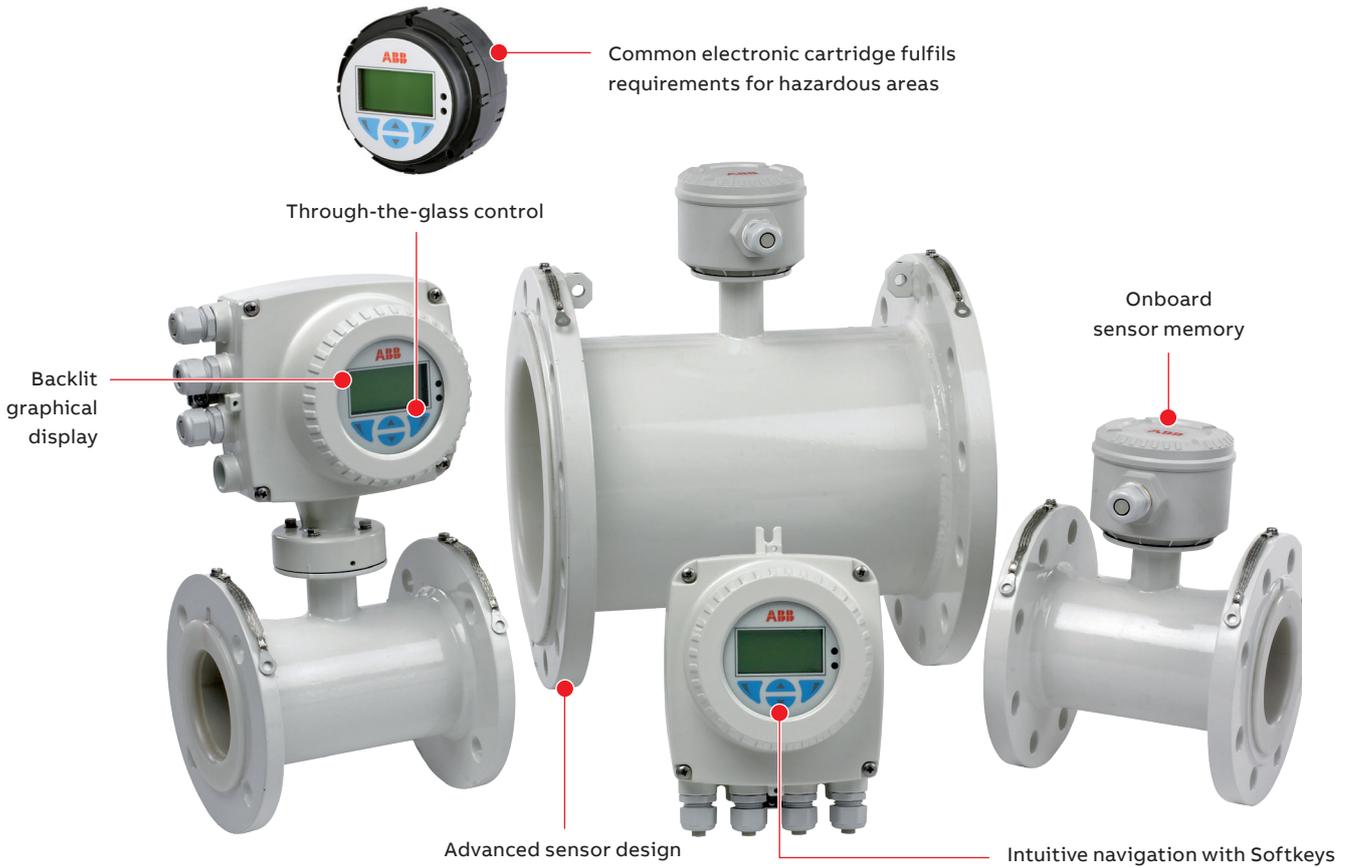
For WaterMaster, flexible doesn't mean complicated. Take advantage of its innovative and versatile attributes to achieve inter-operability within a wide range of asset management systems. WaterMaster, is by far the best solution for your flow measurement needs and is available in sizes 10 to 2200 mm (⅜ to 84 in).

WaterMaster delivers more than reliable and accurate measuring values. When integrated with an management solution such as ABB's Asset Master, the instrument plays a key role in maximizing process optimization.

The perfect fit for all water industry applications

WaterMaster delivers speed, simplicity and ease of use at every stage of the product's lifecycle.

Common electronic cartridge fulfils requirements for hazardous areas

Through-the-glass control

Onboard sensor memory

Backlit graphical display

Advanced sensor design

Intuitive navigation with Softkeys

In fact, WaterMaster doesn't just plug the gaps left by competitive products, it is simply the best flow metering solution available today.

Superior control through advanced sensor design
Innovative octagonal sensor design improves flow profile and reduces up and down stream piping requirements for the most commonly installed sizes: 40 to 300 mm (1½ to 12 in). Flowmeters with traditional sensor designs remain available to over 2000 mm (78 in) in size.

Using a higher excitation frequency combined with advanced filtering, WaterMaster improves measurement accuracy by reducing fluid and electrode noise.

Submersible and buriable installation options
All WaterMaster sensors have a rugged, robust construction to ensure a long, maintenance-free life under arduous conditions experienced in the water and waste water industries.

The sensors are, as standard, inherently submersible (IP68, NEMA 6P), thus ensuring suitability for installation in chambers and metering pits which are liable to flooding.

A unique feature of the WaterMaster sensors is that sizes DN40 to DN2200 are buriable; installation merely involves excavating to the underground pipe, fitting the sensor, cabling to the transmitter and then backfilling the hole.

Improved performance through Digital Signal Processing (DSP)
Advanced DSP gives improved performance and enables real-time measurements for maximum reliability.

DSP allows the transmitter to separate the real signal from the noise, thereby providing high quality outputs especially in harsh environments involving vibration, hydraulic noise and temperature fluctuation.

Intuitive navigation and configuration
The user-friendly interface allows fast and simple data entry for all parameters. 'Easy Set-up' guides the operator step by step through the menu to set parameters as quickly as possible to simplify the commissioning phase.

Easy Set-up

Speed, ease and security in the field
'Fit and Flow' data storage inside WaterMaster eliminates the need to match sensor and transmitter in the field.

On initial installation, the self-configuration sequence automatically replicates into the transmitter all calibration factors, meter size and serial numbers, as well as customer site-specific settings, eliminating the opportunity for errors and leads to increased speed of start-up.

This redundant storage of data in both the sensor and transmitter memory is continually updated during all operations to ensure the integrity of the measurement.

An automatic data self-repair routine corrects any data corruption such as totalizer volume corruption that could occur during a power failure.

Sensor Memory

The perfect balance of power, performance, flexibility and control

Detailed diagnostics for rapid decision making
WaterMaster is proven to be robust and reliable, with unmatched diagnostic capabilities providing the right information to keep the process up and running. In accordance with NAMUR NE107, alarms and warnings are classified as with the status of 'maintenance required', 'check function', 'failure' and 'outside of specification'. WaterMaster is type approved to MID and OIML R49 type 'P' requirements to ensure the highest accuracy and long-term performance of the system by continuously self-checking the sensor and transmitter in the field.

Powerful and flexible transmitter
The backlit, graphical display can be rotated easily up to 180° (90° each way) without any tools, enabling users to position it as best fits their needs. 'Through-the-glass' control allows local operator interface to enable short, quick data entry for all user-specific parameters.

ABB's universal Human Machine Interface (HMI) simplifies operation, maintenance and training; thereby reducing cost of ownership and providing one common user experience.

All WaterMaster versions utilize an electronics cartridge to simplify installation and reduce the number of spare parts. Two variants of the cartridge are available, a standard HART protocol variant and a Profibus DP variant.

The same cartridge type (HART or PROFIBUS) is used for both integral and remote installations. The HART cartridge features active current and passive pulse/alarm outputs while the PROFIBUS cartridge features pulse outputs. Both HART and Profibus DP versions enable online modification and monitoring of parameters.

In situ verification
WaterMaster is now extended to include VeriMaster for in situ verification. VeriMaster is a PC application, that when coupled to the WaterMaster through the infrared service port, generates a report on the accuracy of the complete flowmeter, both sensor and transmitter.

It builds on over 10 years of ABB's experience in the verification field, through its leading CalMaster range. VeriMaster is a quick and easy to use utility, that uses the advanced self-calibration and diagnostic capability of WaterMaster, coupled with fingerprinting technology, to determine the accuracy status of the WaterMaster flowmeter to within ±1 % of its original factory calibration.

VeriMaster also supports printing of calibration verification records for regulatory compliance.

Attention to the smallest technical detail delivers big operational benefits

Service tools
To help validate and optimize the meter's performance, each WaterMaster includes a simulated reference that is not affected by conditions at the measuring location.

An infrared service port also makes it easy for recorded data to be exported for further analysis and evaluation. This allows critical factors to be identified early and corrective actions to be taken quickly. In this way, the process can be optimized for greater productivity and less downtime.

Now the best in class is even better
Leveraging advanced measuring techniques, WaterMaster delivers the power to solve your most demanding applications, enabling you to achieve and surpass your operational and financial targets.

The specification, features and user benefits offered by the WaterMaster range are based on ABB's worldwide experience in the water, waste water and sewage industries, and are all targeted at the industry's specific needs and requirements.

WaterMaster helps cut costs without reducing functionality. As you have come to expect from ABB, this innovative product is fully loaded with technical advances, each delivering clear business and performance benefits. Whatever and wherever the application, you can specify WaterMaster in complete confidence and with total peace of mind.

ABB's WaterMaster sets the standard for flow measurement and management applications in the water, sewage and effluent industries

WaterMaster is by far the best solution for your flow measurement needs

Assured quality – WaterMaster is designed and manufactured in accordance with international quality procedures (ISO 9001) and all flowmeters are calibrated on nationally-traceable calibration rigs to provide the end-user with complete assurance of both quality and performance of the meter.