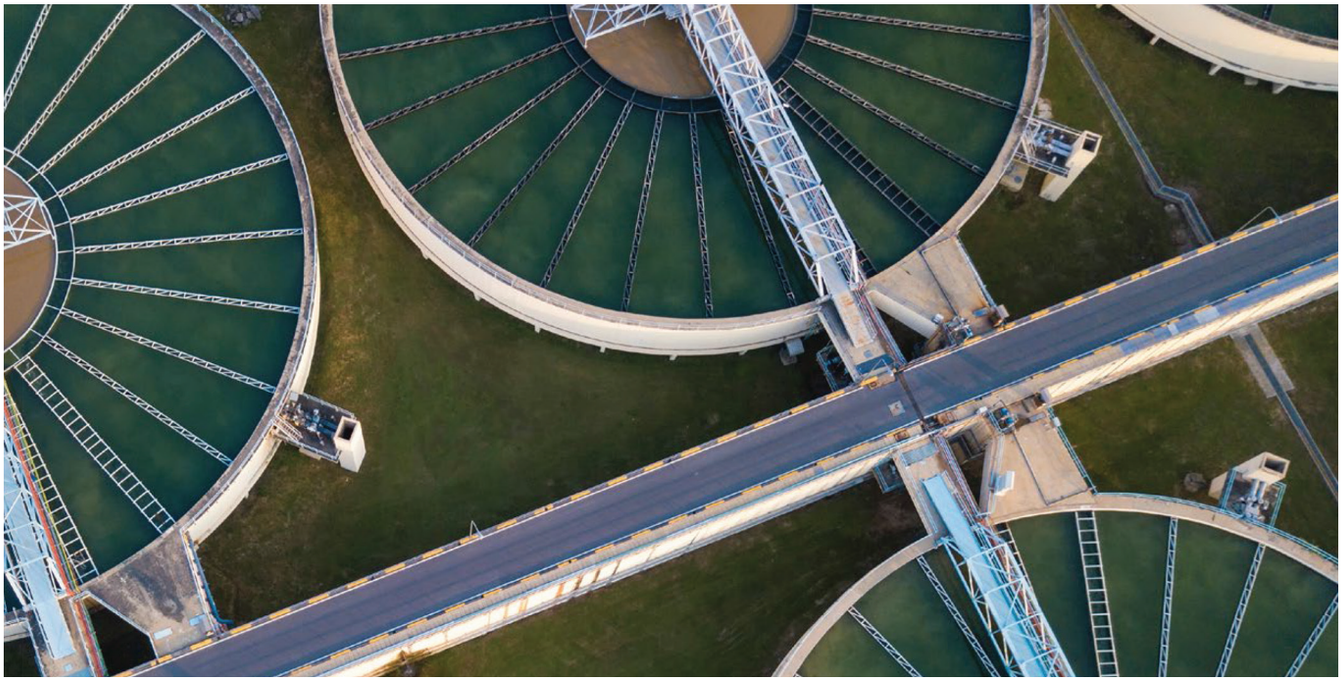
A more measured world of water

Measurement made easy for water and wastewater

There are increasingly critical water and wastewater issues challenging businesses, and ABB understands that. That's why ABB developed water and wastewater solutions to be easily configurable and integrated. Increasingly complex challenges require smart solutions. These solutions start with better, more accurate monitoring, measurement and control. ABB, thus, helps implementing a more measured world of water.



Completely optimizing your infrastructure

Municipal and industrial water and wastewater processors have a need and responsibility to source, treat, distribute and discharge water in a sustainable, cost-effective and safe way. Processors are looking for sustainable, cost-effective and safe solutions. They increasingly recognize the power and value of data in monitoring and managing infrastructure to achieve this.

Powered by ABB Ability™, ABB Measurement & Analytics' product and service offering uniquely provides and connects performance monitoring and management across entire facility, providing the accuracy, stability and reliability the infrastructure demands.

This in turn ensures one can optimize the outcomes, whatever the need may be; increasing output, reducing operating costs, extending plant life, meeting increasing compliance or driving revenue generation.

The water cycle portfolio

ABB's complete portfolio of water and wastewater solutions are designed to help optimize the facility's entire operations. They are intended to give quality, sustainability and value.

ABB's products are easy to configure, integrate and maintain. With a global network of specialists delivering local service and support, ABB offers a broad range of lifecycle services for optimum product performance and customer support.

Key drivers

ABB's research and development program is a vital source of its technology leadership, and driven by the needs of its customers.

ABB not only understands that customers' businesses are driven by multiple strategic and tactical issues, but also believes infrastructure management and optimization is driven by the need for:

- Quality
- Sustainability
- Cost control

Industrial water measurement – Helping to protect the environment

Cleaning industrial water

In industrial water treatment plants, hazardous and toxic substances need to be removed from the process water before disposal. Products and methods used to treat municipal waste are not suited for use in the treatment of sufficient industrial waste. The solutions to this are products designed with the application in mind.

Meeting the needs of the industrial user

ABB's ProcessMaster is used in water and wastewater applications that contain caustic and acids. It is used in treatment areas of plants and has proven to be easy to work with, tough and reliable. Whatever and wherever the application, the ProcessMasters intelligent design, state-of-the-art technology and advanced features work harder and smarter to make operations more cost-effective. The ProcessMaster delivers more than reliable and accurate measuring values. When integrated with an asset management solution, such as ABB's Asset Master, the instrument plays a key role in maximizing asset optimization.

ProcessMaster installed at a filter drain pipe in a water treatment plant

- Pressure rating up to PN100, CI600
- Choice of liner, electrode and flange materials
- Choice of approvals and certificates
- Enhanced diagnostics such as gas bubble detection or electrode coating detection
- Intuitive operation
- Accuracy up to 0.2 per cent
- Universal transmitter
- In situ verification capabilities

Water analysis solutions

Regulations for the treatment and disposal of industrial water, have become extremely stringent and are well monitored by government agencies. Customers are finding traditional lab methods of sampling time consuming, expensive and no longer sufficient to meet the standards. Continuous monitoring of their processes is now required.

ABB's measurement products help to protect the environment

Packaged monitoring solutions

A monitoring solution is often much more than a measurement device. ABB's Systems Integration Units are regionally located to support customers by providing a complete package to meet the needs of any given application. This can range from a simple panel with sample conditioning through to large shelter systems for turnkey projects.

ABB's SIUs have the experience to offer expert advice in water monitoring and work closely with customers to achieve a best-value offer.

Mastering tough level applications

Reliable wastewater level measurement in the treatment unit of any industrial or municipal plant can present challenges to the level measurement instrumentation. Tough level measurement applications lead to intensive maintenance or loss of uptime.

ABB level transmitters are able to overcome even the toughest application conditions such as: fog, mist and vapors, harsh acids and alkaline chemicals, high pressures and temperatures, foaming surface conditions, changes in dielectric constant, changes in density and turbulent or aerated surfaces.

The solution is available today

The LLT100 laser level transmitter is the latest innovation to the non-contact level measurement market. LLT100 is used in several wastewater applications: wells, lift stations, digesters, wastewater overflow, and sludge monitoring. With a beam divergence of 0.3°, by far the lowest divergence of any technology in the level market, and range up to 30 m (100 ft.) for liquids and 100 m (330 ft.) for solids, the LLT100 can perform level measurement in confined spaces, through protective cover grids, inside narrow deep wells and near walls.

LLT100 measuring level in wastewater well

Easy and dependable level measurement

With years of experience applying the MT5 Series GWR and the world leading LMT magnetostrictive transmitters in water treatment and wastewater applications, ABB K-TEK Level is able to help you select the best level device for your application needs such as in traveling screens, chemical storage and holding tanks, sumps and lift stations, coagulant and flocculate storage and digesters.

With easy installation, set-up and reliable performance, ABB K-TEK Level devices reduce maintenance time and help maintain profit margin.

Critical pressure measurement solutions

Accurate results from pressure measurement in a pumping or lift station application are critical to the success of water processes. If the nominal process pressure is exceeded or not maintained, the entire system could be subject to failure or inefficiencies. If a water system pressure is too high, pumps will struggle to maintain pressure while the excess pressure will cause additional cost and leakage throughout the system.

ABB's 261 pressure transmitter for repeatable accurate measurements

The answer is the perfect mix of features

The 2600T pressure transmitter family meets these expectations and delivers previously unattainable operational benefits. All instruments can provide the intuitive four-button HMI (Human Machine Interface) for quick commissioning, saving cost and time. The 261 high-quality, cost-effective transmitters are the results of ABB's uncompromised focus on pressure and level measurement. When it comes to differential pressure measurements, the ABB 266 transmitter is the performance choice for long and stable maintenance free operations. They offer high accuracy, large turn down ratio and a stainless steel housing optimized for use in extreme conditions.

- Repeatable accurate measurements
- Maintenance-free due to ABB's sensor technology
- Easy operation and set up via the graphic display
- Wide choice of process connections to suit multiple installations

Proven measurement products – A comprehensive industry portfolio

Flow measurement

ABB has decades of experience in flow measurement for the water industries. Based on a thorough understanding of industry requirements, innovative flow measurement products have been developed to control processes, increase profits and save costs.

Highest precision in flow measurement is available, for example when dosing chloride or other chemicals, measuring flow rate of wastewater or detecting leaks in drinking water infrastructure. Flow measurement products featuring self-diagnostics and process information make it easy for the customer to be in control of any process.

Pressure, temperature and level measurement

With its portfolio of field instruments and devices, ABB offers an unmatched selection of transmitter and sensor solutions

Product category	Electromagnetic flow					Vortex/Swirl	Thermal mass	DP flow
Product name	WaterMaster	ProcessMaster	SM4000	AquaMaster	AquaProbe	VortexMaster / SwirlMaster	SensyFlow	Torbar
Product type	FEV100 FER100 FEW300	FEP610 FEP630	SE41F	FEV200 FER200	FEA100 FEA200	FSV400 FSS400	FMT400 FMT500	
Product image								
Aeration and digestion	●		●			●	●	●
Borehole	●			●				
Desalination	●	●	●			●		
Coagulation	●							
Final discharge	●				●			
Final sedimentation	●						●	
Irrigation	●			●	●			
Network management	●			●	●	●		
Pressure boosting	●	●						
Primary sedimentation	●	●					●	●
Pumping station	●							
Sedimentation / filtration	●	●	●			●	●	
Storm water	●				●			
Sludge incineration		●	●					
Treatment	●	●	●			●	●	●
Treatment plant inlet	●	●	●			●		●
Water intake	●							
Water storage	●			●	●			

Coriolis	VA meters	Level			Pressure	Differential pressure		Temperature		
CoriolisMaster	VA Master PurgeMaster	Laser	Ultrasonic	Magnetic level gauge	Pressure transmitter	Pressure transmitter	Pressure transmitter	Temperature sensor	Temperature sensor	Temperature sensor
MS2 FCB400	FAM541 10A6100	LLT100	LST300 LST400	KM26	261G/A	266	266	TSP100	TSP300	TSBA
										
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●										
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including a common HMI for user-friendly handling. A comprehensive line of contact and non-contact level technologies provide repeatable solutions for reliable inventory and process control.

Recorders and controllers

ABB offers a wide range of industrial recorders and controllers, including single and dual loop indicators that provide high visibility and secure videographic capabilities. With advanced protection against dust or water, as well as clear and bright displays, the process status is seen at a glance.

Analytical measurement

As a world leading supplier of analytical measurement technologies, ABB offers an unmatched line of instruments for a variety of applications in the water and wastewater industry. The liquid and gas analytical products enable cost-effective measurements when monitoring product quality and controlling chemical usage. Designed to maximize product quality, they support the customer in meeting process requirements and conform to local and global regulations. ABB is the single source supplier of reliable analytical measurement products for the water industries.

Service

ABB understands the value of accurate and reliable measurement. The company's service specialists are located strategically to support all products and systems globally. Professional installation enables efficient operation and ensures reliable lifecycle management. Use of genuine spare parts minimizes risks and increases equipment uptime. Predictive maintenance optimizes device and process performance based on scheduled condition monitoring findings.

All services can be provided as a Measurement Care service agreement, tailored to specific customer needs.

Product category	Recorders			Controllers	Analytical instruments		
Product name	ScreenMaster 500	ScreenMaster	Circular chart recorder	ControlMaster	pH / Redox	Conductivity	Turbidity / Total suspended solids
Product type	SM500F	RVG200	C1900	CM10 CM30 CM50	AP100 AP200, AP300 TB(X)5	AC2 TB2	4690 ATS430
Product image							
Aeration and digestion	●	●			●		●
Borehole	●						●
Coagulation				●	●		●
Desalination	●	●		●	●	●	●
Final discharge	●	●	●		●	●	●
Final sedimentation							●
Irrigation	●		●				
Network management	●						
Primary sedimentation					●		●
Pumping station	●	●					
Sedimentation / filtration							●
Sludge incineration		●	●	●			
Storm water	●	●		●			
Treatment	●	●	●	●	●		●
Treatment plant inlet	●	●	●	●	●	●	●
Water intake	●	●		●		●	●
Water storage					●	●	●

Analytical instruments											
Dissolved Oxygen	Dissolved Organics	Ammonia	Nitrate	Phosphate	Fluoride	Iron	Manganese	Aluminium	Chlorine	Oxygen Zirconia
ADS430 AWT440	AV4 AW637	AAM631 AW632	AV45	AW636	AFM631	AW633	AW634 AW635	AW631	AW400	AZ20, AZ25, AZ30, AZ40
										
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