



ABB Drive, Motor and Digital Solutions for Water and Wastewater

Saving water, saving energy.

Where water security means we'll help to make sure your water is Always Flowing. Never Still.

Whether drainage, effluent, surface water or sewage, there is a need to stabilise process flow, reduce wear and tear and improve overall efficiencies: and all against a backdrop of increasing regulatory requirements which demand additional energy intensive processes.





What are some key drivers influencing the water industry?

Energy efficiency

"We need to cut our energy bill and carbon footprint."

Energy manager

Know where to look...

pumps (14%) and aerators (53%) are the largest wastewater energy consumers. Because of catchment area characteristics pumps are often over-sized. Furthermore, overall electrical system efficiency (comprising transformers, drives, motors, and load) can be up to 20 percent less efficient though poor design

Productivity and resilience

"We must avoid supply interruptions and deliver high customer outcomes."

Production Manager

Build in resilience...

Wastewater plants need to run without interruption and in the most efficient and environmentally conscious way. Ensuring the reliability of plant assets is the best way to reduce supply interruptions, lower environmental impact and keep your business efficient and effective.

Plant and personnel safety

"I need to make my plant and personnel safety a priority."

Safety manager

Tackle diverse safety demands...

By its very nature wastewater treatment carries risk to human health, with exposure to sewage treatment plants, sewers and sludge. Selecting the right products that minimize human exposure to the environment is critical.

Operation and maintenance

"Uptime is our number one priority."

Maintenance Manager

Lower operational overheads...

Wastewater pumps suffer a higher wear rate because of grit, rags, debris and other solids. Managing these issues saves energy by avoiding pumping against partial blockages.

Why ABB for water?

We provide solutions and service that enable water plants to perform efficiently, safely, continuously and cost-effectively.

How do we do this?

Through a unique combination of innovation and experience. As the water industry changes, so too do our customers' needs, and so too do the ways we go above and beyond requirements.

Every stage of wastewater treatment can be fine-tuned to improve resilience, lower energy consumption and enhance safety with these popular solutions.

ACQ580 variable frequency drive

The ACQ580 variable frequency drive (VFD) delivers innovative pump and blower features for the water and wastewater industry. These drives are designed for customers who value reliability, high quality, and robustness. With embedded pump functionality, the ACQ580 keeps all water system operating optimally and efficiently. Key features:

- Primary Setting menu and assistants simplifies commissioning, setup and daily control
- Embedded water and wastewater application features create an intuitive environment for users
- Dedicated pump/blower features enhance the performance of the pumping system
- Control panel enables operators to efficiently interface with the drives in terms they use every day
- Bluetooth control panel allows for wireless commissioning and monitoring as a standard
- Integrated type tested options such as ultra-low harmonic active front end



ACS880 industrial variable speed drive

The ACS880 is an all-compatible, flexible industrial drive, offered in a range of wall-mounted drives, drive modules and cabinet-built drives. ACS880 single drives are standalone drives. They are customised to meet the particular needs of water and wastewater applications and are specially designed for customers who require reliable quality and robustness in their operations. Key features:

- Intuitive control panel and PC tool
- Built-in safety features for simplified configuration
- Communication with all major automation networks
- Removable memory unit for easy drive commissioning and replacement
- Energy optimizer and energy efficiency information for monitoring and saving energy
- Easy to service and maintain
- Integrated type tested options such as:
 - Ultra-low harmonic active front end
 - Sine filter
 - Common mode filters



ABB SynRM motor and drive packages for water

For customers who value sustainability and want to trust in the long-term quality and reliability of their technologies, consider ABB's offering of low-energy synchronous reluctance motor (SynRM) and variable frequency drive (VFD) packages. Energy savings achieved with motor-drive solutions are estimated to be around 20% when compared to the use of induction motors.

Key features:

- User friendly drive operating system
- Energy saving and emissions reducing package
- Best-in-class industrial drive loaded with new, purpose-designed software
- Synchronous reluctance technology features a rotor without magnets or windings so suffers virtually zero power loss, and makes for easy maintenance
- Lower bearing and winding temperatures
- Longer bearing lifetime
- Better partial load efficiency
- More precise process control
- Verified IE5 efficiency

ABB Ability™ Digital Powertrain for efficient, safe and reliable operations

ABB connects drives, motors, bearings and pumps to offer customers advanced monitoring and analytics of their powertrain equipment. The data insights gained from the powertrain enables customers to be better connected with their assets and make even better decisions to ensure safe, reliable and efficient operations.

Key features:

- Enables full transparency on all parameters for drives, motors, mounted bearings and pumps
- Users can digitally "see" operational variables and health indicators through an integrated, one-stop portal – including availability, environmental conditions and fault events
- Condition-based maintenance provides highly targeted monitoring and allows you to plan maintenance actions for critical drive applications
- Remote Assistance feature provides expert support for any issues with your drives, to save you time and money when troubleshooting
- Asset health enables you to supervise performance, reliability and efficiency of your systems
- Alarm management provides peace of mind by eliminating the need to continually monitor the status of your equipment





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