

CANADIAN PANORAMA

Water & wastewater drives

ACQ580



ABB water & wastewater drives

Overview

W&WW drives – ACQ580 family

Key features

Secure the flow of water and wastewater

The ACQ580 variable frequency drives (VFDs) deliver innovative pumping features for the water and wastewater industry. The primary settings menu and assistants simplify commissioning, setup, and daily control. Embedded water and wastewater application features enhance the system's performance.

Speak the language

Leveraging clear water industry terminology, the control panel enables operators to efficiently interface with the drives in terms they use every day. The optional Bluetooth-enabled control panel allows for wireless commissioning and monitoring.

Designed with reliability in mind

ACQ580 drives are designed for customers who value reliability, high quality, and robustness in their applications. With built-in pump functionality, the ACQ580 keeps the pump system operating optimally and efficiently. Product features, such as coated boards and optional compact UL Type 12 enclosure, make the ACQ580 suitable for harsh conditions.



ACQ580-01

ACQ580-Px

Wall-mount drive – ACQ580-01

Key features

- UL(NEMA) Type 1, 12 enclosure
- NEMA 12 footprint same as NEMA 1
- SCCR rating: 100kA with fuses
- DC Swinging Choke technology to mitigate harmonics
- EMC C2 filters for 1st environment installations
- Coated printed circuit boards
- Customer password lock

Main benefits

- Tailored for W&WW applications
- Easy to configure for all application types
- Optimal energy usage based on process demand
- Balanced operation time to increase the mean time between repairs
- Functionality reduces wear on the mechanical parts in submersible pumps

Packaged drive – ACQ580-Px

Key features

- Packaged with input disconnect switch or circuit breaker
- UL(NEMA) Type 1, 12, 3R enclosure

Main benefits

- Turnkey enclosed solutions (3 wires in/out)

With pump control software, one drive controls several pumps or blowers in parallel and eliminates the need for an external programmable logic controller. This results in reduced stress on the mains and the system, as well as in lower maintenance and operation costs.

Startup assistant allows first-time users to quickly customize the drive, out of the box, according to their needs. This is complemented by a built-in help function to make parameter-by-parameter setting easy.

Enjoy sophisticated process control in scalar and vector control modes. They support a wide range of motors including induction, permanent magnet and synchronous reluctance motors.

The energy optimizer feature operates both in scalar and vector control modes, ensuring maximum torque per ampere and reducing energy drawn from the supply. You can follow the saved energy, CO2 emissions or money, and see how fast the drive brings you a return on investment.

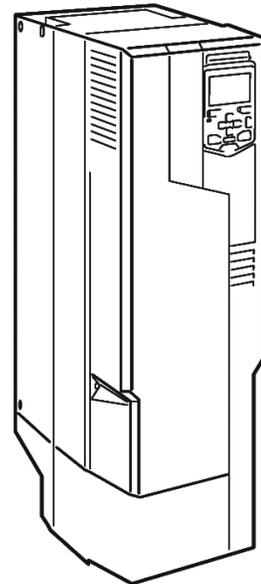
The drive reduces motor noise by spreading the switching frequencies over a user-specified range. A higher switching frequency reduces motor noise at low load without limiting full current at maximum load.

Diagnostic assistant helps in locating the cause of any disturbance to the drive and even suggests possible remedies. This reduces process downtime by making repairs or adjustments effortless.

A built-in and stand-alone process PID/loop controller makes the drive a self-governing unit that requires no external logic input from the control room but requires only an external process measurement.

Load profile feature collects drive values, such as current, and stores them in a log. This enables you to analyze and optimize the application with the help of historical data load.

Adaptive programming provides extra flexibility by offering a built-in programmable logic controller(PLC).



Drive electrical ratings

Light duty

HP*		1	1.5	2	3	5	7.5	10	15	20	25
ACQ580-01	208/230V	04A6	06A6	07A5	10A6	017A	024A	031A	046A	059A	075A
	460 V	02A1	03A0	03A5	04A8	07A6	012A	014A	023A	027A	034A
	575V			02A7	03A9	06A1	09A0	011A	017A	022A	027A
ACQ580-PC	208/230V	04A6	06A6	07A5	10A6	017A	024A	031A	046A	059A	075A
	460 V	02A1	03A0	03A5	04A8	07A6	012A	014A	023A	027A	034A
	575V			02A7	03A9	06A1	09A0	011A	017A	022A	027A
ACQ580-PD	208/230V	04A6	06A6	07A5	10A6	017A	024A	031A	046A	059A	075A
	460 V	02A1	03A0	03A5	04A8	07A6	012A	014A	023A	027A	034A
	575V			02A7	03A9	06A1	09A0	011A	017A	022A	027A

Light duty

HP*		30	40	50	60	75	100	125	150	200	250	300	350
ACQ580-01	208/230V	088A	114A	143A	169A	211A	273A	343A**	396A**				
	460 V	044A	052A	065A	077A	096A	124A	156A	180A	240A	302A	361A	414A
	575V	032A	041A	052A	062A	077A	099A	125A	144A	192A	242A	271A	
ACQ580-PC	208/230V	088A	114A	143A	169A	211A	273A						
	460 V	044A	052A	065A	077A	096A	124A	156A	180A	240A			
	575V	032A	041A	052A	062A	077A	099A	125A	144A				
ACQ580-PD	208/230V		114A	143A	169A	211A	273A						
	460 V	044A	052A	065A	077A	096A	124A	156A	180A	240A			
	575V	032A	041A	052A	062A	077A	099A	125A	144A				

*Ratings are according to the standard UL (NEC) table, please check with local ABB representative for specific sizing requirements.

**cULus certification only.



Energy Efficiency

Operational efficiency

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 can be up to 20 percent less efficient through poor design.



Wastewater

Productivity and resilience

Built-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.



Pumping Station

Operation and maintenance

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.



Option compatibility

Construction

01	PD	PC	Option	Option code	Description
●	●	●	UL (NEMA) 1	-	Indoor use primarily to provide a degree of protection against limited amounts of falling dirt.
●	●	●	UL (NEMA) 12	+B056	Indoor use primarily to provide a degree of protection against circulating dust, falling dirt and dripping non-corrosive liquids. Does not protect against contamination from salt-laden air.
	●	●	UL (NEMA) 3R	+B058	For outdoor use. This enclosure provides a degree of protection against dirt, rain, sleet, snow.
●	●	●	Bluetooth keypad	+J429	ACQ580 wireless Bluetooth-enabled control panel.

Adding these options may change the dimensions of the enclosure. Contact ABB for available configurations.



Shared features of the ABB all-compatible drives portfolio



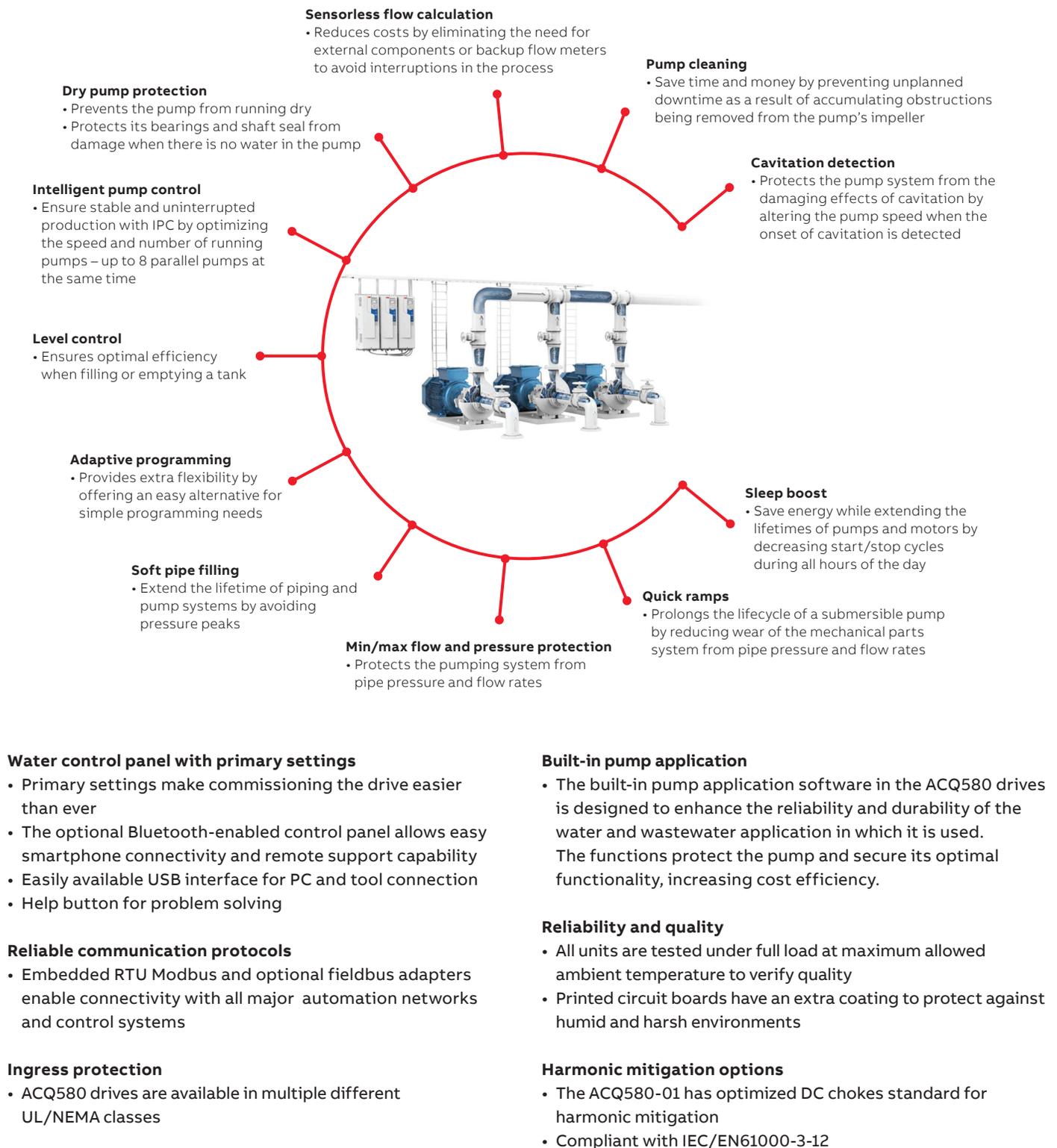
Drivetune smartphone app

- The Drivetune smartphone app together with the Bluetooth-enabled control panel allow you to set up and commission the drive remotely from a safe and comfortable location, using the same primary settings menu that is available on the drive's control panel.



ACQ580 drive family

Always flowing. Never still.





—

ABB Inc.

Motion

Saint-Laurent, QC

Canada

For more information, please contact
your local ABB representative or visit

new.abb.com/drives/low-voltage-ac/industry-specific-drives/acq580

