

ACQ580 LV AC DRIVES

Drives for water and wastewater

0.75 to 500 kW



The ACQ580 drive for water is part of ABB's all-compatible drives portfolio. This robust, compact and energy efficient drive is designed for securing the flow of water and wastewater in your pumping system.

01 Securing the flow of wastewater treatment

02 Optimal pumping reduces stress on the pumping system and saves energy

03 Ensuring uninterrupted supply of water for irrigation

Ensuring uninterrupted flow of water efficiently

Lowers your energy bill

The drive ensures low energy consumption and optimal motor control when pumping water. It has the built-in energy optimizer control mode to ensure maximum torque per ampere, reducing energy drawn from the supply. The built-in energy calculators help the user monitor and fine-tune processes to ensure optimal energy use. The drive also offers different levels of harmonic mitigation, to keep the power network in a water utility clean and stable.

Speaks your pump's language

The drive offers built-in water application functionalities for optimal operation of the pumps. These include intelligent multi-pump control, sensorless flow calculation, soft pipe fill, pump protection and cleaning functions. Usability is enhanced with the intuitive Hand-Off-Auto control panel including optional Bluetooth functionality for wireless access to the drive.

A robust and reliable performer

With coated boards and enclosure class up to IP55, the drive requires less space as there is no need to install it into cabinets. The drive also shares the same user interfaces and options, found in other ABB all-compatible drives.



01



02



03

Technical data

Power range	ACQ580-01	0.75 to 250 kW (frame sizes R1 to R9)
	ACQ580-04	250 to 500 kW (frame sizes R10 to R11)
	ACQ580-07	75 to 500 kW (frame sizes R6 to R11)
	ACQ580-31	4 to 110 kW (frame sizes R3, R6 and R8)
	ACQ580-34	132 to 355 kW (frame size R11)
Voltage range	3-phase, $U_N = 200$ to 240 V, +10%/-15%	
	3-phase, $U_N = 380$ to 480 V, +10%/-15%	
Frequency	50/60 Hz $\pm 5\%$	
Degree of protection	ACQ580-01/-31	IP21 as standard and IP55 as an option
	ACQ580-04/-34	IP00 as standard and IP20 as an option
	ACQ580-07	ACQ580-07: IP21 as standard, IP42 and IP54 as an option
Ambient conditions	ACQ580-01/-31	-15°C to 50°C. No frost allowed. From +40 °C to +50 °C with derating 1% per 1 °C.
	ACQ580-04/-34	-15 °C to 55 °C. No frost allowed. From +40 °C to +55 °C with derating 1% per 1 °C.
	ACQ580-07	0 °C to +50 °C. No frost allowed. From +40 °C to +50 °C with derating 1% per 1 °C.
Safety functions (TÜV Nord certified)	Safe torque off (STO) according to EN/IEC 61800-5-2, SIL 3, PL e	
EMC	According to EMC directive 2014/30/EU, EN 61800-3:2004 + A1 2012	
	ACQ580-01/-31	Class C2 as standard
	ACQ580-04/-34	Class C3 as standard
	ACQ580-07	Class C2 as standard for powers 75 kW to 200 kW and Class C3 as standard for powers 250 kW to 500 kW
Harmonic mitigation	Built-in swinging choke as standard in ACQ580-01 meets the requirements of IEC 61000-3-12: 2011. ACQ580-31 and ACQ580-34 in addition meets the requirements of IEEE519 and G5/4.	
Control connections	2 analog inputs, 2 analog outputs, 6 digital inputs including thermistor input, 3 relay outputs, EIA-485 Modbus RTU, safe torque off (STO), external 24 V DC supply input, USB via control panel	
Optional I/O extension modules	CMOD-01: External 24 V DC/AC and digital I/O extension (2 x relay output and 1 x digital output)	
	CMOD-02: External 24 V and isolated PTC interface	
	CHDI-01: 6 115/230V AC digital inputs and 2 relay outputs	
PC tools	Drive composer tool entry, available for free via ABB website Drive composer tool pro	
Control panel options	Hand-Off-Auto control panel (ACH-AP-H) as standard delivery. Hand-Off-Auto control panel with bluetooth (ACH-AP-W) Assistant control panel (ACS-AP-I).	

Suitable for water industry applications like:
pumps, fans, blowers and mixers

For various installation needs:

- Wall-mounted drives ACQ580-01/-31
- Drive modules ACQ580-04/-34
- Cabinet-built drives ACQ580-07

For harsh environments

up to IP55

Connects virtually to any kind of motor

From induction and permanent magnet motors to synchronous reluctance motors

Offers built-in pump functionalities

- Intelligent multi-pump control
- Sensorless flow calculation
- Level control
- Soft pipe fill
- Quick ramps
- Pump cleaning
- Dry pump protection

Harmonic mitigation without the need for

external filters or multi-pulse transformers

There is more to this drive

Programmable

The drive can be commissioned and programmed via the standard control panel or with the Drive composer PC tool.

If extra features are required, adaptive programming provides an easy way to add the functionality.

Learn it once, use it everywhere

Enables a smooth transition to other all-compatible drives in the ABB portfolio, such as the ACS880 industrial drives and ACS480 general purpose drives.

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

abb.com/drives
abb.com/drivespartners
abb.com/water

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB. Copyright© 2018 ABB. All rights reserved.