

ACQ580 LV AC DRIVES

# Drives for water and wastewater

## 1 to 700 hp



The ACQ580 is the latest addition to the ABB drive portfolio. This robust, compact and energy efficient drive is designed for securing the flow of water and wastewater in your pumping system.

### Secure the flow of water and wastewater

The ACQ580 variable frequency drive (VFDs) delivers innovative pumping features for the water and wastewater industry. The Primary Setting menu and assistants simplify commissioning, setup as well as daily control. Embedded water and wastewater application features enhance the performance of the system.

### 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 blue tooth control panel allows for wireless commissioning and monitoring.

### Feel the Power

ACQ580 drives are designed for customers who value reliability, high quality, and robustness in their applications. With embedded 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.



## Technical data

<b>Power range</b>	ACQ580-01: 1 to 350 hp (frame sizes R1 to R9) ACQ580-04: 400 to 700 hp (frame sizes R10 to R11)
<b>Voltage range</b>	3-phase, UN <sub>2</sub> = 200 to 240 V, +10%/-15% 3-phase, UN <sub>2</sub> = 380 to 480 V, +10%/-15% 3-phase, UN <sub>2</sub> = 575 to 600 V, +10%/-15%
<b>Power factor (cosφ) at nominal load</b>	0.98
<b>Efficiency at rated power</b>	98%
<b>Power loss</b>	Approx. 2% of rated power
<b>Frequency</b>	50/60 Hz ±5%
<b>Supported motor control</b>	Scalar and vector
<b>Supported motor types</b>	Asynchronous motor, permanent magnet motor (vector), SynRM (vector)
<b>Mains choke</b>	Built-in swinging choke as standard (up to 350 Hp)
<b>Degree of protection</b>	ACQ580-01: UL Type 1 (IP21) as standard UL Type 12 (IP55) as option ACQ580-04: UL Type 00 (IP00)
<b>Ambient conditions</b>	ACQ580-01: -15°C to 40°C. No frost allowed. From +40°C to +50°C with derating 1% per 1°C ACQ580-04: -15°C to 40°C. No frost allowed. From +40°C to +50°C with derating 1% per 1°C
<b>Compliance</b>	CE, UL, cUL, EAC, RCM
<b>Harmonic mitigation</b>	According to IEC 61000-3-12: 2011
<b>Control connections</b>	Two analog inputs, two analog outputs, six digital inputs including thermistor input, three relay outputs, EIA-485 Modbus RTU, safe torque off (STO), external 24 V DC supply input, USB via control panel
<b>Optional I/O extension modules</b>	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: six 115/230V AC digital inputs and two relay outputs
<b>Optional communication extension modules</b>	EtherNet/IP Modbus TCP Profibus- DP ProfiNet DeviceNet
<b>PC tools</b>	Drive composer tool entry, available for free via ABB website Drive composer tool pro
<b>Control panel options</b>	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) Control panels feature battery back-up

## Suitable for many applications like:

### For all water industry applications

For pumps, blowers and mixers

### For various installation needs

From wall-mounted (-01) to drive modules (-04)

### Ensures high enclosure class

UL Type 1 (IP21)

UL Type 12 (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

## There is more to this drive

### Programmable

The Drive composer PC tool offers extensive drive monitoring and process tuning.

Adaptive programming provides extra flexibility by offering an easy alternative for simple programming needs.