

ACQ580 LV AC DRIVES

# Drives for water and wastewater

## 1 to 350 hp



The ACQ580 is the latest addition to the ABB drives 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

The ACQ580 variable frequency drive (VFD) delivers innovative pumping features for the water and wastewater industry. Primary Setting menu and assistants simplifies commissioning, setup and daily control. Embedded water and wastewater application features create an intuitive environment for users and dedicated pumping features enhance the performance of the pumping 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 Bluetooth control panel allows for wireless commissioning and monitoring.

### Feel the Power

ACQ580 drives are designed for customers who value reliability, high quality, and robustness. 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 enclosures, make the ACQ580 suitable for harsh conditions.



## Technical data

Power range	1 to 50 hp, 208-240 V, Single Phase 1 to 100 hp, 208-240 V 1 to 350 hp, 440-480 V 2 to 250 hp, 525-600 V
Voltage range	1-phase, 208-240 V, +10%/-15% 3-phase, 208-240 V, +10%/-15% 3-phase, 440-480 V, +10%/-15% 3-phase, 525-600 V, +10%/-15%
Power factor (cosφ) at nominal load	0.98
Efficiency at rated power	98%
Power loss	Approximately 2-3% of rated power
Frequency	50/60 Hz ±5%
Supported motor control	Scalar and vector
Supported motor types	Asynchronous motor, permanent magnet motor (vector), SynRM (vector)
Mains choke	Built-in swinging choke as standard
Degree of protection	UL (NEMA) Type 1 / IP 21, as standard UL (NEMA) Type 12 / IP55, as option
Ambient conditions	-15°C to 40°C. No frost allowed. From +40°C to +50°C with derating 1% per 1°C
Compliance	CE, UL, cUL, CSA, EAC, RCM
Harmonic mitigation	According to IEC 61000-3-12: 2011
Control connections	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

### Control and communication options

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: six 115/230V AC digital inputs and two relay outputs
Optional communication extension modules	EtherNet/IP Modbus TCP Profibus- DP ProfiNet DeviceNet
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) Control panels feature battery back-up

### Typical applications

- Pumps
- Blowers
- Mixers

### Installation type

- Wall-mounted (-01)

### High enclosure class

- UL (NEMA) Type 1 / IP21
- UL (NEMA) Type 12 / IP55

### Motor types

- Induction motors
- Permanent magnet motors
- Synchronous reluctance motors

### Built-in pump functionality

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

### Programmability

- The Drive Composer PC tool provides extensive drive monitoring and process tuning.
- Adaptive programming provides extra flexibility by offering an easy alternative for simple programming needs.