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.

- **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.

- **Speaks your pump’s language**
The drive offers built-in water application functionalities for optimal operation of the pump. 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 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. Built on ABB’s common drive architecture, the drives share the same user interfaces and options, enabling users to use the knowledge gained with the ACQ580 drives in other all-compatible drives motors.
Suitable for many applications like:

- For all water industry applications
  - For pumps, fans, blowers and mixers

- For various installation needs
  - From wall-mounted (-01) and drive modules (-04) to cabinet-built (-07) variants

- Ensures high protection class
  - 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

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.

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.

See the ACQ580 product video

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Technical data

| Power range | ACQ580-01: 0.75 to 250 kW (frame sizes R0 to R9)  
| ACQ580-04: 250 to 500 kW (frame sizes R10 to R11)  
| ACQ580-07: 75 to 500 kW (frame sizes R6 to R11) |
| Voltage range | 3-phase, \( U_{\text{in}} = 380 \text{ to } 480 \text{ V}, \pm 10\% / -15\% \) |
| Frequency | 50/60 Hz ±5% |
| Mains choke | Built-in swinging choke as standard |
| Degree of protection | ACQ580-01: IP21 as standard and IP55 as an option  
| ACQ580-04: IP00 as standard and IP20 as an option  
| ACQ580-07: IP21 as standard, IP42 and IP54 as an option |
| Ambient conditions | ACQ580-01: -15°C to 50°C. No frost allowed.  
| From +40°C to +50°C with derating 1% per 1°C  
| ACQ580-04: -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 |
| Compliance | CE, UL, cUL, EAC, RCM |
| 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: Class C2 as standard  
| ACQ580-04: Class C3, as standard  
| ACQ580-07: Class C2 as standard for frames R6 to R9 and Class C3 as standard for frames R10 to R11 |
| 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 |
| 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 |
| 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) |

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For more information contact your local ABB representative or visit:

www.abb.com/drives
www.abb.com/drivespartners

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