

# ABB irrigation drive package

## ACQ580 3R irrigation drives, 10 to 200 hp



Easy-to-use drives that provide reliable pump control are vital to the health of your crops and your bottom line. ABB drives help you protect your investment by safeguarding your system and enabling it to run efficiently to provide the value and dependability you demand.

Who you choose matters

### Rugged reliability for remote areas

It's critical to your livelihood to have water when and where you need it. That's why it's imperative to use equipment that has been through rigorous factory testing and can stand up to the elements. ABB's outdoor NEMA/UL Type 3R rated enclosure eliminates the need for solar shielding, includes a thermostatically controlled heater to protect against condensation and a surge suppressor to defend against transient lightning strikes. A totally enclosed control area maintains a clean environment for the drive and low voltage control components to safeguard them from particles and ensure reliability.

### The right fit

ABB irrigation drives deliver solutions for the challenges rural users routinely face. They are Service Entrance rated and equipped with built-in circuit breakers. Single-phase ratings are also available to provide simplified conversion of single-phase source power to control three-phase motors.

### Protecting your crops

In the event of a pump system failure, minimizing downtime is imperative. ABB manufactures drives in the U.S., stocks them locally for efficient delivery and provides 24/7 technical support – because protecting your investment is our priority, too. When the drive is commissioned by an ABB Certified Start Up technician, you also benefit from an extend drive warranty.

### Easy, efficient, and pump-prepared

- ACQ580 variable frequency drives bring the quality, reliability, ease of use, and energy savings you expect from ABB. Farmer First software simplifies start-up and make our drives more approachable, whether it's through an optional Bluetooth-enabled keypad or any of the major communication protocols. Easy connectivity and diagnostics are at your fingertips. The ACQ580 also contains built-in, irrigation-specific pump features that ensure optimal operation of your pumping system:
  - Built-in choke for harmonic mitigation
  - Motor and PID primary settings for simple system set-up
  - Pressure and flow control for easy, optimized pump control
  - Irrigation-specific software features:
    - First start assistants
    - Pump supervision and protection functions
    - Multiple ramp sets for submersible/turbine or booster pump control
    - Motor heating mode to prevent motor condensation
    - Process PID controller (two different primary settings), external PID controller and PID sleep / boost to ensure reliable output and balance

Standard Product Highlights

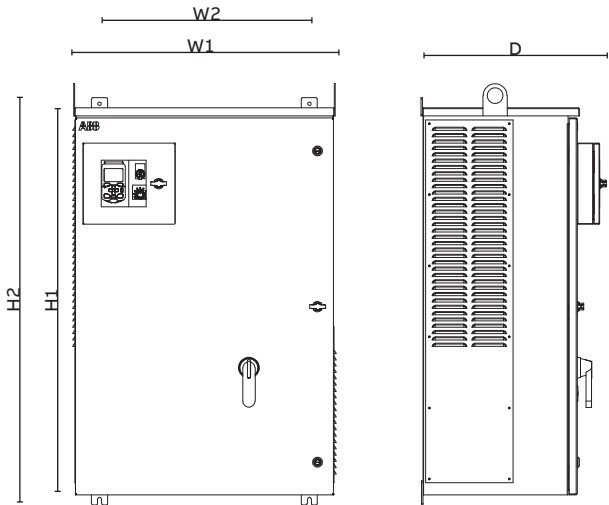
- Outdoor rated, NEMA/UL Type 3R certified enclosure
- Outdoor protection against falling rain, sleet, snow and external ice formation
- Farmer First irrigation-specific software, first start assistant and primary setting menu
- Built-in circuit breakers
- Separate drive/control and cooling/ air flow sections enhance reliability
- 460V units are stocked at ABB
- 65 kAIC SCCR rated
- Service Entrance rated for three phase four wire system
- Ambient temperature -20 to 40°C with heater, to 50°C with derate
- ABB ACQ580 irrigation drive with hand-off-auto keypad
- Pad-lockable disconnect and enclosure doors
- Surge/lightening protection
- Condensation heater
- Wall mounting
- Designed and assembled to UL508A

Additional Options

- Hand/Off/Auto selector switch
- Speed potentiometer
- Upgraded control power transformer with an extra 100 VA for customer use
- 12” floor mounting kit\*
- Additional control panel options, including Bluetooth-enabled\*
- Connectivity option for any major protocol\*
- I/O extension modules\*

\*Field installed item.

Dimensions



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

[solutions.abb/us-drives](https://solutions.abb/us-drives)

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Ratings

Type code UL Type 3R (NEMA 3R)	Normal Ratings		Weight	Cabinet
	I <sub>N</sub>	P <sub>N</sub>		
	A	HP	lb	
230V 60Hz - Single phase supply voltage 240V. The power ratings are valid at nominal output.				
ACQ580-0P-075A-2+C192+F289	28	10	252	M3R-32W
ACQ580-0P-088A-2+C192+F289	42	15	266	M3R-32W
ACQ580-0P-114A-2+C192+F289	54	20	266	M3R-32W
ACQ580-0P-143A-2+C192+F289	68	25	487	M3R-32W
ACQ580-0P-169A-2+C192+F289	80	30	513	M3R-32W
ACQ580-0P-211A-2+C192+F289	104	40	513	M3R-32W
ACQ580-0P-273A-2+C192+F289	130	50	546	M3R-40W

I<sub>N</sub> Continuous current, no overloadability  
P<sub>N</sub> Typical power with no overload

Type code UL Type 3R (NEMA 3R)	Normal Ratings		Weight	Cabinet
	I <sub>LD</sub>	P <sub>LD</sub>		
	A	HP	lb	
208/230V 60Hz - Three phase supply voltage 208/240V. The power ratings are valid at nominal output.				
ACQ580-0P-075A-2+C192+F289	74.8	25	252	M3R-32W
ACQ580-0P-088A-2+C192+F289	88	30	266	M3R-32W
ACQ580-0P-114A-2+C192+F289	114	40	266	M3R-32W
ACQ580-0P-143A-2+C192+F289	143	50	487	M3R-32W
ACQ580-0P-169A-2+C192+F289	169	60	513	M3R-32W
ACQ580-0P-211A-2+C192+F289	211	75	513	M3R-32W
ACQ580-0P-273A-2+C192+F289	273	100	546	M3R-40W

480V 60 Hz - Three phase supply voltage 460 or 480V. The power ratings are valid at nominal output.

ACQ580-0P-052A-4+C192+F289	52	40	252	M3R-32W
ACQ580-0P-065A-4+C192+F289	65	50	252	M3R-32W
ACQ580-0P-077A-4+C192+F289	77	60	252	M3R-32W
ACQ580-0P-096A-4+C192+F289	96	75	266	M3R-32W
ACQ580-0P-124A-4+C192+F289	124	100	487	M3R-32W
ACQ580-0P-156A-4+C192+F289	156	125	513	M3R-32W
ACQ580-0P-180A-4+C192+F289	180	150	513	M3R-32W
ACQ580-0P-240A-4+C192+F289	240	200	546	M3R-40W

Ratings apply at an ambient temperature of 40 °C (104 °F).  
To achieve the rated motor power given in the table, the rated current of the drive must be higher than or equal to the rated motor current.  
I<sub>LD</sub> Continuous rms output current allowing 10% overload for 1 minute every 10 minutes.  
P<sub>LD</sub> Typical motor power in light-overload for 1 minute every 10 minutes.

Frame size	Height (H1) in	Height (H2) in	Width (W1) in	Width (W2) in	Depth in
M3R-40W	57	60.3	40.5	34	28.9
M3R-32W	49	52.3	32.5	26	23

H1 - Height  
H2 - Mounting Height  
W1 - Width  
W2 - Mounting Width

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