

MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2025-202
Item to be Scouted	HVAC Controls - Alternates to ABB
Days to be scouted	21
Response Due By	07/11/2025
Description	DEW Construction (GC), our trade partner (Thomas Mechanical, Inc.) and their 2nd tier HVAC controls integration contractor need assistance sourcing BABAA compliant HVAC controls components. This project is for the Burlington

Section 2: Technical Information

Type of supplier being sought	ABB, a manufacturer of controls, are non-compliant and need compliant alternatives.
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Includes but is not limited to electronic/electrical assembly, PCB fabrication and assembly, software programming, and system integration.
Provide dimensions / size / tolerances / performance specifications for the item	- (230913 I&C for HVAC.pdf) See attached CSI Specification section #230913 Instrumentation and Control Devices for HVAC. - (230923 DDC System for HVAC.pdf) Selected system components will be required to interface with the selected Direct-Digital Control System for HVAC (CSI #230923). - (NIST Grant Award Letter to Burlington School District.pdf) Provides information on the project - Document with "Parts List" in the title lists the component, in which, a compliant alternative / compliant alternatives is/are needed - Additional documents provide specifications on the item(s), in which, a compliant alternative / compliant alternatives is/are needed
List required materials needed to make the product, including materials of product components	Unknown, this is not standard information listed in a product data submittal and has no bearing on the engineer of record's acceptance of this product. If information is necessary for sourcing, please refer to product data sheets provided.
Are there applicable certification requirements?	Yes
Certification(s) required	UL
Are there applicable regulations?	No
Are there any other standards, requirements, etc.?	No
Additional Technical Comments	At this time, we do not know who will be providing the DDC system. AutomatedLogic is already in use by the Burlington School District and there is a specification requirement for this project stating, "The system shall be an extension of and integrated into, the building automation system at the Burlington Central School District." Systems utilizing either AutomatedLogic (client preferred) and KMC Controls have been proposed. However, neither system is fully BABAA compliant.

Section 4: Business Information

Estimated potential business volume	Please see attached Parts List for manufacturer ABB. Quantity and unit prices are identified. This will be a one-time order for this project.
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Estimated target price / unit cost information (if unavailable explain)	Please see attached Parts List for manufacturer ABB. Quantity and unit prices are identified. This will be a one-time order for this project.
When is it needed by?	Immediately!!! Compliant HVAC controls are critical to the project schedule. Substantial Completion is 12 weeks away as of this submission dated 2025-06-11. No HVAC controls means no equipment startup, balancing, or commissioning.
Describe packaging requirements	Packaging is to be determined by the manufacturer such that equipment arrives undamaged.
Where will this item be shipped?	South Burlington, VT 05495

Additional Comments

Is there other information you would like to include?	Funding Agency: Department of Commerce, National Institute of Standards and Technology. Attached for reference is the grant award letter provided to Burlington High School for this project. DEW Construction, BABAA Contact: Michael Snyder, Cell: (802) 798-4976, Email: msnyder@dewconstruction.com
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SECTION 23 0913
INSTRUMENTATION AND CONTROL DEVICES FOR HVAC

Job #	<u>10424</u>
Cost #	<u> </u>
Construction Set	<u> </u>
Received	<u>11/7/2024</u>
DEW CONSTRUCTION	

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Control panels.
- B. Control Valves:
 - 1. Ball valves with factory-mounted actuators.
 - 2. Electronic valve operators.
- C. Dampers.
- D. Damper Operators:
 - 1. Electric operators.
 - 2. Inlet vane operators.
- E. Wall-, Surface-, and Duct-Mounted Sensors:
 - 1. Temperature sensors.
 - 2. Static air pressure sensors.
- F. Thermostats:
 - 1. Room sensor with occupant override and adjustment.
 - 2. Freezestats.
 - 3. Line voltage thermostats.
 - 4. Room-mount thermostat accessories.
 - 5. Outdoor-reset thermostats.
 - 6. Airstream thermostats.
- G. Energy Metering:
 - 1. Watt-hour revenue meters (with and without demand register).
 - 2. Watt or watt-hour transducers.

1.02 REFERENCE STANDARDS

- A. AMCA 500-D - Laboratory Methods of Testing Dampers for Rating.
- B. ANSI C12.1 - Electric Meters - Code for Electricity Metering.
- C. ANSI C12.10 - Physical Aspects of Watthour Meters - Safety Standard.
- D. ANSI C12.20 - American National Standard for Electricity Meters - 0.2 and 0.5 Accuracy Classes.
- E. ANSI/FCI 70-2 - Control Valve Seat Leakage.
- F. ASHRAE Std 135 - A Data Communication Protocol for Building Automation and Control Networks.
- G. NEMA DC 3 - Residential Controls - Electrical Wall-Mounted Room Thermostats.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide description and engineering data for each control system component. Include sizing as requested. Provide data for each system component and software module.
- C. Shop Drawings: Indicate complete operating data, system drawings, wiring diagrams, and written detailed operational description of sequences. Submit schedule of valves indicating size, flow, and pressure drop for each valve. For automatic dampers indicate arrangement, velocities, and static pressure drops for each system.
- D. Manufacturer's Instructions: Provide for all manufactured components.

- E. Operation and Maintenance Data: Include inspection period, cleaning methods, recommended cleaning materials, and calibration tolerances.
- F. Project Record Documents: Record actual location of control components, including panels, thermostats, and sensors.
 - 1. Revise shop drawings to reflect actual installation and operating sequences.
- G. Warranty: Submit manufacturer's warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.05 WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 EQUIPMENT - GENERAL

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

2.02 CONTROL PANELS

2.03 CONTROL VALVES

- A. Ball Valves with Factory-Mounted Actuators:
 - 1. Manufacturers:
 - a. Belimo Aircontrols (USA), Inc: www.belimo.com/#sle.
 - b. Johnson Controls International, PLC: www.johnsoncontrols.com/#sle.
 - c. KMC Controls: www.kmccontrols.com/#sle.
 - 2. Service: Use for hot water.
 - 3. Flow Characteristic: Include 2-way operation configured to fail normally open (NO).
 - 4. Replacements in Kind: Provide pressure-independent type.
 - 5. Rangeability: 500 to 1.
 - 6. ANSI Rating: Class 150.
 - 7. Leakage: Class IV (0.1 percent of rated capacity) per ANSI/FCI 70-2.
 - 8. Body Size:
 - a. Under 2-1/2 inches:
 - 1) Connection: NPT.
 - 2) Materials:
 - (a) Body: Brass.
 - (b) Flanges: Ductile iron.
 - (c) Ball: Chrome-plated brass.
 - (d) Stem: Nickel-plated brass.
 - (e) Seat: Graphite-reinforced PTFE with EPDM O-Ring backing.
 - (f) Stem Seal: EPDM O-Rings.
 - (g) Flow Control Disk: Thermoplastic synthetic-resin.
 - b. 2-1/2 inches and Above:
 - 1) Connection Type: Flanged.
 - 2) Materials:
 - (a) Body: Brass.
 - (b) Flanges: Ductile iron.
 - (c) Ball: 300 series stainless steel.
 - (d) Stem: 300 series stainless steel.

- (e) Seat: Graphite-reinforced PTFE with EPDM O-Ring backing.
 - (f) Stem Seal: EPDM O-Rings.
 - (g) Flow Control Disk: Thermoplastic synthetic-resin.
- c. Service Temperature:
 - 1) Fluid Side: 0 to 284 degrees F liquid or 25 psig steam.
 - 2) Ambient Side: From minus 4 to 122 degrees F.
- 9. Actuator Requirements:
 - a. Assembly: Factory-mounted.
 - b. Input: 0 to 10 VDC configured for proportional control.
 - c. Accessories: Provide with valve position indicator and manual override.
- B. Electronic Valve Actuators:
 - 1. Valves shall spring return to normal position as indicated on freeze, fire, or temperature protection.
 - 2. Select operator for full shut-off at maximum pump differential pressure.

2.04 DAMPERS

- A. Frames: Galvanized steel, welded or riveted with corner reinforcement, minimum 12 gage, 0.1046 inch.
- B. Blades: Galvanized steel, maximum blade size 8 inches wide, 48 inches long, minimum 22 gage, 0.0299 inch, attached to minimum 1/2 inch shafts with set screws.
- C. Blade Seals: Synthetic elastomeric, inflatable, mechanically attached, field replaceable.
- D. Jamb Seals: Spring stainless steel.
- E. Shaft Bearings: Oil impregnated sintered bronze.
- F. Linkage Bearings: Oil impregnated sintered bronze.

2.05 DAMPER OPERATORS

- A. General:
 - 1. Provide actuators with torque capacity sized for minimum of 20 percent greater than maximum design stream velocity and hold tight seal against maximum system pressures.
 - 2. Provide spring return for two position control and for fail safe operation.
 - 3. Provide sufficient number of operators to achieve unrestricted movement throughout damper range.
 - 4. Provide one operator for maximum 36 sq ft damper section.
 - 5. See Section 25 3513 for field-mount damper actuators and operators.
- B. General: Provide smooth proportional control with sufficient power for air velocities 20 percent greater than maximum design velocity and to provide tight seal against maximum system pressures. Provide spring return for two position control and for fail safe operation.
 - 1. Provide sufficient number of operators to achieve unrestricted movement throughout damper range.
- C. Electric Operators:
 - 1. Spring return, adjustable stroke motor having oil immersed gear train.
- D. Inlet Vane Operators:
 - 1. High pressure with pilot positioners and sufficient force to move vanes when fan is started with vanes in closed position. Return vane operator to closed position on fan shutdown.

2.06 WALL-, SURFACE-, AND DUCT-MOUNT SENSORS

- A. Temperature Sensors:

1. Use thermistor or RTD type temperature sensing elements with characteristics resistant to moisture, vibration, and other conditions consistent with the application without affecting accuracy and life expectancy.
2. Construct RTD of nickel or platinum with base resistance of 1000 ohms at 70 degrees F.
3. 100 ohm platinum RTD is acceptable if used with project DDC controllers.
4. Temperature Sensing Device: Compatible with project DDC controllers.
5. Performance Characteristics:
 - a. Room Temperature Sensors:
 - 1) Construct for surface or wall box mounting.
 - 2) Provide the following:
 - (a) Setpoint reset slide switch with an adjustable temperature range.
 - (b) Individual heating/cooling setpoint slide switches.
 - (c) Momentary override request push button for activation of after-hours operation.
 - (d) Analog thermometer.
 - B. Static-Air Pressure Sensors:
 1. Unidirectional with ranges not exceeding 150 percent of maximum expected input.
 2. Temperature compensate with typical thermal error or 0.06 percent of full scale in temperature range of 40 to 100 degrees F.
 3. Accuracy: One percent of full scale with repeatability 0.3 percent.
 4. Output: 0 to 5 vdc with power at 12 to 28 vdc.

2.07 THERMOSTATS

- A. Electric Thermostats:
 1. Manufacturers:
 2. Type: NEMA DC 3, 24 volts, with setback/setup temperature control.
 3. Service: Cooling only.
 4. Covers: Locking with set point adjustment, with thermometer.
- B. Freezestats:
 1. Configuration: Vapor-filled capillary.
 2. Probe Sensing Length: 20 feet.
 3. Setpoint Adjust Control: Screw with manual reset switch.
 4. Switch Type: SPDT, snap-action, form C in dust-protected enclosure.
 5. Mounting: Locate on cooling coil intake side.
 6. Field Interface: Connect load line-voltage to starter.
 7. Electrical Rating: As indicated on drawings.
- C. Line Voltage Thermostats:
 1. Dead Band: Maximum 2 degrees F.
 2. Cover: Locking with set point adjustment, with thermometer.
 3. Rating: Motor load.
- D. Room-Mounted Thermostat Accessories:
 1. Thermostat Covers: Brushed aluminum.
 2. Insulating Bases: For thermostats located on exterior walls.
 3. Thermostat Guards: Metal mounted on separate base.
- E. Outdoor Reset Thermostats:
 1. Remote bulb or bimetal rod and tube type, proportioning action with adjustable throttling range, adjustable setpoint.
 2. Scale range: Minus 10 to 70 degrees F.
- F. Airstream Thermostats:

1. Remote bulb or bimetallic rod and tube type, proportional action with adjustable setpoint in middle of range and adjustable throttling range.
2. Averaging service remote bulb element: 7.5 feet.

2.08 ENERGY METERING

- A. kW Transducers: See Section 25 3616.
- B. Power Metering and Sub-metering:
 1. Digital Register:
 - a. ANSI C12.1 and ANSI C12.20, accuracy class of 0.5 power usage (kWh) meter.
 - b. Provide meter socket in accordance with ANSI C12.10.
 - c. Current rating not to exceed two amperes, voltage not to exceed 500 V, V/A combinations not to exceed 100 V/A, life rating of one billion operations.
 2. Usage (kWh) and Demand (kW) Register:
 - a. BAS, SCADA, or other Integrated Automation Link: ASHRAE Std 135, BACnet MS/TP.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that systems are ready to receive work.
- C. Beginning of installation means installer accepts existing conditions.
- D. Sequence work to ensure installation of components is complementary to installation of similar components in other systems.
- E. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.
- F. Ensure installation of components is complementary to installation of similar components.
- G. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Check and verify location of [] with plans and room details before installation. Locate 60 inches above floor. Align with lighting switches.
- C. Provide conduit and electrical wiring in accordance with Section 26 0583. Electrical material and installation shall be in accordance with appropriate requirements of .

3.03 MAINTENANCE

- A. Provide service and maintenance of control system for one year from Date of Substantial Completion.

END OF SECTION

SECTION 23 0923
DIRECT-DIGITAL CONTROL SYSTEM FOR HVAC

Job #	<u>10424</u>
Cost #	<u> </u>
Construction Set	<u> </u>
Received	<u>11/7/2024</u>
DEW CONSTRUCTION	

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. System description.
- B. Operator interface.
- C. Controllers.
- D. Power supplies and line filtering.
- E. System software.
- F. Controller software.

1.02 RELATED REQUIREMENTS

- A. Section 23 0913 - Instrumentation and Control Devices for HVAC.
- B. Section 23 0993 - Sequence of Operations for HVAC Controls.
- C. Section 26 0583 - Wiring Connections: Electrical characteristics and wiring connections.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data for each system component and software module.
- C. Shop Drawings:
 - 1. Indicate trunk cable schematic showing programmable control unit locations, and trunk data conductors.
 - 2. Indicate system graphics indicating monitored systems, data (connected and calculated) point addresses, and operator notations. Provide demonstration digital media containing graphics.
 - 3. Show system configuration with peripheral devices, batteries, power supplies, diagrams, modems, and interconnections.
 - 4. Indicate description and sequence of operation of operating, user, and application software.
- D. Project Record Documents: Record actual locations of control components, including control units, thermostats, and sensors.
 - 1. Revise shop drawings to reflect actual installation and operating sequences.
 - 2. Include submittals data in final "Record Documents" form.
- E. Operation and Maintenance Data:
 - 1. Include interconnection wiring diagrams complete field installed systems with identified and numbered, system components and devices.
 - 2. Include keyboard illustrations and step-by-step procedures indexed for each operator function.
 - 3. Include inspection period, cleaning methods, cleaning materials recommended, and calibration tolerances.
- F. Warranty: Submit manufacturer's warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with NFPA 70.
- B. Designer Qualifications: Perform design of system using manufacturer's software under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.05 WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.
- B. Provide five year manufacturer's warranty for field programmable micro-processor based units.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Honeywell International, Inc: www.honeywell.com/#sle.
- B. Johnson Controls, Inc: www.johnsoncontrols.com/#sle.
- C. Schneider Electric: www.schneider-electric.us/#sle.
- D. Distech Controls.

2.02 SYSTEM DESCRIPTION

- A. The system shall be an extension of and integrated into, the building automation system at the Burlington CSD.
- B. Automatic temperature control field monitoring and control system using field programmable micro-processor based units.
- C. Base system on distributed system of fully intelligent, stand-alone controllers, operating in a multi-tasking, multi-user environment on token passing network, with central and remote hardware, software, and interconnecting wire and conduit.
- D. Include computer software and hardware, operator input/output devices, control units, local area networks (LAN), sensors, control devices, actuators.
- E. Controls for variable air volume terminals, radiation, reheat coils, unit heaters, fan coils, and the like when directly connected to the control units. Individual terminal unit control is specified in Section 23 0913.
- F. Provide control systems consisting of thermostats, control valves, dampers and operators, indicating devices, interface equipment and other apparatus and accessories required to operate mechanical systems, and to perform functions specified.
- G. Include installation and calibration, supervision, adjustments, and fine tuning necessary for complete and fully operational system.

2.03 OPERATOR INTERFACE

- A. PC Based Work Station:
- B. Workstation, controllers, and control backbone to communicate using BACnet protocol and addressing.
- C. BACnet protocol to comply with ASHRAE Std 135.
- D. Hardware:
 - 1. Laptop:
 - a. Laptop(s) to be provided by DDC controls manufacturer.
 - b. Quantity: One.
 - c. Network Connection:
 - 1) Ethernet interface card.

2.04 CONTROLLERS

- A. Building Controllers:
 - 1. General:
 - a. Manage global strategies by one or more, independent, standalone, microprocessor based controllers.

- b. Provide sufficient memory to support controller's operating system, database, and programming requirements.
 - c. Share data between networked controllers.
 - d. Controller operating system manages input and output communication signals allowing distributed controllers to share real and virtual object information and allowing for central monitoring and alarms.
 - e. Utilize real-time clock for scheduling.
 - f. Continuously check processor status and memory circuits for abnormal operation.
 - g. Controller to assume predetermined failure mode and generate alarm notification upon detection of abnormal operation.
 - h. Communication with other network devices to be based on assigned protocol.
- 2. Communication:
 - a. Controller to reside on a BACnet network using ISO 8802-3 (ETHERNET) Data Link/Physical layer protocol.
 - b. Perform routing when connected to a network of custom application and application specific controllers.
 - c. Provide service communication port for connection to a portable operator's terminal or hand held device with compatible protocol.
- 3. Anticipated Environmental Ambient Conditions:
 - a. Outdoors and/or in Wet Ambient Conditions:
 - 1) Mount within waterproof enclosures.
 - 2) Rated for operation at 40 to 150 degrees F.
 - b. Conditioned Space:
 - 1) Mount within dustproof enclosures.
 - 2) Rated for operation at 32 to 120 degrees F.
- 4. Provisions for Serviceability:
 - a. Diagnostic LEDs for power, communication, and processor.
 - b. Make all wiring connections to field removable, modular terminal strips, or to a termination card connected by a ribbon cable.
- 5. Memory: In the event of a power loss, maintain all BIOS and programming information for a minimum of 72 hours.
- 6. Power and Noise Immunity:
 - a. Maintain operation at 90 to 110 percent of nominal voltage rating.
 - b. Perform orderly shutdown below 80 percent of nominal voltage.
 - c. Operation protected against electrical noise of 5 to 120 Hz and from keyed radios up to 5 W. at 3 feet.
- B. Custom Application Controller:
 - 1. General:
 - a. Provide sufficient memory to support controller's operating system, database, and programming requirements.
 - b. Share data between networked, microprocessor based controllers.
 - c. Controller operating system manages input and output communication signals allowing distributed controllers to share real and virtual object information and allowing for central monitoring and alarms.
 - d. Utilize real-time clock for scheduling.
 - e. Continuously check processor status and memory circuits for abnormal operation.
 - f. Controller to assume predetermined failure mode and generate alarm notification upon detection of abnormal operation.
 - g. Communication with other network devices to be based on assigned protocol.
 - 2. Communication:

- a. Controller to reside on a BACnet network using MS/TP Data Link/Physical layer protocol.
 - b. Provide service communication port for connection to a portable operator's terminal or hand held device with compatible protocol.
- 3. Anticipated Environmental Ambient Conditions:
 - a. Outdoors and/or in Wet Ambient Conditions:
 - 1) Mount within waterproof enclosures.
 - 2) Rated for operation at 40 to 150 degrees F.
 - b. Conditioned Space:
 - 1) Mount within dustproof enclosures.
 - 2) Rated for operation at 32 to 120 degrees F.
- 4. Provisions for Serviceability:
 - a. Diagnostic LED's for power, communication, and processor.
 - b. Make all wiring connections to field removable, modular terminal strips, or to a termination card connected by a ribbon cable.
- 5. Memory: In the event of a power loss, maintain all BIOS and programming information for a minimum of 72 hours.
- 6. Power and Noise Immunity:
 - a. Maintain operation at 90 to 110 percent of nominal voltage rating.
 - b. Perform orderly shutdown below 80 percent of nominal voltage.
 - c. Operation protected against electrical noise of 5 to 120 Hz and from keyed radios up to 5 W. at 3 feet.
- C. Application Specific Controllers:
 - 1. General:
 - a. Not fully user programmable, microprocessor based controllers dedicated to control specific equipment.
 - b. Customized for operation within the confines of equipment served.
 - c. Communication with other network devices to be based on assigned protocol.
 - 2. Communication:
 - a. Controller to reside on a BACnet network using MS/TP Data Link/Physical layer protocol.
 - b. Provide service communication port for connection to a portable operator's terminal or hand held device with compatible protocol.
 - 3. Anticipated Environmental Ambient Conditions:
 - a. Outdoors and/or in Wet Ambient Conditions:
 - 1) Mount within waterproof enclosures.
 - 2) Rated for operation at 40 to 150 degrees F.
 - b. Conditioned Space:
 - 1) Mount within dustproof enclosures.
 - 2) Rated for operation at 32 to 120 degrees F.
 - 4. Provisions for Serviceability:
 - a. Diagnostic LEDs for power, communication, and processor.
 - b. Make all wiring connections to field removable, modular terminal strips, or to a termination card connected by a ribbon cable.
 - 5. Memory: In the event of a power loss, maintain all BIOS and programming information for a minimum of 72 hours.
 - 6. Power and Noise Immunity:
 - a. Maintain operation at 90 to 110 percent of nominal voltage rating.
 - b. Perform orderly shutdown below 80 percent of nominal voltage.

- c. Operation protected against electrical noise of 5 to 120 Hz and from keyed radios up to 5 W at 3 feet.
- D. Input/Output Interface:
 - 1. Hardwired inputs and outputs tie into the DDC system through building, custom application, or application specific controllers.
 - 2. All Input/Output Points:
 - a. Protect controller from damage resulting from any point short-circuiting or grounding and from voltage up to 24 volts of any duration.
 - b. Provide universal type for building and custom application controllers where input or output is software designated as either binary or analog type with appropriate properties.
 - 3. Binary Inputs:
 - a. Allow monitoring of On/Off signals from remote devices.
 - b. Provide wetting current of 12 mA minimum, compatible with commonly available control devices and protected against the effects of contact bounce and noise.
 - c. Sense dry contact closure with power provided only by the controller.
 - 4. Pulse Accumulation Input Objects: Comply with all requirements of binary input objects and accept up to 10 pulses per second.
 - 5. Analog Inputs:
 - a. Allow for monitoring of low voltage 0 to 10 VDC, 4 to 20 mA current, or resistance signals (thermistor, RTD).
 - b. Compatible with and field configurable to commonly available sensing devices.
 - 6. Binary Outputs:
 - a. Used for On/Off operation or a pulsed low-voltage signal for pulse width modulation control.
 - b. Outputs provided with three position (On/Off/Auto) override switches.
 - c. Status lights for building and custom application controllers to be selectable for normally open or normally closed operation.
 - 7. Analog Outputs:
 - a. Monitoring signal provides a 0 to 10 VDC or a 4 to 20 mA output signal for end device control.
 - b. Provide status lights and two position (AUTO/MANUAL) switch for building and custom application controllers with manually adjustable potentiometer for manual override on building and custom application controllers.
 - c. Drift to not exceed 0.4 percent of range per year.
 - 8. Tri State Outputs:
 - a. Coordinate two binary outputs to control three point, floating type, electronic actuators without feedback.
 - b. Limit the use of three point, floating devices to the following zone and terminal unit control applications:
 - c. Control algorithms run the zone actuator to one end of its stroke once every 24 hours for verification of operator tracking.
 - 9. System Object Capacity:
 - a. System size to be expandable to twice the number of input output objects required by providing additional controllers, including associated devices and wiring.
 - b. Hardware additions or software revisions for the installed operator interfaces are not to be required for future, system expansions.

2.05 POWER SUPPLIES AND LINE FILTERING

- A. Power Supplies:

1. Provide UL listed control transformers with Class 2 current limiting type or over-current protection in both primary and secondary circuits for Class 2 service as required by the NEC.
 2. Limit connected loads to 80 percent of rated capacity.
 3. Match DC power supply to current output and voltage requirements.
 4. Unit to be full wave rectifier type with output ripple of 5.0 mV maximum peak to peak.
 5. Regulation to be 1 percent combined line and load with 100 microsecond response time for 50 percent load changes.
 6. Provide over-voltage and over-current protection to withstand a 150 percent current overload for 3 seconds minimum without trip-out or failure.
 7. Operational Ambient Conditions: 32 to 120 degrees F.
 8. EM/RF meets FCC Class B and VDE 0871 for Class B and MIL-STD-810 for shock and vibration.
 9. Line voltage units UL recognized and CSA approved.
- B. Power Line Filtering:
1. Provide external or internal transient voltage and surge suppression component for all workstations and controllers.
 2. Minimum surge protection attributes:
 - a. Dielectric strength of 1000 volts minimum.
 - b. Response time of 10 nanoseconds or less.
 - c. Transverse mode noise attenuation of 65 dB or greater.
 - d. Common mode noise attenuation of 150 dB or greater at 40 to 100 Hz.

2.06 LOCAL AREA NETWORK (LAN)

- A. Provide communication between control units over local area network (LAN).
- B. LAN Capacity: Not less than 60 stations or nodes.
- C. Break in Communication Path: Alarm and automatically initiate LAN reconfiguration.
- D. LAN Data Speed: Minimum 19.2 Kb.
- E. Communication Techniques: Allow interface into network by multiple operation stations and by auto-answer/auto-dial modems. Support communication over telephone lines utilizing modems.
- F. Transmission Median: Fiber optic or single pair of solid 24 gauge twisted, shielded copper cable.
- G. Network Support: Time for global point to be received by any station, shall be less than 3 seconds. Provide automatic reconfiguration if any station is added or lost. If transmission cable is cut, reconfigure two sections with no disruption to system's operation, without operator intervention.

2.07 SYSTEM SOFTWARE

- A. Operating System:
 1. Concurrent, multi-tasking capability.
 - a. Common Software Applications Supported: Microsoft Excel.
 2. System Graphics:
 - a. Allow up to 10 graphic screens, simultaneously displayed for comparison and monitoring of system status.
 - b. Animation displayed by shifting image files based on object status.
 - c. Provide method for operator with password to perform the following:
 - 1) Move between, change size, and change location of graphic displays.
 - 2) Modify on-line.
 - 3) Add, delete, or change dynamic objects consisting of:
 - (a) Analog and binary values.
 - (b) Dynamic text.

- (c) Static text.
 - (d) Animation files.
- 3. Custom Graphics Generation Package:
 - a. Create, modify, and save graphic files and visio format graphics in PCX formats.
 - b. HTML graphics to support web browser compatible formats.
 - c. Capture or convert graphics from AutoCAD.
- 4. Standard HVAC Graphics Library:
 - a. HVAC Equipment:
 - b. Ancillary Equipment:
 - c. File Format Compatible with Graphics Generation Package Program.
- B. Workstation System Applications:
 - 1. Automatic System Database Save and Restore Functions:
 - a. Current database copy of each Building Controller is automatically stored on hard disk.
 - b. Automatic update occurs upon change in any system panel.
 - c. In the event of database loss in any system panel, the first workstation to detect the loss automatically restores the database for that panel unless disabled by the operator.
 - 2. Manual System Database Save and Restore Functions by Operator with Password Clearance:
 - a. Save database from any system panel.
 - b. Clear a panel database.
 - c. Initiate a download of a specified database to any system panel.
 - 3. Software provided allows system configuration and future changes or additions by operators under proper password protection.
 - 4. On-line Help:
 - a. Context-sensitive system assists operator in operation and editing.
 - b. Available for all applications.
 - c. Relevant screen data provided for particular screen display.
 - d. Additional help available via hypertext.
 - 5. Security:
 - a. Operator log-on requires user name and password to view, edit, add, or delete data.
 - b. System security selectable for each operator.
 - c. System supervisor sets passwords and security levels for all other operators.
 - d. Operator passwords to restrict functions accessible to viewing and/or changing system applications, editor, and object.
 - e. Automatic, operator log-off results from keyboard or mouse inactivity during user-adjustable, time period.
 - f. All system security data stored in encrypted format.
 - 6. System Diagnostics:
 - a. Operations Automatically Monitored:
 - 1) Workstations.
 - 2) Printers.
 - 3) Modems.
 - 4) Network connections.
 - 5) Building management panels.
 - 6) Controllers.
 - b. Device failure is annunciated to the operator.
 - 7. Alarm Processing:
 - a. All system objects are configurable to "alarm in" and "alarm out" of normal state.
 - b. Configurable Objects:
 - 1) Alarm limits.

- 2) Alarm limit differentials.
 - 3) States.
 - 4) Reactions for each object.
- 8. Alarm Messages:
 - a. Descriptor: English language.
 - b. Recognizable Features:
 - 1) Source.
 - 2) Location.
 - 3) Nature.
- 9. Configurable Alarm Reactions by Workstation and Time of Day:
 - a. Logging.
 - b. Printing.
 - c. Starting programs.
 - d. Displaying messages.
 - e. Dialing out to remote locations.
 - f. Paging.
 - g. Providing audible annunciation.
 - h. Displaying specific system graphics.
- 10. Custom Trend Logs:
 - a. Definable for any data object in the system including interval, start time, and stop time.
 - b. Trend Data:
 - 1) Sampled and stored on the building controller panel.
 - 2) Archivable on hard disk.
 - 3) Retrievable for use in reports, spreadsheets and standard database programs.
 - 4) Archival on LAN accessible storage media including hard disk, tape, Raid array drive, and virtual cloud environment.
 - 5) Protected and encrypted format to prevent manipulation, or editing of historical data and event logs.
- 11. Alarm and Event Log:
 - a. View all system alarms and change of states from any system location.
 - b. Events listed chronologically.
 - c. Operator with proper security acknowledges and clears alarms.
 - d. Alarms not cleared by operator are archived to the workstation hard disk.
- 12. Object, Property Status and Control:
 - a. Provide a method to view, edit if applicable, the status of any object and property in the system.
 - b. Status Available by the Following Methods:
 - 1) Menu.
 - 2) Graphics.
 - 3) Custom Programs.
- 13. Reports and Logs:
 - a. Reporting Package:
 - 1) Allows operator to select, modify, or create reports.
 - 2) Definable as to data content, format, interval, and date.
 - 3) Archivable to hard disk.
 - b. Real-time logs available by type or status such as alarm, lockout, normal, etc.
 - c. Stored on hard disk and readily accessible by standard software applications, including spreadsheets and word processing.
 - d. Set to be printed on operator command or specific time(s).
- 14. Reports:

- a. Standard:
 - 1) Objects with current values.
 - 2) Current alarms not locked out.
 - 3) Disabled and overridden objects, points and SNVTs.
 - 4) Objects in manual or automatic alarm lockout.
 - 5) Objects in alarm lockout currently in alarm.
 - 6) Logs:
 - (a) Alarm History.
 - (b) System messages.
 - (c) System events.
 - (d) Trends.
 - b. Custom:
 - 1) Daily.
 - 2) Weekly.
 - 3) Monthly.
 - 4) Annual.
 - 5) Time and date stamped.
 - 6) Title.
 - 7) Facility name.
 - c. Tenant Override:
 - 1) Monthly report showing total, requested, after-hours HVAC and lighting services on a daily basis for each tenant.
 - 2) Annual report showing override usage on a monthly basis.
 - d. Electrical, Fuel, and Weather:
 - 1) Electrical Meter(s):
 - (a) Monthly showing daily electrical consumption and peak electrical demand with time and date stamp for each meter.
 - (b) Annual summary showing monthly electrical consumption and peak demand with time and date stamp for each meter.
 - 2) Fuel Meter(s):
 - (a) Monthly showing daily natural gas consumption for each meter.
 - (b) Annual summary showing monthly consumption for each meter.
 - 3) Weather:
 - (a) Monthly showing minimum, maximum, average outdoor air temperature and heating/cooling degree-days for the month.
- C. Workstation Applications Editors:
- 1. Provide editing software for each system application at PC workstation.
 - 2. Downloaded application is executed at controller panel.
 - 3. Full screen editor for each application allows operator to view and change:
 - a. Configuration.
 - b. Name.
 - c. Control parameters.
 - d. Set-points.
 - 4. Scheduling:
 - a. Monthly calendar indicates schedules, holidays, and exceptions.
 - b. Allows several related objects to be scheduled and copied to other objects or dates.
 - c. Start and stop times adjustable from master schedule.
 - 5. Custom Application Programming:
 - a. Create, modify, debug, edit, compile, and download custom application programming during operation and without disruption of all other system applications.

- b. Programming Features:
 - 1) English oriented language, based on BASIC, FORTRAN, C, or PASCAL syntax allowing for free form programming.
 - 2) Alternative language graphically based using appropriate function blocks suitable for all required functions and amenable to customizing or compounding.
 - 3) Insert, add, modify, and delete custom programming code that incorporates word processing features such as cut/paste and find/replace.
 - 4) Allows the development of independently, executing, program modules designed to enable and disable other modules.
 - 5) Debugging/simulation capability that displays intermediate values and/or results including syntax/execution error messages.
 - 6) Support for conditional statements (IF/THEN/ELSE/ELSE-F) using compound Boolean (AND, OR, and NOT) and/or relations (EQUAL, LESS THAN, GREATER THAN, NOT EQUAL) comparisons.
 - 7) Support for floating-point arithmetic utilizing plus, minus, divide, times, square root operators; including absolute value; minimum/maximum value from a list of values for mathematical functions.
 - 8) Language consisting of resettable, predefined, variables representing time of day, day of the week, month of the year, date; and elapsed time in seconds, minutes, hours, and days where the variable values can be used in IF/THEN comparisons, calculations, programming statement logic, etc.
 - 9) Language having predefined variables representing status and results of the system software enables, disables, and changes the set points of the controller software.

2.08 CONTROLLER SOFTWARE

- A. All applications reside and operate in the system controllers and editing of all applications occurs at the operator workstation.
- B. System Security:
 - 1. User access secured via user passwords and user names.
 - 2. Passwords restrict user to the objects, applications, and system functions as assigned by the system manager.
 - 3. User Log On/Log Off attempts are recorded.
 - 4. Automatic Log Off occurs following the last keystroke after a user defined delay time.
- C. Object or Object Group Scheduling:
 - 1. Weekly Schedules Based on Separate, Daily Schedules:
 - a. Include start, stop, optimal stop, and night economizer.
 - b. 10 events maximum per schedule.
 - c. Start/stop times adjustable for each group object.
- D. Provide standard application for equipment coordination and grouping based on function and location to be used for scheduling and other applications.
- E. Alarms:
 - 1. Binary object is set to alarm based on the operator specified state.
 - 2. Analog object to have high/low alarm limits.
 - 3. All alarming is capable of being automatically and manually disabled.
 - 4. Alarm Reporting:
 - a. Operator determines action to be taken for alarm event.
 - b. Alarms to be routed to appropriate workstation.
 - c. Reporting Options:

- F. Maintenance Management: System monitors equipment status and generates maintenance messages based upon user-designated run-time limits.
- G. Sequencing: Application software based upon specified sequences of operation in Section 23 0993.
- H. PID Control Characteristics:
 - 1. Direct or reverse action.
 - 2. Anti-windup.
 - 3. Calculated, time-varying, analog value, positions an output or stages a series of outputs.
 - 4. User selectable controlled variable, set-point, and PED gains.
- I. Staggered Start Application:
 - 1. Prevents all controlled equipment from simultaneously restarting after power outage.
 - 2. Order of equipment startup is user selectable.
- J. Energy Calculations:
 - 1. Accumulated instantaneous power or flow rates are converted to energy use data.
 - 2. Algorithm calculates a rolling average and allows window of time to be user specified in minute intervals.
 - 3. Algorithm calculates a fixed window average with a digital input signal from a utility meter defining the start of the window period that in turn synchronizes the fixed-window average with that used by the power company.
- K. Anti-Short Cycling:
 - 1. All binary output objects protected from short-cycling.
 - 2. Allows minimum on-time and off-time to be selected.
- L. On-Off Control with Differential:
 - 1. Algorithm allows binary output to be cycled based on a controlled variable and set-point.
 - 2. Algorithm to be direct-acting or reverse-acting incorporating an adjustable differential.
- M. Run-Time Totalization:
 - 1. Totalize run-times for all binary input objects.
 - 2. Provides operator with capability to assign high run-time alarm.

PART 3 EXECUTION

3.01 INSTALLERS

- A. Installer List:

3.02 EXAMINATION

- A. Verify existing conditions before starting work.

3.03 INSTALLATION

- A. Install control units and other hardware in position on permanent walls where not subject to excessive vibration.
- B. Install software in control units and in operator work station. Implement all features of programs to specified requirements and appropriate to sequence of operation. Refer to Section 23 0993.
- C. Provide conduit and electrical wiring in accordance with Section 26 0583. Electrical material and installation shall be in accordance with appropriate requirements of .

3.04 MANUFACTURER'S FIELD SERVICES

- A. Start and commission systems. Allow sufficient time for start-up and commissioning prior to placing control systems in permanent operation.

- B. Provide basic operator training for up to 10 persons on data display, alarm and status descriptors, requesting data, execution of commands and request of logs. Include a minimum of 4 hours dedicated instructor time. Provide training on site.

3.05 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate complete and operating system to Owner.

3.06 MAINTENANCE

- A. Provide service and maintenance of energy management and control systems for one years from Date of Substantial Completion.
- B. Provide two complete inspections, one in each season, to inspect, calibrate, and adjust controls as required, and submit written reports.
- C. Provide complete service of systems, including call backs. Make minimum of 3 complete normal inspections of approximately 3 hours duration in addition to normal service calls to inspect, calibrate, and adjust controls, and submit written reports.

END OF SECTION



PRODUCT-DETAILS

ACH580-VCR-04A8-4

HVAC drive with vertical e-clipse bypass and circuit breaker disconnect US, UL: Pld 3 Hp, 4.8 A, 460 V (ACH580-VCR-04A8-4)



General Information	
Global Commercial Alias	ACH580-VCR-04A8-4
Product ID	3AUA0000225642
ABB Type Designation	ACH580-VCR-04A8-4
EAN	6438177514992
Catalog Description	HVAC drive with vertical e-clipse bypass and circuit breaker disconnect US, UL: Pld 3 Hp, 4.8 A, 460 V (ACH580-VCR-04A8-4)
Long Description	The ACH580 with ABB E-Clipse bypass has an integrated UL (NEMA) Type 1 enclosure with a bypass motor starter and is available from 1 to 75 hp at 230/460/575 V. The ACH580 with ABB E-Clipse bypass provides an input disconnect switch or circuit breaker, both including fast acting drive fuses, with door mounted and interlocked switch (padlockable in the OFF position), a bypass starter, electronic motor overload protection, a door mounted control panel with graphical display for local control, provisions for external control connections, and serial communications capability

Ordering	
Customs Tariff Number	85044080
HS Code	850440 -- ELECTRICAL MACHINERY AND EQUIPMENT AND PARTS THEREOF; SOUND RECORDERS AND REPRODUCERS, TELEVISION IMAGE AND SOUND RECORDERS AND REPRODUCERS, AND PARTS AND

ACCESSORIES OF SUCH ARTICLES;Electrical transformers, static converters (for example, rectifiers) and inductors;Static converters	
Invoice Description	ACH580-VCR-04A8-4, PLd 3HP, I2LD 4.8A
Made To Order	No
Minimum Order Quantity	1 piece
Order Multiple	1 piece
Quote Only	No
Selling Unit of Measure	piece

Dimensions

Product Net Weight	30 lb
Product Net Depth / Length	10.55 in
Product Net Height	40.18 in
Product Net Width	5.39 in
Package Level 1 Units	1 carton

Technical

Number of Phases	3-phase
Degree of Protection	IP21
Enclosure Type NEMA	Type1
Frequency (f)	50/60 Hz
Frame Size	R1
Input Voltage (U _{in})	440 ... 480 V
Mounting Type	Cabinet-built

Technical UL

Output Current, Light-Overload Use (UL)	4.8 A
Output Power, Light-Overload Use (UL)	3 Hp

External Classifications and Standards

UNSPSC	39122001
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Environmental

WEEE Category	4. Large Equipment (Any External Dimension More Than 50 cm)
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Categories

Drives → Low Voltage AC Drives → Industry-Specific Drives → Drives for HVAC → ACH580-VCR - HVAC drive with vertical e-clipse bypass and circuit breaker disconnect US





 CATALOG

ABB solutions for HVAC



ACH580 series

Leading the way in HVAC drives

Comfort. It's something we take for granted in the buildings we live and work in. Comfort requires efficient systems to control heating, ventilation, and air conditioning (HVAC) to ensure the air we breathe is pure and the temperature is comfortable. We also need to ensure air quality and safety in the most energy-efficient and cost-effective ways in both normal and mission critical situations.

For half a century, ABB has been leading the way in optimizing HVAC systems using drive control to ensure that you can take comfort for granted. The new ACH580 series of variable frequency drives (VFDs) provides the quality, reliability, and energy savings you expect. They are easy to use and safe to maintain. All you need to do is to set the drive up, and then focus on what counts.

Additional information

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.

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Contents

1-1	Drives
2-1	Motors
3-1	Services

Drives Contents

1-2	The next step in HVAC drives
1-7	ACH580 Ultra-Low Harmonic (ULH) drive
1-13	Complete HVAC drive offering
1-15	Common characteristics of the HVAC family of drives
1-18	How to select a drive
1-19	ACH580 technical data
1-21 to 1-74	Ratings, types and voltages
1-75	Construction compatibility
1-77	Tools
1-78	EtherNet/IP™ Gateway
1-79	DriveTune
1-80	Mobile Connect
1-86	Options

The next step in HVAC drives

The new ACH580 drives come with a range of advanced features, such as a new primary settings menu that makes commissioning the drives much easier and faster. Optional Bluetooth® connectivity offers improved accessibility for drives in remote areas and increases safety by letting users stay out of arc flash danger zones.

Simple to select, install and use

All the essentials including DC chokes, EMC filters, cabling clamps, certified BACnet communication, and enclosures from UL (NEMA) Type 1 to UL (NEMA) Type 12 are a standard part of the drive. Simplifying selection, installation, and commissioning.

Safe maintenance

The packaged disconnect solution provides a main disconnect switch, further increasing safety for people working on air-handling units.

Motor control options to meet your application needs

ACH580 drives can be integrated with several types of AC motors, including Permanent Magnet (PM), synchronous reluctance (SynRM) motors and Ferrite Assisted SynRM (FASR) including EC Titanium™. Using these motors can reduce your energy costs even more.



Additional I/O options

Take advantage of the added flexibility and accessibility — never be without back-up I/O points at the job site again.



ACH580 drives are ideal for HVAC fans, pumps, compressors, air-handling units, and chillers. These are used in hospitals, data centers, shopping centers, tunnel ventilation, factories, office buildings, and more.



Intuitive control panel

The drive's HVAC-specific software, intuitive control panel with customizable text, and menu-driven programming simplify setup and operation of even the most complex applications. You can customize the view so that it only shows the information you need, and it automatically saves a backup of your most recent configuration so that it's always available.



Optional Bluetooth capability

ABB's new HVAC Bluetooth control panel lets you commission the drive remotely, safely outside the arc flash boundary. The Drivetune smartphone app allows you to commission and tune the drive from a distance, giving you access to the same primary settings and other menus available on the drive's HVAC control panel.



Reliable communication

BTL certified BACnet MS/TP, Modbus RTU, Modbus TCP, Ethernet I/P and Johnson Controls N2 are embedded in every ACH580. In addition, a wide range of optional fieldbus adapters, including DeviceNet, LonWorks, PROFIBUS DP, Ethernet, Modbus TCP, PROFINET IO and BTL certified BACnet/IP, are available to enable connectivity with all major building automation and control systems.

Harmonic mitigation

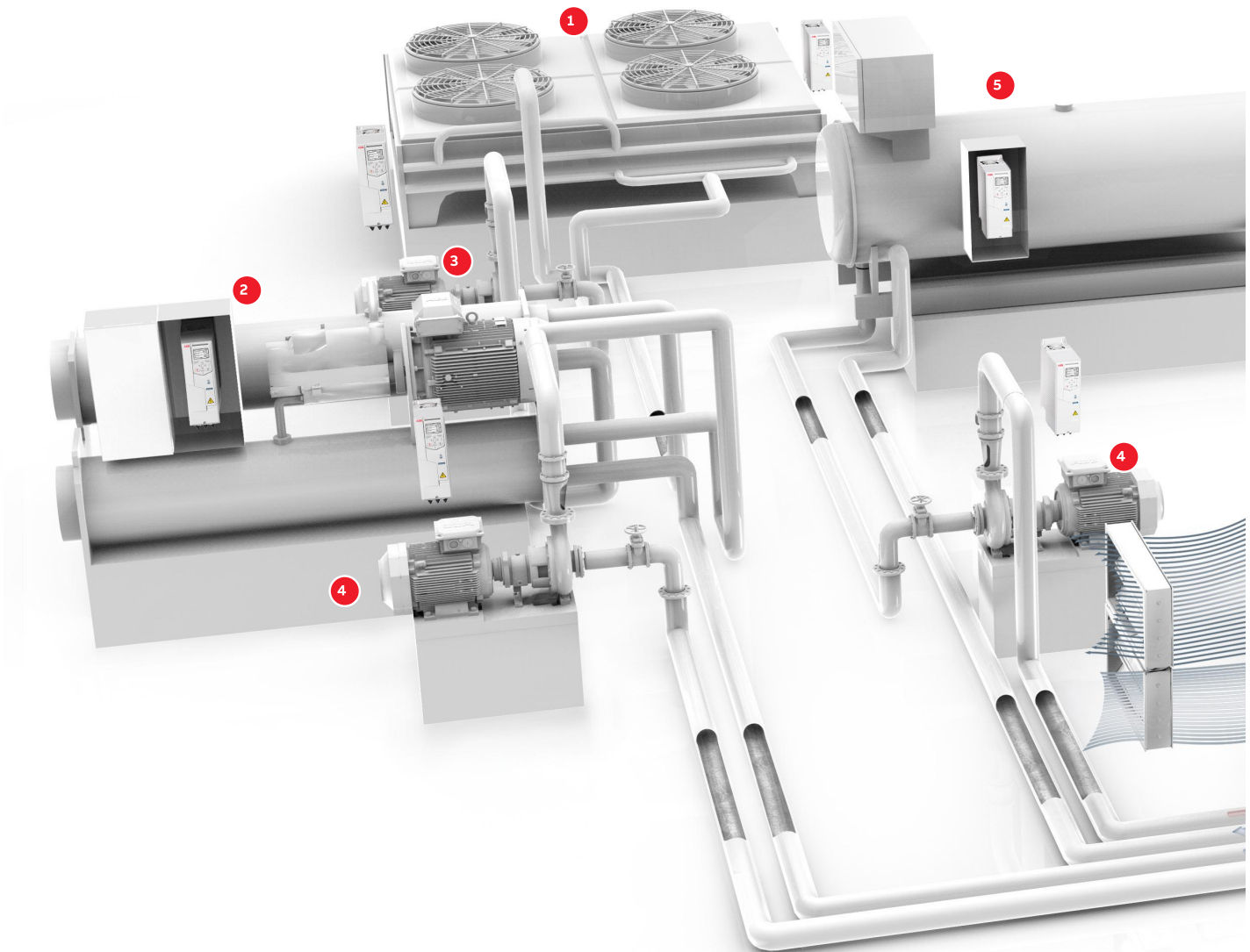
The drive provides reduced harmonics with built-in, DC choke in a small and lightweight design.

Ultra-Low Harmonic (ULH) drive for a clean electrical network

The revolutionary ACH580 Ultra-Low Harmonic drive is designed specifically for the HVAC market, minimizing the effect of harmonics on your system. This all-in-one solution is fully integrated within the ACH580 platform and leverages the same programming tools, user settings, options, and functions, while providing superior harmonic performance.

Premier HVAC control

We understand the complexity of air handling systems and the need to produce high levels of comfort, control, and safety. Be assured that, regardless of the season or external conditions, we help make your system efficient, safe, and informative.



1 Cooling tower

Cools down the condenser water.

- The drive controls the speed of multiple fans simultaneously to achieve high energy savings, while optimizing the installation cost

2 Chiller

Chills water or other liquid to cool down and dehumidify the indoor air.

- The drive controls the speed of the compressor for better energy efficiency
- By-pass valves can be avoided
- Less mechanical stress as there are less starts and stops
- Mechanical resonance speeds can be avoided
- Maximum speed is not limited by nominal supply frequency
- Less stress to supply network as high inrush currents can be avoided with VFD controlled start

3 Condenser water pump

Circulates water between the cooling tower and the chiller.

- Energy savings can be achieved with variable frequency drives that adjust pump speed to the cooling load

4 Chilled and hot water circulator pumps

Circulate water (or other liquid) between heating coil and boiler or cooling coil and chiller.

- The cooling and heating loads vary a lot over time. Speed controlled circulator pumps make sure that an adequate amount of water or other liquid is distributed in the building.
- Soft start and stop of the pump reduces hydraulic stress on pipelines and valves

5 Boiler

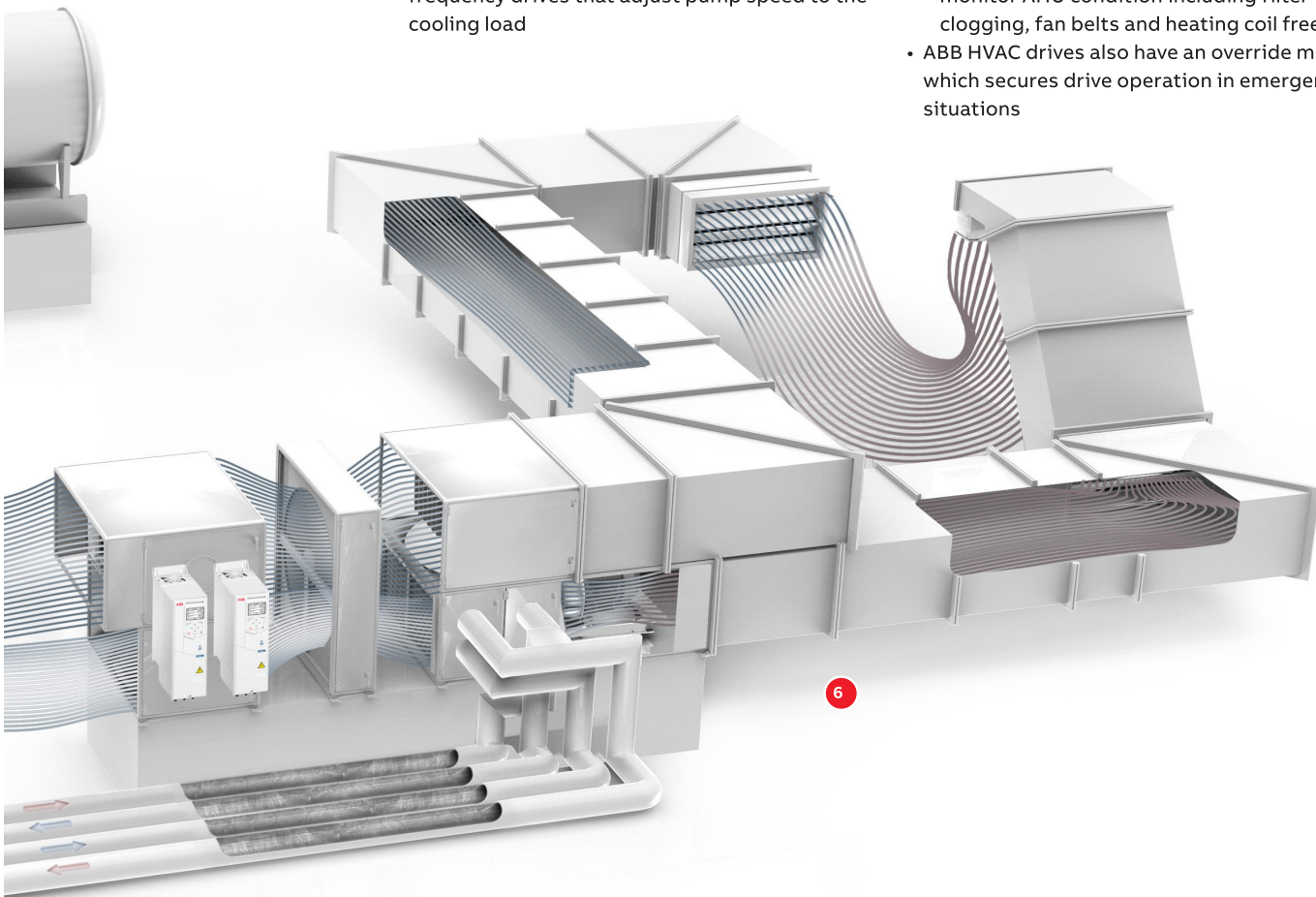
Heats up the water for building heating.

- The drive controls the burner fan to adjust the amount of combustion air to the heating load

6 Air handling unit

Circulates, mixes, cleans, humidifies/dehumidifies, heats/cools air.

- Drives can be used to:
 - control the speed of supply and return fans
 - eliminate mechanical stress of air duct system
 - avoid fan resonance speeds
 - control the speed and efficiency of the rotary heat exchangers
 - control the dampers
 - monitor AHU condition including filter clogging, fan belts and heating coil freeze
- ABB HVAC drives also have an override mode, which secures drive operation in emergency situations



ACH580

Motor control options



Super-E motor



IEC motors

ABB IE5 synchronous
reluctance motor SynRMEC Titanium Ferrite assisted
synchronous reluctance motor (FASR)

Induction motors, the industry workhorse

Pair the ACH580 with an induction motor for simple and reliable operation. Further simplifying setup, the ACH580 drive is factory-delivered with EM series nameplate motor data.

Permanent Magnet motors for smooth operation

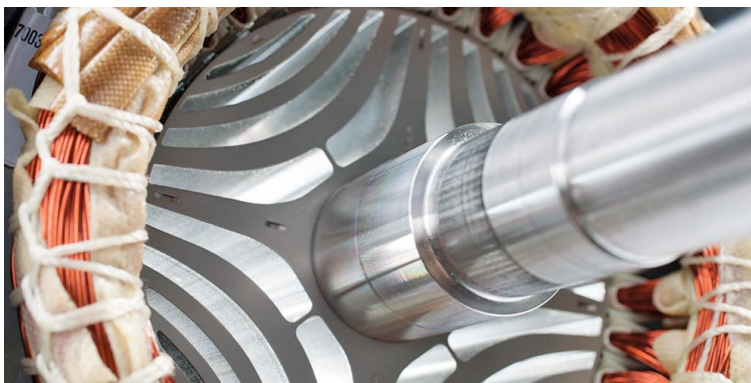
ABB has the software, hardware and application knowledge to support Permanent Magnet motor technology. Permanent Magnet technology offers users efficiency across the speed range, compact housing for applications such as fan walls, and eliminates the need for mechanical speed reduction equipment.

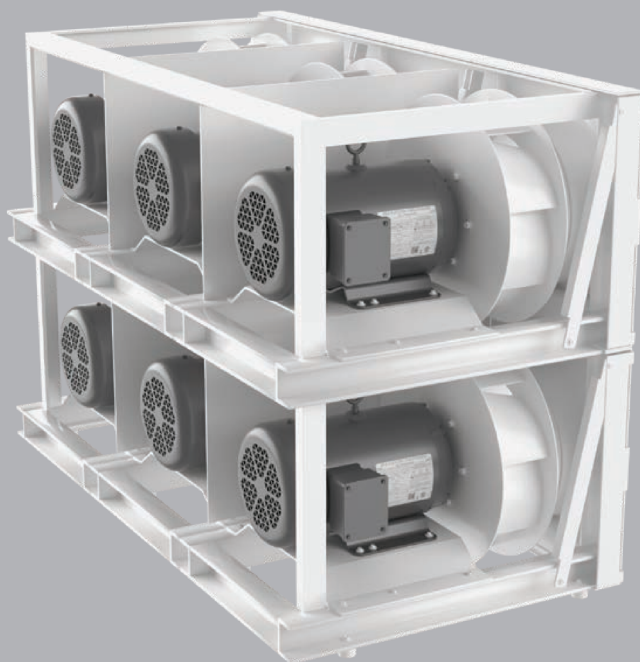
IE5 SynRM for optimized energy efficiency

A key to increased energy efficiency is the rotor design of our drive and motor package. Combining the ACH580's control technology with a synchronous reluctance motor (SynRM) will also reduce motor temperature and noise.

EC Titanium for efficiency and performance

The EC Titanium achieves IE5 efficiencies and is a step above traditional EC motor designs. The EC Titanium is paired with a VFD that enables the use of advanced motor control algorithms for higher efficiencies across the speed load range than traditional EC (electrically commutated) motor solutions.





Reap the benefits

Highly efficient and easy to maintain HVACR system

Introducing an unbeatable fan array solution

Achieve a best-in-class, sustainable HVAC system when you pair ACH580 with a single Baldor-Reliance® EC Titanium™ high efficiency motor. Available in NEMA or IEC frame, standard duty motors can be replaced easily with a highly efficiency (IE5+) new design.

**Lower cost of ownership • Better control • Expertise •
Energy efficiency • Sustainability • Reduced carbon footprint**



Learn more about
Drives for HVACR



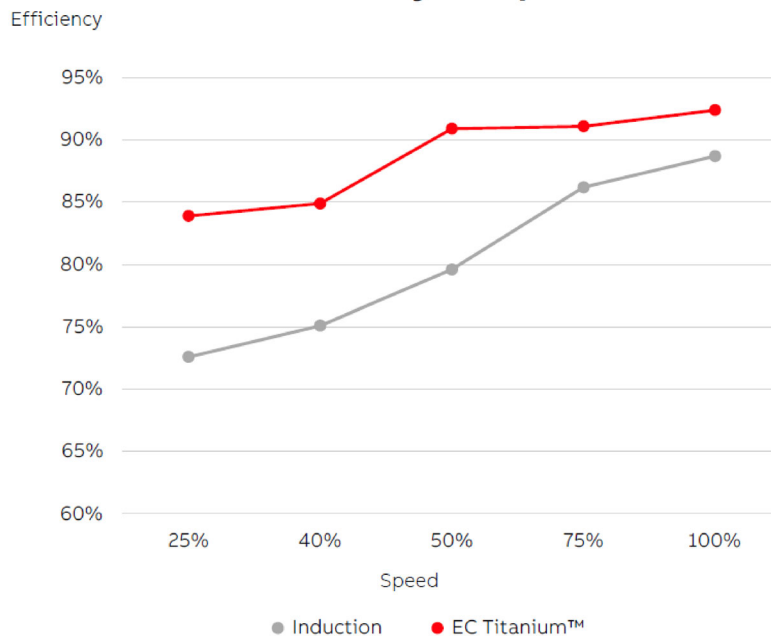
Real-world results prove performance and ROI

The EC Titanium motor achieved significant energy savings during testing, with an average consumption of 45.1 kWh per day compared to 57.69 kWh for the existing motor. This translates to a cost savings of \$43.30 per month or \$520 per year, per unit, with a complete return on investment in under two years.

BALDOR • RELIANCE



Efficiency vs. Speed



- Over 12% efficiency improvement, which can be up to \$520 per motor yearly.¹
- Efficiency does not drop off rapidly like induction motors.
- Reduction of energy consumption enables savings of 12.59 kWh² per motor.

¹ For 7.5 HP motor at 1,800 RPM used in a manufacturing facility

² Average daily energy reduction

ACH580 Ultra-Low Harmonic (ULH) drive

What are harmonics?

In an ideal case the current in an AC grid is a pure sine wave and does not contain harmonics. In reality the current deviates from this pure sine wave and contains harmonics. Harmonic current is typically measured as a percentage value, called total harmonic distortion (THDi).

Harmonics can cause damage to sensitive electronic equipment, interference to communication equipment, tripping of circuit breakers, blowing of fuses, and capacitor failures. The effects can also include overheating of cables and motors, overloading of transformers, generator failure, and power factor capacitor damage.



Complete HVAC functionality

The standard ACH580 ULH has an intuitive control panel used to configure, control, and monitor the drive. An optional Bluetooth control panel allows the drive to be configured via the control panel or the DriveTune app.

A robust HVAC firmware package provides drive, motor, and application protection features. Application specific features, such as accepting four separate start interlocks (safeties), along with broken belt detection, are also included. The drive includes BACnet MS/TP, Modbus RTU, and Johnson Controls N2 as standard.

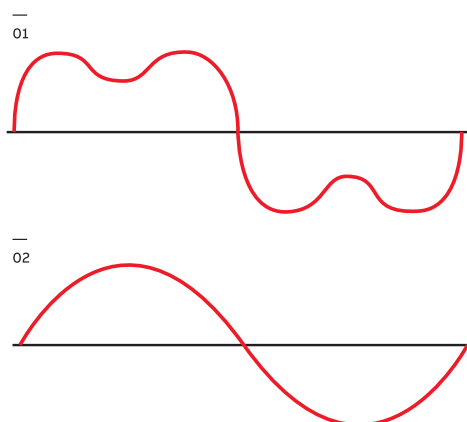
Savings in total cost of ownership

Installation costs are reduced with the simple three wires in and three wires out design. Maintenance costs are lowered as compared to other harmonic mitigation solutions like passive filters, multi-pulse, and active filters. There are fewer components to maintain and stock as spares.

Using the ACH580 ULH allows your engineer to design your electrical system and backup generators to the right size and not oversizing for the harmonics in the network.

—
01
Diode supply

—
02
Active supply



Reliability for your building

Harmonics in the network could cause problems with other electrical equipment in the same network. Worst case scenario, it may cause your sensitive electrical equipment to fail.

Harmonics can also cause problems in retrofit projects. In such projects, a transformer might not be able to meet the harmonic levels caused by non-linear loads such as standard 6-pulse drives, so there is a risk of overloading the transformer.

In addition to the problems caused by harmonics, a weak electrical network can cause troubles to your HVAC systems. Weak electrical networks that have sags on the line voltage may cause motors to overheat, trip, or fail.

The ACH580 ULH drive offers a reliable solution to overcome these challenges. It is able to lower the harmonic content so that sensitive equipment stays running and transformers or generators don't fail. In addition, the ACH580 ULH can boost output voltage so that the motor will always run with nominal voltage, despite the fluctuations in line voltage.

Optimized size and performance

ACH580 ULH has all the harmonic mitigation technology in the drive. With a THDi of 3% or less, there is no need to install external components for reducing harmonics, this drive doesn't create the harmonics to fix.

ACH580 Ultra-Low Harmonic packaged drives with disconnect

The ACH580 Ultra-Low Harmonic (ULH) packaged drive is an ACH580 ULH variable frequency drive enclosed with either an input disconnect switch and fast acting fuses (ACH580-3PDR) or an input circuit breaker and fast acting fuses (ACH580-3PCR). The ACH580 packaged drive provides a door-mounted input disconnect switch (padlockable in the OFF position), electronic motor overload protection, a door mounted control panel with graphical display for local control, provisions for external control connections, and serial communications capability.

ACH580 Ultra-Low Harmonic drive E-Clipse bypass

The ACH580 Ultra-Low Harmonic (ULH) drive with ABB E-Clipse bypass is an ACH580 HVAC drive in an integrated UL (NEMA) Type 1, 12 or 3R enclosure with a bypass motor starter. The ACH580 ULH drive with ABB E-Clipse bypass provides an input disconnect switch or circuit breaker with door mounted and interlocked switch (padlockable in the OFF position), a bypass starter, electronic motor overload protection, a door mounted control panel with graphical display for local control, provisions for external control connections, and serial communications capability. Configurations with the +F267 option include a drive service switch.

Technical details and documentation

PDF, BIM, CAD Drawings and 3D models are available for planning your building.



What Makes an ACH580 ULH Drive Unique?

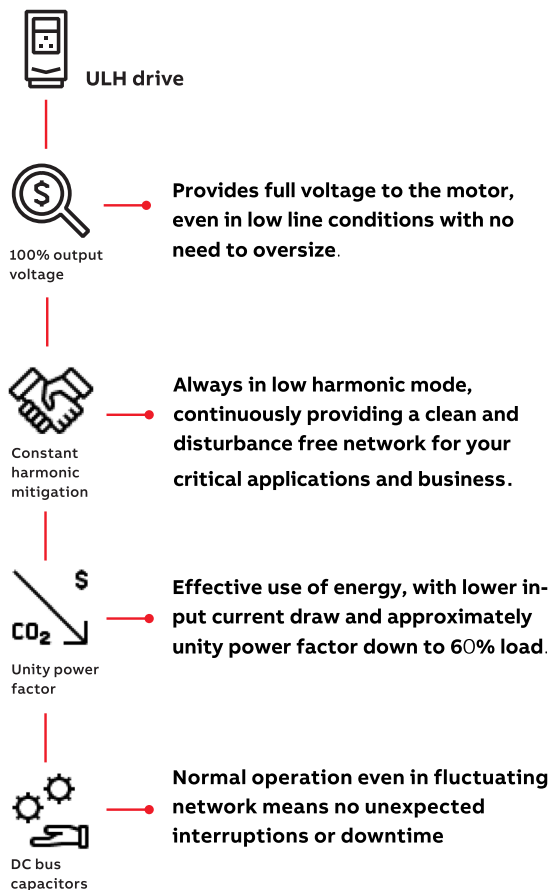
The ACH580 Ultra-Low Harmonics (ULH) drive provides a compact design that provides your critical infrastructure peace of mind. It reduces the risk of electrical disturbances on your electrical network or generator by adhering to the most stringent IEEE519 recommendations.

AFE technology:

ULH drives use Active Front End (AFE) technology that reduces harmonics by actively controlling the input current waveform to be sinusoidal, which helps to reduce distortion and improve power quality.

Built to last:

The ACH580 ULH Drive is built with advanced technology and high-quality materials, making it highly reliable and durable.



Others Offer:

- Products that starve the motor for voltage, causing motors to over heat or require oversizing
- Solutions that only offer 5% or 8% THDi, based on operating mode
- Limited products available for low harmonic solutions, including those that create significant leading power factor at part load

ABB offers true Ultra-Low Harmonic solutions

- Unity (1.0) Power Factor
- Power factor correction
- 3% THDi
- Boost functionality
- Generator friendly
- Four generations of experience

Who you choose matters



Complete HVAC drive offering

All ACH580 drives offer ease of use, scalability, reliability, and come in a variety of packages. They can be equipped with an intuitive Bluetooth control panel, allowing the drive to be configured directly via the control panel or via the Drivetune app. A robust HVAC firmware package provides drive, motor, and application protection features. The drive includes BACnet MS/TP, Modbus RTU, and Johnson Controls N2. Additional protocols, such as BACnet/IP, Modbus TCP, Ethernet I/P and LonWorks, are available with optional fieldbus adapters.



Wall-mounted drives, ACH580-01 and ACH580-31 Ultra-Low Harmonic version
ACH580 wall mounted drives offer side-by-side, flange, and horizontal mounting options. The UL (NEMA) Type 12 / IP55 variants are designed for applications exposed to dust, moisture, vibration, and other harsh conditions. The ACH580-01 is a six-pulse drive that includes an optimized DC choke for harmonic mitigation.

ACH580-31 Ultra-Low Harmonic drives with built-in harmonic mitigation help to keep the power network clean providing exceptionally low harmonic content. This brings significant benefits, including improved reliability and increased energy savings, as well as extended equipment lifetime.

ACH580-01	ACH580-31
HP range	
1-100 HP at 208 VAC	
1-350 HP at 460 VAC	5-150 at 460 VAC
2-250 HP at 575 VAC	
Input Voltage range	
200 - 240 VAC 1-phase	
200 - 240 VAC 3-phase	208/230 VAC 3-phase
380 - 480 VAC 3-phase	380 - 480 VAC 3-phase
500 - 600 VAC 3-phase	
Enclosure type	
UL (NEMA) Type 1	UL (NEMA) Type 1
UL (NEMA) Type 12	UL (NEMA) Type 12
UL (NEMA) Type 4X	
Control mode	
Scalar	Scalar
Open loop vector	Open loop vector
Communications options	
BACnet MS/TP, BACnet/IP, DeviceNet, EtherNet/IP, Modbus RTU, Johnson Controls N2, PROFIBUS DP, GP1	BACnet MS/TP, BACnet/IP, DeviceNet, EtherNet/IP, Modbus RTU, Johnson Controls N2, PROFIBUS DP, GP1
Operator interface	
Local mounted control panel	Local mounted control panel
Disconnect type	
N/A	N/A

Complete HVAC drive offering



E-Clipse bypass drive, ACH580-VCR, ACH580-VDR, ACH580-BCR, ACH580-BDR, ACH580-3BCR, ACH580-3BDR

The ACH580 with ABB E-Clipse bypass has an integrated UL (NEMA) Type 1, 12 or 3R enclosure with a bypass motor starter and is available from 1 to 350 hp at 230/460/575 V. The ACH580 with ABB E-Clipse bypass provides an input disconnect switch or circuit breaker with door mounted and interlocked switch (padlockable in the OFF position), a bypass starter, electronic motor overload protection, a door mounted control panel with graphical display for local control, provisions for external control connections, and serial communications capability. The 3BCR/3BDR series features Ultra-Low Harmonics (ULH)

ACH580-VCR/VDR	ACH580-BCR/BDR	ACH580-3BCR/3BDR
HP range		
1-25 HP at 208 VAC	1-100 HP at 208 VAC	
1-60 HP at 460 VAC	1-700 HP at 460 VAC	5-400 HP at 460 VAC
2-75 HP at 575 VAC	2-250 HP at 575 VAC	
Input Voltage range		
200 - 240 VAC 3-phase	200 - 240 VAC 3-phase	
440 - 480 VAC 3-phase	440 - 480 VAC 3-phase	440 - 480 VAC 3-phase
500 - 600 VAC 3-phase	500 - 600 VAC 3-phase	
Enclosure type		
UL (NEMA) Type 1	UL (NEMA) Type 1	UL (NEMA) Type 1
	UL (NEMA) Type 12	UL (NEMA) Type 12
	UL (NEMA) Type 3R	UL (NEMA) Type 3R
Control mode		
Scalar	Scalar	Scalar
Open loop vector	Open loop vector	Open loop vector
Communications options		
BACnet MS/TP, BACnet/IP, DeviceNet, EtherNet/IP, Modbus RTU, Johnson Controls N2, PROFIBUS DP, GP1	BACnet MS/TP, BACnet/IP, DeviceNet, EtherNet/IP, Modbus RTU, Johnson Controls N2, PROFIBUS DP, GP1	BACnet MS/TP, BACnet/IP, DeviceNet, EtherNet/IP, Modbus RTU, Johnson Controls N2, PROFIBUS DP, GP1
Operator interface		
Local mounted LCD display and control panel	Door mounted LCD display and control panel	Door mounted LCD display and control panel
Disconnect type		
Circuit breaker or disconnect	Circuit breaker or disconnect	Circuit breaker or disconnect
Additional configurations		
Service switch (+F267)	Input harmonic filter (+E211), Line reactors (+E213), Manual motor protectors (+xG405+Mxxx), Service Switch (+F267), Soft start (+G390), Special enclosures (3Rx, 4 and 4X)	Service Switch (+F267), Soft start (+G390), Special enclosures (3Rx, 4 and 4X)



Packaged drive with disconnect means, ACH580-PCR, ACH580-PDR

The ACH580 Packaged Drive includes an ACH580 drive in a UL (NEMA) Type 1, 12 or 3R enclosure with either an input disconnect switch and fast acting fuses or an input circuit breaker. It is available from 1 to 350 hp at 230/460/575 V. The ACH580 Packaged Drive provides a door-mounted input disconnect switch (padlockable in the OFF position), electronic motor overload protection, a door-mounted control panel with graphical display for local control, provisions for external control connections, and serial communications capability. The 3PCR/3PDR series features ultra-low harmonics (ULH)



ACH580-PCR/PDR	ACH580-3PCR/3PDR
HP range	
1-100 HP at 208 VAC	
1-700 HP at 460 VAC	5-400 HP at 460 VAC
2-250 HP at 575 VAC	
Input Voltage range	
200 - 240 VAC 3-phase	
440 - 480 VAC 3-phase	440 - 480 VAC 3-phase
500 - 600 VAC 3-phase	
Enclosure type	
UL (NEMA) Type 1	UL (NEMA) Type 1
UL (NEMA) Type 12	UL (NEMA) Type 12
UL (NEMA) Type 3R	UL (NEMA) Type 3R
Control mode	
Scalar	Scalar
Open loop vector	Open loop vector
Communications options	
BACnet MS/TP, BACnet/IP, DeviceNet, EtherNet/IP, Modbus RTU, Johnson Controls N2, PROFIBUS DP, GP1	BACnet MS/TP, BACnet/IP, DeviceNet, EtherNet/IP, Modbus RTU, Johnson Controls N2, PROFIBUS DP, GP1
Operator interface	
Local or door mounted control panel	Local or door mounted control panel
Disconnect type	
Circuit breaker or disconnect	Circuit breaker or disconnect
Additional configurations	
Input harmonic filter (+E211), Line reactors (+E213), Manual motor protectors (+xG405+Mxxx), Redundant drive (+C170), Special enclosures (3Rx, 4 and 4X)	Manual motor protectors (+xG405+Mxxx), Redundant drive (+C170), Special enclosures (3Rx, 4 and 4X)

Common characteristics of the HVAC family of drives

HVAC control panel with primary settings

- Primary settings make commissioning of the drive easier than ever before
- An optional Bluetooth enabled control panel allows easy smartphone connection and remote support possibilities
- Easily available USB interface for PC and tool connection
- Help button for problem-solving

HVAC communication protocols

- BTL certified BACnet MS/TP and other common HVAC communication protocols such as GP1, N2, LONWorks and Modbus RTU as standard
- BACnet/IP with a fieldbus adapter option

Supported communications for SCADA systems

- Ethernet IP
- Modbus TCP
- DeviceNet
- Profinet IO

Suitable for various HVAC applications

ABB HVAC drives are suitable not only for variable torque applications like fans and pumps, but also for basic constant torque applications like compressors.

Robust and reliable design

- All units are tested under full load in maximum allowed ambient temperature to verify the quality
- Printed circuit boards are protected with extra coating to be able to operate in humid and harsh environments

Energy efficiency calculators

Optimize energy efficiency with features that help you to save and manage energy. You can monitor the hourly, daily cumulative, last hour, last day and last month energy consumption via kWh counters.

Diagnostic menu

Analyze and resolve issues with the control panel's diagnostics menu. You can quickly analyze why the drive is performing as it is; running, stopped or running at the present speed.

Embedded load analyzers

Analyze and optimize the application with the load profile log, which shows how the drive has operated.

Integrated process control

Reduce costs with the built-in HVAC controllers. They allow the HVAC drives not only to control themselves using an external feedback signal, but also to control other processes.

Flexibility in programming

Scale up and customize the drive to your application's requirements with flexible parameter pointers or visual adaptive programming.

Extensive I/O capabilities

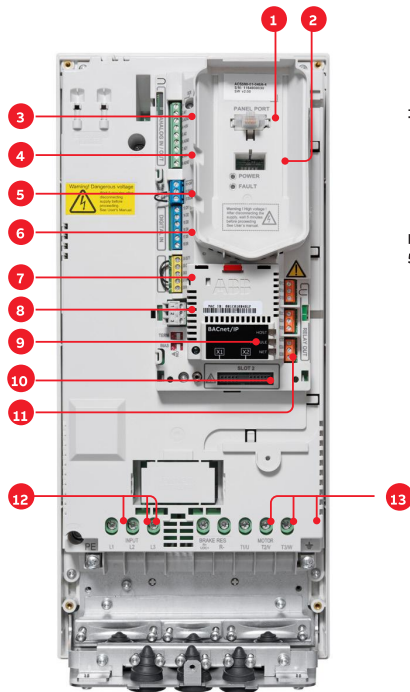
- ABB HVAC drives have an extensive number of I/O terminals in standard configuration
- Colored terminals and clear terminal marking significantly ease drive wiring process
- I/O status can be monitored via I/O menu
- I/O can be forced on or off to verify drive's either from the display or via your fieldbus connected controls

Advanced motor control

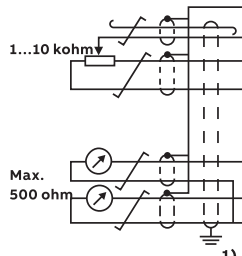
- Support for induction (IM), F (PM) and synchronous reluctance (SynRM) motors, Permanent Magnet assisted synchronous reluctance motor (PMSynRM)
- Reduce audible motor noise by spreading the switching frequencies over user-specified range

ACH580 standard I/O diagram

Default control connections



1. Panel port (PC tools, control panel)
2. ABB drive customizer port for programming the drive without mains
3. Analog inputs (2 × AI)
4. Analog outputs (2 × AO)
5. 24 V DC output
6. Digital inputs (6 × DI)
7. Safe torque off (STO)
8. Embedded fieldbus
9. Communication options (fieldbuses)
10. I/O extensions
11. Relay outputs (3 × RO)
12. Mains connection
13. Motor connection



Terminal	Meaning	Default connections		
X1 Reference voltage and analog inputs and outputs				
1	SCR	Signal cable shield (screen)		
2	AI1	Output frequency/speed reference: 0 to 10 V		
3	AGND	Analog input circuit common		
4	+10 V	Reference voltage 10 V DC		
5	AI2	Actual feedback: 0 to 20 mA		
6	AGND	Analog input circuit common		
7	AO1	Output frequency: 0 to 10 V		
8	AO2	Motor current: 0 to 20 mA		
9	AGND	Analog output circuit common		
X2 & X3 Aux. voltage output and programmable digital inputs				
10	+24 V	Aux. voltage output +24 V DC, max. 250 mA		
11	DGND	Aux. voltage output common		
12	DCOM	Digital input common for all		
13	DI1	Stop (0)/Start (1)		
14	DI2	Not configured		
15	DI3	Constant frequency/speed selection		
16	DI4	Start interlock 1 (1 = allow start)		
17	DI5	Not configured		
18	DI6	Not configured		
X6, X7, X8 Relay outputs				
19	RO1C		Damper control 250 V AC/30 V DC 2 A	Energize damper 19 connected to 21
20	RO1A			
21	RO1B			
22	RO2C		Running 250 V AC/30 V DC 2 A	Running 22 connected to 24
23	RO2A			
24	RO2B			
25	RO3C		Fault (-1) 250 V AC/30 V DC 2 A	Fault condition 25 connected to 26
26	RO3A			
27	RO3B			
X5 Embedded fieldbus				
29	B+		Embedded fieldbus, EFB (EIA-485)	
30	A-			
31	DGND			
S4	TERM	Termination switch		
S5	BIAS	Bias resistors switch		
X4 Safe torque off				
34	OUT1		Safe torque off. Factory connection. Both circuits must be closed for the drive to start. See chapter The Safe torque off function in the hardware manual of the drive.	
35	OUT2			
36	SGND			
37	IN1			
38	IN2			
X10 24 V AC/DC				
40	24 V AC/DC+ in	R6 to R11 and all ACH580-31 and ACH580-34: Ext. 24 V AC/DC input to power up the control unit when the main supply is disconnected.		
41	24 V AC/DC- in			

Notes:

- 1) Ground the outer shield of the cable 360° under the grounding clamp on the grounding shelf for the control cables.
- 2) Connected with jumpers at the factory.

The right protection for HVACR environments

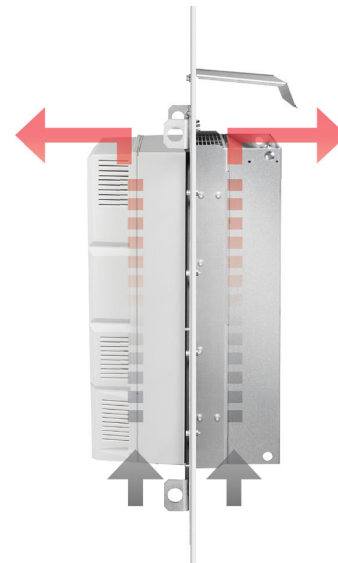
The ACH580-01's wall-mountable construction in both UL (NEMA) Type 1 and Type 12 can be installed in clean rooms and provides protection against circulating dust, falling dirt, and dripping non-corrosive liquids.

The robust, protective design ensures that no additional enclosures or components, such as dust filters and fans, are needed. Overall, drives for HVAC environments require smaller capital expenses by avoiding or advancing maintenance of external components, which in turn improves the reliability of the drive and the process.



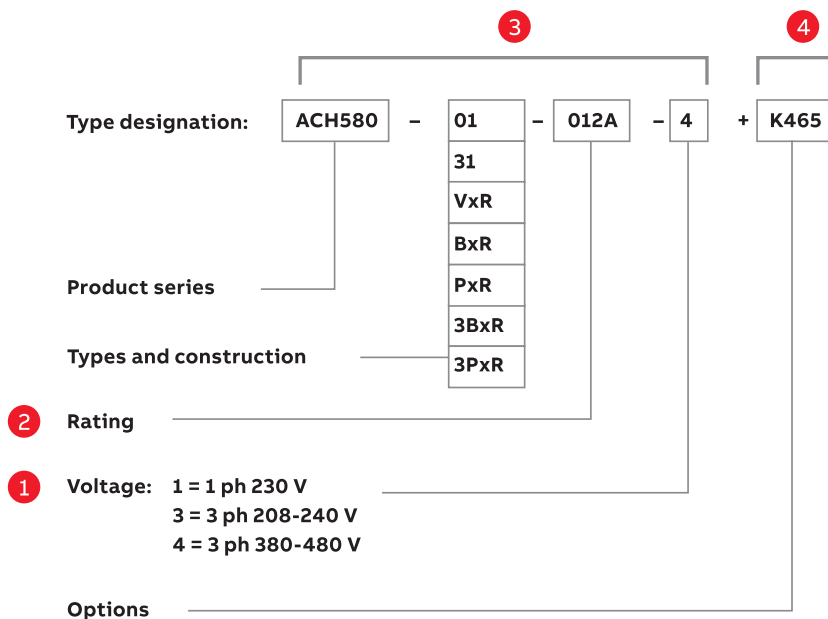
Flange mounting

The ACH580-01 UL (NEMA) Type 12, wall-mounted drive offers flange mounting as an option, separating the control electronics from the main circuit cooling airflow, saving space and ensuring optimal cooling. This results in better thermal management during panel installation and reduces the overall enclosure size. Furthermore, the need for air-conditioning can often be eliminated, as up to 80 percent of the heat load is removed through the back of the panel.



How to select a drive

Create your own ordering code using the type designation key.



1 Start by identifying your supply voltage.
This tells you what rating table to use. See pages 1-18 through 1-69.

3 Choose the rating of your drive
from the ratings tables on pages 1-18 through 1-69.

2 Select your drive's type code
from the rating table based on the nominal current rating of your motor.

4 Choose your options (on page 1-77 to 1-82) and add the option codes to the drive's order code. Remember to use a "+"

ACH580 technical data

Mains connection		
Input voltage and output power range	3-phase (1-phase, 240V), UN 208 to 600 V +10/-15%	
	ACH580-01:	1 to 350 HP
	ACH580-04:	400 to 700 HP
	ACH580-31:	5 to 150 HP
	ACH580-34:	200 to 400 HP
Frequency	48 to 63 Hz	
Power factor ACH580-01, ACH580-04	0.98	
Power factor ACH580-31 and ACH580-34	1.0	
Motor control		
Voltage	0 to UN, 3-phase	
Frequency	0 to 500 Hz	
Motor control	Scalar and vector	
Supported motor types	Asynchronous motor, permanent magnet motor (vector), SynRM (vector)	
Environmental limits		
Operation temperature	ACH580-01	-15 to +50 °C
	ACH580-04	-15 to +55 °C
	ACH580-31	-15 to +50 °C
	ACH580-34	-15 to +50 °C
Transportation and storage temperature	-40 to +70 °C	
Relative humidity	5 to 95 % no condensation allowed	
Altitude	Rated current available at 0 to 1000 m Reduced by 1% per 100 m over 1000 m up to 4000 m	
Degree of protection	ACH580-01	UL (NEMA) Type 1 /
	ACH580-31	IP21, UL (NEMA) Type 4X (ACH580-01 only), or UL (NEMA) Type 12/ IP55
	ACH580-04	UL (NEMA) Type Open
	ACH580-34	/ IP00 or IP20
Contamination level	Operation at Class 3C2, Class 3S2 according to IEC 60721-3-3 Transportation at Class 2C2, Class 2S2 according to IEC 60721-3-3 Storage at Class 1C2, Class 1S2 according to IEC 60721-3-3	

Inputs and outputs (standard configuration)	
2 analog inputs	Selection of Current/Voltage input mode is user programmable.
Voltage signal	0 (2) to 10 V, Rin >200 kΩ
Current signal	0 (4) to 20 mA, Rin = 100 Ω
Potentiometer reference value	10 V ±1% max. 20 mA
2 analog outputs	AO1 is user programmable for current or voltage. AO2 current
Voltage signal	0 to 10 V, Rload: >100 kΩ
Current signal	0 to 20 mA, Rload: <500 Ω
Internal auxiliary voltage	24 V DC ±10%, max. 250 mA
6 digital inputs	12 to 24 V DC, 24 V AC, Connectivity of PTC sensors supported by a single digital input. PNP or NPN connection (5 DIs with NPN connection).
3 relay outputs	Maximum switching voltage 250 V AC/30 V DC Maximum continuous current 2 A rms
Supported thermistors	Any of the analog inputs, or digital input 6, are configurable for PTC with up to 6 sensors. Both analog outputs can be used to feed the PT100, PT1000, KTY83, KTY84 or Ni1000 sensors.
External power supply	
Standard:	1.5 A at 24 V AC/DC ±10%
ACH580-01 frames R6-R9, ACH580-04 all frames, ACH580-31 all frames, ACH580-34 all frames	
With option:	
ACH580-01 frames R1-R5	1.04 A at 24 V AC/DC ±10%
Communication	
Protocols as standard (EIA-485): BACnet MS/TP, Modbus RTU, N2, and GP1. Available as 2-port plug-in options: BACnet/IP, Modbus TCP, PROFINET IO, EtherNet/IP.	
Available as plug-in options: CANopen, DeviceNet, LonWorks, Profibus DP. Available as an external 2-port option: EtherNet adapter for remote monitoring.	
Product compliance	
CE, BTL Low Voltage Directive 2014/35/EU, EN 61800-5-1:2007 Machinery Directive 2006/42/EC, EN 61800-5-2:2007 EMC Directive 2014/30/EU, EN 61800-3:2004 + A1:2012 RoHS directive 2011/65/EU Quality assurance system ISO 9001 and Environmental system ISO 14001 Waste electrical and electronic equipment directive (WEEE) 2002/96/EC Galvanic isolation according to PELV UL, EAC, RCM, cUL TÜV Nord (safety functions)	
Harmonics compliance	
Built-in optimized DC choke as standard in ACH580-01 provides a 5% impedance equivalent. ACH580-31/34 with 3% or less THdi at the drive terminal meets the most stringent specifications calling IEEE519 IEEE519.	

ACH580 technical data

EMC according to EN 61800-3:2004 + A1:2012	
ACH580-01 drive frames R1 to R9 (up to 350 HP) designed to comply with EMC category C2 requirements as standard. Frames R10 and R11 (up to 700 HP) comply with category C3 with standard pre-configured built-in filter. ACH580-31 drive frames R3, R6 & R8 (5 to 150 HP) designed to comply with EMC category C2 requirements as standard. Frame R11 (200 to 400 HP) comply with category C3.	
Functional safety	
STO according to EN 61800-5-2:2016, IEC 61508 Parts 1-2:2010, ISO 13849-1:2015, ISO 13849-2:2012, IEC 62061:2015 SIL 3/PL e	
Application functions	
First start assistant Primary settings for HVAC applications Hand-Off-Auto operation mode Start interlock (defrost) Delayed start Run permissive (damper monitoring) Override operation mode Real-time clock (scheduling) PID controllers for motor and process Motor flying start Motor preheating Energy optimizer and calculators	
Protection functions	
Overvoltage controller Undervoltage controller Motor and motor cable earth-leakage monitoring Motor and motor cable short-circuit protection Motor overtemperature protection Output and input switch supervision Motor overload protection Phase-loss detection (both motor and supply) Under load supervision (belt loss detection) Overload supervision Stall protection Loss of control reference	
Environmental protections	
Chemical Gases	Class 3C2
Solid Particles	Class 3S2 No conductive dust allowed
Pollution degree (IEC/EN 61800-5-1)	Pollution degree 2
Product compliance	
Standards and directives	Low Voltage Directive 2006/95/EC EMC Directive 2004/108/EC 60721-3-3: 2002 60721-3-1:1997 Quality assurance system ISO 9001 and Environmental system ISO 14001 CE, UL, cUL, and EAC approvals CSA C222N0274 Galvanic isolation according to PELV RoHS2 (Restriction of Hazardous Substances) EN 61800-5-1: 2007; IEC/EN 61000-3-12; EN61800-3: 2017 + A1: 2012 Category C2 (1st environment restricted distribution); Safe torque off (EN 61800-5-2) BACnet Testing Laboratory (BTL) Seismic (IBC, OSHPD)*

Storage (in Protective Shipping Package)	
Air Temperature	-40 to +70 °C (-40 to +158 °F)
Relative Humidity	Less than 95% No condensation allowed Maximum relative humidity is 60% in the presence of corrosive gases
Chemical Gases	Class 1C2
Solid Particles	Class 1S2 Contact ABB regarding Class 1S3
Atmospheric pressure	70 to 106 kPa 0.7 to 1.05 atmospheres
Vibration (ISTA)	
R1...R4	In accordance with ISTA 1A
R5...R9	In accordance with ISTA 3E
Transportation (in Protective Shipping Package)	
Air Temperature	-40° to 70°C (-40° to 158°F)
Relative Humidity	Less than 95% No condensation allowed Maximum relative humidity is 60% in the presence of corrosive gases
Atmospheric Pressure	60 to 106 kPa (8.7 to 15.4 PSI) 0.6 to 1.05 atmospheres
Free Fall	R1: 76 cm (30 in) R2: 61 cm (24 in) R3: 46 cm (18 in) R4: 31 cm (12 in) R5: 25 cm (10 in) R6: R7: R8: R9:
Chemical Gases	Class 2C2
Solid Particles	Class 2S2
Shock/ Drop (ISTA)	
R1...R4	In accordance with ISTA 1A
R5...R9	In accordance with ISTA 3E
Vibration (ISTA)	
R1...R4	In accordance with ISTA 1A
R5...R9	In accordance with ISTA 3E

* Seismic ratings are covered on wall mount drives and standard packages.

Ratings, types and voltages

ACH580-01, wall-mounted drives

Type code	Output Ratings ¹⁾		Frame Size	1-phase supply ratings (only 240V)*		UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 4X (+B066)
	Current	Power		Power	Current	Dim Ref	Dim Ref	Dim Ref
	A	HP		HP	A			
U _i = 208 to 240V. Power ratings are valid at nominal output voltage U _n = 208 V 60 Hz								
ACH580-01-04A6-2	4.6	1	R1	0.5	2.2	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-06A6-2	6.6	1.5	R1	0.75	3.2	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-07A5-2	7.5	2	R1	1	4.2	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-10A6-2	10.6	3	R1	1.5	6	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-017A-2	16.7	5	R1	2	6.8	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-024A-2	24.2	7.5	R2	3	9.6	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-031A-2	30.8	10	R2	5	15.2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-046A-2	46.2	15	R3	7.5	22	01-1-R3	01-12-R3	01-4X-R3
ACH580-01-059A-2	59.4	20	R3	10	28	01-1-R3	01-12-R3	01-4X-R3
ACH580-01-075A-2	74.8	25	R4	10	28	01-1-R4	01-12-R4	-
ACH580-01-088A-2	88	30	R5	15	42	01-1-R5	01-12-R5	-
ACH580-01-114A-2	114	40	R5	20	54	01-1-R5	01-12-R5	-
ACH580-01-143A-2	143	50	R6	25	68	01-1-R6	01-12-R6	-
ACH580-01-169A-2	169	60	R7	30	80	01-1-R7	01-12-R7	-
ACH580-01-211A-2	211	75	R7	40	104	01-1-R7	01-12-R7	-
ACH580-01-273A-2	273	100	R8	50	130	01-1-R8	01-12-R8	-
ACH580-01-343A-2	343	125	R9	60	154	01-1-R9	01-12-R9	-
ACH580-01-396A-2	396	150	R9	75	192	01-1-R9	01-12-R9	-

1) See page 1-1

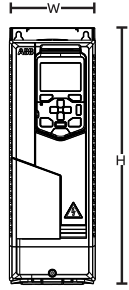
Ratings, types and voltages

ACH580-01, wall-mounted drives

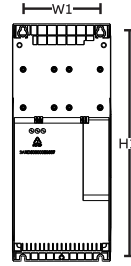
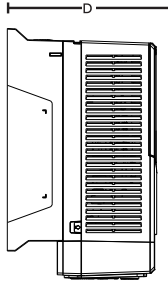
Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 4X (+B066)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
U _i = 380 to 480 V. Power ratings are valid at nominal output voltage 460 V 50/60 Hz						
ACH580-01-02A1-4	2.1	1	R1	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-03A0-4	3	1.5	R1	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-03A5-4	3.5	2	R1	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-04A8-4	4.8	3	R1	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-07A6-4	7.6	5	R1	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-012A-4	12	7.5	R1	01-1-R1	01-12-R1	01-4X-R1
ACH580-01-014A-4	14	10	R2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-023A-4	23	15	R2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-027A-4	27	20	R3	01-1-R3	01-12-R3	01-4X-R3
ACH580-01-034A-4	34	25	R3	01-1-R3	01-12-R3	01-4X-R3
ACH580-01-044A-4	44	30	R3	01-1-R3	01-12-R3	01-4X-R3
ACH580-01-052A-4	52	40	R4	01-1-R4	01-12-R4	-
ACH580-01-065A-4	65	50	R4	01-1-R4	01-12-R4	-
ACH580-01-077A-4	77	60	R4	01-1-R4	01-12-R4	-
ACH580-01-096A-4	96	75	R5	01-1-R5	01-12-R5	-
ACH580-01-124A-4	124	100	R6	01-1-R6	01-12-R6	-
ACH580-01-156A-4	156	125	R7	01-1-R7	01-12-R7	-
ACH580-01-180A-4	180	150	R7	01-1-R7	01-12-R7	-
ACH580-01-240A-4	240	200	R8	01-1-R8	01-12-R8	-
ACH580-01-302A-4	302	250	R9	01-1-R9	01-12-R9	-
ACH580-01-361A-4	361	300	R9	01-1-R9	01-12-R9	-
ACH580-01-414A-4	414	350	R9	01-1-R9	01-12-R9	-
U _i = 500 to 600V. Power ratings are valid at nominal output voltage U _N = 575 V 50/60 Hz						
ACH580-01-02A7-6	2.7	2	R2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-03A9-6	3.9	3	R2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-06A1-6	6.1	5	R2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-09A0-6	9	7.5	R2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-011A-6	11	10	R2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-017A-6	17	15	R2	01-1-R2	01-12-R2	01-4X-R2
ACH580-01-022A-6	22	20	R3	01-1-R3	01-12-R3	01-4X-R3
ACH580-01-027A-6	27	25	R3	01-1-R3	01-12-R3	01-4X-R3
ACH580-01-032A-6	32	30	R3	01-1-R3	01-12-R3	01-4X-R3
ACH580-01-041A-6	41	40	R5	01-1-R5	01-12-R5	-
ACH580-01-052A-6	52	50	R5	01-1-R5	01-12-R5	-
ACH580-01-062A-6	62	60	R5	01-1-R5	01-12-R5	-
ACH580-01-077A-6	77	75	R5	01-1-R5	01-12-R5	-
ACH580-01-099A-6	99	100	R7	01-1-R7	01-12-R7	-
ACH580-01-125A-6	125	125	R7	01-1-R7	01-12-R7	-
ACH580-01-144A-6	144	150	R8	01-1-R8	01-12-R8	-
ACH580-01-192A-6	192	200	R9	01-1-R9	01-12-R9	-
ACH580-01-242A-6	242	250	R9	01-1-R9	01-12-R9	-
ACH580-01-271A-6	271	250	R9	01-1-R9	01-12-R9	-

Dimensions

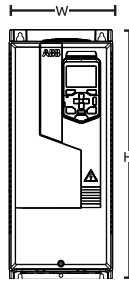
ACH580-01 Type 1



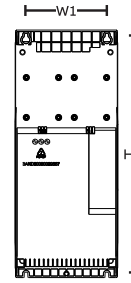
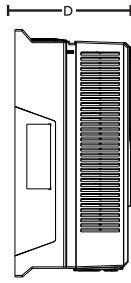
R1 - R2 with removeable conduit box



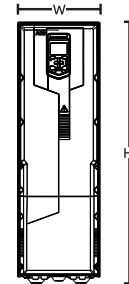
R1 - R2 Mounting dimensions



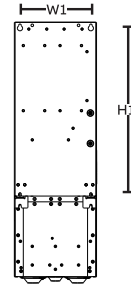
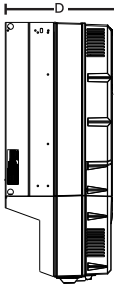
R3 - R4 with integrated conduit box



R3 - R4 Mounting dimensions



R5 - R9 with removeable conduit box



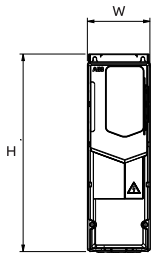
R5 - R9 Mounting dimensions

Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions					
									Height (H1)		Width (W1)		Width (W2)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm	in	mm
ACH580-01, wall-mounted UL (NEMA) Type 1														
01-1-R1	14.69	373	4.92	125	8.78	223	10.1	4.6	12.48	317	3.86	98	-	-
01-1-R2	18.62	473	4.92	125	9.02	229	14.6	6.6	16.42	417	3.86	98	-	-
01-1-R3	19.29	490	7.99	203	9.02	229	26.0	11.8	18.62	473	6.30	160	-	-
01-1-R4	25.04	636	7.99	203	10.12	257	41.9	19.0	24.37	619	6.30	160	3.86	98
01-1-R5	28.82	732	7.99	203	11.61	295	62.4	28.3	22.87	581	6.30	160	3.86	98
01-1-R6	28.62	727	9.92	252	14.53	369	93.5	42.4	20.91	531	8.37	213	6.30	160
01-1-R7	34.65	880	11.18	284	14.57	370	119.1	54.0	22.95	583	9.65	245	6.30	160
01-1-R8	37.99	965	11.81	300	15.47	393	152.2	69.0	25.91	658	10.33	263	8.43	214
01-1-R9	37.60	955	14.96	380	16.46	418	213.9	97.0	25.91	658	13.58	345	7.87	200

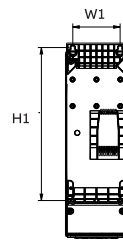
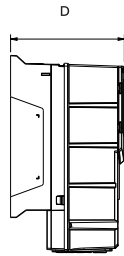
Standard configuration dimensions for reference only.

Dimensions

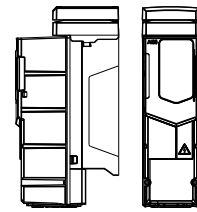
ACH580-01 Type 12



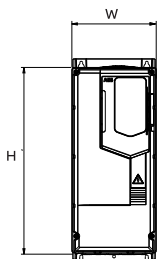
R1 - R2 integrated conduit box



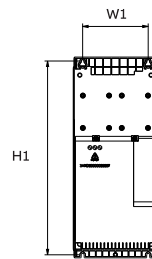
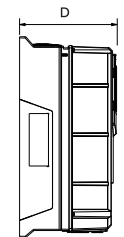
R1 - R2 mounting dimensions



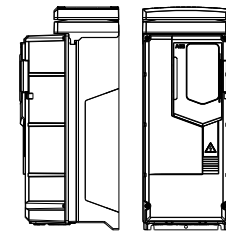
R1 - R2 integrated conduit box with hood



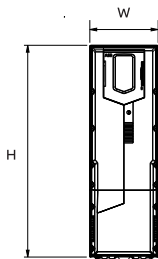
R3 - R4 integrated conduit box



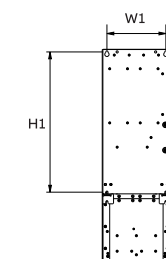
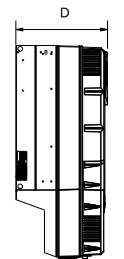
R3 - R4 mounting dimensions



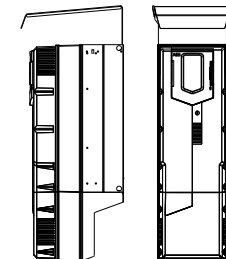
R3 - R4 integrated conduit box with hood



R5 - R9 removeable conduit box



R5 - R9 mounting dimensions

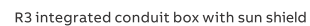
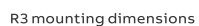
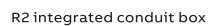
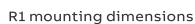


R5 - R9 removeable conduit box with hood

Dim Ref	Height (H)		Height (H5)		Width (W)		Depth (D)		Weight		Mounting Dimensions					
											Height (H1)		Width (W1)		Width (W2)	
	in	mm	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm	in	mm
ACH580-01, wall-mounted UL (NEMA) Type 12																
01-12-R1	15.87	403	17.78	452	5.04	128	9.17	233	10.6	4.8	12.48	317	3.86	98	-	-
01-12-R2	19.80	503	21.49	546	5.04	128	9.41	239	15.0	6.8	16.42	417	3.86	98	-	-
01-12-R3	19.29	490	20.93	532	8.11	206	9.33	237	28.7	13.0	18.62	473	6.30	160	-	-
01-12-R4	25.04	636	27.03	686	7.99	203	10.43	265	44.1	20.0	24.37	619	6.30	160	3.86	98
01-12-R5	28.82	732	32.01	813	7.99	203	12.60	320	63.9	29.0	22.87	581	6.30	160	3.86	98
01-12-R6	28.62	727	34.81	884	9.92	252	14.96	380	94.8	43.0	20.91	531	8.37	213	6.30	160
01-12-R7	34.65	880	40.86	1038	11.18	284	15.00	381	123.5	56.0	22.95	583	9.65	245	6.30	160
01-12-R8	37.99	965	44.23	1123	11.81	300	17.80	452	169.8	77.0	25.91	658	10.33	263	8.43	214
01-12-R9	37.60	955	46.75	1188	14.96	380	18.78	477	227.1	103.0	25.91	658	13.58	345	7.87	200

Standard configuration dimensions for reference only.

ACH580-01 Type 4X



Dim Ref	Height (H)		Height (H5)		Width (W)		Depth (D)		Weight		Mounting Dimensions					
											Height (H1)		Width (W1)		Width (W2)	
	in	mm	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm	in	mm
ACH580-01, wall-mounted UL (NEMA) Type 4X																
01-4X-R1	19.90	506	17.78	452	8.20	208	9.50	242	26.0	11.8	19.57	497	6.89	175	-	-
01-4X-R2	23.90	606	21.49	546	8.20	208	9.90	252	32.0	14.5	22.87	581	6.89	175	-	-
01-4x-R3	25.20	641	20.93	532	10.9	277	10.2	260	26.4	13.0	24.50	622	9.60	244	-	-
Standard configuration dimensions for reference only.																

Ratings, types and voltages

ACH580-VCR, vertical E-Cclipse bypass drive with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1 Dim Ref
	Current	Power		
	A	HP		
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz				
ACH580-VCR-04A6-2	4.6	1	R1	Vx1-1
ACH580-VCR-06A6-2	6.6	1.5	R1	Vx1-1
ACH580-VCR-07A5-2	7.5	2	R1	Vx1-1
ACH580-VCR-10A6-2	10.6	3	R1	Vx1-1
ACH580-VCR-017A-2	16.7	5	R1	Vx1-1
ACH580-VCR-024A-2	24.2	7.5	R2	Vx1-2
ACH580-VCR-031A-2	30.8	10	R2	Vx1-3
ACH580-VCR-046A-2	46.2	15	R3	Vx1-4
ACH580-VCR-059A-2	59.4	20	R3	Vx1-4
ACH580-VCR-075A-2	74.8	25	R4	Vx1-4
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz				
ACH580-VCR-02A1-4	2.1	1	R1	Vx1-1
ACH580-VCR-03A0-4	3	1.5	R1	Vx1-1
ACH580-VCR-03A5-4	3.5	2	R1	Vx1-1
ACH580-VCR-04A8-4	4.8	3	R1	Vx1-1
ACH580-VCR-07A6-4	7.6	5	R1	Vx1-1
ACH580-VCR-012A-4	12	7.5	R1	Vx1-1
ACH580-VCR-014A-4	14	10	R2	Vx1-2
ACH580-VCR-023A-4	23	15	R2	Vx1-2
ACH580-VCR-027A-4	27	20	R3	Vx1-3
ACH580-VCR-034A-4	34	25	R3	Vx1-3
ACH580-VCR-044A-4	44	30	R3	Vx1-3
ACH580-VCR-052A-4	52	40	R4	Vx1-4
ACH580-VCR-065A-4	65	50	R4	Vx1-4
ACH580-VCR-077A-4	77	60	R4	Vx1-4
U _i = 500 to 600V. Power ratings are valid at nominal output voltage U _N = 575 V 60 Hz				
ACH580-VCR-02A7-6	2.7	2	R2	Vx1-2
ACH580-VCR-03A9-6	3.9	3	R2	Vx1-2
ACH580-VCR-06A1-6	6.1	5	R2	Vx1-2
ACH580-VCR-09A0-6	9	7.5	R2	Vx1-2
ACH580-VCR-011A-6	11	10	R2	Vx1-2
ACH580-VCR-017A-6	17	15	R2	Vx1-2
ACH580-VCR-022A-6	22	20	R3	Vx1-3
ACH580-VCR-027A-6	27	25	R3	Vx1-3
ACH580-VCR-032A-6	32	30	R3	Vx1-3
ACH580-VCR-041A-6	41	40	R5	Vx1-5
ACH580-VCR-052A-6	52	50	R5	Vx1-5
ACH580-VCR-062A-6	62	60	R5	Vx1-5
ACH580-VCR-077A-6	77	75	R5	Vx1-5

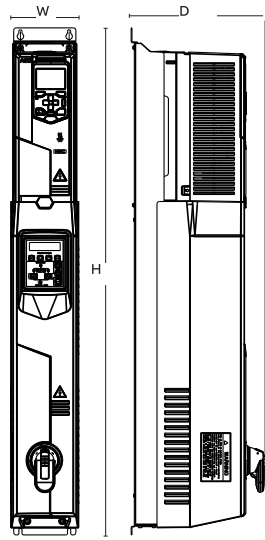
Ratings, types and voltages

ACH580-VDR, vertical E-Clipse bypass drive with non-fused disconnect switch

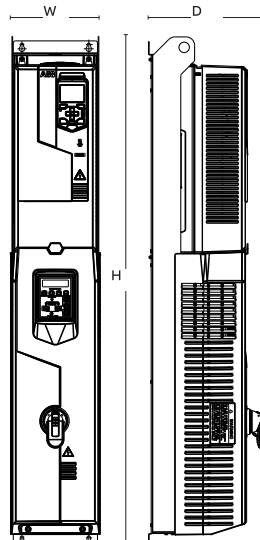
Type code	Output Ratings		Frame Size	UL (NEMA) Type 1 Dim Ref
	Current	Power		
	A	HP		
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz				
ACH580-VDR-04A6-2	4.6	1	R1	Vx1-1
ACH580-VDR-06A6-2	6.6	1.5	R1	Vx1-1
ACH580-VDR-07A5-2	7.5	2	R1	Vx1-1
ACH580-VDR-10A6-2	10.6	3	R1	Vx1-1
ACH580-VDR-017A-2	16.7	5	R1	Vx1-1
ACH580-VDR-024A-2	24.2	7.5	R2	Vx1-2
ACH580-VDR-031A-2	30.8	10	R2	Vx1-3
ACH580-VDR-046A-2	46.2	15	R3	Vx1-4
ACH580-VDR-059A-2	59.4	20	R3	Vx1-4
ACH580-VDR-075A-2	74.8	25	R4	Vx1-4
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz				
ACH580-VDR-02A1-4	2.1	1	R1	Vx1-1
ACH580-VDR-03A0-4	3	1.5	R1	Vx1-1
ACH580-VDR-03A5-4	3.5	2	R1	Vx1-1
ACH580-VDR-04A8-4	4.8	3	R1	Vx1-1
ACH580-VDR-07A6-4	7.6	5	R1	Vx1-1
ACH580-VDR-012A-4	12	7.5	R1	Vx1-1
ACH580-VDR-014A-4	14	10	R2	Vx1-2
ACH580-VDR-023A-4	23	15	R2	Vx1-2
ACH580-VDR-027A-4	27	20	R3	Vx1-3
ACH580-VDR-034A-4	34	25	R3	Vx1-3
ACH580-VDR-044A-4	44	30	R3	Vx1-3
ACH580-VDR-052A-4	52	40	R4	Vx1-4
ACH580-VDR-065A-4	65	50	R4	Vx1-4
ACH580-VDR-077A-4	77	60	R4	Vx1-4
U _i = 500 to 600V. Power ratings are valid at nominal output voltage U _N = 575 V 60 Hz				
ACH580-VDR-02A7-6	2.7	2	R2	Vx1-2
ACH580-VDR-03A9-6	3.9	3	R2	Vx1-2
ACH580-VDR-06A1-6	6.1	5	R2	Vx1-2
ACH580-VDR-09A0-6	9	7.5	R2	Vx1-2
ACH580-VDR-011A-6	11	10	R2	Vx1-2
ACH580-VDR-017A-6	17	15	R2	Vx1-2
ACH580-VDR-022A-6	22	20	R3	Vx1-3
ACH580-VDR-027A-6	27	25	R3	Vx1-3
ACH580-VDR-032A-6	32	30	R3	Vx1-3
ACH580-VDR-041A-6	41	40	R5	Vx1-5
ACH580-VDR-052A-6	52	50	R5	Vx1-5
ACH580-VDR-062A-6	62	60	R5	Vx1-5
ACH580-VDR-077A-6	77	75	R5	Vx1-5

Dimensions

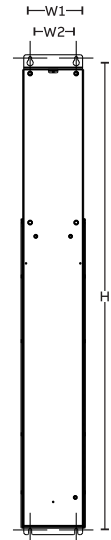
ACH580-VCR and ACH580-VDR



Vx1-1 to Vx1-2



Vx1-3 to Vx1-4



Mounting dimensions

Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions					
									Height (H1)		Width (W1)		Width (W2)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm	in	mm
ACH580-VCR and ACH580-VDR, vertical E-Clipse bypass drives UL (NEMA) Type 1														
Vx1-1	40.18	1021	5.39	137	10.55	268	30.0	13.6	39.51	1004	4.93	125	3.86	98
Vx1-2	44.10	1120	5.39	137	10.77	274	50.7	23.0	43.43	1103	4.93	125	3.86	98
Vx1-3	47.70	1212	8.44	214	10.90	277	59.5	27.0	46.47	1180	8.19	208	6.30	160
Vx1-4	56.82	1443	8.44	214	12.00	305	86.0	39.0	55.70	1415	8.19	208	6.30	160
Vx1-5	56.82	1443	8.35	212	13.26	337	117.0	53.3	55.70	1415	8.19	208	6.3	180

Standard configuration dimensions for reference only.

Ratings, types and voltages

ACH580-BCR, E-Clipse bypass drive with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)	Dim Ref for +E213
	Current	Power		Dim Ref	Dim Ref	Dim Ref	
	A	HP					
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz							
ACH580-BCR-04A6-2	4.6	1.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-06A6-2	6.6	1.5	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-07A5-2	7.5	2.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-10A6-2	10.6	3.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-017A-2	16.7	5.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-024A-2	24.2	7.5	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-031A-2	30.8	10.0	R2	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-046A-2	46.2	15.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-059A-2	59.4	20.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-075A-2	74.8	25.0	R4	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-088A-2	88.0	30.0	R5	Bx1-3	Bx12-3	Bx3R-4	Bx1-4/Bx12-4/Bx3R-4
ACH580-BCR-114A-2	114.0	40.0	R5	Bx1-3	Bx12-3	Bx3R-4	Bx1-4/Bx12-4/Bx3R-4
ACH580-BCR-143A-2	143.0	50.0	R6	Bx1-3	Bx12-3	Bx3R-4	Bx1-5/Bx12-4/Bx3R-4
ACH580-BCR-169A-2	169.0	60.0	R7	Bx1-3	Bx12-3	Bx3R-4	Bx1-5/Bx12-4/Bx3R-4
ACH580-BCR-211A-2	211.0	75.0	R7	Bx1-3	Bx12-3	Bx3R-5	Bx1-5*/Bx12-5*/Bx3R-5
ACH580-BCR-273A-2	273.0	100.0	R8	Contact Factory			
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz							
ACH580-BCR-02A1-4	2.1	1.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-03A0-4	3.0	1.5	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-03A5-4	3.5	2.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-04A8-4	4.8	3.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-07A6-4	7.6	5.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-012A-4	12.0	7.5	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-014A-4	14.0	10.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-023A-4	23.0	15.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-027A-4	27.0	20.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-034A-4	34.0	25.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-044A-4	44.0	30.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-052A-4	52.0	40.0	R4	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-065A-4	65.0	50.0	R4	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-077A-4	77.0	60.0	R4	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-096A-4	96.0	75.0	R5	Bx1-3	Bx12-3	Bx3R-3	BX1-4/BX12-4/Bx3R-3*
ACH580-BCR-124A-4	124.0	100.0	R6	Bx1-3	Bx12-3	Bx3R-4	BX1-5/BX12-4/Bx3R-4
ACH580-BCR-156A-4	156.0	125.0	R7	Bx1-3	Bx12-3	Bx3R-4	BX1-5/BX12-4/Bx3R-4
ACH580-BCR-180A-4	180.0	150.0	R7	Bx1-3	Bx12-3	Bx3R-4	BX1-5/BX12-4/Bx3R-4
ACH580-BCR-240A-4	240.0	200.0	R8	Bx1-3	Bx12-3	Bx3R-5	BX1-6/BX12-6/Bx3R-5
ACH580-BCR-302A-4	302.0	250.0	R9	Bx1-7	Bx12-7	Bx3R-6	BX1-7/BX12-7/Bx3R-6
ACH580-BCR-361A-4	361.0	300.0	R9	Bx1-7	Bx12-7	Bx3R-6	BX1-7/BX12-7/Bx3R-6
ACH580-BCR-414A-4	414.0	350.0	R9	Bx1-7	Bx12-7	Bx3R-6	BX1-7/BX12-7/Bx3R-6

*Increases one size with E213 and F267

Ratings, types and voltages

ACH580-BCR, E-Clipse bypass drive with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)	Dim Ref for +E213
	Current	Power		Dim Ref	Dim Ref	Dim Ref	
	A	HP					
U _i = 500 to 600V. Power ratings are valid at nominal output voltage U _N = 575 V 60 Hz							
ACH580-BCR-02A7-6	2.7	2.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-03A9-6	3.9	3.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-06A1-6	6.1	5.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-09A0-6	9.0	7.5	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-011A-6	11.0	10.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-017A-6	17.0	15.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BCR-022A-6	22.0	20.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-027A-6	27.0	25.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-032A-6	32.0	30.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BCR-041A-6	41.0	40.0	R5	Bx1-3	Bx12-3	Bx3R-3	Bx3R-3
ACH580-BCR-052A-6	52.0	50.0	R5	Bx1-3	Bx12-3	Bx3R-3	Bx3R-3
ACH580-BCR-062A-6	62.0	60.0	R5	Bx1-3	Bx12-3	Bx3R-3	Bx3R-3
ACH580-BCR-077A-6	77.0	75.0	R5	Bx1-3	Bx12-3	Bx3R-3	Bx3R-3
ACH580-BCR-099A-6	99.0	100.0	R7	Bx1-3	Bx12-3	Bx3R-4	Bx3R-4
ACH580-BCR-125A-6	125.0	125.0	R7	Bx1-3	Bx12-3	Bx3R-4	Bx3R-4
ACH580-BCR-144A-6	144.0	150.0	R8	Bx1-3	Bx12-3	Bx3R-4	Bx3R-4

*Increases one size with E213 and F267

Ratings, types and voltages

ACH580-BDR, E-Cclipse bypass drive with non-fused disconnect switch

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)	Dim Ref for +E213
	Current	Power		Dim Ref	Dim Ref	Dim Ref	
	A	HP					
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz							
ACH580-BDR-04A6-2	4.6	1.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-06A6-2	6.6	1.5	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-07A5-2	7.5	2.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-10A6-2	10.6	3.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-017A-2	16.7	5.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-024A-2	24.2	7.5	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-031A-2	30.8	10.0	R2	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-046A-2	46.2	15.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-059A-2	59.4	20.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-075A-2	74.8	25.0	R4	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-088A-2	88.0	30.0	R5	Bx1-3	Bx12-3	Bx3R-3*	Bx1-4/Bx12-4/Bx3R-4
ACH580-BDR-114A-2	114.0	40.0	R5	Bx1-3	Bx12-3	Bx3R-3*	Bx1-4/Bx12-4/Bx3R-4
ACH580-BDR-143A-2	143.0	50.0	R6	Bx1-3	Bx12-3	Bx3R-4	Bx1-5/Bx12-4/Bx3R-4
ACH580-BDR-169A-2	169.0	60.0	R7	Bx1-3	Bx12-3	Bx3R-4	Bx1-5/Bx12-4/Bx3R-4
ACH580-BDR-211A-2	211.0	75.0	R7	Bx1-3	Bx12-3	Bx3R-5	Bx1-5*/Bx12-5*/Bx3R-5
ACH580-BDR-273A-2	273.0	100.0	R8	Contact Factory			
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz							
ACH580-BDR-02A1-4	2.1	1.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-03A0-4	3.0	1.5	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-03A5-4	3.5	2.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-04A8-4	4.8	3.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-07A6-4	7.6	5.0	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-012A-4	12.0	7.5	R1	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-014A-4	14.0	10.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-023A-4	23.0	15.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-027A-4	27.0	20.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-034A-4	34.0	25.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-044A-4	44.0	30.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-052A-4	52.0	40.0	R4	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-065A-4	65.0	50.0	R4	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-077A-4	77.0	60.0	R4	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-096A-4	96.0	75.0	R5	Bx1-3	Bx12-3	Bx3R-3	BX1-4/BX12-4/Bx3R-4
ACH580-BDR-124A-4	124.0	100.0	R6	Bx1-3	Bx12-3	Bx3R-4	BX1-5/BX12-4/Bx3R-4
ACH580-BDR-156A-4	156.0	125.0	R7	Bx1-3	Bx12-3	Bx3R-4	BX1-5/BX12-4/Bx3R-4
ACH580-BDR-180A-4	180.0	150.0	R7	Bx1-3	Bx12-3	Bx3R-4	BX1-5/BX12-4/Bx3R-4
ACH580-BDR-240A-4	240.0	200.0	R8	Bx1-3	Bx12-3	Bx3R-5	BX1-6/BX12-6/Bx3R-5
ACH580-BDR-302A-4	302.0	250.0	R9	Bx1-7	Bx12-7	Bx3R-6	BX1-7/BX12-7/Bx3R-6
ACH580-BDR-361A-4	361.0	300.0	R9	Bx1-7	Bx12-7	Bx3R-6	BX1-7/BX12-7/Bx3R-6
ACH580-BDR-414A-4	414.0	350.0	R9	Bx1-7	Bx12-7	Bx3R-6	BX1-7/BX12-7/Bx3R-6

* Increases one size with E213 and F267

Ratings, types and voltages

ACH580-BDR, E-Clipse bypass drive with non-fused disconnect switch

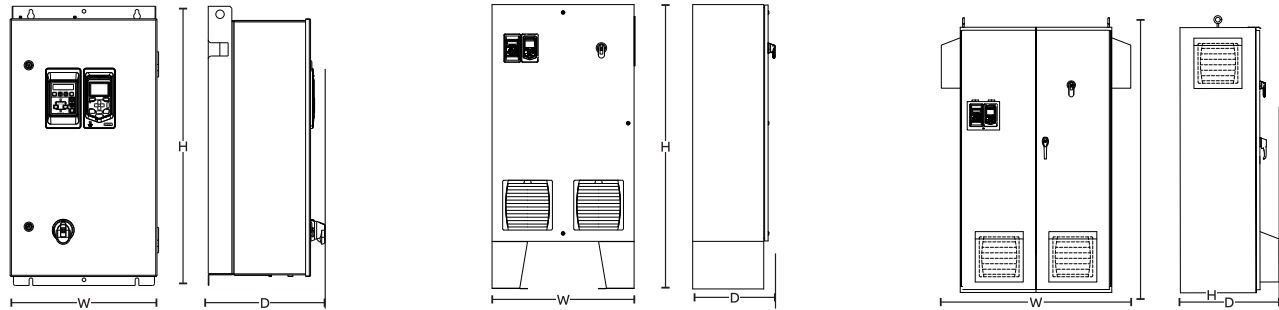
Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)	Dim Ref for +E213
	Current	Power		Dim Ref	Dim Ref	Dim Ref	
	A	HP					
U _i = 500 to 600V. Power ratings are valid at nominal output voltage U _N = 575 V 60 Hz							
ACH580-BDR-02A7-6	2.7	2.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-03A9-6	3.9	3.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-06A1-6	6.1	5.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-09A0-6	9.0	7.5	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-011A-6	11.0	10.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-017A-6	17.0	15.0	R2	Bx1-1	Bx12-1	Bx3R-1	Bx1-1/Bx12-1/Bx3R-1
ACH580-BDR-022A-6	22.0	20.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-027A-6	27.0	25.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-032A-6	32.0	30.0	R3	Bx1-2	Bx12-2	Bx3R-2	Bx1-2/Bx12-2/Bx3R-2
ACH580-BDR-041A-6	41.0	40.0	R5	Bx1-3	Bx12-3	Bx3R-3	Bx3R-3 ²
ACH580-BDR-052A-6	52.0	50.0	R5	Bx1-3	Bx12-3	Bx3R-3	Bx3R-3 ²
ACH580-BDR-062A-6	62.0	60.0	R5	Bx1-3	Bx12-3	Bx3R-3	Bx3R-3 ²
ACH580-BDR-077A-6	77.0	75.0	R5	Bx1-3	Bx12-3	Bx3R-3	Bx3R-3 ²
ACH580-BDR-099A-6	99.0	100.0	R7	Bx1-3	Bx12-3	Bx3R-4	Bx3R-4 ²
ACH580-BDR-125A-6	125.0	125.0	R7	Bx1-3	Bx12-3	Bx3R-4	Bx3R-4 ²
ACH580-BDR-144A-6	144.0	150.0	R8	Bx1-3	Bx12-3	Bx3R-4	Bx3R-4 ²

* Increases one size with E213 and F267

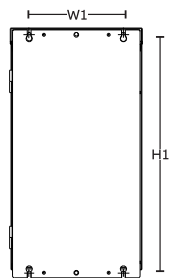
² E213 for Type 3R only, contact factory for Type 1 or 12 for this rating.

Dimensions

ACH580-BCR and ACH580-BDR



Mounting Dimensions



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives UL (NEMA) Type 1												
Bx1-1	33.16	842	17.63	447	13.90	353	84.0	38.1	31.89	810	12.60	320
Bx1-2	40.60	1030	20.70	526	15.30	388	139.0	63.0	39.30	998	15.70	400
Bx1-3	47.72	1212	28.24	717	19.04	484	448.0	203.2	46.26	1175	23.62	600
Bx1-4	61.90	1571	19.30	490	19.00	482	200.0	91.7	60.88	1546	10.00	254
Bx1-5	73.40	1865	34.80	883	20.40	518	740.0	335.7	61.38	1559	26.00	660
Bx1-6	78.00	1981	32.00	813	27.30	693	865.0	392.4	Free standing			
Bx1-7	84.00	2134	48.00	1219	27.30	693	1400.0	635.0				
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives UL (NEMA) Type 12												
Bx12-1	33.16	842	17.63	448	13.90	353	84.00	38.0	31.89	810	12.60	320
Bx12-2	40.60	1030	20.70	526	15.30	388	139.0	63.0	39.30	998	15.70	400
Bx12-3	54.18	1376	28.24	717	19.04	484	448.0	203.2	46.26	1175	23.62	600
Bx12-4	48.00	1219	36.00	914	21.00	553	380.0	172.4	46.50	1181	34.50	876
Bx12-5	72.00	1829	36.00	914	20.90	531	740.0	335.7	58.60	1488	34.50	876
Bx12-6	78.00	1981	32.00	813	27.30	693	865.0	392.4	Free standing			
Bx12-7	84.00	2134	48.00	1219	27.30	693	1400.0	635.0				
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives UL (NEMA) Type 3R												
Bx3R-1	33.40	847	17.70	449	14.00	355	83.8	38.0	31.90	810	12.60	320
Bx3R-2	40.71	1034	20.71	526	15.43	392	193.0	87.5	39.30	998	15.70	400
Bx3R-3	39.40	1001	30.00	762	15.87	403	205.0	93.0	34.50	876	28.50	724
Bx3R-4	51.00	1295	36.00	914	20.37	517	390.0	176.9	46.50	1181	34.50	876
Bx3R-5	78.00	1981	44.00	1118	31.25	794	750.0	335.7	Free standing			
Bx3R-6	84.00	2134	60.00	1524	31.25	794	880.0	399.2				

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

Ratings, types and voltages

ACH580-BCR, E-Clipse bypass drive with input harmonic filter with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-BCR-04A6-2+E211	4.6	1.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-06A6-2+E211	6.6	1.5	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-07A5-2+E211	7.5	2.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-10A6-2+E211	10.6	3.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-017A-2+E211	16.7	5.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-024A-2+E211	24.2	7.5	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-031A-2+E211	30.8	10.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-046A-2+E211	46.2	15.0	R3	Cx1-23	Cx12-24	CX3R-24
ACH580-BCR-059A-2+E211	59.4	20.0	R3	Cx1-23	Cx12-24	CX3R-24
ACH580-BCR-075A-2+E211	74.8	25.0	R4	Cx1-24	Cx12-24	CX3R-24
ACH580-BCR-088A-2+E211	88.0	30.0	R5	Cx1-24	Cx12-24	CX3R-24
ACH580-BCR-114A-2+E211	114.0	40.0	R5	Cx1-24	Cx12-24	CX3R-25
ACH580-BCR-143A-2+E211	143.0	50.0	R6	Cx1-24	Cx12-25	CX3R-25
ACH580-BCR-169A-2+E211	169.0	60.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-BCR-211A-2+E211	211.0	75.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-BCR-273A-2+E211	273.0	100.0	R8	Contact Factory		
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-BCR-02A1-4+E211	2.1	1.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-03A0-4+E211	3.0	1.5	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-03A5-4+E211	3.5	2.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-04A8-4+E211	4.8	3.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-07A6-4+E211	7.6	5.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-012A-4+E211	12.0	7.5	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-014A-4+E211	14.0	10.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-023A-4+E211	23.0	15.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-BCR-027A-4+E211	27.0	20.0	R3	Cx1-23	Cx12-23	CX3R-23
ACH580-BCR-034A-4+E211	34.0	25.0	R3	Cx1-23	Cx12-23	CX3R-23
ACH580-BCR-044A-4+E211	44.0	30.0	R3	Cx1-23	Cx12-24	CX3R-24
ACH580-BCR-052A-4+E211	52.0	40.0	R4	Cx1-24	Cx12-24	CX3R-24
ACH580-BCR-065A-4+E211	65.0	50.0	R4	Cx1-24	Cx12-24	CX3R-24
ACH580-BCR-077A-4+E211	77.0	60.0	R4	Cx1-24	Cx12-24	CX3R-24
ACH580-BCR-096A-4+E211	96.0	75.0	R5	Cx1-24	Cx12-24	CX3R-24
ACH580-BCR-124A-4+E211	124.0	100.0	R6	Cx1-24	Cx12-25	CX3R-25
ACH580-BCR-156A-4+E211	156.0	125.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-BCR-180A-4+E211	180.0	150.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-BCR-240A-4+E211	240.0	200.0	R8	Cx1-29	Cx12-29	CX3R-29
ACH580-BCR-302A-4+E211	302.0	250.0	R9	Cx1-31	Cx12-31	CX3R-32
ACH580-BCR-361A-4+E211	361.0	300.0	R9	Cx1-31	Cx12-31	CX3R-32
ACH580-BCR-414A-4+E211	414.0	350.0	R9	Cx1-31	Cx12-31	CX3R-32

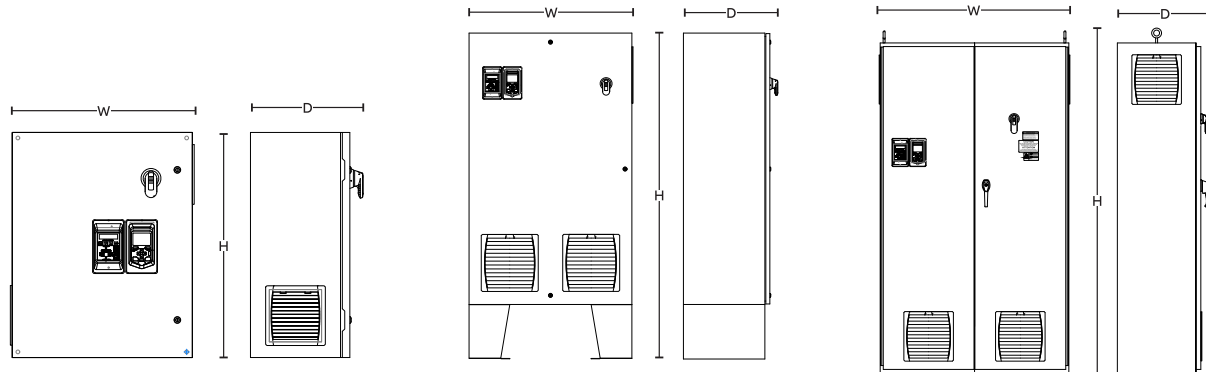
Ratings, types and voltages

ACH580-BDR, E-Cclipse bypass drive with input harmonic filter with non-fused disconnect switch

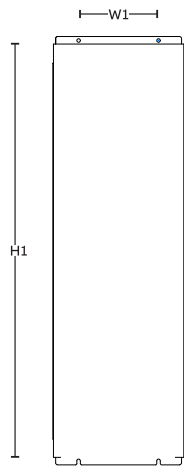
Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-BDR-04A6-2+E211	4.6	1.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-06A6-2+E211	6.6	1.5	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-07A5-2+E211	7.5	2.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-10A6-2+E211	10.6	3.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-017A-2+E211	16.7	5.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-024A-2+E211	24.2	7.5	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-031A-2+E211	30.8	10.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-046A-2+E211	46.2	15.0	R3	Cx1-23	Cx12-24	CX3R-24
ACH580-BDR-059A-2+E211	59.4	20.0	R3	Cx1-23	Cx12-24	CX3R-24
ACH580-BDR-075A-2+E211	74.8	25.0	R4	Cx1-24	Cx12-24	CX3R-24
ACH580-BDR-088A-2+E211	88.0	30.0	R5	Cx1-24	Cx12-24	CX3R-24
ACH580-BDR-114A-2+E211	114.0	40.0	R5	Cx1-24	Cx12-24	CX3R-25
ACH580-BDR-143A-2+E211	143.0	50.0	R6	Cx1-24	Cx12-25	CX3R-25
ACH580-BDR-169A-2+E211	169.0	60.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-BDR-211A-2+E211	211.0	75.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-BDR-273A-2+E211	273.0	100.0	R8	Contact Factory		
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-BDR-02A1-4+E211	2.1	1.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-03A0-4+E211	3.0	1.5	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-03A5-4+E211	3.5	2.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-04A8-4+E211	4.8	3.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-07A6-4+E211	7.6	5.0	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-012A-4+E211	12.0	7.5	R1	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-014A-4+E211	14.0	10.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-023A-4+E211	23.0	15.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-BDR-027A-4+E211	27.0	20.0	R3	Cx1-23	Cx12-23	CX3R-23
ACH580-BDR-034A-4+E211	34.0	25.0	R3	Cx1-23	Cx12-23	CX3R-23
ACH580-BDR-044A-4+E211	44.0	30.0	R3	Cx1-23	Cx12-24	CX3R-24
ACH580-BDR-052A-4+E211	52.0	40.0	R4	Cx1-24	Cx12-24	CX3R-24
ACH580-BDR-065A-4+E211	65.0	50.0	R4	Cx1-24	Cx12-24	CX3R-24
ACH580-BDR-077A-4+E211	77.0	60.0	R4	Cx1-24	Cx12-24	CX3R-24
ACH580-BDR-096A-4+E211	96.0	75.0	R5	Cx1-24	Cx12-24	CX3R-24
ACH580-BDR-124A-4+E211	124.0	100.0	R6	Cx1-24	Cx12-25	CX3R-25
ACH580-BDR-156A-4+E211	156.0	125.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-BDR-180A-4+E211	180.0	150.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-BDR-240A-4+E211	240.0	200.0	R8	Cx1-29	Cx12-29	CX3R-29
ACH580-BDR-302A-4+E211	302.0	250.0	R9	Cx1-31	Cx12-31	CX3R-32
ACH580-BDR-361A-4+E211	361.0	300.0	R9	Cx1-31	Cx12-31	CX3R-32
ACH580-BDR-414A-4+E211	414.0	350.0	R9	Cx1-31	Cx12-31	CX3R-32

Dimensions

ACH580-BCR and ACH580-BDR with input harmonic filter (+E211)



Mounting Dimensions



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives & input harmonic filter, UL (NEMA) Type 1												
CX1-22	53.44	1357	16.30	414	14.36	365	135.0	61.2	52.44	1332	10.00	254
CX1-23	61.87	1571	19.31	490	18.98	482	200.0	90.7	60.88	1546	10.00	254
CX1-24	73.44	1865	34.75	883	20.40	518	400.0	181.4	Free standing			
Cx1-27	84.00	2134	36.00	914	23.30	592	1100.0	499.0				
Cx1-29	84.00	2134	48.00	1219	23.30	592	1200.0	544.0				
Cx1-31	84.00	2134	60.00	1524	23.30	592	1400.0	635.0				
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives & input harmonic filter, UL (NEMA) Type 12												
Cx12-23	36.00	914	30.00	762	15.00	381	170.0	77.1	34.50	876	28.50	724
Cx12-24	48.00	1219	36.00	914	21.00	533	380.0	172.4	Free standing			
Cx12-25	72.00	1829	36.00	914	20.90	531	570.0	258.6				
Cx12-27	84.00	2134	36.00	914	23.30	592	750.0	340.0				
Cx12-29	84.00	2134	48.00	1219	23.30	592	1200.0	544.0				
Cx12-31	84.00	2134	60.00	1524	23.30	592	1400.0	635.0				

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

Ratings, types and voltages

ACH580-BCR, E-Clipse bypass drive with special enclosure with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 4 (+B057)	UL (NEMA) Type 4x* (+B063 +C165)	UL (NEMA) Type 3RXSS* (+B058 +C165)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-BCR-04A6-2	4.6	1.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-06A6-2	6.6	1.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-07A5-2	7.5	2.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-10A6-2	10.6	3.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-017A-2	16.7	5.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-024A-2	24.2	7.5	R2	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-031A-2	30.8	10.0	R2	CX4-11	CX4X-11	CX3RX-12
ACH580-BCR-046A-2	46.2	15.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BCR-059A-2	59.4	20.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BCR-075A-2	74.8	25.0	R4	CX4-12	CX4X-12	CX3RX-13
ACH580-BCR-088A-2	88.0	30.0	R5	CX4-12	CX4X-12	CX3RX-13
ACH580-BCR-114A-2	114.0	40.0	R5	CX4-13	CX4X-13	CX3RX-13
ACH580-BCR-143A-2	143.0	50.0	R6	CX4-15	CX4X-15	CX3RX-14
ACH580-BCR-169A-2	169.0	60.0	R7	CX4-16	CX4X-16	CX3RX-14
ACH580-BCR-211A-2	211.0	75.0	R7	CX4-18	CX4X-18	CX3RX-15
ACH580-BCR-273A-2	273.0	100.0	R8	Contact Factory		
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-BCR-02A1-4	2.1	1.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-03A0-4	3.0	1.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-03A5-4	3.5	2.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-04A8-4	4.8	3.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-07A6-4	7.6	5.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-012A-4	12.0	7.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-014A-4	14.0	10.0	R2	CX4-10	CX4X-10	CX3RX-11
ACH580-BCR-023A-4	23.0	15.0	R2	CX4-11	CX4X-11	CX3RX-11
ACH580-BCR-027A-4	27.0	20.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BCR-034A-4	34.0	25.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BCR-044A-4	44.0	30.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BCR-052A-4	52.0	40.0	R4	CX4-13	CX4X-13	CX3RX-13
ACH580-BCR-065A-4	65.0	50.0	R4	CX4-13	CX4X-13	CX3RX-13
ACH580-BCR-077A-4	77.0	60.0	R4	CX4-14	CX4X-14	CX3RX-13
ACH580-BCR-096A-4	96.0	75.0	R5	CX4-14	CX4X-14	CX3RX-13
ACH580-BCR-124A-4	124.0	100.0	R6	CX4-16	CX4X-16	CX3RX-14
ACH580-BCR-156A-4	156.0	125.0	R7	CX4-17	CX4X-17	CX3RX-14
ACH580-BCR-180A-4	180.0	150.0	R7	CX4-19	CX4X-19	CX3RX-14
ACH580-BCR-240A-4	240.0	200.0	R8	CX4-20	CX4X-20	CX3RX-15

* The ABB design uses 304 stainless steel enclosures. For Drive packages in harsh environments such as coastal areas, ABB recommends 316 stainless steel as a custom option.

Ratings, types and voltages

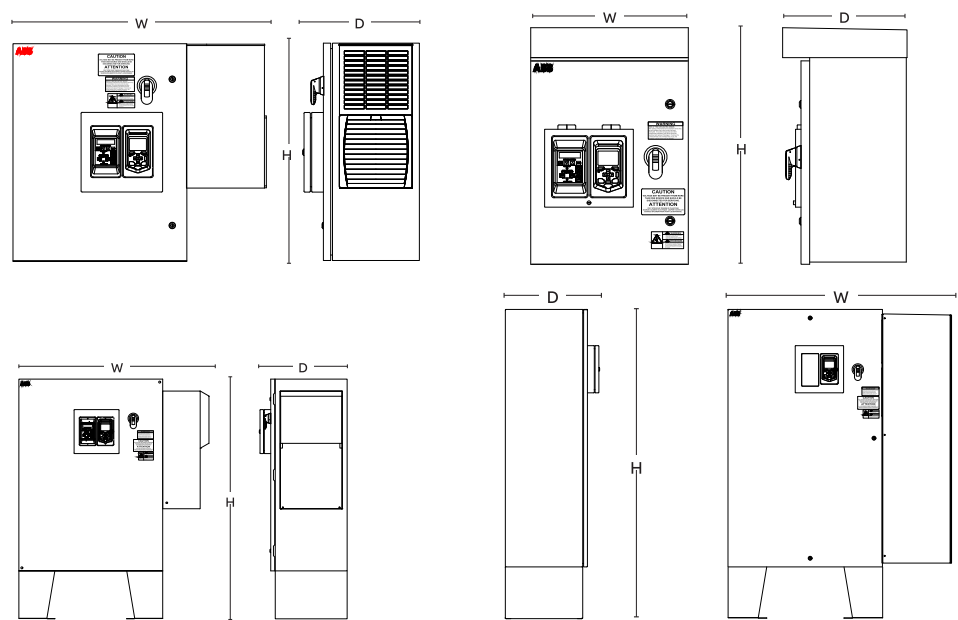
ACH580-BDR, E-Clipse bypass drive with special enclosure with non-fused disconnect switch

Type code	Output Ratings		Frame Size	UL (NEMA) Type 4 (+B057)	UL (NEMA) Type 4x* (+B063 +C165)	UL (NEMA) Type 3RXS* (+B058 +C165)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-BDR-04A6-2	4.6	1.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-06A6-2	6.6	1.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-07A5-2	7.5	2.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-10A6-2	10.6	3.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-017A-2	16.7	5.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-024A-2	24.2	7.5	R2	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-031A-2	30.8	10.0	R2	CX4-11	CX4X-11	CX3RX-12
ACH580-BDR-046A-2	46.2	15.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BDR-059A-2	59.4	20.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BDR-075A-2	74.8	25.0	R4	CX4-12	CX4X-12	CX3RX-13
ACH580-BDR-088A-2	88.0	30.0	R5	CX4-12	CX4X-12	CX3RX-13
ACH580-BDR-114A-2	114.0	40.0	R5	CX4-13	CX4X-13	CX3RX-13
ACH580-BDR-143A-2	143.0	50.0	R6	CX4-15	CX4X-15	CX3RX-14
ACH580-BDR-169A-2	169.0	60.0	R7	CX4-16	CX4X-16	CX3RX-14
ACH580-BDR-211A-2	211.0	75.0	R7	CX4-18	CX4X-18	CX3RX-15
ACH580-BDR-273A-2	273.0	100.0	R8	Contact Factory		
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-BDR-02A1-4	2.1	1.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-03A0-4	3.0	1.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-03A5-4	3.5	2.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-04A8-4	4.8	3.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-07A6-4	7.6	5.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-012A-4	12.0	7.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-014A-4	14.0	10.0	R2	CX4-10	CX4X-10	CX3RX-11
ACH580-BDR-023A-4	23.0	15.0	R2	CX4-11	CX4X-11	CX3RX-11
ACH580-BDR-027A-4	27.0	20.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BDR-034A-4	34.0	25.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BDR-044A-4	44.0	30.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-BDR-052A-4	52.0	40.0	R4	CX4-13	CX4X-13	CX3RX-13
ACH580-BDR-065A-4	65.0	50.0	R4	CX4-13	CX4X-13	CX3RX-13
ACH580-BDR-077A-4	77.0	60.0	R4	CX4-14	CX4X-14	CX3RX-13
ACH580-BDR-096A-4	96.0	75.0	R5	CX4-14	CX4X-14	CX3RX-13
ACH580-BDR-124A-4	124.0	100.0	R6	CX4-16	CX4X-16	CX3RX-14
ACH580-BDR-156A-4	156.0	125.0	R7	CX4-17	CX4X-17	CX3RX-14
ACH580-BDR-180A-4	180.0	150.0	R7	CX4-19	CX4X-19	CX3RX-14
ACH580-BDR-240A-4	240.0	200.0	R8	CX4-20	CX4X-20	CX3RX-15

* The ABB design uses 304 stainless steel enclosures. For Drive packages in harsh environments such as coastal areas, ABB recommends 316 stainless steel as a custom option.

Dimensions

ACH580-BCR and ACH580-BDR with special enclosure
(+B058+C165, +B057, +B063+C165)



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight	
	in	mm	in	mm	in	mm	lb	kg
CX4-10	24	610	25.5	648	15.9	404	120	55
CX4-11	30	762	34.8	884	15.9	404	185	84
CX4-12	36	914	40.8	1036	17.8	452	285	130
CX4-13	36	914	41.6	1057	21.8	554	340	155
CX4-14	36	914	44.6	1133	17.8	452	340	155
CX4-15	60	1524	47.6	1209	21.8	554	415	189
CX4-16	60	1524	50.6	1285	21.8	554	450	205
CX4-17	60	1524	48.8	1240	21.8	554	500	227
CX4-18	72	1829	50.6	1285	21.8	554	575	261
CX4-19	72	1829	50.4	1280	21.8	554	625	284
CX4-20	72	1829	52.1	1323	21.8	554	660	300

Ratings, types and voltages

ACH580-BCR, enclosed with soft start E-Clipse bypass drive with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-BCR-04A6-2+G390	4.6	1.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-06A6-2+G390	6.6	1.5	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-07A5-2+G390	7.5	2.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-10A6-2+G390	10.6	3.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-017A-2+G390	16.7	5.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-024A-2+G390	24.2	7.5	R2	CX1-21	CX12-22	CX3R-22
ACH580-BCR-031A-2+G390	30.8	10.0	R2	CX1-22	CX12-22	CX3R-22
ACH580-BCR-046A-2+G390	46.2	15.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BCR-059A-2+G390	59.4	20.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BCR-075A-2+G390	74.8	25.0	R4	CX1-23	CX12-23	CX3R-23
ACH580-BCR-088A-2+G390	88.0	30.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-BCR-114A-2+G390	114.0	40.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-BCR-143A-2+G390	143.0	50.0	R6	CX1-24	CX12-25	CX3R-25
ACH580-BCR-169A-2+G390	169.0	60.0	R7	CX1-24	CX12-25	CX3R-25
ACH580-BCR-211A-2+G390	211.0	75.0	R7	CX1-27	CX12-27	CX3R-27
ACH580-BCR-273A-2+G390	273.0	100.0	R8	Contact Factory		
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-BCR-02A1-4+G390	2.1	1.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-03A0-4+G390	3.0	1.5	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-03A5-4+G390	3.5	2.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-04A8-4+G390	4.8	3.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-07A6-4+G390	7.6	5.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-012A-4+G390	12.0	7.5	R1	CX1-21	CX12-22	CX3R-22
ACH580-BCR-014A-4+G390	14.0	10.0	R2	CX1-21	CX12-22	CX3R-22
ACH580-BCR-023A-4+G390	23.0	15.0	R2	CX1-21	CX12-22	CX3R-22
ACH580-BCR-027A-4+G390	27.0	20.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BCR-034A-4+G390	34.0	25.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BCR-044A-4+G390	44.0	30.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BCR-052A-4+G390	52.0	40.0	R4	CX1-22	CX12-23	CX3R-23
ACH580-BCR-065A-4+G390	65.0	50.0	R4	CX1-22	CX12-23	CX3R-23
ACH580-BCR-077A-4+G390	77.0	60.0	R4	CX1-23	CX12-23	CX3R-23
ACH580-BCR-096A-4+G390	96.0	75.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-BCR-124A-4+G390	124.0	100.0	R6	CX1-24	CX12-24	CX3R-24
ACH580-BCR-156A-4+G390	156.0	125.0	R7	CX1-24	CX12-25	CX3R-25
ACH580-BCR-180A-4+G390	180.0	150.0	R7	CX1-27	CX12-27	CX3R-27
ACH580-BCR-240A-4+G390	240.0	200.0	R8	CX1-27	CX12-27	CX3R-27
ACH580-BCR-302A-4+G390	302.0	250.0	R9	CX1-31	CX12-31	CX3R-31
ACH580-BCR-361A-4+G390	361.0	300.0	R9	CX1-31	CX12-31	CX3R-31
ACH580-BCR-414A-4+G390	414.0	350.0	R9	CX1-31	CX12-31	CX3R-31

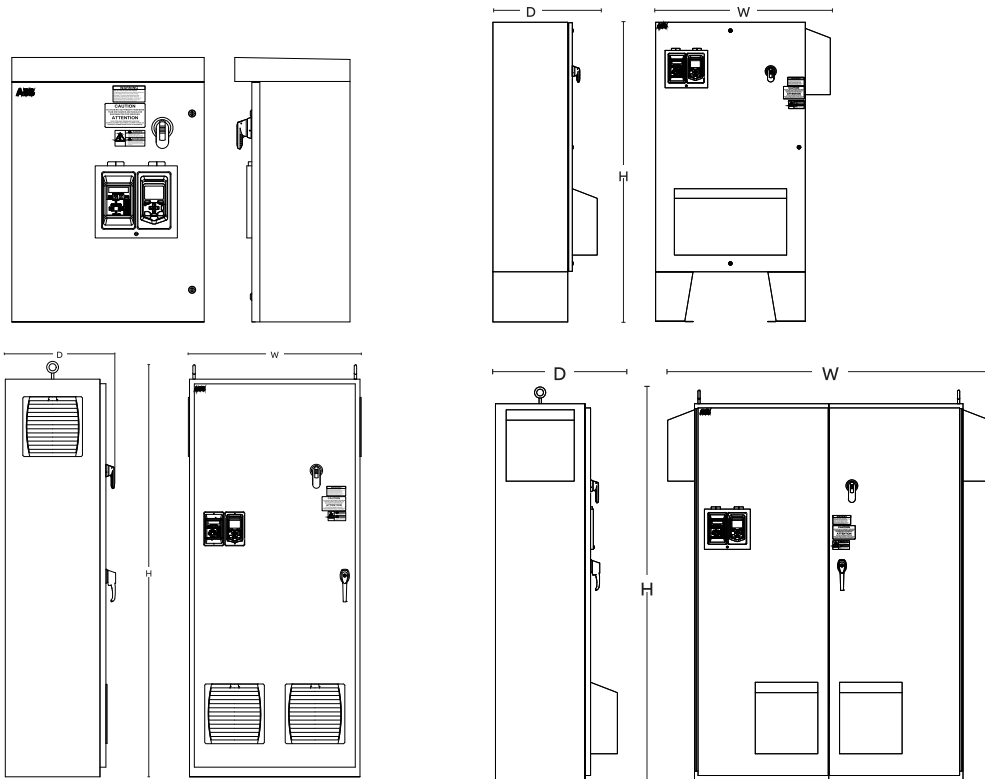
Ratings, types and voltages

ACH580-BDR, enclosed with soft start E-Clipse bypass drive with non-fused disconnect switch

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-BDR-04A6-2+G390	4.6	1.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-06A6-2+G390	6.6	1.5	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-07A5-2+G390	7.5	2.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-10A6-2+G390	10.6	3.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-017A-2+G390	16.7	5.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-024A-2+G390	24.2	7.5	R2	CX1-21	CX12-22	CX3R-22
ACH580-BDR-031A-2+G390	30.8	10.0	R2	CX1-22	CX12-22	CX3R-22
ACH580-BDR-046A-2+G390	46.2	15.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BDR-059A-2+G390	59.4	20.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BDR-075A-2+G390	74.8	25.0	R4	CX1-23	CX12-23	CX3R-23
ACH580-BDR-088A-2+G390	88.0	30.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-BDR-114A-2+G390	114.0	40.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-BDR-143A-2+G390	143.0	50.0	R6	CX1-24	CX12-25	CX3R-25
ACH580-BDR-169A-2+G390	169.0	60.0	R7	CX1-24	CX12-25	CX3R-25
ACH580-BDR-211A-2+G390	211.0	75.0	R7	CX1-27	CX12-27	CX3R-27
ACH580-BDR-273A-2+G390	273.0	100.0	R8	Contact Factory		
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-BDR-02A1-4+G390	2.1	1.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-03A0-4+G390	3.0	1.5	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-03A5-4+G390	3.5	2.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-04A8-4+G390	4.8	3.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-07A6-4+G390	7.6	5.0	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-012A-4+G390	12.0	7.5	R1	CX1-21	CX12-22	CX3R-22
ACH580-BDR-014A-4+G390	14.0	10.0	R2	CX1-21	CX12-22	CX3R-22
ACH580-BDR-023A-4+G390	23.0	15.0	R2	CX1-21	CX12-22	CX3R-22
ACH580-BDR-027A-4+G390	27.0	20.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BDR-034A-4+G390	34.0	25.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BDR-044A-4+G390	44.0	30.0	R3	CX1-22	CX12-23	CX3R-23
ACH580-BDR-052A-4+G390	52.0	40.0	R4	CX1-22	CX12-23	CX3R-23
ACH580-BDR-065A-4+G390	65.0	50.0	R4	CX1-22	CX12-23	CX3R-23
ACH580-BDR-077A-4+G390	77.0	60.0	R4	CX1-23	CX12-23	CX3R-23
ACH580-BDR-096A-4+G390	96.0	75.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-BDR-124A-4+G390	124.0	100.0	R6	CX1-24	CX12-24	CX3R-24
ACH580-BDR-156A-4+G390	156.0	125.0	R7	CX1-24	CX12-25	CX3R-25
ACH580-BDR-180A-4+G390	180.0	150.0	R7	CX1-27	CX12-27	CX3R-27
ACH580-BDR-240A-4+G390	240.0	200.0	R8	CX1-27	CX12-27	CX3R-27
ACH580-BDR-302A-4+G390	302.0	250.0	R9	CX1-31	CX12-31	CX3R-31
ACH580-BDR-361A-4+G390	361.0	300.0	R9	CX1-31	CX12-31	CX3R-31
ACH580-BDR-414A-4+G390	414.0	350.0	R9	CX1-31	CX12-31	CX3R-31

Dimensions

ACH580-BCR and ACH580-BDR with soft starter (+G390)



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives & soft starter, UL (NEMA) Type 1												
CX1-21	36.5	927	13.7	348	13.3	338	75	34	35.5	902	8	203
CX1-22	53.4	1357	16.3	414	14.4	365	135	61	52.4	1332	10	254
CX1-23	61.9	1571	19.3	490	19	482	200	91	60.9	1546	10	154
CX1-24	73.4	1865	34.8	883	20.4	518	400	182	61.4	1559	26	660
CX1-27	84	2134	36	914	23.3	592	1100	500	Freestanding			
CX1-31	84	2134	60	1524	23.3	592	1400	636				
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives & soft starter, UL (NEMA) Type 1												
CX12-22	30	762	24	610	15	381	110	50	28.5	724	22.5	572
CX12-23	36	914	30	762	15	381	170	77	34.5	876	28.5	724
CX12-24	48	1219	36	914	21	533	380	173	46.5	1181	34.5	876
CX12-25	72	1829	36	914	20.9	531	570	259	58.6	1488	34.5	876
CX12-27	84	2134	36	914	23.3	592	750	341	Freestanding			
CX12-31	84	2134	60	1524	23.3	592	1400	636				
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives & soft starter, UL (NEMA) Type 1												
CX3R-22	33	838	24	610	14.4	366	130	59	28.2	724	22.5	572
CX3R-23	39.4	1001	30	762	15.9	404	190	86	34.5	876	28.5	724
CX3R-24	51	1295	36	914	20.4	518	400	182	46.5	1181	34.5	876
CX3R-25	72	1829	42	1067	25.1	638	475	216	58.6	1488	34.5	876
CX3R-27	84	2134	48	1219	27.3	693	600	273	Freestanding			
CX3R-31	84	2134	72	1829	27.3	693	900	409				

Ratings, types and voltages

ACH580-BCR, E-Clipse bypass drive with manual motor protectors with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1		UL (NEMA) Type 12 (+B056)		UL (NEMA) Type 3R (+B058)	
	Current	Power		Dim Ref	Max # of MMPs	Dim Ref	Max # of MMPs	Dim Ref	Max # of MMPs
	A	HP							
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz									
ACH580-BCR-04A6-2+xG405+M6xx	4.6	1.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-06A6-2+xG405+M6xx	6.6	1.5	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-07A5-2+xG405+M6xx	7.5	2.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-10A6-2+xG405+M6xx	10.6	3.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-017A-2+xG405+M6xx	16.7	5.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-024A-2+xG405+M6xx	24.2	7.5	R2	Cx1-21	3	Cx12-22	3	CX3R-22	3
ACH580-BCR-031A-2+xG405+M6xx	30.8	10.0	R2	Cx1-21	3	Cx12-22	3	CX3R-22	3
ACH580-BCR-046A-2+xG405+M6xx	46.2	15.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-059A-2+xG405+M6xx	59.4	20.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-075A-2+xG405+M6xx	74.8	25.0	R4	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-088A-2+xG405+M6xx	88.0	30.0	R5	Cx1-23	7	Cx12-24	15	CX3R-24	15
ACH580-BCR-114A-2+xG405+M6xx	114.0	40.0	R5	Cx1-23	7	Cx12-24	8	CX3R-24	8
ACH580-BCR-143A-2+xG405+M6xx	143.0	50.0	R6	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BCR-169A-2+xG405+M6xx	169.0	60.0	R7	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BCR-211A-2+xG405+M6xx	211.0	75.0	R7	Cx1-24	12	Cx12-25	6	CX3R-25	6
ACH580-BCR-273A-2+xG405+M6xx	273.0	100.0	R8	Contact Factory					
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz									
ACH580-BCR-02A1-4+xG405+M6xx	2.1	1.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-03A0-4+xG405+M6xx	3.0	1.5	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-03A5-4+xG405+M6xx	3.5	2.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-04A8-4+xG405+M6xx	4.8	3.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-07A6-4+xG405+M6xx	7.6	5.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-012A-4+xG405+M6xx	12.0	7.5	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-014A-4+xG405+M6xx	14.0	10.0	R2	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BCR-023A-4+xG405+M6xx	23.0	15.0	R2	Cx1-21	3	Cx12-22	3	CX3R-22	3
ACH580-BCR-027A-4+xG405+M6xx	27.0	20.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-034A-4+xG405+M6xx	34.0	25.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-044A-4+xG405+M6xx	44.0	30.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-052A-4+xG405+M6xx	52.0	40.0	R4	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-065A-4+xG405+M6xx	65.0	50.0	R4	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-077A-4+xG405+M6xx	77.0	60.0	R4	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BCR-096A-4+xG405+M6xx	96.0	75.0	R5	Cx1-23	4	Cx12-24	15	CX3R-24	15
ACH580-BCR-124A-4+xG405+M6xx	124.0	100.0	R6	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BCR-156A-4+xG405+M6xx	156.0	125.0	R7	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BCR-180A-4+xG405+M6xx	180.0	150.0	R7	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BCR-240A-4+xG405+M6xx	240.0	200.0	R8	Cx1-24	6	Cx12-25	6	CX3R-25	6

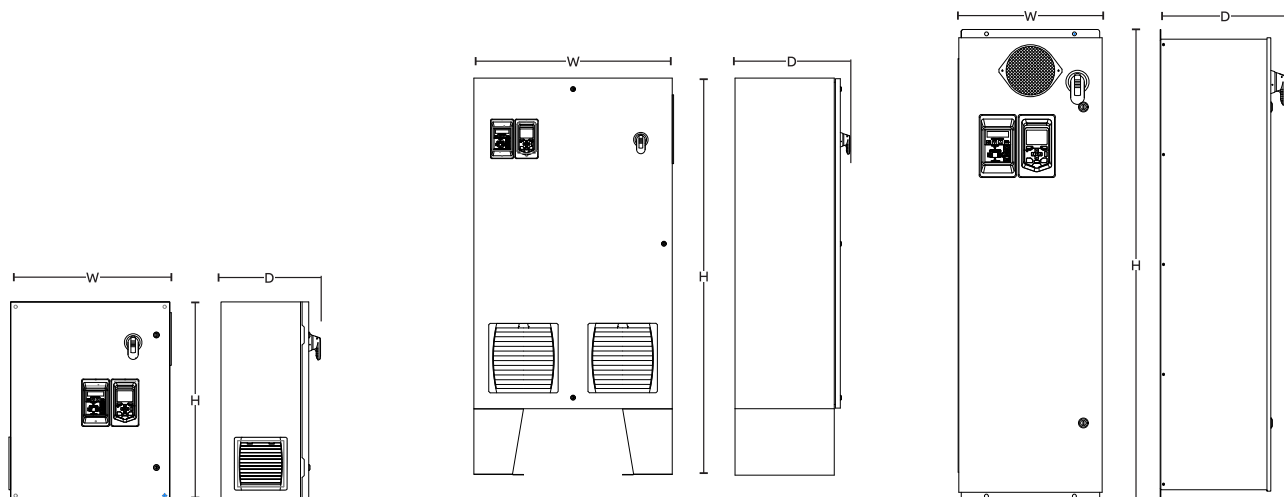
Ratings, types and voltages

ACH580-BDR, E-Cclipse bypass drive with manual motor protectors with non-fused disconnect switch

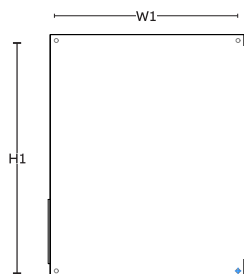
Type code	Output Ratings		Frame Size	UL (NEMA) Type 1		UL (NEMA) Type 12 (+B056)		UL (NEMA) Type 3R (+B058)	
	Current	Power		Dim Ref	Max # of MMPs	Dim Ref	Max # of MMPs	Dim Ref	Max # of MMPs
	A	HP							
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz									
ACH580-BDR-04A6-2+xG405+M6xx	4.6	1.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-06A6-2+xG405+M6xx	6.6	1.5	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-07A5-2+xG405+M6xx	7.5	2.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-10A6-2+xG405+M6xx	10.6	3.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-017A-2+xG405+M6xx	16.7	5.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-024A-2+xG405+M6xx	24.2	7.5	R2	Cx1-21	3	Cx12-22	3	CX3R-22	3
ACH580-BDR-031A-2+xG405+M6xx	30.8	10.0	R2	Cx1-21	3	Cx12-22	3	CX3R-22	3
ACH580-BDR-046A-2+xG405+M6xx	46.2	15.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-059A-2+xG405+M6xx	59.4	20.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-075A-2+xG405+M6xx	74.8	25.0	R4	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-088A-2+xG405+M6xx	88.0	30.0	R5	Cx1-23	7	Cx12-24	15	CX3R-24	15
ACH580-BDR-114A-2+xG405+M6xx	114.0	40.0	R5	Cx1-23	7	Cx12-24	8	CX3R-24	8
ACH580-BDR-143A-2+xG405+M6xx	143.0	50.0	R6	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BDR-169A-2+xG405+M6xx	169.0	60.0	R7	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BDR-211A-2+xG405+M6xx	211.0	75.0	R7	Cx1-24	12	Cx12-25	6	CX3R-25	6
ACH580-BDR-273A-2+xG405+M6xx	273.0	100.0	R8	Contact Factory					
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz									
ACH580-BDR-02A1-4+xG405+M6xx	2.1	1.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-03A0-4+xG405+M6xx	3.0	1.5	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-03A5-4+xG405+M6xx	3.5	2.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-04A8-4+xG405+M6xx	4.8	3.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-07A6-4+xG405+M6xx	7.6	5.0	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-012A-4+xG405+M6xx	12.0	7.5	R1	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-014A-4+xG405+M6xx	14.0	10.0	R2	Cx1-21	4	Cx12-22	4	CX3R-22	4
ACH580-BDR-023A-4+xG405+M6xx	23.0	15.0	R2	Cx1-21	3	Cx12-22	3	CX3R-22	3
ACH580-BDR-027A-4+xG405+M6xx	27.0	20.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-034A-4+xG405+M6xx	34.0	25.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-044A-4+xG405+M6xx	44.0	30.0	R3	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-052A-4+xG405+M6xx	52.0	40.0	R4	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-065A-4+xG405+M6xx	65.0	50.0	R4	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-077A-4+xG405+M6xx	77.0	60.0	R4	Cx1-22	7	Cx12-23	5	CX3R-23	5
ACH580-BDR-096A-4+xG405+M6xx	96.0	75.0	R5	Cx1-23	4	Cx12-24	15	CX3R-24	15
ACH580-BDR-124A-4+xG405+M6xx	124.0	100.0	R6	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BDR-156A-4+xG405+M6xx	156.0	125.0	R7	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BDR-180A-4+xG405+M6xx	180.0	150.0	R7	Cx1-24	12	Cx12-24	8	CX3R-24	8
ACH580-BDR-240A-4+xG405+M6xx	240.0	200.0	R8	Cx1-24	6	Cx12-25	6	CX3R-25	6

Dimensions

ACH580-BCR and ACH580-BDR with manual motor protectors (+xG405+Mxxx)



Mounting Dimensions



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives & manual motor protectors, UL (NEMA) Type 1												
Cx1-21	36.50	927	13.70	348	13.30	338	75.0	34.0	35.50	902	8.00	203
Cx1-22	53.40	1357	16.30	414	14.40	365	135.0	61.0	52.44	1332	10.00	254
Cx1-23	61.90	1571	19.30	490	19.00	482	200.0	91.0	60.88	1546	10.00	254
Cx1-24	73.40	1865	34.80	883	20.40	518	400.0	181.0	Free standing			
ACH580-BCR and ACH580-BDR, E-Clipse bypass drives & manual motor protectors, UL (NEMA) Type 12												
Cx12-22	30.00	762	24.00	610	15.10	383	110.0	50.0	28.50	724	22.50	572
Cx12-23	36.00	914	30.00	762	15.00	381	170.0	77.0	34.50	876	28.50	724
Cx12-24	48.00	1219	36.00	914	21.00	533	380.0	172.0	Free standing			
Cx12-25	72.00	1829	36.00	914	20.90	531	570.0	259.0				

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

Ratings, types and voltages

ACH580-PCR, packaged drive with disconnect means with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)	AC Line Reactor (+E213)
	Current	Power		Dim Ref	Dim Ref	Dim Ref	Dim Ref
	A	HP					
U _N = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz							
ACH580-PCR-04A6-2	4.6	1.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-06A6-2	6.6	1.5	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-07A5-2	7.5	2.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-10A6-2	10.6	3.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-017A-2	16.7	5.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-024A-2	24.2	7.5	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-031A-2	30.8	10.0	R2	Px1-2	Px12-2	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-046A-2	46.2	15.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-059A-2	59.4	20.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-075A-2	74.8	25.0	R4	Px1-4	Px12-4	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-088A-2	88.0	30.0	R5	PxB1-3	PxB12-3	PxB3R-3	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PCR-114A-2	114.0	40.0	R5	PxB1-3	PxB12-3	PxB3R-3	PxB1-4 / PxB12-4 / PxB3R-4
ACH580-PCR-143A-2	143.0	50.0	R6	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PCR-169A-2	169.0	60.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PCR-211A-2	211.0	75.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PCR-273A-2	273.0	100.0	R8	PxB1-3	PxB12-3	PxB3R-4	PxB1-5 / PxB12-5 / PxB3R-4
U _N = 380 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz							
ACH580-PCR-02A1-4	2.1	1.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-03A0-4	3.0	1.5	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-03A5-4	3.5	2.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-04A8-4	4.8	3.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-07A6-4	7.6	5.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-012A-4	12.0	7.5	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-014A-4	14.0	10.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-023A-4	23.0	15.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-027A-4	27.0	20.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-034A-4	34.0	25.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-044A-4	44.0	30.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-052A-4	52.0	40.0	R4	Px1-4	Px12-4	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-065A-4	65.0	50.0	R4	Px1-4	Px12-4	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-077A-4	77.0	60.0	R4	Px1-4	Px12-4	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-096A-4	96.0	75.0	R5	PxB1-3	PxB12-3	PxB3R-3	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PCR-124A-4	124.0	100.0	R6	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PCR-156A-4	156.0	125.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PCR-180A-4	180.0	150.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PCR-240A-4	240.0	200.0	R8	PxB1-3	PxB12-3	PxB3R-4	PxB1-5 / PxB12-5 / PxB3R-4
ACH580-PCR-302A-4	302.0	250.0	R9	PxB1-6	PxB12-6	PxB3R-5	PxB1-6 / PxB12-6 / PxB3R-5
ACH580-PCR-361A-4	361.0	300.0	R9	PxB1-6	PxB12-6	PxB3R-5	PxB1-6 / PxB12-6 / PxB3R-5
ACH580-PCR-414A-4	414.0	350.0	R9	PxB1-6	PxB12-6	PxB3R-5	PxB1-6 / PxB12-6 / PxB3R-5

Ratings, types and voltages

ACH580-PCR, packaged drive with disconnect means with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)	AC Line Reactor (+E213)
	Current	Power		Dim Ref	Dim Ref	Dim Ref	Dim Ref
	A	HP					
U _i = 500 to 600V. Power ratings are valid at nominal output voltage U _N = 575 V 60 Hz							
ACH580-PCR-02A7-6	2.7	2.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-03A9-6	3.9	3.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-06A1-6	6.1	5.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-09A0-6	9.0	7.5	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-011A-6	11.0	10.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-017A-6	17.0	15.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PCR-022A-6	22.0	20.0	R3	Px1-4	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-027A-6	27.0	25.0	R3	Px1-4	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-032A-6	32.0	30.0	R3	Px1-4	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PCR-041A-6	41.0	40.0	R5	Px1-5	PxB12-3	PxB3R-3	PxB3R-3 ⁽²⁾
ACH580-PCR-052A-6	52.0	50.0	R5	Px1-5	PxB12-3	PxB3R-3	PxB3R-3 ⁽²⁾
ACH580-PCR-062A-6	62.0	60.0	R5	Px1-5	PxB12-3	PxB3R-3	PxB3R-3 ⁽²⁾
ACH580-PCR-077A-6	77.0	75.0	R5	Px1-5	PxB12-3	PxB3R-3	PxB3R-3 ⁽²⁾
ACH580-PCR-099A-6	99.0	100.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB3R-4 ⁽²⁾
ACH580-PCR-125A-6	125.0	125.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB3R-4 ⁽²⁾
ACH580-PCR-144A-6	144.0	150.0	R8	PxB1-3	PxB12-3	PxB3R-4	PxB3R-4 ⁽²⁾

¹⁾ See page I-1

²⁾ E213 for Type 3R only, contact factory for Type 1 or 12 for this rating.

Ratings, types and voltages

ACH580-PDR, packaged drive with disconnect means with non-fused disconnect switch

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)	AC Line Reactor (+E213)
	Current A	Power HP		Dim Ref	Dim Ref	Dim Ref	Dim Ref
U _N = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz							
ACH580-PDR-04A6-2	4.6	1.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-06A6-2	6.6	1.5	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-07A5-2	7.5	2.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-10A6-2	10.6	3.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-017A-2	16.7	5.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-024A-2	24.2	7.5	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-031A-2	30.8	10.0	R2	Px1-2	Px12-2	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-046A-2	46.2	15.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-059A-2	59.4	20.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-075A-2	74.8	25.0	R4	Px1-4	Px12-4	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-088A-2	88.0	30.0	R5	PxB1-3	PxB12-3	PxB3R-3	PxB1-4 / PxB12-5 / PxB3R-3
ACH580-PDR-114A-2	114.0	40.0	R5	PxB1-3	PxB12-3	PxB3R-3	PxB1-4 / PxB12-4 / PxB3R-3
ACH580-PDR-143A-2	143.0	50.0	R6	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PDR-169A-2	169.0	60.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PDR-211A-2	211.0	75.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PDR-273A-2	273.0	100.0	R8	PxB1-3	PxB12-3	PxB3R-4	PxB1-5 / PxB12-5 / PxB3R-4
U _N = 380 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz							
ACH580-PDR-02A1-4	2.1	1.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-03A0-4	3.0	1.5	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-03A5-4	3.5	2.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-04A8-4	4.8	3.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-07A6-4	7.6	5.0	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-012A-4	12.0	7.5	R1	Px1-1	Px12-1	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-014A-4	14.0	10.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-023A-4	23.0	15.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-027A-4	27.0	20.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-034A-4	34.0	25.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-044A-4	44.0	30.0	R3	Px1-3	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-052A-4	52.0	40.0	R4	Px1-4	Px12-4	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-065A-4	65.0	50.0	R4	Px1-4	Px12-4	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-077A-4	77.0	60.0	R4	Px1-4	Px12-4	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-096A-4	96.0	75.0	R5	PxB1-3	PxB12-3	PxB3R-3	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PDR-124A-4	124.0	100.0	R6	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PDR-156A-4	156.0	125.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PDR-180A-4	180.0	150.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB1-4 / PxB12-5 / PxB3R-4
ACH580-PDR-240A-4	240.0	200.0	R8	PxB1-3	PxB12-3	PxB3R-4	PxB1-5 / PxB12-5 / PxB3R-4
ACH580-PDR-302A-4	302.0	250.0	R9	PxB1-6	PxB12-6	PxB3R-5	PxB1-6 / PxB12-6 / PxB3R-5
ACH580-PDR-361A-4	361.0	300.0	R9	PxB1-6	PxB12-6	PxB3R-5	PxB1-6 / PxB12-6 / PxB3R-5
ACH580-PDR-414A-4	414.0	350.0	R9	PxB1-6	PxB12-6	PxB3R-5	PxB1-6 / PxB12-6 / PxB3R-5

Ratings, types and voltages

ACH580-PDR, packaged drive with disconnect means with non-fused disconnect switch

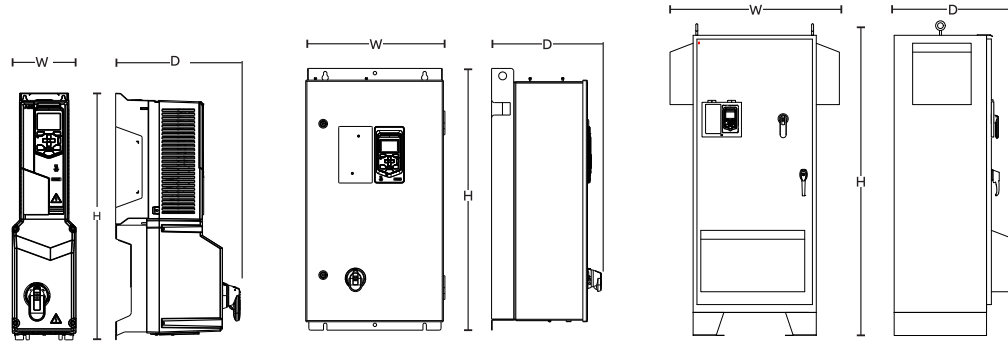
Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)	AC Line Reactor (+E213)
	Current	Power		Dim Ref	Dim Ref	Dim Ref	Dim Ref
	A	HP					
U _i = 500 to 600V. Power ratings are valid at nominal output voltage U _N = 575 V 60 Hz							
ACH580-PDR-02A7-6	2.7	2.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-03A9-6	3.9	3.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-06A1-6	6.1	5.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-09A0-6	9.0	7.5	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-011A-6	11.0	10.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-017A-6	17.0	15.0	R2	Px1-2	Px12-2	PxB3R-1	PxB1-1 / PxB12-1 / PxB3R-1
ACH580-PDR-022A-6	22.0	20.0	R3	Px1-4	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-027A-6	27.0	25.0	R3	Px1-4	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-032A-6	32.0	30.0	R3	Px1-4	Px12-3	PxB3R-2	PxB1-2 / PxB12-2 / PxB3R-2
ACH580-PDR-041A-6	41.0	40.0	R5	Px1-5	PxB12-3	PxB3R-3	PxB3R-3 ²⁾
ACH580-PDR-052A-6	52.0	50.0	R5	Px1-5	PxB12-3	PxB3R-3	PxB3R-3 ²⁾
ACH580-PDR-062A-6	62.0	60.0	R5	Px1-5	PxB12-3	PxB3R-3	PxB3R-3 ²⁾
ACH580-PDR-077A-6	77.0	75.0	R5	Px1-5	PxB12-3	PxB3R-3	PxB3R-3 ²⁾
ACH580-PDR-099A-6	99.0	100.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB3R-4 ²⁾
ACH580-PDR-125A-6	125.0	125.0	R7	PxB1-3	PxB12-3	PxB3R-4	PxB3R-4 ²⁾
ACH580-PDR-144A-6	144.0	150.0	R8	PxB1-3	PxB12-3	PxB3R-4	PxB3R-4 ²⁾

¹⁾ See page 1-1

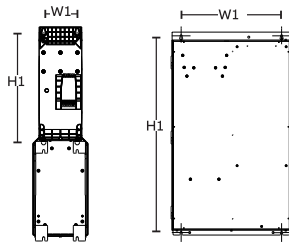
²⁾ E213 for Type 3R only, contact factory for Type 1 or 12 for this rating.

Dimensions

ACH580-PCR and ACH580-PDR



Mounting Dimensions



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
	in	mm	in	mm	in	mm	lb	kg	Height (H1)		Width (W1)	
									in	mm	in	mm
ACH580-PCR and ACH580-PDR,packaged drive with disconnect means, UL (NEMA) Type 1												
Px1-1	24.6	625	6.34	161	12.42	316	18.1	8.2	12.48	317	3.86	98
Px1-2	28.49	725	6.34	161	12.63	321	22	10	16.42	417	3.86	98
Px1-3	34.86	885	8.39	213	13.22	336	39	17.7	18.75	476	6.30	160
Px1-4	40.61	1032	8.39	213	14.26	362	60	27.2	24.49	622	6.30	160
Px1-5	56.82	1443	8.35	212	13.34	338	117	53	55.70	141	6.30	160
PxB1-1	33.16	842	17.63	448	13.9	353	77	35	31.89	810	12.60	320
PxB1-2	40.6	1030	20.71	526	15.3	388	122	55.3	39.30	998	15.70	400
PxB1-3	47.72	1212	28.24	717	19.04	484	359	163	46.26	1175	23.62	600
PxB1-4	61.9	1571	19.3	490	19.0	482	335	152	60.88	1546	10.00	254
PxB1-5	73.4	1864	34.75	883	20.4	518	443	201	61.38	1559	26.00	660
PxB1-6	78	1981	32	813	27.3	693	765	347	Free standing			
ACH580-PCR and ACH580-PDR,packaged drive with disconnect means, UL (NEMA) Type 12												
Px12-1	26.5	673	6.5	164	12.4	316	18.1	8.2	12.48	317	3.86	98
Px12-2	30.22	768	6.5	164	12.64	321	22	10	16.42	417	3.86	98
Px12-3	36.51	927	8.39	213	13.22	336	39	17.7	18.75	476	6.3	160
Px12-4	42.54	1081	8.39	213	14.26	362	60	27.2	24.49	622	6.3	160
PxB12-1	33.16	842	17.63	448	13.9	353	77	35	31.89	810	12.6	320
PxB12-2	40.6	1030	20.71	526	15.3	388	122	55.3	39.3	998	15.7	400
PxB12-5	48	1219	36	914	21	533	443	201	46.5	1181	34.5	876
PxB12-6	78	1981	32	813	27.3	693	765	347	Free standing			
ACH580-PCR and ACH580-PDR,packaged drive with disconnect means, UL (NEMA) Type 3R												
PxB3R-1	33.35	847	17.7	449	13.98	355	77	35	31.9	810	12.6	320
PxB3R-2	40.71	1034	20.71	526	15.4	392	176	79.8	39.3	998	15.7	400
PxB3R-3	39.4	1001	30	762	14.37	365	235	107	34.5	876	28.5	724
PxB3R-4	51	1295	36	914	20.37	517	443	201	46.5	1181	34.5	876
PxB3R-5	78	1981	44	1118	31.25	794	720	327	Free standing			

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

Ratings, types and voltages

ACH580-PCR, packaged drive with redundant drive with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1		UL (NEMA) Type 12 (+B056)		UL (NEMA) Type 3R (+B058)	
	Current	Power		Dim Ref	Max. # of MMPs	Dim Ref	Max. # of MMPs	Dim Ref	Max. # of MMPs
	A	HP							
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz									
ACH580-PCR-04A6-2+C170	4.6	1.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-06A6-2+C170	6.6	1.5	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-07A5-2+C170	7.5	2.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-10A6-2+C170	10.6	3.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-017A-2+C170	16.7	5.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-024A-2+C170	24.2	7.5	R2	Rx1-12	8	Rx12-12	4	RX3R-12	4
ACH580-PCR-031A-2+C170	30.8	10.0	R2	Rx1-12	8	Rx12-12	4	RX3R-12	4
ACH580-PCR-046A-2+C170	46.2	15.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PCR-059A-2+C170	59.4	20.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PCR-075A-2+C170	74.8	25.0	R4	Rx1-13	9	Rx12-13	10	RX3R-13	10
ACH580-PCR-088A-2+C170	88.0	30.0	R5	Rx1-14	18	Rx12-13	10	RX3R-13	10
ACH580-PCR-114A-2+C170	114.0	40.0	R5	Rx1-14	18	Rx12-13	10	RX3R-13	10
ACH580-PCR-143A-2+C170	143.0	50.0	R6	Rx1-14	18	Rx12-14	17	RX3R-14	17
ACH580-PCR-169A-2+C170	169.0	60.0	R7	Rx1-15	17	Rx12-15	17	RX3R-15	17
ACH580-PCR-211A-2+C170	211.0	75.0	R7	Rx1-15	17	Rx12-15	17	RX3R-15	17
ACH580-PCR-273A-2+C170	273.0	100.0	R8	Rx1-15	17	Rx12-15	17	RX3R-15	17
U _i = 380 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz									
ACH580-PCR-02A1-4+C170	2.1	1.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-03A0-4+C170	3.0	1.5	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-03A5-4+C170	3.5	2.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-04A8-4+C170	4.8	3.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-07A6-4+C170	7.6	5.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-012A-4+C170	12.0	7.5	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PCR-014A-4+C170	14.0	10.0	R2	Rx1-12	8	Rx12-12	4	RX3R-12	4
ACH580-PCR-023A-4+C170	23.0	15.0	R2	Rx1-12	8	Rx12-12	4	RX3R-12	4
ACH580-PCR-027A-4+C170	27.0	20.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PCR-034A-4+C170	34.0	25.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PCR-044A-4+C170	44.0	30.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PCR-052A-4+C170	52.0	40.0	R4	Rx1-13	9	Rx12-13	10	RX3R-13	10
ACH580-PCR-065A-4+C170	65.0	50.0	R4	Rx1-13	9	Rx12-13	10	RX3R-13	10
ACH580-PCR-077A-4+C170	77.0	60.0	R4	Rx1-13	9	Rx12-13	10	RX3R-13	10
ACH580-PCR-096A-4+C170	96.0	75.0	R5	Rx1-14	18	Rx12-13	10	RX3R-13	10
ACH580-PCR-124A-4+C170	124.0	100.0	R6	Rx1-14	18	Rx12-14	17	RX3R-14	17
ACH580-PCR-156A-4+C170	156.0	125.0	R7	Rx1-15	17	Rx12-15	17	RX3R-15	17
ACH580-PCR-180A-4+C170	180.0	150.0	R7	Rx1-15	17	Rx12-15	17	RX3R-15	17
ACH580-PCR-240A-4+C170	240.0	200.0	R8	Rx1-15	17	Rx12-15	17	RX3R-15	17

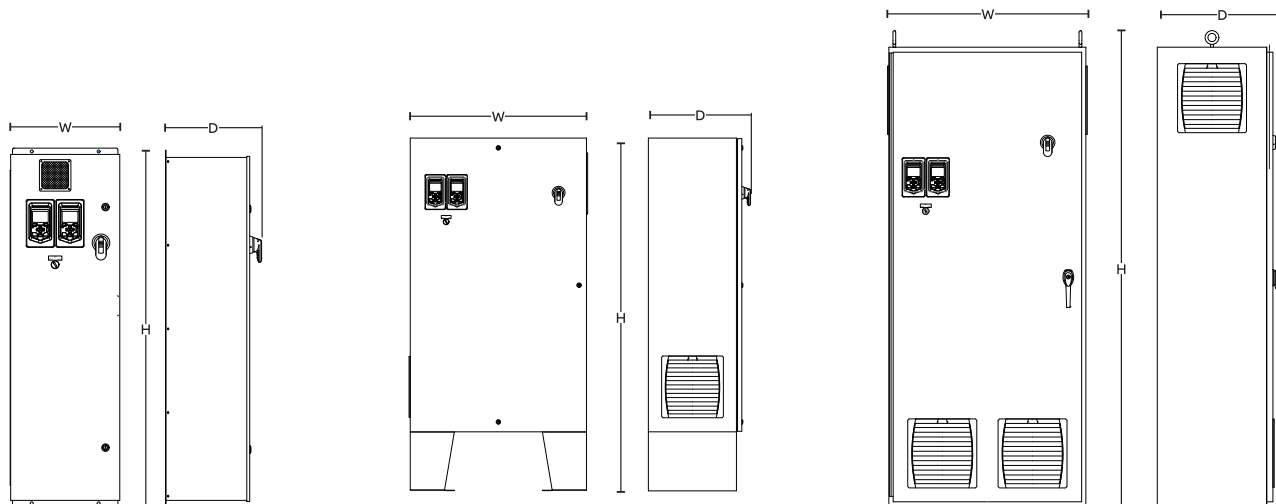
Ratings, types and voltages

ACH580-PDR, packaged drive with redundant drive with non-fused disconnect switch

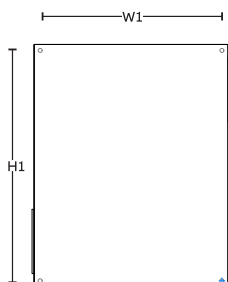
Type code	Output Ratings		Frame Size	UL (NEMA) Type 1		UL (NEMA) Type 12 (+B056)		UL (NEMA) Type 3R (+B058)	
	Current	Power		Dim Ref	Max. # of MMPs	Dim Ref	Max. # of MMPs	Dim Ref	Max # of MMPs
	A	HP							
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz									
ACH580-PDR-04A6-2+C170	4.6	1.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-06A6-2+C170	6.6	1.5	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-07A5-2+C170	7.5	2.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-10A6-2+C170	10.6	3.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-017A-2+C170	16.7	5.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-024A-2+C170	24.2	7.5	R2	Rx1-12	8	Rx12-12	4	RX3R-12	4
ACH580-PDR-031A-2+C170	30.8	10.0	R2	Rx1-12	8	Rx12-12	4	RX3R-12	4
ACH580-PDR-046A-2+C170	46.2	15.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PDR-059A-2+C170	59.4	20.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PDR-075A-2+C170	74.8	25.0	R4	Rx1-13	9	Rx12-13	10	RX3R-13	10
ACH580-PDR-088A-2+C170	88.0	30.0	R5	Rx1-14	18	Rx12-13	10	RX3R-13	10
ACH580-PDR-114A-2+C170	114.0	40.0	R5	Rx1-14	18	Rx12-13	10	RX3R-13	10
ACH580-PDR-143A-2+C170	143.0	50.0	R6	Rx1-14	18	Rx12-14	17	RX3R-14	17
ACH580-PDR-169A-2+C170	169.0	60.0	R7	Rx1-15	17	Rx12-15	17	RX3R-15	17
ACH580-PDR-211A-2+C170	211.0	75.0	R7	Rx1-15	17	Rx12-15	17	RX3R-15	17
ACH580-PDR-273A-2+C170	273.0	100.0	R8	Rx1-15	17	Rx12-15	17	RX3R-15	17
U _i = 380 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz									
ACH580-PDR-02A1-4+C170	2.1	1.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-03A0-4+C170	3.0	1.5	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-03A5-4+C170	3.5	2.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-04A8-4+C170	4.8	3.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-07A6-4+C170	7.6	5.0	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-012A-4+C170	12.0	7.5	R1	Rx1-12	8	Rx12-11	4	RX3R-11	4
ACH580-PDR-014A-4+C170	14.0	10.0	R2	Rx1-12	8	Rx12-12	4	RX3R-12	4
ACH580-PDR-023A-4+C170	23.0	15.0	R2	Rx1-12	8	Rx12-12	4	RX3R-12	4
ACH580-PDR-027A-4+C170	27.0	20.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PDR-034A-4+C170	34.0	25.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PDR-044A-4+C170	44.0	30.0	R3	Rx1-13	9	Rx12-12	4	RX3R-12	4
ACH580-PDR-052A-4+C170	52.0	40.0	R4	Rx1-13	9	Rx12-13	10	RX3R-13	10
ACH580-PDR-065A-4+C170	65.0	50.0	R4	Rx1-13	9	Rx12-13	10	RX3R-13	10
ACH580-PDR-077A-4+C170	77.0	60.0	R4	Rx1-13	9	Rx12-13	10	RX3R-13	10
ACH580-PDR-096A-4+C170	96.0	75.0	R5	Rx1-14	18	Rx12-13	10	RX3R-13	10
ACH580-PDR-124A-4+C170	124.0	100.0	R6	Rx1-14	18	Rx12-14	17	RX3R-14	17
ACH580-PDR-156A-4+C170	156.0	125.0	R7	Rx1-15	17	Rx12-15	17	RX3R-15	17
ACH580-PDR-180A-4+C170	180.0	150.0	R7	Rx1-15	17	Rx12-15	17	RX3R-15	17
ACH580-PDR-240A-4+C170	240.0	200.0	R8	Rx1-15	17	Rx12-15	17	RX3R-15	17

Dimensions

ACH580-PCR and ACH580-PDR with redundant drive



Mounting Dimensions



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580-PCR and ACH580-PDR redundant drive with disconnect means, UL (NEMA) Type 1												
Rx1-12	53.44	1357	16.3	414	14.36	365	125	57	52.4	1332	10	254
Rx1-13	61.87	1571	19.31	490	18.98	482	250	113	60.9	1546	10	254
Rx1-14	73.44	1865	34.75	883	20.4	518	375	170	Free standing		Free standing	
Rx1-15	84	2134	36	914	22.9	582	775	352				
ACH580-PCR and ACH580-PDR redundant drive with disconnect means, UL (NEMA) Type 12												
Rx12-11	30	762	24	610	15.08	383	125	57	28.5	724	22.5	572
Rx12-12	36	914	30	762	15.08	383	175	79	34.5	876	28.5	724
Rx12-13	48	1219	36	914	21	533	350	159	46.5	1181	34.5	876
Rx12-14	72	1829	36	914	20.9	531	375	170	Free standing		Free standing	
Rx12-15	84	2134	36	914	22.9	582	775	352				
ACH580-PCR and ACH580-PDR redundant drive with disconnect means, UL (NEMA) Type 3R												
RX3R-11	33	838	24	610	14.4	366	125	57	28.5	724	22.5	572
RX3R-12	39	991	30	762	14.4	365	185	84	34.5	876	28.5	724
RX3R-13	51	1295	36	914	20.4	518	350	159	46.5	1181	34.5	876
RX3R-14	72	1829	42	1067	25.1	638	530	241	58.6	1488	34.5	876
RX3R-15	84	2134	48	1219	27.3	692	775	352	N/A		N/A	
RX3R-16	84	2134	52	1321	27.3	692	825	375				

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

Ratings, types and voltages

ACH580-PCR, packaged drive with input harmonic filter with circuit breaker

Type code	Output Ratings ¹⁾		Frame Size	UL (NEMA)	UL (NEMA)	UL (NEMA)
	Current	Power		Type 1	Type 12 (+B056)	Type 3R (+B058)
				Dim Ref	Dim Ref	Dim Ref
AHP						
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-PCR-04A6-2+E211	4.6	1.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-06A6-2+E211	6.6	1.5	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-07A5-2+E211	7.5	2.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-10A6-2+E211	10.6	3.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-017A-2+E211	16.7	5.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-024A-2+E211	24.2	7.5	R2	CX1-22	CX12-23	CX3R-23
ACH580-PCR-031A-2+E211	30.8	10.0	R2	CX1-22	CX12-23	CX3R-23
ACH580-PCR-046A-2+E211	46.2	15.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PCR-059A-2+E211	59.4	20.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PCR-075A-2+E211	74.8	25.0	R4	CX1-23	CX12-24	CX3R-24
ACH580-PCR-088A-2+E211	88.0	30.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-PCR-114A-2+E211	114.0	40.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-PCR-143A-2+E211	143.0	50.0	R6	CX1-24	CX12-25	CX3R-25
ACH580-PCR-169A-2+E211	169.0	60.0	R7	CX1-24	CX12-27	CX3R-27
ACH580-PCR-211A-2+E211	211.0	75.0	R7	CX1-27	CX12-27	CX3R-27
ACH580-PCR-273A-2+E211	273.0	100.0	R8	CX1-27	CX12-27	CX3R-27
U ₁ = 380 to 480V. Power ratings are valid at nominal output voltage UN = 460 V 60 Hz						
ACH580-PCR-02A1-4+E211	2.1	1.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-03A0-4+E211	3.0	1.5	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-03A5-4+E211	3.5	2.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-04A8-4+E211	4.8	3.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-07A6-4+E211	7.6	5.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-012A-4+E211	12.0	7.5	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-014A-4+E211	14.0	10.0	R2	CX1-22	CX12-23	CX3R-23
ACH580-PCR-023A-4+E211	23.0	15.0	R2	CX1-22	CX12-23	CX3R-23
ACH580-PCR-027A-4+E211	27.0	20.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PCR-034A-4+E211	34.0	25.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PCR-044A-4+E211	44.0	30.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PCR-052A-4+E211	52.0	40.0	R4	CX1-23	CX12-24	CX3R-24
ACH580-PCR-065A-4+E211	65.0	50.0	R4	CX1-23	CX12-24	CX3R-24
ACH580-PCR-077A-4+E211	77.0	60.0	R4	CX1-23	CX12-24	CX3R-24
ACH580-PCR-096A-4+E211	96.0	75.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-PCR-124A-4+E211	124.0	100.0	R6	CX1-24	CX12-24	CX3R-24
ACH580-PCR-156A-4+E211	156.0	125.0	R7	CX1-24	CX12-25	CX3R-25
ACH580-PCR-180A-4+E211	180.0	150.0	R7	CX1-24	CX12-25	CX3R-27
ACH580-PCR-240A-4+E211	240.0	200.0	R8	CX1-27	CX12-27	CX3R-27
ACH580-PCR-302A-4+E211	302.0	250.0	R9	CX1-30	CX12-30	CX3R-30
ACH580-PCR-361A-4+E211	361.0	300.0	R9	CX1-30	CX12-30	CX3R-30
ACH580-PCR-414A-4+E211	414.0	350.0	R9	CX1-30	CX12-30	CX3R-30

1) See notes and definitions on page 1

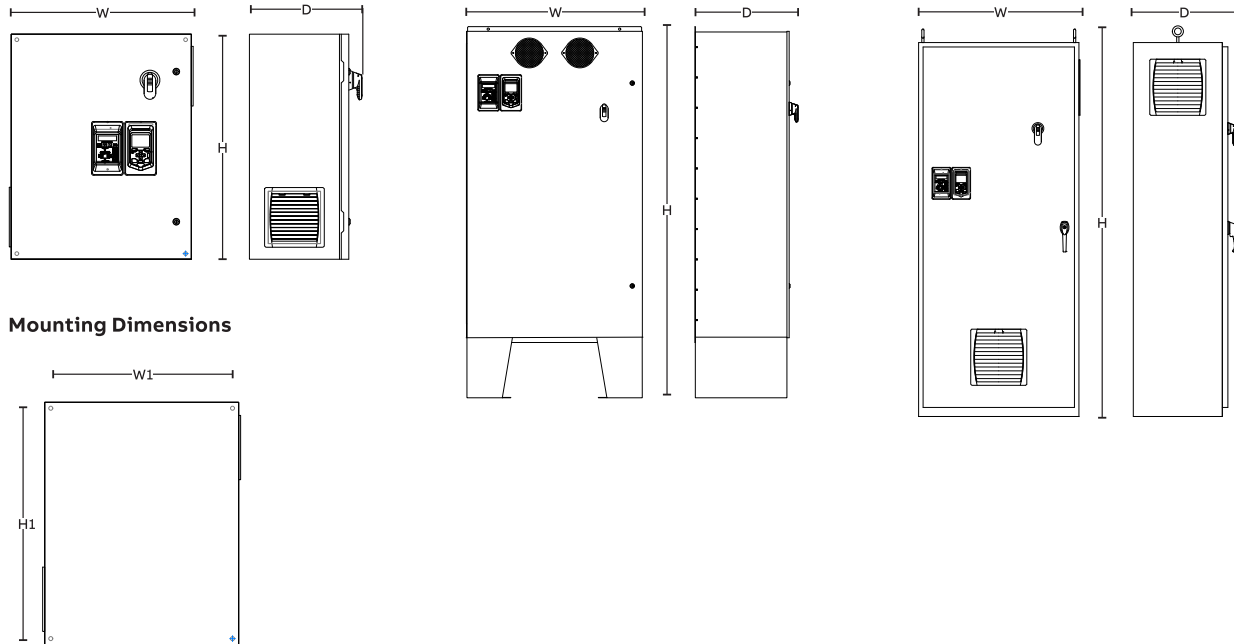
Ratings, types and voltages

ACH580-PDR, packaged drive with input harmonic filter with non-fused disconnect switch

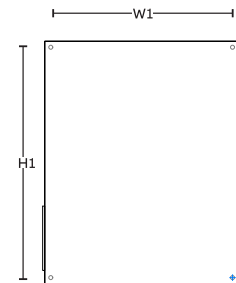
Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-PDR-04A6-2+E211	4.6	1.0	R1	Cx1-22	Cx12-22	CX3R-23
ACH580-PDR-06A6-2+E211	6.6	1.5	R1	Cx1-22	Cx12-22	CX3R-23
ACH580-PDR-07A5-2+E211	7.5	2.0	R1	Cx1-22	Cx12-22	CX3R-23
ACH580-PDR-10A6-2+E211	10.6	3.0	R1	Cx1-22	Cx12-22	CX3R-23
ACH580-PDR-017A-2+E211	16.7	5.0	R1	Cx1-22	Cx12-22	CX3R-23
ACH580-PDR-024A-2+E211	24.2	7.5	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-PDR-031A-2+E211	30.8	10.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-PDR-046A-2+E211	46.2	15.0	R3	Cx1-23	Cx12-23	CX3R-24
ACH580-PDR-059A-2+E211	59.4	20.0	R3	Cx1-23	Cx12-23	CX3R-24
ACH580-PDR-075A-2+E211	74.8	25.0	R4	Cx1-23	Cx12-24	CX3R-24
ACH580-PDR-088A-2+E211	88.0	30.0	R5	Cx1-24	Cx12-24	CX3R-24
ACH580-PDR-114A-2+E211	114.0	40.0	R5	Cx1-24	Cx12-24	CX3R-25
ACH580-PDR-143A-2+E211	143.0	50.0	R6	Cx1-24	Cx12-25	CX3R-25
ACH580-PDR-169A-2+E211	169.0	60.0	R7	Cx1-24	Cx12-27	CX3R-27
ACH580-PDR-211A-2+E211	211.0	75.0	R7	Cx1-27	Cx12-27	CX3R-27
ACH580-PDR-273A-2+E211	273.0	100.0	R8	Cx1-27	Cx12-27	CX3R-29
U _i = 380 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-PDR-02A1-4+E211	2.1	1.0	R1	Cx1-22	Cx12-22	CX3R-22
ACH580-PDR-03A0-4+E211	3.0	1.5	R1	Cx1-22	Cx12-22	CX3R-22
ACH580-PDR-03A5-4+E211	3.5	2.0	R1	Cx1-22	Cx12-22	CX3R-22
ACH580-PDR-04A8-4+E211	4.8	3.0	R1	Cx1-22	Cx12-22	CX3R-22
ACH580-PDR-07A6-4+E211	7.6	5.0	R1	Cx1-22	Cx12-22	CX3R-22
ACH580-PDR-012A-4+E211	12.0	7.5	R1	Cx1-22	Cx12-22	CX3R-22
ACH580-PDR-014A-4+E211	14.0	10.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-PDR-023A-4+E211	23.0	15.0	R2	Cx1-22	Cx12-23	CX3R-23
ACH580-PDR-027A-4+E211	27.0	20.0	R3	Cx1-23	Cx12-23	CX3R-23
ACH580-PDR-034A-4+E211	34.0	25.0	R3	Cx1-23	Cx12-23	CX3R-23
ACH580-PDR-044A-4+E211	44.0	30.0	R3	Cx1-23	Cx12-23	CX3R-23
ACH580-PDR-052A-4+E211	52.0	40.0	R4	Cx1-23	Cx12-24	CX3R-24
ACH580-PDR-065A-4+E211	65.0	50.0	R4	Cx1-23	Cx12-24	CX3R-24
ACH580-PDR-077A-4+E211	77.0	60.0	R4	Cx1-23	Cx12-24	CX3R-24
ACH580-PDR-096A-4+E211	96.0	75.0	R5	Cx1-24	Cx12-24	CX3R-24
ACH580-PDR-124A-4+E211	124.0	100.0	R6	Cx1-24	Cx12-24	CX3R-24
ACH580-PDR-156A-4+E211	156.0	125.0	R7	Cx1-25	Cx12-25	CX3R-25
ACH580-PDR-180A-4+E211	180.0	150.0	R7	Cx1-25	Cx12-25	CX3R-27
ACH580-PDR-240A-4+E211	240.0	200.0	R8	Cx1-27	Cx12-27	CX3R-27
ACH580-PDR-302A-4+E211	302.0	250.0	R9	Cx1-30	Cx12-30	CX3R-30
ACH580-PDR-361A-4+E211	361.0	300.0	R9	Cx1-30	Cx12-30	CX3R-30
ACH580-PDR-414A-4+E211	414.0	350.0	R9	Cx1-30	Cx12-30	CX3R-30

Dimensions

ACH580-PCR and ACH580-PDR with input harmonic filter



Mounting Dimensions



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580-PCR and ACH580-PDR, drive with input disconnect and input harmonic filter, UL (NEMA) Type 1												
Cx1-22	53.44	1357	16.3	414	14.36	365	135	61.2	52.44	1332	10	254
Cx1-23	61.87	1571	19.31	490	18.98	482	200	90.7	60.88	1546	10	254
Cx1-24	73.44	1865	34.75	883	20.4	518	400	181.4	Free standing		Free standing	
Cx1-25	72	1829	36	914	20.9	531	570	258.6				
Cx1-27	84	2134	36	914	23.3	592	1100	499				
Cx1-30	84	2134	48	1219	27.3	693	1300	590				
ACH580-PCR and ACH580-PDR, drive with input disconnect and input harmonic filter, UL (NEMA) Type 12												
Cx12-22	30	762	24	610	15.08	383	110	49.9	28.5	724	22.5	572
Cx12-23	36	914	30	762	15	381	170	77.1	34.5	876	28.5	724
Cx12-24	48	1219	36	914	21	533	380	172.4	Free standing		Free standing	
Cx12-25	72	1829	36	914	20.9	531	570	258.6				
Cx12-27	84	2134	36	914	23.3	592	750	340				
Cx12-30	84	2134	48	1219	27.3	693	1400	635				
ACH580-PCR and ACH580-PDR, drive with input disconnect and input harmonic filter, UL (NEMA) Type 3R												
CX3R-22	33	84	24	61	14.4	37	130	59	28.5	72	22.5	57
CX3R-23	39.4	100	30	76	15.9	40	190	86	34.5	88	28.5	72
CX3R-24	51	130	36	91	20.4	52	225	102	46.5	118	34.5	88
CX3R-25	72	183	42	107	25.1	64	425	193	58.5	149	34.5	88
CX3R-26	78	198	44	112	31.3	80	600	273	N/A		N/A	
CX3R-27	84	213	48	122	27.3	69	750	341				
CX3R-28	84	213	52	132	27.3	69	825	375				
CX3R-29	84	213	60	152	27.3	69	1050	477				
CX3R-30	84	213	68	173	35.3	90	1350	614				
CX3R-31	84	213	72	183	27.3	69	1425	648				
CX3R-32	84	213	80	203	31.3	80	1500	682				

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

Ratings, types and voltages

ACH580-PCR, packaged drive with special enclosure with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 4 (+B057)	UL (NEMA) Type 4X* (+B063 +C165)	UL (NEMA) Type 3RX5S* (+B058 +C165)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-PCR-04A6-2	4.6	1.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-06A6-2	6.6	1.5	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-07A5-2	7.5	2.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-10A6-2	10.6	3.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-017A-2	16.7	5.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PCR-024A-2	24.2	7.5	R2	CX1-22	CX12-23	CX3R-23
ACH580-PCR-031A-2	30.8	10.0	R2	CX1-22	CX12-23	CX3R-23
ACH580-PCR-046A-2	46.2	15.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PCR-059A-2	59.4	20.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PCR-075A-2	74.8	25.0	R4	CX1-23	CX12-24	CX3R-24
ACH580-PCR-088A-2	88.0	30.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-PCR-114A-2	114.0	40.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-PCR-143A-2	143.0	50.0	R6	CX1-24	CX12-25	CX3R-25
ACH580-PCR-169A-2	169.0	60.0	R7	CX1-24	CX12-27	CX3R-27
ACH580-PCR-211A-2	211.0	75.0	R7	CX1-27	CX12-27	CX3R-27
ACH580-PCR-273A-2	273.0	100.0	R8	CX1-27	CX12-27	CX3R-27
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-PCR-02A1-4	2.1	1.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PCR-03A0-4	3.0	1.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PCR-03A5-4	3.5	2.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PCR-04A8-4	4.8	3.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PCR-07A6-4	7.6	5.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PCR-012A-4	12.0	7.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PCR-014A-4	14.0	10.0	R2	CX4-10	CX4X-10	CX3RX-11
ACH580-PCR-023A-4	23.0	15.0	R2	CX4-11	CX4X-11	CX3RX-11
ACH580-PCR-027A-4	27.0	20.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-PCR-034A-4	34.0	25.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-PCR-044A-4	44.0	30.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-PCR-052A-4	52.0	40.0	R4	CX4-13	CX4X-13	CX3RX-13
ACH580-PCR-065A-4	65.0	50.0	R4	CX4-13	CX4X-13	CX3RX-13
ACH580-PCR-077A-4	77.0	60.0	R4	CX4-14	CX4X-14	CX3RX-13
ACH580-PCR-096A-4	96.0	75.0	R5	CX4-14	CX4X-14	CX3RX-13
ACH580-PCR-124A-4	124.0	100.0	R6	CX4-16	CX4X-16	CX3RX-14
ACH580-PCR-156A-4	156.0	125.0	R7	CX4-17	CX4X-17	CX3RX-14
ACH580-PCR-180A-4	180.0	150.0	R7	CX4-19	CX4X-19	CX3RX-14
ACH580-PCR-240A-4	240.0	200.0	R8	CX4-20	CX4X-20	CX3RX-15

* The ABB design uses 304 stainless steel enclosures. For Drive packages in harsh environments such as coastal areas, ABB recommends 316 stainless steel as a custom option.

Ratings, types and voltages

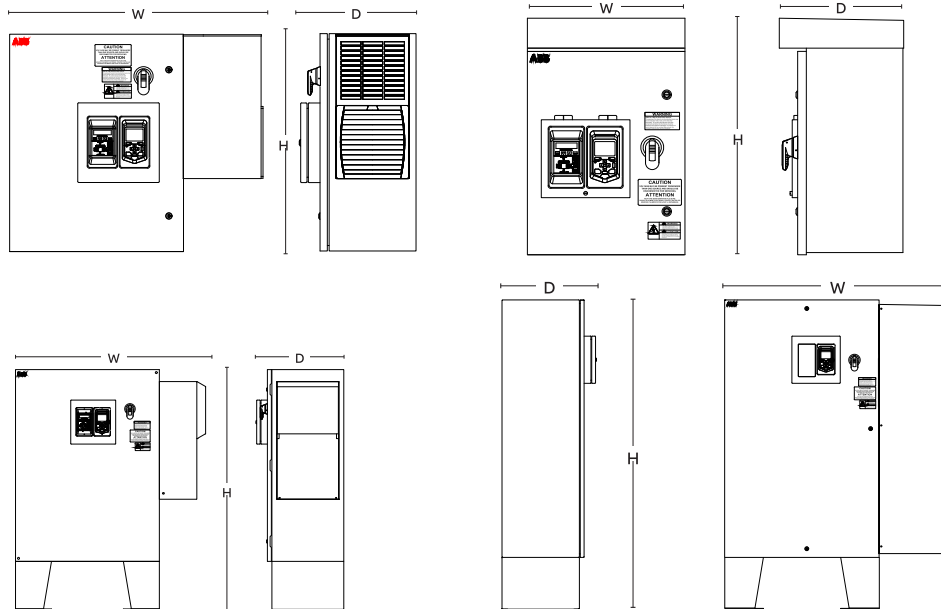
ACH580-PDR, packaged drive with special enclosure with non-fused disconnect switch

Type code	Output Ratings		Frame Size	UL (NEMA) Type 4 (+B057)	UL (NEMA) Type 4x* (+B063 +C165)	UL (NEMA) Type 3RXSS* (+B058 +C165)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz						
ACH580-PDR-04A6-2	4.6	1.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PDR-06A6-2	6.6	1.5	R1	CX1-22	CX12-22	CX3R-22
ACH580-PDR-07A5-2	7.5	2.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PDR-10A6-2	10.6	3.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PDR-017A-2	16.7	5.0	R1	CX1-22	CX12-22	CX3R-22
ACH580-PDR-024A-2	24.2	7.5	R2	CX1-22	CX12-23	CX3R-23
ACH580-PDR-031A-2	30.8	10.0	R2	CX1-22	CX12-23	CX3R-23
ACH580-PDR-046A-2	46.2	15.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PDR-059A-2	59.4	20.0	R3	CX1-23	CX12-23	CX3R-23
ACH580-PDR-075A-2	74.8	25.0	R4	CX1-23	CX12-24	CX3R-24
ACH580-PDR-088A-2	88.0	30.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-PDR-114A-2	114.0	40.0	R5	CX1-24	CX12-24	CX3R-24
ACH580-PDR-143A-2	143.0	50.0	R6	CX1-24	CX12-25	CX3R-25
ACH580-PDR-169A-2	169.0	60.0	R7	CX1-24	CX12-27	CX3R-27
ACH580-PDR-211A-2	211.0	75.0	R7	CX1-27	CX12-27	CX3R-27
ACH580-PDR-273A-2	273.0	100.0	R8	CX1-27	CX12-27	CX3R-27
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-PDR-02A1-4	2.1	1.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PDR-03A0-4	3.0	1.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PDR-03A5-4	3.5	2.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PDR-04A8-4	4.8	3.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PDR-07A6-4	7.6	5.0	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PDR-012A-4	12.0	7.5	R1	CX4-10	CX4X-10	CX3RX-11
ACH580-PDR-014A-4	14.0	10.0	R2	CX4-10	CX4X-10	CX3RX-11
ACH580-PDR-023A-4	23.0	15.0	R2	CX4-11	CX4X-11	CX3RX-11
ACH580-PDR-027A-4	27.0	20.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-PDR-034A-4	34.0	25.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-PDR-044A-4	44.0	30.0	R3	CX4-11	CX4X-11	CX3RX-12
ACH580-PDR-052A-4	52.0	40.0	R4	CX4-13	CX4X-13	CX3RX-13
ACH580-PDR-065A-4	65.0	50.0	R4	CX4-13	CX4X-13	CX3RX-13
ACH580-PDR-077A-4	77.0	60.0	R4	CX4-14	CX4X-14	CX3RX-13
ACH580-PDR-096A-4	96.0	75.0	R5	CX4-14	CX4X-14	CX3RX-13
ACH580-PDR-124A-4	124.0	100.0	R6	CX4-16	CX4X-16	CX3RX-14
ACH580-PDR-156A-4	156.0	125.0	R7	CX4-17	CX4X-17	CX3RX-14
ACH580-PDR-180A-4	180.0	150.0	R7	CX4-19	CX4X-19	CX3RX-14
ACH580-PDR-240A-4	240.0	200.0	R8	CX4-20	CX4X-20	CX3RX-15

* The ABB design uses 304 stainless steel enclosures. For Drive packages in harsh environments such as coastal areas, ABB recommends 316 stainless steel as a custom option.

Dimensions

ACH580-PCR and ACH580-PDR with special enclosure



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
	in	mm	in	mm	in	mm	lb	kg	Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580-PCR and ACH580-PDR, drive with Special Enclosures												
CX4-10	24	610	25.5	648	15.9	404	120	55	22.5	572	16.5	419
CX4-11	30	762	34.8	884	15.9	404	185	84	28.5	724	22.5	572
CX4-12	36	914	40.8	1036	17.8	452	285	130	34.5	876	28.5	724
CX4-13	36	914	41.6	1057	21.8	554	340	155	34.5	876	28.5	724
CX4-14	36	914	44.6	1133	17.8	452	340	155	34.5	876	28.5	724
CX4-15	60	1524	47.6	1209	21.8	554	415	189	46.5	1181	34.5	876
CX4-16	60	1524	50.6	1285	21.8	554	450	205	46.5	1181	34.5	876
CX4-17	60	1524	48.8	1240	21.8	554	500	227	46.5	1181	34.5	876
CX4-18	72	1829	50.6	1285	21.8	554	575	261	58.5	1486	34.5	876
CX4-19	72	1829	50.4	1280	21.8	554	625	284	58.5	1486	34.5	876
CX4-20	72	1829	52.1	1323	21.8	554	660	300	58.5	1486	34.5	876
ACH580-PCR and ACH580-PDR, drive with Special Enclosures Type 4x												
CX4X-10	24	610	25.5	648	15.9	404	120	55	22.5	572	16.5	419
CX4X-11	30	762	34.8	884	15.9	404	185	84	28.5	724	22.5	572
CX4X-12	36	914	40.8	1036	17.8	452	285	130	34.5	876	28.5	724
CX4X-13	36	914	41.6	1057	21.8	554	340	155	34.5	876	28.5	724
CX4X-14	36	914	44.6	1133	17.8	452	340	155	34.5	876	28.5	724
CX4X-15	60	1524	47.6	1209	21.8	554	415	189	46.5	1181	34.5	876
CX4X-16	60	1524	50.6	1285	21.8	554	450	205	46.5	1181	34.5	876
CX4X-17	60	1524	48.8	1240	21.8	554	500	227	46.5	1181	34.5	876
CX4X-18	72	1829	50.6	1285	21.8	554	575	261	58.5	1486	34.5	876
CX4X-19	72	1829	50.4	1280	21.8	554	625	284	58.5	1486	34.5	876
CX4X-20	72	1829	52.1	1323	21.8	554	660	300	58.5	1486	34.5	876
ACH580-PCR and ACH580-PDR, drive with Special Enclosures Type 3Rx												
CX3RX-11	27.3	693	18.2	462	14.4	366	80	36	22.5	572	16.5	419
CX3RX-12	33	838	24	610	14.4	366	125	57	28.5	724	22.5	572
CX3RX-13	39.4	1001	30	762	15.9	404	190	86	34.5	876	28.5	724
CX3RX-14	51	1295	36	914	20.4	518	400	182	46.5	1181	34.5	876
CX3RX-15	72	1829	42	1067	25.1	638	485	220	58.5	1486	34.5	876

Ratings, types and voltages

ACH580-PCR, packaged drive with manual motor protectors with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1		UL (NEMA) Type 12 (+B056)		UL (NEMA) Type 3R (+B058)	
	Current	Power		Dim Ref	Max # of MMPs	Dim Ref	Max # of MMPs	Dim Ref	Max # of MMPs
	A	HP							
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _N = 208/230 V 60 Hz									
ACH580-PCR-04A6-2+xG405+M6xx	4.6	1.0	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PCR-06A6-2+xG405+M6xx	6.6	1.5	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PCR-07A5-2+xG405+M6xx	7.5	2.0	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PCR-10A6-2+xG405+M6xx	10.6	3.0	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PCR-017A-2+xG405+M6xx	16.7	5.0	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PCR-024A-2+xG405+M6xx	24.2	7.5	R2	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PCR-031A-2+xG405+M6xx	30.8	10.0	R2	Cx1-21	9	Cx12-22	10	CX3R-21	10
ACH580-PCR-046A-2+xG405+M6xx	46.2	15.0	R3	Cx1-22	12	Cx12-22	10	CX3R-22	10
ACH580-PCR-059A-2+xG405+M6xx	59.4	20.0	R3	Cx1-22	12	Cx12-22	10	CX3R-22	10
ACH580-PCR-075A-2+xG405+M6xx	74.8	25.0	R4	Cx1-22	12	Cx12-23	9	CX3R-23	9
ACH580-PCR-088A-2+xG405+M6xx	88.0	30.0	R5	Cx1-23	12	Cx12-24	16	CX3R-23	16
ACH580-PCR-114A-2+xG405+M6xx	114.0	40.0	R5	Cx1-23	12	Cx12-24	16	CX3R-23	16
ACH580-PCR-143A-2+xG405+M6xx	143.0	50.0	R6	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PCR-169A-2+xG405+M6xx	169.0	60.0	R7	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PCR-211A-2+xG405+M6xx	211.0	75.0	R7	Cx1-24	15	Cx12-24	12	CX3R-24	12
ACH580-PCR-273A-2+xG405+M6xx	273.0	100.0	R8	Cx1-24	15	Cx12-24	12	CX3R-24	12
U _i = 380 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz									
ACH580-PCR-02A1-4+xG405+M6xx	2.1	1.0	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PCR-03A0-4+xG405+M6xx	3.0	1.5	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PCR-03A5-4+xG405+M6xx	3.5	2.0	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PCR-04A8-4+xG405+M6xx	4.8	3.0	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PCR-07A6-4+xG405+M6xx	7.6	5.0	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PCR-012A-4+xG405+M6xx	12.0	7.5	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PCR-014A-4+xG405+M6xx	14.0	10.0	R2	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PCR-023A-4+xG405+M6xx	23.0	15.0	R2	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PCR-027A-4+xG405+M6xx	27.0	20.0	R3	Cx1-22	12	Cx12-22	10	CX3R-23	10
ACH580-PCR-034A-4+xG405+M6xx	34.0	25.0	R3	Cx1-22	12	Cx12-22	10	CX3R-23	10
ACH580-PCR-044A-4+xG405+M6xx	44.0	30.0	R3	Cx1-22	12	Cx12-22	10	CX3R-23	10
ACH580-PCR-052A-4+xG405+M6xx	52.0	40.0	R4	Cx1-22	12	Cx12-23	9	CX3R-23	9
ACH580-PCR-065A-4+xG405+M6xx	65.0	50.0	R4	Cx1-22	12	Cx12-23	9	CX3R-23	9
ACH580-PCR-077A-4+xG405+M6xx	77.0	60.0	R4	Cx1-22	12	Cx12-23	9	CX3R-23	9
ACH580-PCR-096A-4+xG405+M6xx	96.0	75.0	R5	Cx1-23	12	Cx12-24	16	CX3R-24	16
ACH580-PCR-124A-4+xG405+M6xx	124.0	100.0	R6	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PCR-156A-4+xG405+M6xx	156.0	125.0	R7	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PCR-180A-4+xG405+M6xx	180.0	150.0	R7	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PCR-240A-4+xG405+M6xx	240.0	200.0	R8	Cx1-24	15	Cx12-24	12	CX3R-25	12

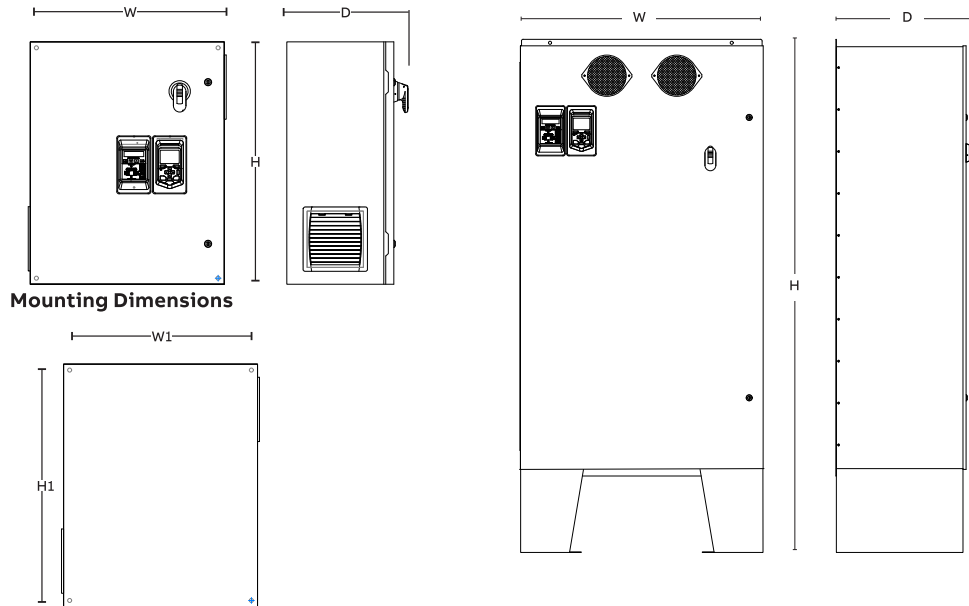
Ratings, types and voltages

ACH580-PDR, packaged drive with manual motor protectors with non-fused disconnect switch

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1		UL (NEMA) Type 12 (+B056)		UL (NEMA) Type 3R (+B058)	
	Current	Power		Dim Ref	Max # of MMPs	Dim Ref	Max # of MMPs	Dim Ref	Max # of MMPs
	A	HP							
U _i = 200 to 240V. Power ratings are valid at nominal output voltage U _k = 208/230 V 60 Hz									
ACH580-PDR-04A6-2+xG405+M6xx	4.6	1.0	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PDR-06A6-2+xG405+M6xx	6.6	1.5	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PDR-07A5-2+xG405+M6xx	7.5	2.0	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PDR-10A6-2+xG405+M6xx	10.6	3.0	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PDR-017A-2+xG405+M6xx	16.7	5.0	R1	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PDR-024A-2+xG405+M6xx	24.2	7.5	R2	Cx1-21	9	Cx12-21	3	CX3R-21	4
ACH580-PDR-031A-2+xG405+M6xx	30.8	10.0	R2	Cx1-21	9	Cx12-22	10	CX3R-21	10
ACH580-PDR-046A-2+xG405+M6xx	46.2	15.0	R3	Cx1-22	12	Cx12-22	10	CX3R-22	10
ACH580-PDR-059A-2+xG405+M6xx	59.4	20.0	R3	Cx1-22	12	Cx12-22	10	CX3R-22	10
ACH580-PDR-075A-2+xG405+M6xx	74.8	25.0	R4	Cx1-22	12	Cx12-23	9	CX3R-23	9
ACH580-PDR-088A-2+xG405+M6xx	88.0	30.0	R5	Cx1-23	12	Cx12-24	16	CX3R-23	16
ACH580-PDR-114A-2+xG405+M6xx	114.0	40.0	R5	Cx1-23	12	Cx12-24	16	CX3R-23	16
ACH580-PDR-143A-2+xG405+M6xx	143.0	50.0	R6	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PDR-169A-2+xG405+M6xx	169.0	60.0	R7	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PDR-211A-2+xG405+M6xx	211.0	75.0	R7	Cx1-24	15	Cx12-24	12	CX3R-24	12
ACH580-PDR-273A-2+xG405+M6xx	273.0	100.0	R8	Cx1-24	15	Cx12-24	12	CX3R-24	12
U _i = 380 to 480V. Power ratings are valid at nominal output voltage U _k = 460 V 60 Hz									
ACH580-PDR-02A1-4+xG405+M6xx	2.1	1.0	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PDR-03A0-4+xG405+M6xx	3.0	1.5	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PDR-03A5-4+xG405+M6xx	3.5	2.0	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PDR-04A8-4+xG405+M6xx	4.8	3.0	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PDR-07A6-4+xG405+M6xx	7.6	5.0	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PDR-012A-4+xG405+M6xx	12.0	7.5	R1	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PDR-014A-4+xG405+M6xx	14.0	10.0	R2	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PDR-023A-4+xG405+M6xx	23.0	15.0	R2	Cx1-21	9	Cx12-21	3	CX3R-22	4
ACH580-PDR-027A-4+xG405+M6xx	27.0	20.0	R3	Cx1-22	12	Cx12-22	10	CX3R-23	10
ACH580-PDR-034A-4+xG405+M6xx	34.0	25.0	R3	Cx1-22	12	Cx12-22	10	CX3R-23	10
ACH580-PDR-044A-4+xG405+M6xx	44.0	30.0	R3	Cx1-22	12	Cx12-22	10	CX3R-23	10
ACH580-PDR-052A-4+xG405+M6xx	52.0	40.0	R4	Cx1-22	12	Cx12-23	9	CX3R-23	9
ACH580-PDR-065A-4+xG405+M6xx	65.0	50.0	R4	Cx1-22	12	Cx12-23	9	CX3R-23	9
ACH580-PDR-077A-4+xG405+M6xx	77.0	60.0	R4	Cx1-22	12	Cx12-23	9	CX3R-23	9
ACH580-PDR-096A-4+xG405+M6xx	96.0	75.0	R5	Cx1-23	12	Cx12-24	16	CX3R-24	16
ACH580-PDR-124A-4+xG405+M6xx	124.0	100.0	R6	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PDR-156A-4+xG405+M6xx	156.0	125.0	R7	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PDR-180A-4+xG405+M6xx	180.0	150.0	R7	Cx1-23	9	Cx12-24	16	CX3R-24	16
ACH580-PDR-240A-4+xG405+M6xx	240.0	200.0	R8	Cx1-24	15	Cx12-24	12	CX3R-25	12

Dimensions

ACH580-PCR and ACH580-PDR with manual motor protectors



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580-PCR and ACH580-PDR, drive with input disconnect and manual motor protectors, UL (NEMA) Type 1												
Cx1-21	36.5	927	13.7	348	13.32	338	75	34	35.5	902	8	203
Cx1-22	53.44	1357	16.3	414	14.36	365	135	61.2	52.44	1332	10	254
Cx1-23	61.87	1571	19.31	490	18.98	482	200	90.7	60.88	1546	10	254
Cx1-24	73.44	1865	34.75	883	20.4	518	400	181.4	Free standing		Free standing	
ACH580-PCR and ACH580-PDR, drive with input disconnect and manual motor protectors, UL (NEMA) Type 12												
Cx12-21	24	610	18	457	15	381	70	31.8	22.5	572	16.5	419
Cx12-22	30	762	24	610	15.08	383	110	49.9	28.5	724	22.5	572
Cx12-23	36	914	30	762	15	381	170	77.1	34.5	876	28.5	724
Cx12-24	48	1219	36	914	21	533	380	172.4	Free standing		Free standing	
ACH580-PCR and ACH580-PDR, drive with input disconnect and manual motor protectors, UL (NEMA) Type 3R												
CX3R-21	27.3	693	18.2	462	14.4	366	85	39	22.5	572	16.5	419
CX3R-22	33	838	24	610	14.4	366	130	59	28.5	724	22.5	572
CX3R-23	39.4	1001	30	762	15.9	404	190	86	34.5	876	28.5	724
CX3R-24	51	1295	36	914	20.4	518	400	182	46.5	1181	34.5	876
CX3R-25	72	1829	42	1067	25.1	638	475	216	58.6	1488	34.5	876

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

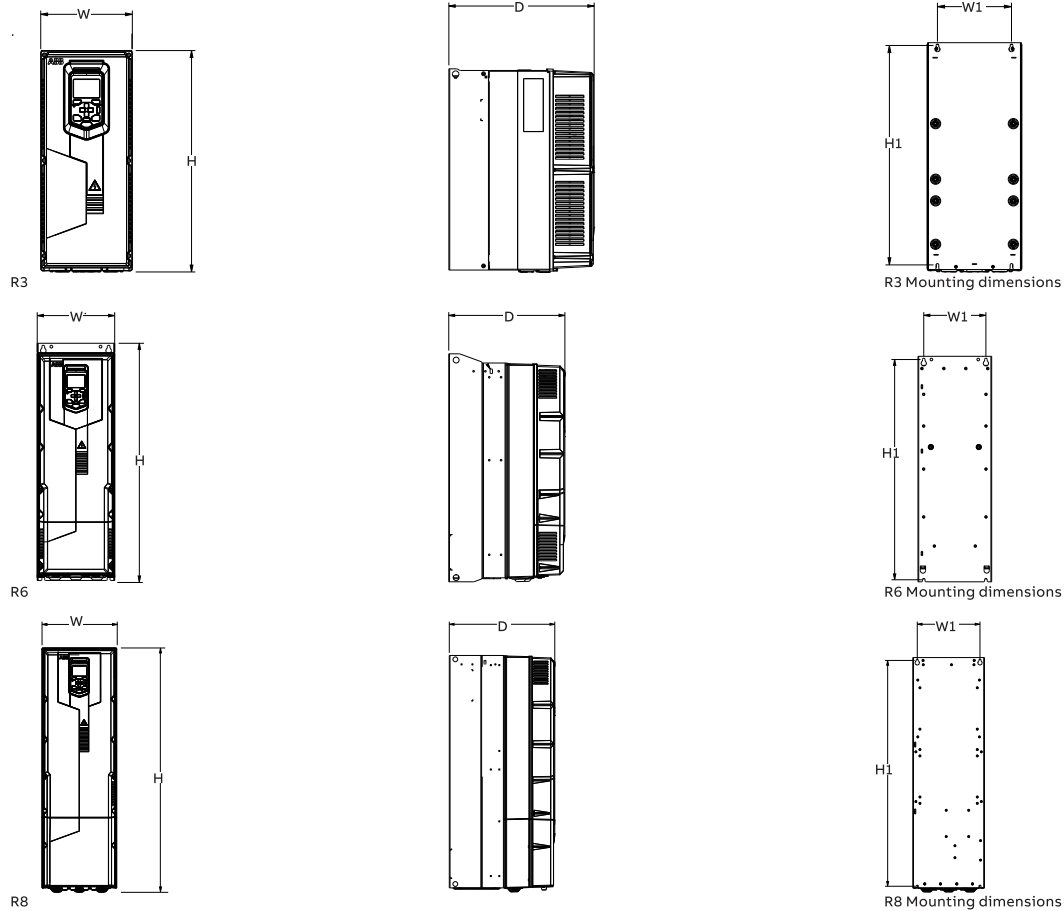
Ratings, types and voltages

ACH580-31, Ultra-Low Harmonic drives

Type code	Output Ratings ¹⁾		Frame Size	UL (NEMA) Type 1		UL (NEMA) Type 12 (+B056)	
	Current	Power		Dim Ref	List Price	Dim Ref	
A	HP						
U _i = 208/230v. Power ratings are valid at nominal output voltage 208 V 60 Hz							
ACH580-31-017A-2	16.7	5	R3	31-1-R3		31-12-R3	
ACH580-31-024A-2	24.2	7.5	R3	31-1-R3		31-12-R3	
ACH580-31-031A-2	30.8	10	R6	31-1-R6		31-12-R6	
ACH580-31-046A-2	46.2	15	R6	31-1-R6		31-12-R6	
ACH580-31-059A-2	59.4	20	R6	31-1-R6		31-12-R6	
ACH580-31-075A-2	74.8	25	R6	31-1-R6		31-12-R6	
ACH580-31-088A-2	88	30	R6	31-1-R6		31-12-R6	
ACH580-31-114A-2	114	40	R8	31-1-R8		31-12-R8	
ACH580-31-143A-2	143	50	R8	31-1-R8		31-12-R8	
ACH580-31-169A-2	169	60	R8	31-1-R8		31-12-R8	
ACH580-31-211A-2	211	75	R8	31-1-R8		31-12-R8	
U _i = 380 to 480 V. Power ratings are valid at nominal output voltage 460 V 60 Hz							
ACH580-31-07A6-4	7.6	5.0	R3	31-1-R3		31-12-R3	
ACH580-31-012A-4	12.0	7.5	R3	31-1-R3		31-12-R3	
ACH580-31-014A-4	14.0	10.0	R3	31-1-R3		31-12-R3	
ACH580-31-023A-4	23.0	15.0	R3	31-1-R3		31-12-R3	
ACH580-31-027A-4	27.0	20.0	R6	31-1-R6		31-12-R6	
ACH580-31-034A-4	34.0	25.0	R6	31-1-R6		31-12-R6	
ACH580-31-044A-4	44.0	30.0	R6	31-1-R6		31-12-R6	
ACH580-31-052A-4	52.0	40.0	R6	31-1-R6		31-12-R6	
ACH580-31-065A-4	65.0	50.0	R6	31-1-R6		31-12-R6	
ACH580-31-077A-4	77.0	60.0	R6	31-1-R6		31-12-R6	
ACH580-31-096A-4	96.0	75.0	R8	31-1-R8		31-12-R8	
ACH580-31-124A-4	124.0	100.0	R8	31-1-R8		31-12-R8	
ACH580-31-156A-4	156.0	125.0	R8	31-1-R8		31-12-R8	
ACH580-31-180A-4	180.0	150.0	R8	31-1-R8		31-12-R8	

Dimensions

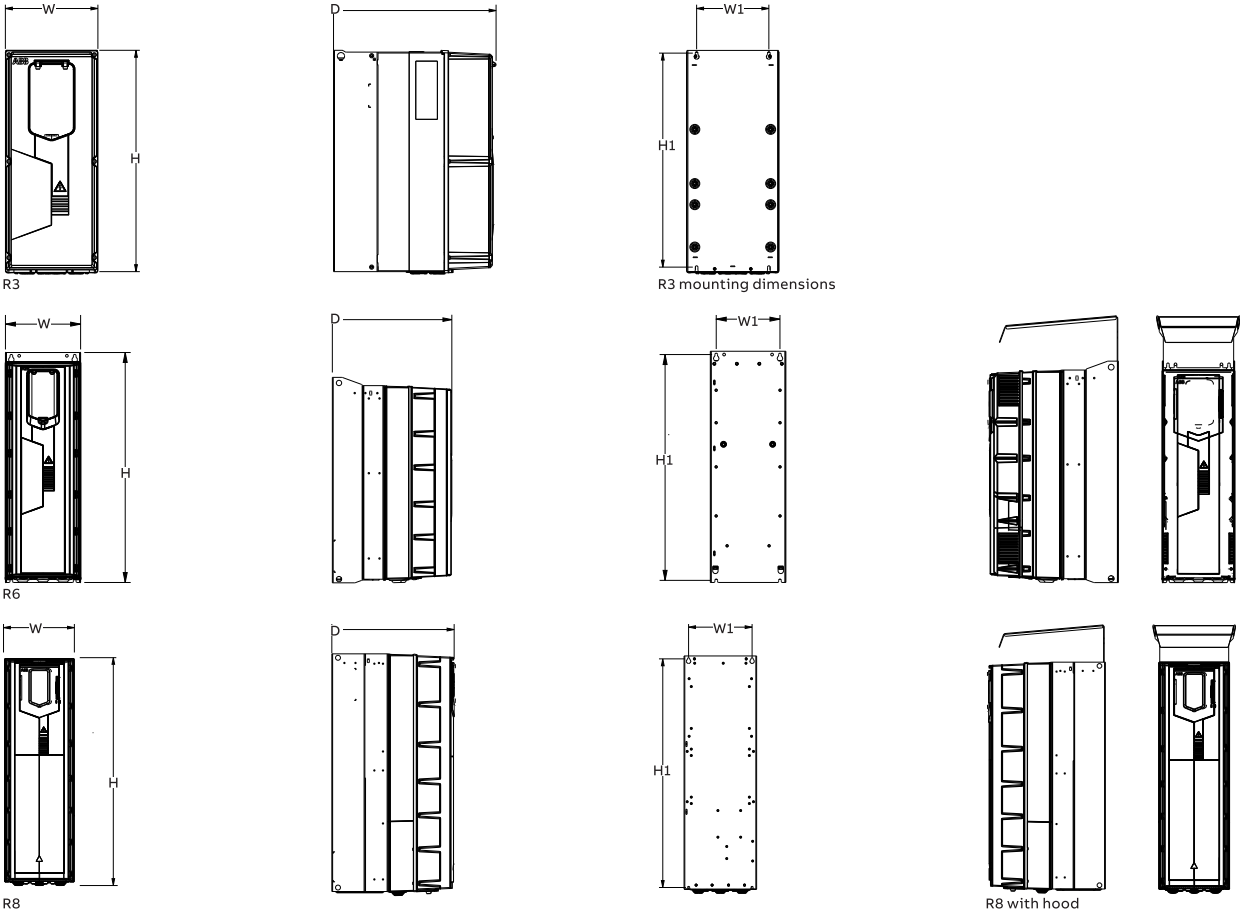
ACH580-31 Type 1



Dim Ref	Height (H1, H4)		Width (W)		Depth (D)		Weight		Mounting Dimensions					
									Height (H1)		Width (W1)		Width (W2)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm	in	mm
ACH580-31, Ultra-Low Harmonic drive, UL (NEMA) Type 1														
31-1-R3	19.49	495	8.07	205	13.74	349	47.0	21.3	18.66	474	6.30	160	---	---
31-1-R6	30.35	771	9.92	252	15.44	392	134.5	61.0	29.65	753	8.37	212	6.30	160
31-1-R8	38.01	965	11.81	300	17.23	438	247.0	112.0	37.20	945	10.33	262	---	---

Dimensions

ACH580-31 Type 12



Dim Ref	Height (H1, H4)		Height (H5)		Width (W)		Width (W")		Depth (D)		Weight		Mounting Dimensions					
	Height (H1)		Height (H5)		Width (W)		Width (W")		Depth (D)		Weight		Height (H1)		Width (W1)		Width (W2)	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm	in	mm
ACH580-31, Ultra-Low Harmonic drive, UL (NEMA) Type 12																		
31-12-R3	19.49	495	---	---	8.07	205	---	---	14.17	360	51.4	23.3	18.66	474	6.30	160	---	---
31-12-R6	30.35	771	36.56	929	9.92	252	11.46	291	17.65	448	138.9	63.0	29.65	753	8.37	212	6.30	160
31-12-R8	38.01	965	44.22	1123	11.81	300	13.80	350	19.53	496	260.0	118.0	37.20	945	10.33	262	---	---

Ratings, types and voltages

ACH580-3BCR, enclosed Ultra-Low Harmonic drive with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-3BCR-07A6-4	7.6	5.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BCR-012A-4	12.0	7.5	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BCR-014A-4	14.0	10.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BCR-023A-4	23.0	15.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BCR-027A-4	27.0	20.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-034A-4	34.0	25.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-044A-4	44.0	30.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-052A-4	52.0	40.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-065A-4	65.0	50.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-077A-4	77.0	60.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-096A-4	96.0	75.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BCR-124A-4	124.0	100.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BCR-156A-4	156.0	125.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BCR-180A-4	180.0	150.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BCR-240A-4	240.0	200.0	R11	Bx1-41	Bx12-41	Bx3R-41
ACH580-3BCR-302A-4	302.0	250.0	R11	Bx1-41	Bx12-41	Bx3R-41
ACH580-3BCR-361A-4	361.0	300.0	R11	Bx1-41	Bx12-41	Bx3R-41
ACH580-3BCR-414A-4	414.0	350.0	R11	Bx1-41	Bx12-41	Bx3R-41
ACH580-3BCR-477A-4	477.0	400.0	R11	Bx1-41	Bx12-41	Bx3R-41

208/230 VAC packages are available as engineered-to-order. Please consult factory

Ratings, types and voltages

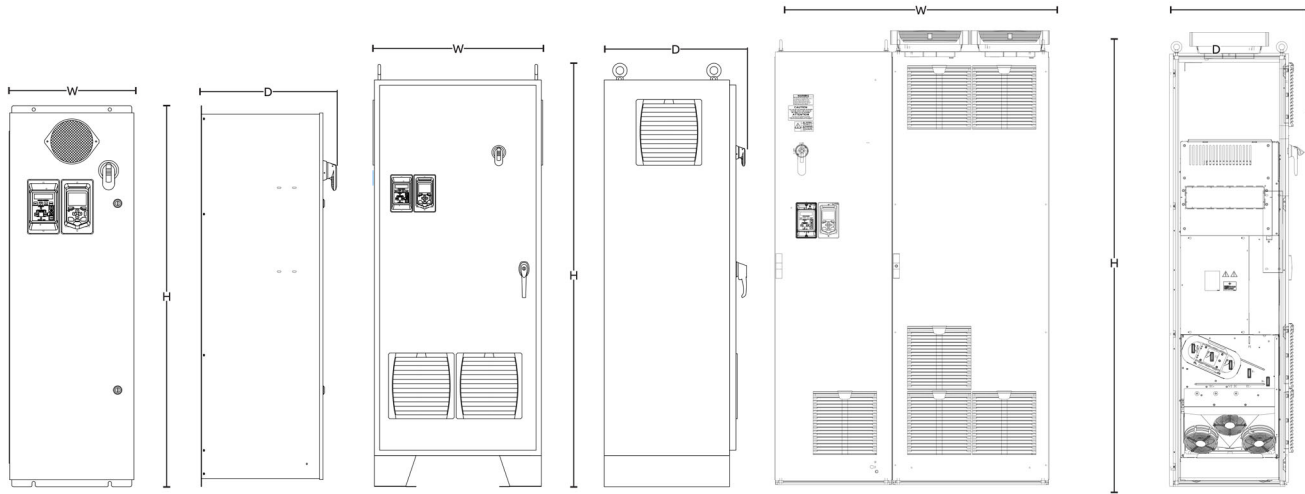
ACH580-3BDR, enclosed Ultra-Low Harmonic drive with non-fused disconnect

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-3BDR-07A6-4	7.6	5.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BDR-012A-4	12.0	7.5	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BDR-014A-4	14.0	10.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BDR-023A-4	23.0	15.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BDR-027A-4	27.0	20.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-034A-4	34.0	25.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-044A-4	44.0	30.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-052A-4	52.0	40.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-065A-4	65.0	50.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-077A-4	77.0	60.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-096A-4	96.0	75.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BDR-124A-4	124.0	100.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BDR-156A-4	156.0	125.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BDR-180A-4	180.0	150.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BDR-240A-4	240.0	200.0	R11	Bx1-41	Bx12-41	Bx3R-41
ACH580-3BDR-302A-4	302.0	250.0	R11	Bx1-41	Bx12-41	Bx3R-41
ACH580-3BDR-361A-4	361.0	300.0	R11	Bx1-41	Bx12-41	Bx3R-41
ACH580-3BDR-414A-4	414.0	350.0	R11	Bx1-41	Bx12-41	Bx3R-41
ACH580-3BDR-477A-4	477.0	400.0	R11	Bx1-41	Bx12-41	Bx3R-41

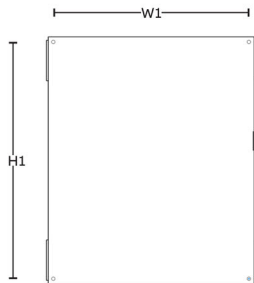
208/230 VAC packages are available as engineered-to-order. Please consult factory

Dimensions

ACH580-3BxR, enclosed Ultra-Low Harmonic drive



Mounting Dimensions



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580 BCR and BDR, ultra-low harmonic E-Clipse bypass drive, UL (NEMA) Type 1												
Bx1-31	50.00	1270	16.3	414	17.80	452	150	68	49.00	1245	10.00	254
Bx1-32	61.90	1572	19.3	490	19.00	483	225	102	60.90	1547	10.00	254
Bx1-33	73.40	1864	35.0	889	20.40	518	500	227	Free standing		Free standing	
Bx1-41	90	2309	55.0	1397	25	630	1690	770	Free standing		Free standing	
ACH580 BCR and BDR, ultra-low harmonic E-Clipse bypass drive, UL (NEMA) Type 12												
Bx12-31	36.00	914	30.0	762	19.00	483	225	102	37.00	940	6.00	152
Bx12-32	48.00	1219	36.0	914	21.00	533	350	159	50.00	1270	8.00	203
Bx12-33	78.00	1981	32.0	813	27.30	693	575	261	Free standing		Free standing	
Bx12-41	90	2309	55.0	1397	25	630	1690	770	Free standing		Free standing	
ACH580 BCR and BDR, ultra-low harmonic E-Clipse bypass drive, UL (NEMA) Type 3R												
Bx3R-31	33	838	24.0	610	19.1	485	150	68	28.5	724	22.5	572
Bx3R-32	51	1295	36.0	914	20.4	518	380	173	46.5	1181	34.5	876
Bx3R-35	72	1829	42.0	1067	25.1	638	600	273	58.6	1488	34.5	876
Bx3R-41	90	2286	48.0	1220	28	712	1670	760	Free standing		Free standing	

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

Ratings, types and voltages

ACH580-3BCR, enclosed with soft start Ultra-Low Harmonic drive with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-3BCR-07A6-4+G390	7.6	5.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BCR-012A-4+G390	12.0	7.5	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BCR-014A-4+G390	14.0	10.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BCR-023A-4+G390	23.0	15.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BCR-027A-4+G390	27.0	20.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-034A-4+G390	34.0	25.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-044A-4+G390	44.0	30.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-052A-4+G390	52.0	40.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-065A-4+G390	65.0	50.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-077A-4+G390	77.0	60.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BCR-096A-4+G390	96.0	75.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BCR-124A-4+G390	124.0	100.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BCR-156A-4+G390	156.0	125.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BCR-180A-4+G390	180.0	150.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BCR-240A-4+G390	240.0	200.0	R11	Contact Factory		
ACH580-3BCR-302A-4+G390	302.0	250.0	R11			
ACH580-3BCR-361A-4+G390	361.0	300.0	R11			
ACH580-3BCR-414A-4+G390	414.0	350.0	R11			
ACH580-3BCR-477A-4+G390	477.0	400.0	R11			

208/230 VAC packages are available as engineered-to-order. Please consult factory

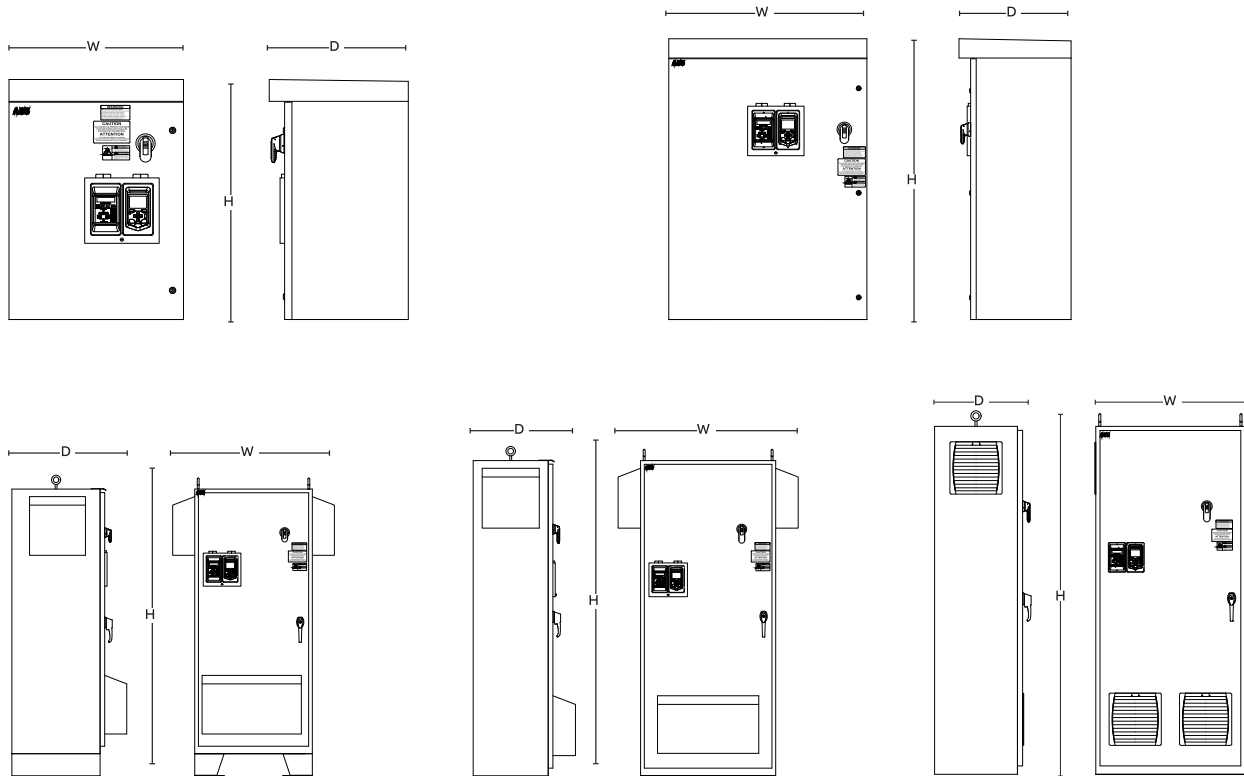
Ratings, types and voltages

ACH580-3BDR, enclosed with soft start Ultra-Low Harmonic drive with non-fused disconnect

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _n = 460 V 60 Hz						
ACH580-3BDR-07A6-4+G390	7.6	5.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BDR-012A-4+G390	12.0	7.5	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BDR-014A-4+G390	14.0	10.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BDR-023A-4+G390	23.0	15.0	R3	Bx1-31	Bx12-31	Bx3R-31
ACH580-3BDR-027A-4+G390	27.0	20.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-034A-4+G390	34.0	25.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-044A-4+G390	44.0	30.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-052A-4+G390	52.0	40.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-065A-4+G390	65.0	50.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-077A-4+G390	77.0	60.0	R6	Bx1-32	Bx12-32	Bx3R-32
ACH580-3BDR-096A-4+G390	96.0	75.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BDR-124A-4+G390	124.0	100.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BDR-156A-4+G390	156.0	125.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BDR-180A-4+G390	180.0	150.0	R8	Bx1-33	Bx12-33	Bx3R-35
ACH580-3BDR-240A-4+G390	240.0	200.0	R11	Contact Factory		
ACH580-3BDR-302A-4+G390	302.0	250.0	R11			
ACH580-3BDR-361A-4+G390	361.0	300.0	R11			
ACH580-3BDR-414A-4+G390	414.0	350.0	R11			
ACH580-3BDR-477A-4+G390	477.0	400.0	R11			

Dimensions

ACH580-3BxR, enclosed Ultra-Low Harmonic drive with softstarter (+G390)



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580 BCR and BDR, Ultra-Low Harmonic E-Clipse bypass drive and soft starter, UL (NEMA) Type 1												
BX1-31	50	1270	16.3	414	17.8	452	150	68	49	1245	10	254
BX1-32	61.9	1571	19.3	490	19	482	225	102	60.9	1546	10	254
BX1-33	73.4	1865	35	889	20.4	518	500	227	61.4	1559	26	660
BX1-34	84	2134	36	914	23.3	592	1100	500	Free standing			
ACH580 BCR and BDR, Ultra-Low Harmonic E-Clipse bypass drive and soft starter, UL (NEMA) Type 12												
BX12-31	30	762	24	610	18.9	480	215	98	28.5	724	22.5	572
BX12-32	48	1219	36	914	21	533	350	159	46.5	1181	34.5	876
BX12-33	78	1981	32	813	27.3	693	575	261	Free standing			
BX12-34	84	2134	36	914	23.3	592	1100	500				
ACH580 BCR and BDR, Ultra-Low Harmonic E-Clipse bypass drive and soft starter, UL (NEMA) Type 3R												
BX3R-31	33	838	24	610	19.1	485	125	57	28.5	724	22.5	572
BX3R-32	51	1295	36	914	20.4	518	390	177	46.5	1181	34.5	876
BX3R-33	78	1981	44	1118	31.3	795	620	282	Free standing			
BX3R-34	84	2134	48	1219	27.3	692	1100	500				

Ratings, types and voltages

ACH580-3PCR, packaged Ultra-Low Harmonic drive with circuit breaker

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _n = 460 V 60 Hz						
ACH580-3PCR-07A6-4	7.6	5.0	R3	PxB1-31	PxB12-31	PxB3R-31
ACH580-3PCR-012A-4	12.0	7.5	R3	PxB1-31	PxB12-31	PxB3R-31
ACH580-3PCR-014A-4	14.0	10.0	R3	PxB1-31	PxB12-31	PxB3R-31
ACH580-3PCR-023A-4	23.0	15.0	R3	PxB1-31	PxB12-31	PxB3R-31
ACH580-3PCR-027A-4	27.0	20.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PCR-034A-4	34.0	25.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PCR-044A-4	44.0	30.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PCR-052A-4	52.0	40.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PCR-065A-4	65.0	50.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PCR-077A-4	77.0	60.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PCR-096A-4	96.0	75.0	R8	PxB1-33	PxB12-33	PxB3R-35
ACH580-3PCR-124A-4	124.0	100.0	R8	PxB1-33	PxB12-33	PxB3R-35
ACH580-3PCR-156A-4	156.0	125.0	R8	PxB1-33	PxB12-33	PxB3R-35
ACH580-3PCR-180A-4	180.0	150.0	R8	PxB1-33	PxB12-33	PxB3R-35
ACH580-3PCR-240A-4	240.0	200.0	R11	PxB1-41	PxB12-41	PxB3R-41
ACH580-3PCR-302A-4	302.0	250.0	R11	PxB1-41	PxB12-41	PxB3R-41
ACH580-3PCR-361A-4	361.0	300.0	R11	PxB1-41	PxB12-41	PxB3R-41
ACH580-3PCR-414A-4	414.0	350.0	R11	PxB1-41	PxB12-41	PxB3R-41
ACH580-3PCR-477A-4	477.0	400.0	R11	PxB1-41	PxB12-41	PxB3R-41

208/230 VAC packages are available as engineered-to-order. Please consult factory

Ratings, types and voltages

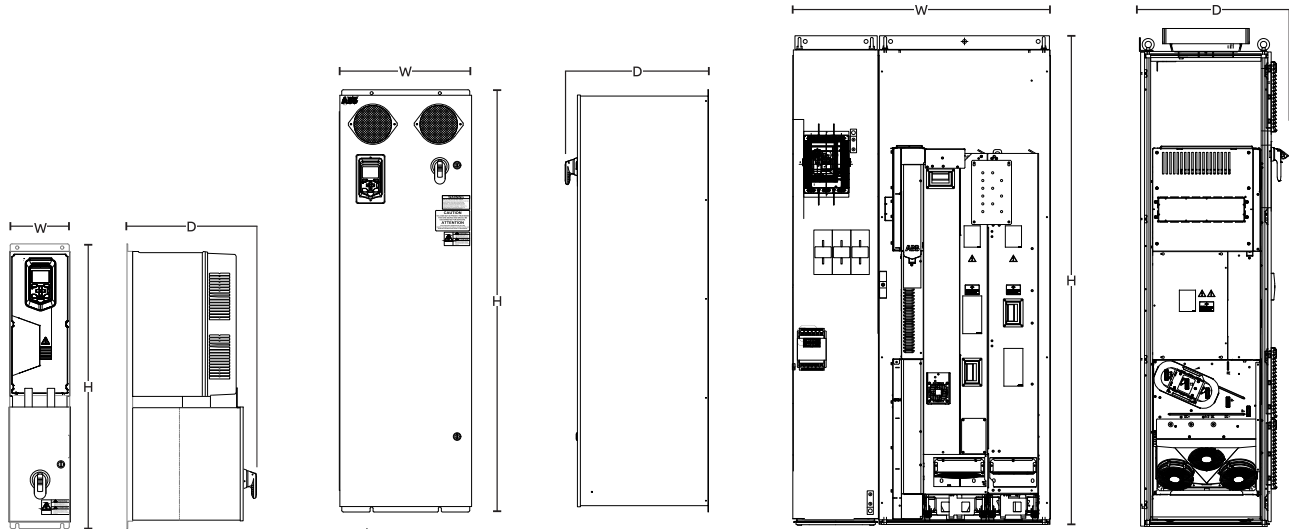
ACH580-3PDR, packaged Ultra-Low Harmonic drive with non-fused disconnect

Type code	Output Ratings		Frame Size	UL (NEMA) Type 1	UL (NEMA) Type 12 (+B056)	UL (NEMA) Type 3R (+B058)
	Current	Power		Dim Ref	Dim Ref	Dim Ref
	A	HP				
U _i = 440 to 480V. Power ratings are valid at nominal output voltage U _N = 460 V 60 Hz						
ACH580-3PDR-07A6-4	7.6	5.0	R3	PxB1-31	PxB12-31	PxB3R-31
ACH580-3PDR-012A-4	12.0	7.5	R3	PxB1-31	PxB12-31	PxB3R-31
ACH580-3PDR-014A-4	14.0	10.0	R3	PxB1-31	PxB12-31	PxB3R-31
ACH580-3PDR-023A-4	23.0	15.0	R3	PxB1-31	PxB12-31	PxB3R-31
ACH580-3PDR-027A-4	27.0	20.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PDR-034A-4	34.0	25.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PDR-044A-4	44.0	30.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PDR-052A-4	52.0	40.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PDR-065A-4	65.0	50.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PDR-077A-4	77.0	60.0	R6	PxB1-32	PxB12-32	PxB3R-32
ACH580-3PDR-096A-4	96.0	75.0	R8	PxB1-33	PxB12-33	PxB3R-35
ACH580-3PDR-124A-4	124.0	100.0	R8	PxB1-33	PxB12-33	PxB3R-35
ACH580-3PDR-156A-4	156.0	125.0	R8	PxB1-33	PxB12-33	PxB3R-35
ACH580-3PDR-180A-4	180.0	150.0	R8	PxB1-33	PxB12-33	PxB3R-35
ACH580-3PDR-240A-4	240.0	200.0	R11	PxB1-41	PxB12-41	PxB3R-41
ACH580-3PDR-302A-4	302.0	250.0	R11	PxB1-41	PxB12-41	PxB3R-42
ACH580-3PDR-361A-4	361.0	300.0	R11	PxB1-41	PxB12-41	PxB3R-43
ACH580-3PDR-414A-4	414.0	350.0	R11	PxB1-41	PxB12-41	PxB3R-44
ACH580-3PDR-477A-4	477.0	400.0	R11	PxB1-41	PxB12-41	PxB3R-45

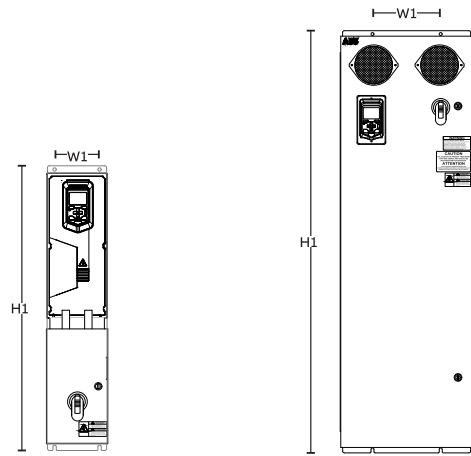
208/230 VAC packages are available as engineered-to-order. Please consult factory

Dimensions

ACH580-3PxR, packaged Ultra-Low Harmonic drive



Mounting Dimensions



Dim Ref	Height (H)		Width (W)		Depth (D)		Weight		Mounting Dimensions			
									Height (H1)		Width (W1)	
	in	mm	in	mm	in	mm	lb	kg	in	mm	in	mm
ACH580 PCR and PDR, ultra-low harmonic packaged drive, UL (NEMA) Type 1												
PxB1-31	38.0	965	8.0	203	17.3	439	80	36	37.0	940	6	152
PxB1-32	51.0	1295	10.0	254	18.8	477	200	91	50.0	1270	8	203
PxB1-33	61.9	1571	19.3	490	21.0	532	400	182	60.9	1546	10	254
PxB1-41	90.0	2309	55.0	1397	25.0	630	1510	680	Free standing		Free standing	
ACH580 BCR and BDR, ultra-low harmonic packaged drive, UL (NEMA) Type 12												
PxB12-31	30.0	762	24.0	610	18.0	457	190	86	28.5	724	22.5	572
PxB12-32	48.0	1219	36.0	914	21.0	533	320	145	46.5	1181	34.5	876
PxB12-33	78.0	1981	32.0	813	27.3	693	525	239	Free standing		Free standing	
PxB12-41	90.0	2309	55.0	1397	25.0	630	1510	680	Free standing		Free standing	
ACH580 BCR and BDR, ultra-low harmonic packaged drive, UL (NEMA) Type 3R												
PxB3R-31	33.0	838	24.0	610	19.1	485	140	64	28.5	724	22.5	572
PxB3R-32	51.0	1295	36.0	914	20.4	518	355	161	46.5	1181	34.5	876
PxB3R-35	72.0	1829	42.0	1067	25.1	638	565	257	58.6	1488	34.5	876
PxB3R-41	90.0	2286	48.0	1220	28.0	712	1690	760	Free standing		Free standing	

* ABB recommends the use of the included foot mount kit. If wall mounting is required, see configurator for mounting dimensions.

Construction compatibility

Descriptions

Constructions												Option	Option Code	Description
01	VxR	VDR	BCR	BDR	PCR	PDR	31	3BCR	3BDR	3PCR	3PDR			
•	•	•	•	•	•	•	•	•	•	•	•	UL (NEMA) Type 1	-	Indoor use primarily to provide a degree of protection against limited amounts of falling dirt.
•			•	•	•	•	•	•	•	•	•	UL (NEMA) Type 12	+B056	Indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping non-corrosive liquids. Does not protect against contamination from salt-laden air
			•	•	•	•		•	•	•	•	UL (NEMA) Type 3R	+B058	Either indoor or outdoor use to provide a degree of protection against falling dirt, rain, sleet, and snow; and that will be undamaged by the external formation of ice on the enclosure.
			•	•	•	•		✓	✓	✓	✓	UL (NEMA) Type 3R Stainless Steel	+B058+C165	Either indoor or outdoor use to provide a degree of protection against falling dirt, rain, sleet, and snow; and that will be undamaged by the external formation of ice on the enclosure. Enclosure is made of stainless steel grade 304. Internal heating strips and cooling fans regulate the internal temperature of the enclosure.
			•	•	•	•		✓	✓	✓	✓	UL (NEMA) Type 4	+B057	Either indoor or outdoor use to provide a degree of protection against falling dirt, windblown dust, rain, sleet, snow, splashing water, and hose-directed water; and that will be undamaged by the external formation of ice on the enclosure. Enclosure is made of powder coated galvanized steel. An air conditioner is mounted on the side of the enclosure for cooling of the VFD.
•			•	•	•	•		✓	✓	✓	✓	UL (NEMA) Type 4X	+B063+C165 +B066 (01 only)	Either indoor or outdoor use to provide a degree of protection against falling dirt, windblown dust, rain, sleet, snow, splashing water, and hose-directed water; and that will be undamaged by the external formation of ice on the enclosure. Enclosure is made of stainless steel grade 304. A stainless steel air conditioner made of 304 grade steel is mounted on the side of the enclosure for cooling of the VFD.
	•	•	•	•				•	•			Isolation Switch	+F267	Provides a means to manually disconnect power to the drive.
			•	•	•	•						Line Reactor	+E213	A line reactor provides additional line side impedance for power conditioning. In some applications the line reactor will prevent nuisance drive trips and slightly reduce overall harmonic current.
			•	•	•	•						Passive Filter	+E211	A passive harmonic filter (inductive-capacitive) style is installed and wired in series with the drive. For power factor control, the contactor drops out the tuning reactor and capacitors during light loading. This filter is designed to limit current distortion to less than 5%.
			•	•				•	•			Softstart Bypass	+G390	The Softstarter is installed in the bypass circuit ahead of the Bypass Contactor power contacts. Softstarter operation is initiated by means of a control circuit interlock contact on the Bypass Contactor. Softstarter UP-TO-SPEED and FAULT signals (contact closures) are available at the Softstarter terminal block.
					•	•				✓	✓	Redundant	+C170	The redundant drive control option has two drives installed into a single enclosure to act as a backup for critical applications. The control scheme automatically switches from selected Lead Drive to secondary drive upon a fault on the selected Lead Drive. Each drive equipped with Drive Fuses and electrically interlocked drive output contactors.
			•	•	•	•		✓	✓	✓	✓	MMPs	+xG405+M6xx	Control multiple motors with a single drive. Size the drive based on the combined power rating of all of the loads that will be controlled by the drive. ABB Manual Motor Protectors (MMPs) are sized based on each individual load are installed on the output of the VFD.

Adding these options may change the dimensions of the enclosure.
Contact ABB for available configuration requirements.

- Available option
- ✓ Contact factory for additional information.



Tools and options

Tools

Enjoy the easiness offered by the cold configuration tool and Drive composer PC tool. These tools lighten your workload, especially if there are many drives. The cold configurator tool provides a quick way to parametrize unpowered drives even in their boxes, and the Drive composer PC tool offers advanced means, for example, for commissioning and monitoring.



Safe configuration for unpowered drives

The CCA-01 cold configuration adapter provides a serial communication interface for unpowered drives. With the adapter, safe isolation of both serial communication and control board power supply is possible. The power supply is taken from a PC USB port.



PC tools

The Drive composer PC tool offers fast and harmonized setup, commissioning, monitoring, and the capability to create adaptive block programs. The free version of the tool provides startup and maintenance capabilities and gathers all drive information, such as parameter loggers, faults, and backups into a support diagnostics file. Drive composer pro provides additional features such as custom parameter windows, graphical control diagrams of the drive's configuration, and improved monitoring and diagnostics.



Shared features of the ABB all-compatible drives portfolio

Drivetune smartphone app

- The Drivetune smartphone app together with the Bluetooth-enabled control panel allows you to set up and commission the drive remotely from a safe and comfortable location, using the same primary settings menu that is available on the control panel on the drive.

Same PC tools for ABB all-compatible drives

- Drive composer entry available for free at www.abb.com
- Same parameter structure makes the all-compatible platform easy to use

Connectivity

- ABB's F-series fieldbus adapters can be used throughout the all-compatible platform
- Fieldbus settings are made easy with the Primary Settings menu
- Bluetooth connectivity to Apple and Android devices

EtherNet/IP™ Gateway

Easy to use, powerful gateway for Ethernet/IP networks

Type number: VFD-GATEWAY
Part number: 3AUA0000235813



When you need to connect between different networks in your Variable Frequency Drive (VFD) installation, a fast and easy to set up gateway reduces your programming and start-up time.

ABB's Ethernet/IP Gateway provides software-free setup via a web browser interface and gives the flexibility of connecting up to five (5) ABB VFDs or DC drives to one gateway.

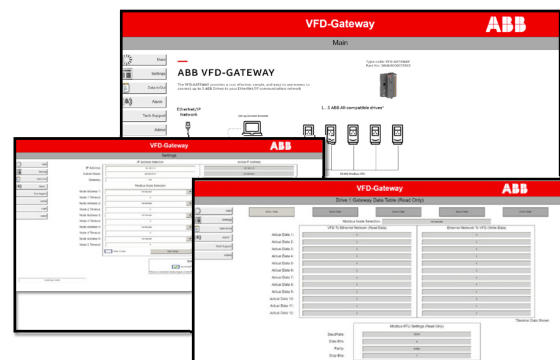
Standard features

- Allows connection between an Ethernet/IP network and ABB VFDs using Modbus RTU:
 - Supports Ethernet/IP
 - Supports ABB Drives Profile
- One Ethernet/IP node can be connected from 1 up to five (5) ABB VFDs reducing cost
- Full support for:
 - ACS380, ACS480, ACS580, ACQ580, ACH580 (7 words in/out)
 - ACS880 (12 words in/out)
 - DCS880 DC drive (12 words in/out)
- Limited support for ACH580 E-Clipse bypass (9 words in/3 words out)
- Limited support for ACS355 (9 words in/3 words out)
- Fixed Modbus RTU baud rate for quicker set up of the VFD.
- Access to drive parameters through Read/Write
- Drive Parameters are organized in a data block that allows Ethernet/IP access for easy read and write either individually or as a whole
- Security features based on IEC 62443
- Requires user supplied 24VDC (340mA)

VFD-GATEWAY configuration via web browser

- The VFD-GATEWAY is configured using a standard web browser on a PC/Laptop, to open a setup web-page which is embedded on the VFD-GATEWAY.
- The embedded web page does not require any additional software.
- This allows you to set:
 - VFD-GATEWAY Ethernet/IP address
 - Number of VFD nodes
 - Type of VFD drive at node
 - Diagnostic information to aide in troubleshooting

Web configuration screens



DriveTune

Enabling wireless connection

Dashboard

Real time drive status, control and I/O setup, fault and event log

System info

Find the control panel, drive serial numbers and software versions

Full parameter access

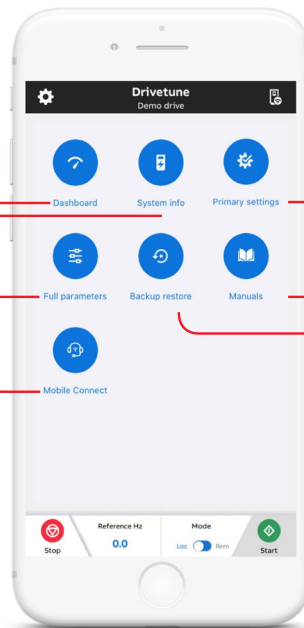
View and modify all available parameters

Export modified parameters

Export your modified parameters to PDF for easy sharing

Mobile Connect*

Allows support technician to communicate with drives user on-site



Primary settings

Intuitive to use menu for drive configuration and setup

Instructions and manuals

Download official documentation for the paired drive directly from ABB

Backup and restore

Create backups and restore them to compatible drives

Share files

Share backup or support package files via email or Bluetooth. Accept backup files from email or Bluetooth to restore them.

Shared features of the ABB all-compatible drives portfolio



Convenient access to start up, commission and troubleshoot your drives in a remote location.



Optimize performance via troubleshooting features.



Instant access to your drive status, backups and configuration.



Enables operation via your phone within 246 feet, allowing you to stay out of the danger zone.

Mobile Connect

Mobile Connect for Drives

ABB Ability™ Mobile Connect for drives is a cloud-based software working with the ABB Drivetune mobile app. Drivetune enables remote communication with on-site drives and users, assisting with commissioning and troubleshooting. Chats, sharing of images and backups via smartphone makes the technical support process quick and efficient.



—
Superior support via innovative digital tools



—
Easy connectivity for high-quality support



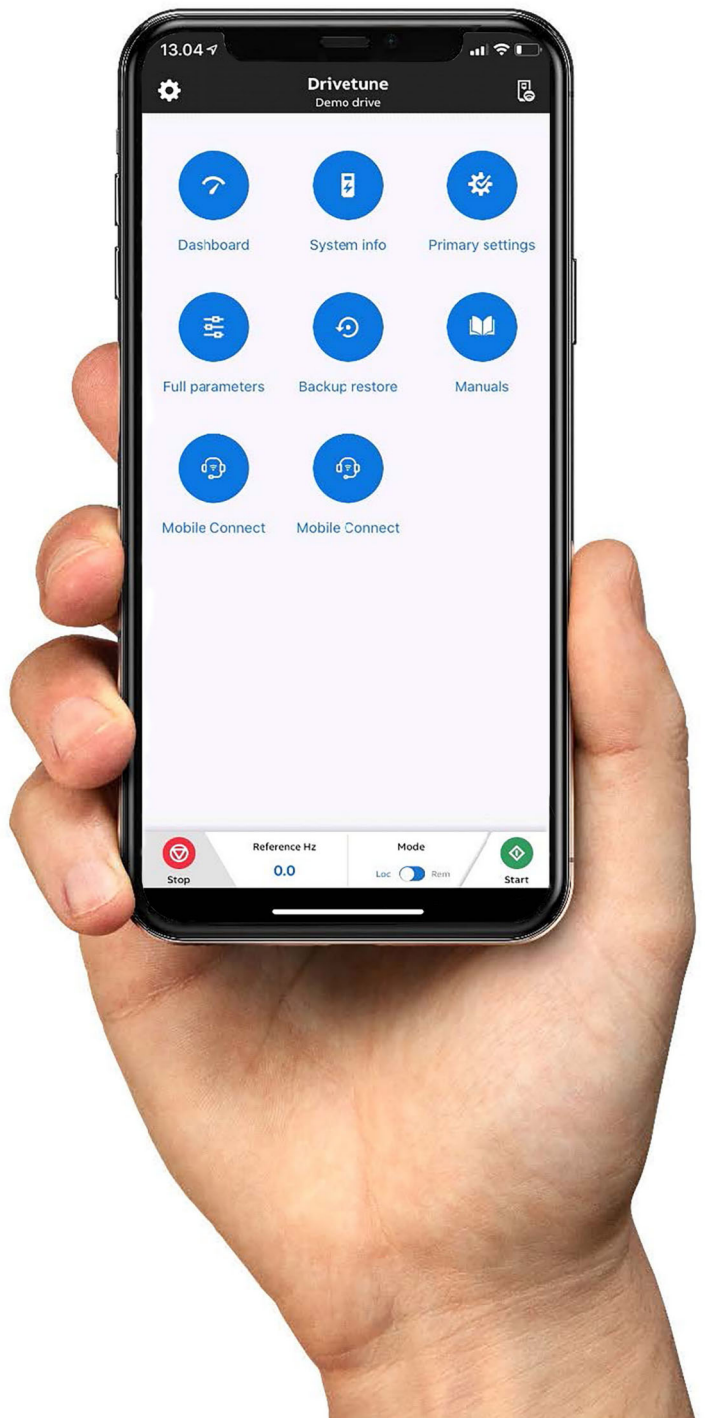
—
Better productivity and prioritizing



—
Solve issues faster, for increased uptime

Mobile device with Drivetune installed

The ABB drive experts will guide the on-site user through the technical support session. My ABB account credentials are required.



Options

Field and factory option kits

Name	Field Kit Part No.	Description	Installed Option Code
Input / Output Option Modules			
“C” type Field Bus Adapter for use with all configurations			
115/230V digital input (6xDI and 2xRO)	CHDI-01-KIT	The CHDI-01 is an optional digital input extension module that expands the inputs of the drive control board. It provides 6 inputs at 115/230V and 2 additional relay outputs.	+L512
			
External 24V DC/AC and digital I/O extension (2xRO and 1xDO)	CMOD-01-KIT	External 24VDC/AC as standard in CCU-24 control board (Frames R6- R9)	+L501
			
Bipolar analog I/O extension (3 analog inputs, 2 analog outputs)	CAIO-01	The CAIO-01 is an optional analog extension module that provides bipolar analog I/O extension with 3 analog inputs, 2 analog outputs.	+L525
			
Field Bus Adapters			
DeviceNet adapter	FDNA-01-KIT	The FDNA-01 DeviceNet adapter module enables connection of a drive to a DeviceNet network. The drive is considered a follower in the DeviceNet network. The FDNA-01 module is a device acting as a Group 2 only follower realizing the Predefined Master Follower Connection Set functionality. The Off-line Connection Set functionality and Unconnected Message Manager (UCMM) are not supported.	+K451
			
LonWorks adapter	FLON-01-KIT	The FLON-01 LonWorks adapter module enables connection of a drive to a LonWorks network.	+K452
			
Profibus DP adapter	FPBA-01-KIT	The FPBA-01 PROFIBUS DP adapter module enables connection of a drive to a PROFIBUS network. The drive is considered a follower on the PROFIBUS network. The FPBA-01 module supports the PROFIBUS DP-V0 and DP-V1 distributed I/O system protocols according to IEC 61158, IEC 61784 and EN 50170 standards. The module uses parameter/process data objects (PPOs) in cyclic communication and supports standard telegrams 1 and 2.	+K454
			

Options

Field and factory option kits

Name	Field Kit Part No.	Description	Installed Option Code
BACnet/IP (2-Port) 	FBIP-21-KIT	The FBIP-21 Ethernet 2 port adapter module enables the connection of a drive to an Ethernet network via a BACnet/IP protocol. The supported topologies are star through a switch or router and daisy chain. The FBIP-21 supports 10 Mbps or 100 Mbps and automatically detects the data transfer rate used in the network.	+K465
EtherNet adapter (2-Port) 	FENA-21-KIT	The FENA-21 Ethernet adapter module enables the connection of a drive to an Ethernet network, utilizing twisted pair as the physical media in either a star or daisy chain topology. In addition, FENA-21 supports the Modbus/TCP, Ethernet IP and ProfiNet IO communication protocols; 10 Mbit/s and 100 Mbit/s data transfer rates, and; automatically detects the data transfer rate used in the network. The module's minimum RPI is 1 ms.	+K475
EtherNet/IP Adapter (2-Port) 	FEIP-21-KIT	The FEIP-21 Ethernet adapter supports the Ethernet/IP protocol and has an integrated Ethernet switch that can be used in star or ring configuration on an Ethernet network. The module supports monitor only and control connection modes to use with automation equipment. It uses twisted pair as the physical media in star or daisy chain called Device Level Ring (DLR) topology, supports data transfer rates of 10 and 100 Mbit/s, has a 5 ms minimum RPI, and automatically detects the network's rate. Drive Composer Pro software can be used with this adapter for start-up or maintenance on ABB's common architecture drives.	+K490
Modbus/TCP Adapter (2-Port) 	FMBT-21-KIT	The FMBT-21 Ethernet adapter supports the Modbus protocol called Modbus TCP/IP, a simple and vendor neutral communication protocol. The adapter has an integrated Ethernet switch that can be used in star configuration or daisy chain on an Ethernet network. The FMBT-21 also supports the Modbus/UDP communication protocol and uses twisted pair as the physical media in a star topology. The adapter supports data transfer rates of 10 and 100 Mbit/s, has a 5 ms minimum RPI, and automatically detects the network's rate. Drive Composer Pro software can be used with this adapter for start-up or maintenance on ABB's common architecture drives.	+K491
Ethernet/IP protocol gateway 	VFD-GATEWAY	The VFD-GATEWAY supports the Ethernet/IP protocol to allow drive data access to and from up to 5 ABB drives. It uses a standard ethernet cable on the gateway EtherNet port and serial communications via RS485 using the Modbus RTU protocol to the integral serial port on select ABB drives*. The VFD-GATEWAY is customer DIN rail mountable separate from the drive. The Gateway provides software-free setup via a web browser interface. (Cables and power supply not included.) *ACH580, ACS880, and ACH580 E-Clipse Bypass with limited support * Note: installation by others, may not fit in existing packages	

Options

Field and factory option kits

Name	Field Kit Part No.	Description	Installed Option Code
Control Panel and Accessories			
Control panel (Hand-Off-Auto)	ACH-AP-H	ACH580 Hand-Off-Auto control panel (Hand-Off-Auto) Functionality	STD
			
Bluetooth control panel (Hand-Off-Auto)	ACH-AP-W	ACH580 Wireless Bluetooth control panel (Hand-Off-Auto) Functionality	+J429
			
Blank control panel cover	CDUM-01	ACH580 Blank cover for control panel Blank control panel cover. Option valid for -01, -31, Px (R1-R4 Type 1 and Type 12 only)	+J424
			
Panel bus adapter	CDPI-01 -KIT	The CDPI-01 communication adapter module can be used to connect a remote control panel to the drive, or to connect the control panel or a PC to several drives on a panel bus. The panel bus can have a maximum of 32 nodes. The control panel/PC is the master, while the drives equipped with the communication adapter module are followers.	---
			
Control panel mounting platform (surface mounted, requires also panel bus adapter on the drive)	DPMP-02	Control panel mounting kit – Surface mounted to the electrical enclosure door. (This kit also requires the CDPI-01 panel bus adapter)	---
			

Options

Field and factory option kits

Name	Field Kit Part No.	Description	Installed Option Code
Door mounting Kit (Surface mount) [Contains DPMP-02 & CDPI-01]	DPMP-EXT	Control panel mounting kit – Surface mounted to the electrical enclosure door. (This kit also includes the CDPI-01 panel bus adapter)	---
			
HVAC Cabinet mounting panel kit	DPMP-06-EXT-H	Allows remote mounting of the ACH-AP-H or ACH-AP-W control panel on a larger enclosure or remotely. The kit contains one piece of the DPMP-06 door mounting piece and one piece of the CDPI-01 drive mounting adapter and a 3m connection cable. The control panel must be purchased separately. For use with ACH580-01 ,ACH580-31 and ACH580-34 VFD's only. Through door mounting.	---
			
HVAC Cabinet Mount Panel	DPMP-07-H	Allows remote mounting of the ACH-AP-H or ACH-AP-W control panel on a larger enclosure or remotely. The kit contains one piece of the DPMP-07 door mounting piece. The control panel must be purchased separately. Through door mounting.	---
			
Door mounting Kit rated for use with UL/ NEMA 3R,4 and 4X Enclosures (Surface mount) R1-R5 Frame, Does not Include CDPI-01	DPMP-04	This control panel holder kit is rated for use with Type 3R, Type 4, or 4X rated enclosures made with UV resistant materials . This Surface mounted control panel holder does require the CDPI-01 Panel bus adapter to be ordered seperately. The DPMP-04 comes with the cable to attach the Control Panel to the CDPI-01 Panel bus adapter (Not Included) DPMP-04 is suitable for use wiht frames R1-R5	---
			
Door mounting Kit rated for use with UL/ NEMA 3R,4 and 4X Enclosures (Surface mount) R6-R9 Frames. Does not include CDPI-01	DPMP-05	This control panel holder kit is rated for use with Type 3R, Type 4, or 4X rated enclosures made with UV resistant materials . This Surface mounted control panel holder does require the CDPI-01 Panel bus adapter to be ordered seperately. The DPMP-05 comes with the cable to attach the Control Panel to the CDPI-01 Panel bus adapter (Not Included) DPMP-05 is suitable for use wiht frames R6-R9	---
			

Options

Field and factory option kits

Name	Field Kit Part No.	Description	Installed Option Code
Programming and Maintenance Tools			
Drive composer pro	DCPT-01-KIT	Drive composer pro software 2.x (Windows 7/Windows 8/Windows 10) and mini USB cable are used to view and set drive parameters, and to monitor and tune process performance. In addition to this, the pro version allows for safety configuration (FSO/FSE), ability to connect to multiple drives via Ethernet based adapter (one-wire EtherNet/IP, Modbus/TCP, PROFINET) or RS485 panel bus, and much more.	---
Cold configuration tool	CCA-01	Programming tool for unpowered drives, includes cable for connection to PC	---
USB to RJ45 Adapter (PC to Drive Connection)	BCBL-01	Programming cable for programing drives, includes cable for connection to PC. Requires Drive Composer	---
ACH580-01 democase, with travel case	---	ACH580-01 Democase with travel case.	---
ACH580 E-Clipse Democase	---	The ACH580-01 and E-Clipse bypass demo unit supports ACH580 drive only mode as well as ACH580 + E-Clipse bypass operation. Contains an ACH580-01 unit, bypass control unit, lockable input disconnect, a front I/O and PID simulation panel, and durable travel case with wheels.	---
Flange Mounting Kit for ACH580-01, UL Type 1 Drives			
R1 Frame	FMK-A/B-R1 580	Flange mounting kit for the ACH580-01 drives allows mounting the drive with the heatsink external to a 3rd party enclosure. The kit is delivered as a separate kit and includes a drip shield (to keep heatsink side as IP55).	---
R2 Frame	FMK-A/B-R2 580		---
R3 Frame	FMK-A/B-R3 580		---
R4 Frame	FMK-A/B-R4 580		---
R5 Frame	FMK-A/B-R5 580		---
R6 Frame	FMK-A/B-R6 580/880		---
R7 Frame	FMK-A/B-R7 580/880		---
R8 Frame	FMK-A/B-R8 580/880		---
R9 Frame	FMK-A/B-R9 580/880		---
Flange Mounting Kit for ACH580-31, UL Type 1 Drives			
R3 Frame	FMK-R3 580-31/880-X1	Flange mounting kit for the ACH580-31 drives allows mounting the drive with the heatsink external to a 3rd party enclosure. The kit is delivered as a separate kit and includes a drip shield (to keep heatsink side as IP55).	---
R6 Frame	FMK-R6 580-31/880-X1		---
R8 Frame	FMK-R8 580-31/880-X1		---
Mobile Connect			
Mobile connect single seat	NB_MOBILE_CON_IW	ABB Ability™ Mobile Connect for drives allows each seat holding remote service provider to communicate with on-site drives & users helping them easily commission and troubleshoot drives.	---
Mobile connect two seat	NB_MOBILE_CON_IW2		
Mobile connect five seat	NB_MOBILE_CON_IW5		

* For flange kit installation follow the procedure in ABB doc number 3AXD50000349821. Please note +C135 plus code is not available for purchase, kits must be purchased separately.

Options

Field and factory option kits

Name	Field Kit Part No.	Installed Option Code	Option valid for						
Input / Output Option Modules			-01	-BxR	-PxR	-VxR	-31	-3BxR	-3PxR
"C" type Field Bus Adapter for use with all configurations									
115/230V digital input (6xDI and 2xRO)	CHDI-01-KIT	+L512	✓	✓	✓	✓	✓	✓	✓
External 24V DC/AC and digital I/O extension (2xRO and 1xDO)	CMOD-01-KIT	+L501	✓	✓	✓	✓	✓	✓	✓
Bipolar analog I/O extension	CAIO-01	+L525	✓	✓	✓	✓	✓	✓	✓
Field Bus Adapters									
DeviceNet adapter	FDNA-01-KIT	+K451	✓	✓	✓	✓	✓	✓	✓
LonWorks adapter	FLON-01-KIT	+K452	✓	✓	✓	✓	✓	✓	✓
Profibus DP adapter	FPBA-01-KIT	+K454	✓		✓		✓		✓
BACnet/IP	FBIP-21-KIT	+K465	✓	✓	✓	✓	✓	✓	✓
EtherNet adapter	FENA-21-KIT	+K475	✓	✓	✓	✓	✓	✓	✓
EtherNet/IP adapter	FEIP-21-KIT	+K490	✓	✓	✓	✓	✓	✓	✓
Modbus adapter	FMBT-21-KIT	+K491	✓		✓	✓	✓		✓
Ethernet/IP protocol gateway	VFD-GATEWAY**	---	✓	✓	✓	✓	✓	✓	✓
Control Panel and Accessories									
Control panel (Hand-Off-Auto)	ACH-AP-H	STD	✓	✓	✓	✓	✓	✓	✓
No Control Panel		+0J400	✓				✓		
Bluetooth control (Hand-Off-Auto)	ACH-AP-W	+J429	✓	✓	✓	✓	✓	✓	✓
Blank control panel cover.	CDUM-01	+J424	✓	✓	✓	✓	✓	✓	✓
Option valid for -01, PxR (R1-R4 Type 1 and Type 12 only)									
Panel bus adapter	CDPI-01-KIT	---	✓	✓	✓	✓	✓	✓	✓
Control panel mounting platform (surface mounted, requires also panel bus adapter on the drive)	DPMP-02	---			✓		✓	✓	✓
Door mounting Kit (Surface mount)	DPMP-EXT	---	✓	✓	✓	✓	✓	✓	✓
[Contains DPMP-02 & CDPI-01]									
HVAC Cabinet mounting panel kit	DPMP-06-EXT-H	---	✓	✓	✓	✓	✓	✓	✓
HVAC Cabinet Mount Panel	DPMP-07-H	---	✓	✓	✓	✓	✓	✓	✓
Outdoor 3R,4 or 4X Panel cabinet door mounting kit (Surface mount) R1 - R5 Frames , Includes cable: Must also order CDPI-01 .	DPMP-04	---	✓				✓		
Outdoor 3R, 4 or 4X Panel cabinet door mounting kit (Surface mount) R6 - R9 Frames Includes Cable	DPMP-05	---	✓				✓		
Programming and Maintenance Tools									
Drive composer pro	DCPT-01-KIT	---	✓	✓	✓	✓	✓	✓	✓
Cold configurator tool	CCA-01	---	✓	✓	✓	✓	✓	✓	✓
USB to RJ45 Adapter (PC to Drive Connection)	BCBL-01		✓	✓	✓	✓	✓	✓	✓
ACH580-01 democase, with travel case	ACH580-01 Democase	---	✓						
ACH580 E-Clipse Democase	ACH580 E-Clipse Democase	---		✓		✓			
Construction Options									
Assembled in USA (R1 Frame)	---	+P918	✓						
Assembled in USA (R2 Frame)	---	+P918	✓						
Assembled in USA (R3 Frame)	---	+P918	✓						
Flange Mounting Kit for NEMA 1 Drives									
UL (NEMA) Type 1 ACH580 (R1 Frame)	FMK-A/B-R1 580	---	✓						
UL (NEMA) Type 1 ACH580 (R2 Frame)	FMK-A/B-R2 580	---	✓						
UL (NEMA) Type 1 ACH580 (R3 Frame)	FMK-A/B-R3 580	---	✓						
UL (NEMA) Type 1 ACH580 (R4 Frame)	FMK-A/B-R4 580	---	✓						
UL (NEMA) Type 1 ACH580 (R5 Frame)	FMK-A/B-R5 580	---	✓						
UL (NEMA) Type 1 ACH580 (R6 Frame)	FMK-A/B-R6 580/880	---	✓						
UL (NEMA) Type 1 ACH580 (R7 Frame)	FMK-A/B-R7 580/880	---	✓						
UL (NEMA) Type 1 ACH580 (R8 Frame)	FMK-A/B-R8 580/880	---	✓						
UL (NEMA) Type 1 ACH580 (R9 Frame)	FMK-A/B-R9 580/880	---	✓						
UL (NEMA) Type 1 ACH580-31 (R3 Frame)	FMK-R3 580-31/880-X1	---					✓		
UL (NEMA) Type 1 ACH580-31 (R6 Frame)	FMK-R6 580-31/880-X1	---					✓		
UL (NEMA) Type 1 ACH580-31 (R8 Frame)	FMK-R8 580-31/880-X1	---					✓		
Mobile connect									
Ability Mobile Connect 1 Year License - Single Seat***	NB_MOBILE_CON_IW	---	✓	✓	✓	✓	✓	✓	✓
Ability Mobile Connect 1 Year License – Two Seat***	NB_MOBILE_CON_IW2	---	✓	✓	✓	✓	✓	✓	✓
Ability Mobile Connect 1 Year License - Five Seat***	NB_MOBILE_CON_IW5	---	✓	✓	✓	✓	✓	✓	✓

* For flange kit installation follow the procedure in ABB doc number 3AXD50000349821. Please note +C135 plus code is not available for purchase, kits must be purchased separately.

** Note: installation by others, may not fit in existing packages



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HVAC motors



Baldor-Reliance® HVAC motors are specifically engineered with industry-driven designs to keep your air handling systems running smoothly, quietly, and efficiently, which means better system reliability and performance, with less maintenance.

Key features:

- Dynamically balanced rotor to reduce noise and increase bearing life
- Color coded and numbered leads for ease of connectivity
- Bar code spec number for easy identification
- Low noise vibration dampening bases
- Baldor-Reliance motors meet or exceed all efficiency requirements for US, Canada and Mexico regulations



ABB IEC low voltage motors are designed to meet the demands of commercial applications in the HVAC industry. Customized, build-to-order solutions, as well as process performance motors that are in stock; ABB has the motor for your HVAC applications.

Key features:

- True IEC design and dimensions
- Conduit box with terminal block easier, faster connections
- QR code for one-step motor data retrieval
- ABB IEC motors meet or exceed all efficiency requirements for the US, Canada, and Mexico
- Available in efficiencies up to IE5 (Ultra-Premium Efficiency)

Critical Cooling

Three phase, TEAO, with hybrid ceramic bearings
1 - 30 Hp



IP54



Features:

- Robust cast iron frame construction
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2
- Sealed Hybrid Ceramic bearings to protect against shaft currents
- Designed for longevity with a 5 year warranty

Applications:

- Direct drive applications
- Air handling
- Fans
- HVAC systems
- Variable speed applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
1	1800	143T	HBAO3581T	HB3	11.44	58	86.5	230/460	2.9
2	3600	145T	HBAO3586T	HB3	11.44	64	86.5	230/460	5.4
	1800	145T	HBAO3587T	HB3	11.44	64	86.5	230/460	5.7
3	3600	182T	HBAO3660T	HB3	13.89	95	89.5	230/460	7.5
	1800	182T	HBAO3661T	HB3	13.89	100	89.5	230/460	8.4
5	3600	184T	HBAO3663T	HB3	13.89	105	90.2	230/460	12
	1800	184T	HBAO3665T	HB3	13.89	120	90.2	230/460	13.7
7.5	3600	213T	HBAO3769T	HB3	16.88	173	91	230/460	19
	1800	213T	HBAO3770T	HB3	16.88	198	91.7	230/460	19
10	3600	215T	HBAO3771T	HB3	16.88	203	91.7	230/460	24
	1800	215T	HBAO3774T	HB3	16.88	231	92.4	230/460	26.3
15	3600	254T	HBAO2394T	HB3	20.75	239	91.7	230/460	34.4
	1800	254T	HBAO2333T	HB3	20.75	268	92.4	230/460	36.2
20	3600	256T	HBAO4106T	HB3	23	293	91	230/460	23
	1800	256T	HBAO2334T	HB3	23	293	93	230/460	24
25	3600	284T	HBAO4118T	HB3	25.63	378	91.7	230/460	29
	1800	286T	HBAO4103T	HB3	25.63	378	93.6	230/460	30
30	3600	286T	HBAO4108T	HB3	25.63	410	91.7	230/460	34
	1800	286T	HBAO4104T	HB3	25.63	410	93.6	230/460	38

 Cast iron frame
Red catalog number indicates NEW product.

Critical Cooling

Three phase, TEFC, foot mounted, with hybrid ceramic bearings

1 - 30 Hp



IP54



Features:

- Robust cast iron frame construction
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2
- Sealed Hybrid Ceramic bearings to protect against shaft currents
- Designed for longevity with a 5 year warranty

Applications:

- Direct drive applications
- Air handling
- Fans
- HVAC systems
- Variable speed applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
230/460 volt									
1	1800	143T	HBEM3546T	HB3	12.31	30	85.5	230/460	1.5
	1800	143T	HBEM3581T	HB3	12.54	55	85.5	230/460	1.5
	1200	145T	HBEM3556T	HB3	13.31	43	82.5	230/460	1.8
	1200	145T	HBEM3582T	HB3	12.54	56	82.5	230/460	1.7
1 1/2	1800	145T	HBEM3554T	HB3	13.31	42	86.5	230/460	2.2
	1800	145T	HBEM3584T	HB3	12.54	61	86.5	230/460	2.3
	1200	182T	HBEM3607T	HB3	16.54	76	87.5	230/460	2.4
	1200	182T	HBEM3667T	HB3	15.24	99	87.5	230/460	2.5
2	1800	145T	HBEM3558T	HB3	13.31	42	86.5	230/460	2.9
	1800	145T	HBEM3587T	HB3	12.54	62	86.5	230/460	2.9
	1200	184T	HBEM3614T	HB3	18.04	94	88.5	230/460	3.5
	1200	184T	HBEM3664T	HB3	15.24	123	88.5	230/460	3.15
3	1800	182T	HBEM3611T	HB3	16.54	74	89.5	230/460	4.2
	1800	182T	HBEM3661T	HB3	15.24	105	89.5	230/460	4.1
	1200	213T	HBEM3704T	HB3	19.01	135	89.5	230/460	4.6
	1200	213T	HBEM3764T	HB3	18.45	211	89.5	230/460	4.5
5	1800	184T	HBEM3615T	HB3	18.04	92	89.5	230/460	6.7
	1800	184T	HBEM3665T	HB3	15.24	115	89.5	230/460	6.6
	1200	215T	HBEM3708T	HB3	19.76	154	89.5	230/460	7.3
	1200	215T	HBEM3768T	HB3	18.45	198	89.5	230/460	7.4
7 1/2	1800	213T	HBEM3710T	HB3	19.01	129	91.7	230/460	9.4
	1800	213T	HBEM3770T	HB3	18.45	193	91.7	230/460	9.5
	1200	254T	HBEM2276T	HB3	23.3	281	91	230/460	11
10	1800	215T	HBEM3714T	HB3	20.51	156	91.7	230/460	12
	1800	215T	HBEM3774T	HB3	18.45	232	91.7	230/460	12.2
	1200	256T	HBEM2332T	HB3	23.3	322	91	230/460	14.1
15	1800	254T	HBEM2333T	HB3	23.3	270	92.4	230/460	18.1
	1200	284T	HBEM4100T	HB3	27.76	369	91.7	230/460	21
20	1800	256T	HBEM2334T	HB3	23.3	295	93	230/460	24
	1200	286T	HBEM4102T	HB3	27.76	393	91.7	230/460	27
25	1800	284T	HBEM4103T	HB3	27.76	400	93.6	230/460	30
30	1800	286T	HBEM4104T	HB3	27.76	410	93.6	230/460	38

Cast iron frame

Red catalog number indicates NEW product.

*IP54 when drain fitting kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Critical Cooling

Three phase, TEFC, with hybrid ceramic bearings (IE5+)
1 - 20 Hp


IP54


Features:

- IE5+ Motor Efficiency
- FASR - Magnet Assisted Synchronous Reluctance Rotor
- Sealed Hybrid Ceramic Bearings to protect against shaft currents
- For inverter use only per NEMA MG1 Part 31.4.4.2
- 1.5 Service Factor design
- Designed for longevity with 5 year warranty

Applications:

- Direct drive applications
- Air handling
- HVAC systems
- Variable speed applications

Hp	Base Speed RPM	C.H. Speed RPM	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
5	1800	4000	143T	TEFC	ECC101M0H5DF4	EC1	15.54	64	93.0%	230/460	10.4/5.2
5	1800	4000	182T	TEFC	ECC101M0H5EF4	EC1	16.54	68	93.7%	230/460	10.5/5.3
7.5	1800	4000	184T	TEFC	ECC101M0H7EF4	EC1	18.04	92	94.0%	230/460	17.5/8.8
7.5	1800	3000	213T	TEFC	ECC101M0H7FF4	EC1	17.89	105	94.0%	230/460	17.4/8.7
10	1800	3000	213T	TEFC	ECC101M0H10FF4	EC1	19.02	123	94.8%	230/460	22.0/11.0
15	1800	3000	215T	TEFC	ECC101M0H15FF4	EC1	21.96	168	95.6%	230/460	34.8/17.4
20	1800	3000	215T	TEFC	ECC101M4H20FF4	EC1	23.51	218	95.9%	460	21.6

Red catalog number indicates NEW product.

Critical cooling

Highest reliability with lifetime motor bearing protection



BALDOR • RELIANCE

Baldor-Reliance® Critical Cooling motors are ideal for variable speed applications where downtime is not an option. Specially designed hybrid ceramic bearings offer a lifetime warranty against motor bearing failure caused by shaft currents.

Features:

- Lifetime warranty on motor bearings against shaft currents caused by VFDs
- TEO and TEFC enclosures
- Hybrid ceramic ball bearings on both motor ends
- IP54 ingress protection
- Turndown ratio 20:1 variable torque
- Induction rotor for NEMA Premium® efficiency (IE3) or ultra premium efficiency (IE5+)
- NEMA Design A
- Multi-color leads for ease of connections
- Suitable for inverter use per MG1 Part 31.4.4.2
- Designed for longevity with 5-year warranty

Applications:

The Baldor-Reliance Critical Cooling motor is best suited for direct drive or belt-driven HVAC applications that utilize VFDs. Ideal for applications where stable temperature control and continuous operation are critical such as data centers, clean rooms, hospitals, and other commercial and industrial buildings.



Lifetime warranty
against bearing failure
from shaft currents

Critical cooling

Energy efficient and reliable

Critical cooling motors are offered in two different rotor designs:
(1) Induction rotor that meets NEMA Premium® efficiency (IE3) levels and (2) Ferrite Assisted Synchronous Reluctance, or FASR rotor, that is ultrapremium and achieves (IE5+) efficiency levels.

1



2



Inverter Duty

Three phase, TEFC, foot mounted, with internal Baldor-Reliance® shaft grounding brush

1 - 50 Hp



Features:

- Class H insulation for increased protection on inverter use
- Internal grounding brush for bearing current mitigation on drive end retainer ring
- Designed for longevity with 3 year warranty
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Unit handling
- HVAC systems
- Variable speed applications
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Foot mounted									
1	1800	143T	EM3546T-BG	HV3	13.31	38	85.5	230/460	1.5
	1800	143T	EM3581T-BG	HV3	12.54	55	85.5	230/460	1.5
	1200	145T	EM3582T-BG	HV3	12.54	56	82.5	230/460	1.7
1 1/2	3600	143T	EM3583T-BG	HV3	12.54	56	84	230/460	1.9
	1800	145T	EM3554T-BG	HV3	13.31	41	86.5	230/460	2.2
	1800	145T	EM3584T-BG	HV3	12.54	61	86.5	230/460	2.3
2	1200	182T	EM3667T-BG	HV3	15.24	99	87.5	230/460	2.5
	3600	145T	EM3555T-BG	HV3	13.31	41	85.5	230/460	2.5
	3600	145T	EM3586T-BG	HV3	12.54	62	85.5	230/460	2.5
2	1800	145T	EM3558T-BG	HV3	13.31	45	86.5	230/460	2.9
	1800	145T	EM3587T-BG	HV3	12.54	62	86.5	230/460	2.9
	1200	184T	EM3664T-BG	HV3	15.24	123	88.5	230/460	3.15
3	3600	145T	EM3559T-BG	HV3	14.19	50	86.5	230/460	3.6
	3600	182T	EM3660T-BG	HV3	15.24	58	86.5	230/460	3.8
	1800	182T	EM3611T-BG	HV3	16.54	70	89.5	230/460	4.2
3	1800	182T	EM3661T-BG	HV3	15.24	105	89.5	230/460	4.1
	1200	213T	EM3704T-BG	HV3	19.01	132	89.5	230/460	4.6
	1200	213T	EM3764T-BG	HV3	18.45	211	89.5	230/460	4.5
5	3600	184T	EM3613T-BG	HV3	16.54	74	88.5	230/460	5.9
	3600	184T	EM3663T-BG	HV3	15.24	99	88.5	230/460	5.8
	1800	184T	EM3615T-BG	HV3	18.04	93	89.5	230/460	6.7
5	1800	184T	EM3665T-BG	HV3	15.24	115	89.5	230/460	6.6
	1200	215T	EM3708T-BG	HV3	19.76	154	89.5	230/460	7.3
	1200	215T	EM3768T-BG	HV3	18.45	198	89.5	230/460	7.4
7 1/2	3600	213T	EM3709T-BG	HV3	17.89	121	89.5	230/460	9
	3600	213T	EM3769T-BG	HV3	18.45	169	89.5	230/460	9
	1800	213T	EM3710T-BG	HV3	19.01	127	91.7	230/460	9.4
7 1/2	1800	213T	EM3770T-BG	HV3	18.45	193	91.7	230/460	9.5
	1200	254T	EM2276T-BG	HV3	23.3	310	91	230/460	11

Cast iron frame

* IP54 when drain fitting kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Red catalog number indicates NEW product.

Inverter Duty, Three phase, TEFC, foot mounted, with internal Baldor-Reliance® shaft grounding brush

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
10	3600	215T	EM3711T-BG	HV3	17.89	118	90.2	230/460	11.8
	3600	215T	EM3771T-BG	HV3	18.45	164	90.2	230/460	11.8
	1800	215T	EM3714T-BG	HV3	20.51	165	91.7	230/460	12
	1800	215T	EM3774T-BG	HV3	18.45	232	91.7	230/460	12.2
	1200	256T	EM2332T-BG	HV3	23.3	322	91	230/460	14.1
15	3600	254T	EM2394T-BG	HV3	23.3	253	91	230/460	17.5
	1800	254T	EM2333T-BG	HV3	23.3	274	92.4	230/460	18.1
	1200	284T	EM4100T-BG	HV3	27.76	372	91.7	230/460	21
20	1800	256T	EM2334T-BG	HV3	23.3	290	93	230/460	24
	1200	286T	EM4102T-BG	HV3	27.76	406	91.7	230/460	27
25	1800	284T	EM4103T-BG	HV3	27.76	420	93.6	230/460	30
	1200	324T	EM4111T-BG	HV3	30.39	475	93	230/460	32
30	1800	286T	EM4104T-BG	HV3	27.76	437	93.6	230/460	38
40	1800	324T	EM4110T-BG	HV3	30.28	578	94.1	230/460	48
50	1800	326T	EM4115T-BG	HV3	30.28	641	94.5	230/460	58
C-Face, foot mounted									
1/2	1800	56C	CEM3538-BG	HV3	12.23	33	82.5	208-230/460	0.8
3/4	1800	56C	CEM3542-BG	HV3	12.23	37	84	208-230/460	1.1
1	1800	143TC	CEM3546T-BG	HV3	13.29	38	85.5	230/460	1.5
1 1/2	1800	145TC	CEM3554T-BG	HV3	13.29	41	86.5	230/460	2.2
2	1800	145TC	CEM3558T-BG	HV3	13.29	45	86.5	230/460	2.9
3	1800	182TC	CEM3611T-BG	HV3	16.55	70	89.5	230/460	4.2
5	1800	184TC	CEM3615T-BG	HV3	18.05	93	89.5	230/460	6.7

 Cast iron frame

* IP54 when drain fitting kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Red catalog number indicates NEW product.

Inverter Duty

Three phase, TEFC, C-face, foot mounted, with internal AEGIS® bearing protection ring

1 - 100 Hp



IP44*



Features:

- Class H insulation for increased protection on inverter use
- Internal grounding brush for bearing current mitigation
- Designed for longevity with 3 year warranty
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Unit handling
- HVAC systems
- Variable speed applications
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
230/460 volt									
1	3600	56C	CEM3545-G	HV3	12.23	32	77	230/460	1.4
	1800	143TC	CEM3546T-G	HV3	13.29	30	85.5	230/460	1.5
	1200	145TC	CEM3556T-G	HV3	13.29	43	82.5	230/460	1.8
1 1/2	3600	143TC	CEM3550T-G	HV3	13.29	36	84	230/460	1.9
	1800	145TC	CEM3554T-G	HV3	13.29	42	86.5	230/460	2.2
	1200	182TC	CEM3607T-G	HV3	16.54	76	87.5	230/460	2.4
2	3600	145TC	CEM3555T-G	HV3	13.29	46	85.5	230/460	2.5
	1800	145TC	CEM3558T-G	HV3	14.17	42	86.5	230/460	2.9
	1200	184TC	CEM3614T-G	HV3	18.05	94	88.5	230/460	3.5
3	3600	145TC	CEM3559T-G	HV3	14.17	53	86.5	230/460	3.6
		182TC	CEM3610T-G	HV3	15.16	50	86.5	230/460	3.6
	1800	182TC	CEM3611T-G	HV3	16.55	74	89.5	230/460	4.2
5	1200	213TC	CEM3704T-G	HV3	19.76	135	89.5	230/460	4.6
	3600	184TC	CEM3613T-G	HV3	16.55	76	88.5	230/460	5.9
	1800	184TC	CEM3615T-G	HV3	18.05	92	89.5	230/460	6.7
7 1/2	1200	215TC	CEM3708T-G	HV3	19.20	154	89.5	230/460	7.3
	3600	213TC	CEM3709T-G	HV3	18.63	133	89.5	230/460	9
	1800	213TC	CEM3710T-G	HV3	19.76	129	91.7	230/460	9.4
10	1200	254TC	CEM2276T-G	HV3	23.30	281	91	230/460	11
	3600	215TC	CEM3711T-G	HV3	18.63	118	90.2	230/460	11.8
	1800	215TC	CEM3714T-G	HV3	21.26	156	91.7	230/460	12
15	1200	256TC	CEM2332T-G	HV3	23.30	322	91	230/460	14.1
	3600	254TC	CEM2394T-G	HV3	23.78	239	91	230/460	17.5
	1800	254TC	CEM2333T-G	HV3	23.78	270	92.4	230/460	18.1
20	1200	284TC	CEM4100T-G	HV3	27.76	369	91.7	230/460	21
	3600	256TC	CEM4106T-G	HV3	23.78	261	91	230/460	23
	1800	256TC	CEM2334T-G	HV3	23.78	295	93	230/460	24
25	1200	286TC	CEM4102T-G	HV3	27.76	393	91.7	230/460	27
	3600	284TSC	CEM4107T-G	HV3	26.39	323	91.7	230/460	29
	1800	284TC	CEM4103T-G	HV3	27.76	400	93.6	230/460	30
30	1200	324TC	CEM4111T-G	HV3	30.39	507	93	230/460	32
	3600	286TSC	CEM4108T-G	HV3	26.39	336	91.7	230/460	34
	1800	286TC	CEM4104T-G	HV3	27.76	410	93.6	230/460	38
40	1200	326TC	CEM4117T-G	HV3	30.28	604	93	230/460	39
	3600	324TSC	CEM4109T-G	HV3	28.78	532	92.4	230/460	46
	1800	324TC	CEM4110T-G	HV3	30.28	596	94.1	230/460	48

Cast iron frame

* IP54 when drain fitting kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Red catalog number indicates NEW product.

Inverter Duty, Three phase, TEFC, C-face, foot mounted, with internal AEGIS® bearing protection ring

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Full Load Voltage	Full Load Amps
50	3600	326TSC	CEM4114T-G	HV3	28.78	584	93	230/460	56
	1800	326TC	CEM4115T-G	HV3	30.28	648	94.5	230/460	58
60	3600	364TSC	CEM4310T-G	HV3	31.36	900	95	230/460	66.3
	1800	364TC	CEM4314T-G	HV3	33.48	907	95	230/460	68
75	3600	365TSC	CEM4313T-G	HV3	31.36	966	94.5	230/460	81.9
	1800	365TC	CEM4316T-G	HV3	33.48	956	95.4	230/460	85.9
100	1800	405TC	CEM4400T-G	HV3	38.20	1214	95.4	230/460	112

 Cast iron frame

* IP54 when drain fitting kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Red catalog number indicates NEW product.

Inverter Duty

Three phase, ODP, C-Face, foot mounted with internal AEGIS® bearing protection ring

1 - 100 Hp



IP22



Features:

- Class H insulation for increased protection on inverter use
- Internal grounding ring for bearing current mitigation
- Designed for longevity with 3 year warranty
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Unit handling
- HVAC systems
- Variable speed applications
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
230/460 volt									
1	3600	56C	CEM31115-G	HV3	11.75	37	78.5	230/460	1.6
	1800	143TC	CEM3116T-G	HV3	11.12	34	85.5	230/460	1.5
	1200	145TC	CEM3156T-G	HV3	11.62	40	82.5	230/460	1.8
1 1/2	3600	143TC	CEM3120T-G	HV3	11.12	34	84	230/460	2
	1800	145TC	CEM3154T-G	HV3	11.62	38	86.5	230/460	2.2
	1200	182TC	CEM3207T-G	HV3	15.00	67	86.5	230/460	2.5
2	3600	143TC	CEM3155T-G	HV3	11.62	41	85.5	230/460	2.5
	1800	145TC	CEM3157T-G	HV3	12.12	41	86.5	230/460	2.9
	1200	184TC	CEM3215T-G	HV3	16.50	79	87.5	230/460	3.4
3	3600	145TC	CEM3158T-G	HV3	13.00	51	85.5	230/460	3.8
	1800	182TC	CEM3211T-G	HV3	15.00	72	89.5	230/460	4.2
	1200	213TC	CEM3305T-G	HV3	16.32	131	88.5	230/460	4.5
5	3600	182TC	CEM3212T-G	HV3	13.62	63	86.5	230/460	6
	1800	184TC	CEM3218T-G	HV3	16.50	84	89.5	230/460	6.6
	1200	215TC	CEM3309T-G	HV3	17.45	141	89.5	230/460	7.4
7 1/2	3600	184TC	CEM3219T-G	HV3	15.00	75	88.5	230/460	8.6
	1800	213TC	CEM3311T-G	HV3	16.32	130	91	230/460	9.7
	1200	254TC	CEM2506T-G	HV3	23.19	243	90.2	230/460	11
10	3600	213TC	CEM3312T-G	HV3	16.32	121	89.5	230/460	12
	1800	215TC	CEM3313T-G	HV3	17.45	148	91.7	230/460	12.5
	1200	256TC	CEM2511T-G	HV3	23.19	255	91.7	230/460	14.3
15	3600	215TC	CEM3314T-G	HV3	16.32	131	90.2	230/460	17.5
	1800	254TC	CEM2513T-G	HV3	21.69	251	93	230/460	17.7
	1200	284TC	CEM2524T-G	HV3	23.81	280	91.7	230/460	20.5
20	3600	254TC	CEM2514T-G	HV3	21.69	185	91	230/460	23.5
	1800	256TC	CEM2515T-G	HV3	21.69	250	93	230/460	24
	1200	286TC	CEM2528T-G	HV3	23.81	299	92.4	230/460	27
25	3600	256TC	CEM2516T-G	HV3	21.69	233	91.7	230/460	28
	1800	284TC	CEM2531T-G	HV3	25.06	314	93.6	230/460	30
	1200	324TC	CEM2532T-G	HV3	27.69	384	93	230/460	34
30	3600	284TSC	CEM2534T-G	HV3	22.44	320	91.7	230/460	35
	1800	286TC	CEM2535T-G	HV3	25.06	340	94.1	230/460	35
	1200	326TC	CEM2536T-G	HV3	28.69	457	93.6	230/460	38

* IP54 when drain fitting kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Red catalog number indicates NEW product.

Inverter Duty three phase, ODP, C-Face, foot mounted, with internal AEGIS® bearing protection ring

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Full Load Voltage	Full Load Amps
40	3600	286TSC	CEM2538T-G	HV3	22.44	328	92.4	230/460	46
	1800	324TC	CEM2539T-G	HV3	27.19	392	94.1	230/460	49
50	3600	324TSC	CEM2542T-G	HV3	25.69	392	93	230/460	56
	1800	326TC	CEM2543T-G	HV3	27.69	497	94.5	230/460	57
60	3600	326TSC	CEM2546T-G	HV3	30.69	616	95	230/460	68
	1800	364TC	CEM2547T-G	HV3	30.69	565	95	230/460	68
75	3600	364TSC	CEM2549T-G	HV3	33.72	750	95	230/460	87
	1800	365TC	CEM2551T-G	HV3	33.72	597	95	230/460	85
100	3600	365TSC	CEM2550T-4G	HV3	36.97	898	95.4	460	115
	1800	404TC	CEM2555T-4G	HV3	36.97	898	95.4	460	115

* IP54 when drain fitting kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Red catalog number indicates NEW product.

Inverter Duty

Three phase, ODP, foot mounted with internal AEGIS® bearing protection ring

1 - 100 Hp



IP22



Features:

- Class H insulation for increased protection on inverter use
- Internal grounding ring for bearing current mitigation on DE retainer ring
- Designed for longevity with 3 year warranty
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Unit handling
- HVAC systems
- Variable speed applications
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
230/460 volt									
1	3600	56	EM31115-G	HV3	11.75	27	77	230/460	1.6
	1800	143T	EM3116T-G	HV3	11.12	34	85.5	230/460	1.5
	1200	145T	EM3156T-G	HV3	11.62	40	82.5	230/460	1.8
1 1/2	3600	143T	EM3120T-G	HV3	11.12	34	84	230/460	2
	1800	145T	EM3154T-G	HV3	11.62	38	86.5	230/460	2.2
	1200	182T	EM3207T-G	HV3	15	67	86.5	230/460	2.5
2	3600	143T	EM3155T-G	HV3	11.62	41	85.5	230/460	2.5
	1800	145T	EM3157T-G	HV3	12.12	41	86.5	230/460	2.9
	1200	184T	EM3215T-G	HV3	16.5	79	87.5	230/460	3.4
3	3600	145T	EM3158T-G	HV3	13	46	85.5	230/460	3.8
	1800	182T	EM3211T-G	HV3	15	72	89.5	230/460	4.2
	1200	213T	EM3305T-G	HV3	16.32	110	88.5	230/460	4.5
5	3600	182T	EM3212T-G	HV3	13.62	63	86.5	230/460	6
	1800	184T	EM3218T-G	HV3	16.5	84	89.5	230/460	6.6
	1200	215T	EM3309T-G	HV3	17.45	141	89.5	230/460	7.4
7 1/2	3600	184T	EM3219T-G	HV3	15	75	88.5	230/460	8.6
	1800	213T	EM3311T-G	HV3	16.32	115	91	230/460	9.7
	1200	254T	EM2506T-G	HV3	23.19	243	90.2	230/460	11
10	3600	213T	EM3312T-G	HV3	16.32	113	89.5	230/460	12
	1800	215T	EM3313T-G	HV3	17.45	127	91.7	230/460	12.5
	1200	256T	EM2511T-G	HV3	23.19	255	91.7	230/460	14.3
15	3600	215T	EM3314T-G	HV3	16.32	126	90.2	230/460	17.5
	1800	254T	EM2513T-G	HV3	21.69	210	93	230/460	17.7
	1200	284T	EM2524T-G	HV3	23.81	280	91.7	230/460	20.5
20	3600	254T	EM2514T-G	HV3	21.69	195	91	230/460	23.5
	1800	256T	EM2515T-G	HV3	21.69	227	93	230/460	23.5
	1200	286T	EM2528T-G	HV3	23.81	299	92.4	230/460	27
25	3600	256T	EM2516T-G	HV3	21.69	212	91.7	230/460	28
	1800	284T	EM2531T-G	HV3	25.06	314	93.6	230/460	30
	1200	324T	EM2532T-G	HV3	27.69	384	93	230/460	34
30	3600	284TS	EM2534T-G	HV3	22.44	310	91.7	230/460	35
	1800	286T	EM2535T-G	HV3	25.06	340	94.1	230/460	35
	1200	326T	EM2536T-G	HV3	28.69	457	93.6	230/460	38
40	3600	286TS	EM2538T-G	HV3	22.44	328	92.4	230/460	46
	1800	324T	EM2539T-G	HV3	27.19	392	94.1	230/460	49
	1200	364T	EM2540T-G	HV3	30.69	606	94.1	230/460	51
50	3600	324TS	EM2542T-G	HV3	25.69	392	93	230/460	56
	1800	326T	EM2543T-G	HV3	27.69	473	94.5	230/460	57

Inverter Duty three phase, ODP, foot mounted, with internal AEGIS® bearing protection ring

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
60	1800	364T	EM2547T-G	HV3	30.69	616	95	230/460	68
75	1800	365T	EM2551T-G	HV3	33.72	750	95	230/460	87
100	1800	404T	EM2555T-4G	HV3	36.97	898	95.4	460	115
208 volt									
1	1800	143T	EM3116T-8G	HV3	11.12	38	85.5	208	3.5
1 1/2	1800	145T	EM3154T-8G	HV3	11.62	37	86.5	208	5.1
2	1800	145T	EM3157T-8G	HV3	12.12	43	86.5	208	6.5
3	1800	182T	EM3211T-8G	HV3	15	74	89.5	208	9.7
5	1800	184T	EM3218T-8G	HV3	16.5	92	89.5	208	15.3
7 1/2	1800	213T	EM3311T-8G	HV3	16.32	120	91	208	22.2
10	1800	215T	EM3313T-8G	HV3	17.45	132	91.7	208	29.5
15	1800	254T	EM2513T-8G	HV3	21.69	234	93	208	40.7
20	1800	256T	EM2515T-8G	HV3	21.69	250	93	208	54.3
25	1800	284T	EM2531T-8G	HV3	25.06	330	93.6	208	70
30	1800	286T	EM2535T-8G	HV3	25.06	340	94.1	208	81
40	1800	324T	EM2539T-8G	HV3	27.19	390	94.1	208	109
575 volt									
1	1800	143T	EM3116T-5G	HV3	11.12	38	85.5	575	1.2
1 1/2	1800	145T	EM3154T-5G	HV3	11.62	37	86.5	575	1.8
2	1800	145T	EM3157T-5G	HV3	12.12	43	86.5	575	2.3
3	1800	182T	EM3211T-5G	HV3	15	74	89.5	575	3.4
5	1800	184T	EM3218T-5G	HV3	16.5	92	89.5	575	5.3
7 1/2	1800	213T	EM3311T-5G	HV3	16.32	114	91	575	7.8
10	1800	215T	EM3313T-5G	HV3	17.45	132	91.7	575	10
15	1800	254T	EM2513T-5G	HV3	21.69	210	93	575	14.1
20	1800	256T	EM2515T-5G	HV3	21.69	250	93	575	18.9
25	1800	284T	EM2531T-5G	HV3	25.06	328	93.6	575	24.5
30	1800	286T	EM2535T-5G	HV3	25.06	340	94.1	575	28
40	1800	324T	EM2539T-5G	HV3	27.19	400	94.1	575	40

EC Titanium™

Three phase, totally enclosed
1 - 20 Hp



Features:

- IE5+ motor efficiency
- FASR - Ferrite Assisted Synchronous Reluctance Rotor
- Class F insulation with Class B motor temperature rise
- Internal grounding brush for bearing current mitigation
- For inverter use only per NEMA MG1 Part 31.4.4.2
- Designed for longevity with 3 year warranty



IP54

Applications:

- Fans
- Pumps
- Blowers
- Unit handling
- HVAC systems
- Variable speed applications
- General purpose applications
- Compressors

Hp	Base Speed RPM	C.H. Speed Type	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Eff.	Full Load Voltage	Full Load Amps
EC Titanium Motor, Inverter Duty, three phase, totally enclosed											
1	1800	4000	143T	TEFC	ECS101M0H1DF4	EC1	12.29	28	89.30%	230/460	2.3/1.2
2	1800	4000	145T	TEFC	ECS101M0H2DF4	EC1	12.29	35	90.70%	230/460	4.5/2.3
3	1800	4000	145T	TEFC	ECS101M0H3DF4	EC1	13.29	44	91.40%	230/460	7.0/3.5
		4000	182T	TEFC	ECS101M0H3EF4	EC1	16.54	59	92.80%	230/460	7.3/3.7
5	1800	4000	145T	TEFC	ECS101M0H5DF4	EC1	15.54	64	93.00%	230/460	10.4/5.2
		4000	184T	TEFC	ECS101M0H5EF4	EC1	16.54	68	93.70%	230/460	10.5/5.3
7 1/2	1800	4000	184T	TEFC	ECS101M0H7EF4	EC1	18.04	92	94.00%	230/460	17.5/8.8
		3000	213T	TEFC	ECS101M0H7FF4	EC1	17.89	105	94.00%	230/460	17.4/8.7
10	1800	3000	213T	TEFC	ECS101M0H10FF4	EC1	19.02	123	94.80%	230/460	22.0/11.0
15	1800	3000	215T	TEFC	ECS101M0H15FF4	EC1	21.96	168	95.60%	230/460	34.8/17.4
20	1800	3000	215T	TEFC	ECS101M4H20FF4	EC1	23.51	218	95.90%	460	21.6
EC Titanium Motor, Inverter Duty, three phase, totally enclosed, C-Face, foot mounted											
1	1800	4000	143TC	TEFC	ECS101M0H1DB4	EC1	12.29	28	89.30%	230/460	2.3/1.2
2	1800	4000	143TC	TEFC	ECS101M0H2DB4	EC1	12.29	35	90.70%	230/460	4.5/2.3
3	1800	4000	145TC	TEFC	ECS101M0H3DB4	EC1	13.29	44	91.40%	230/460	7.0/3.5
		4000	182TC	TEFC	ECS101M0H3EB4	EC1	16.54	59	92.80%	230/460	7.3/3.7
5	1800	4000	143TC	TEFC	ECS101M0H5DB4	EC1	15.54	64	93.00%	230/460	10.4/5.2
		4000	182TC	TEFC	ECS101M0H5EB4	EC1	16.54	68	93.70%	230/460	10.5/5.3
7 1/2	1800	4000	184TC	TEFC	ECS101M0H7EB4	EC1	18.04	92	94.00%	230/460	17.5/8.8
		3000	213TC	TEFC	ECS101M0H7FB4	EC1	17.89	105	94.00%	230/460	17.4/8.7
10	1800	3000	213TC	TEFC	ECS101M0H10FB4	EC1	19.02	123	94.80%	230/460	22.0/11.0
15	1800	3000	215TC	TEFC	ECS101M0H15FB4	EC1	21.96	168	95.60%	230/460	34.8/17.4
20	1800	3000	215TC	TEFC	ECS101M4H20FB4	EC1	23.51	218	95.90%	460	21.6
EC Titanium Motor, Inverter Duty, three phase, totally enclosed, C-Face, footless											
1	1800	4000	143TC	TEFC	ECS101M0H1DC4	EC1	12.29	28	89.30%	230/460	2.3/1.2
2	1800	4000	143TC	TEFC	ECS101M0H2DC4	EC1	12.29	35	90.70%	230/460	4.5/2.3
3	1800	4000	145TC	TEFC	ECS101M0H3DC4	EC1	13.29	44	91.40%	230/460	7.0/3.5
		4000	182TC	TEFC	ECS101M0H3EC4	EC1	16.54	59	92.80%	230/460	7.3/3.7
5	1800	4000	143TC	TEFC	ECS101M0H5DC4	EC1	15.54	64	93.00%	230/460	10.4/5.2
		4000	182TC	TEFC	ECS101M0H5EC4	EC1	16.54	68	93.70%	230/460	10.5/5.3
7 1/2	1800	4000	184TC	TEFC	ECS101M0H7EC4	EC1	18.04	92	94.00%	230/460	17.5/8.8
		3000	213TC	TEFC	ECS101M0H7FC4	EC1	17.89	105	94.00%	230/460	17.4/8.7
10	1800	3000	213TC	TEFC	ECS101M0H10FC4	EC1	19.02	123	94.80%	230/460	22.0/11.0
15	1800	3000	215TC	TEFC	ECS101M0H15FC4	EC1	21.96	168	95.60%	230/460	34.8/17.4
20	1800	3000	215TC	TEFC	ECS101M4H20FC4	EC1	23.51	218	95.90%	460	21.6

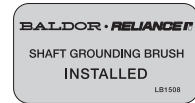
Red catalog number indicates **NEW** product.

For EC Titanium Mod Express®, contact your local sales office.

EC Titanium™

Top mount integrated drive motor, three phase, totally enclosed

1 - 10 Hp



IP54



Features:

- Permanent Magnet PWM AC Drive Control
- IP54 Gasket Plastic Cover Enclosure
- Built-in ABB Ability and Bluetooth communications
- Serial Modbus RJ45 Interface
- 2 Digital Inputs, 2 Configurable Inputs (Analog or Digital)
- 1 Relay Output
- IE5+ Motor Efficiency
- Class F Insulation with Class B Motor temperature
- Internal grounding brush for bearing current mitigation
- Motor rated for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Unit handling
- HVAC systems
- Variable speed applications
- General purpose applications
- Compressors

Hp	Base Speed RPM	C.H. Speed RPM	NEMA Type	Enclosure Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Eff.	Voltage	Motor Input Amps	Drive Module (b)	Drive Output Amps
EC Titanium, Top Mount Integrated Drive Motor, three phase, totally enclosed													
1-phase 100V...115V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS100T1H1DF4	EC2	12.37	35	89.30%	115	2.4	ECI1A3P2	3.2
1-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS100T8H1DF4	EC2	12.37	35	89.30%	230	2.4	ECI8A7P0	7
2	1800	4000	145T	TEFC	ECS100T8H2DF4	EC2	12.37	41	90.70%	230	4.4	ECI8A7P0	7
3-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS100T2H1DF4	EC2	12.37	35	89.30%	230	2.4	ECI2A4P3	4.3
2	1800	4000	145T	TEFC	ECS100T2H2DF4	EC2	12.37	41	90.70%	230	4.3	ECI2A7P0	7
3	1800	4000	182T	TEFC	ECS100T2H3EF4	EC2	16.71	66	92.80%	230	7.3	ECI2A10P5	10.5
5	1800	4000	184T	TEFC	ECS100T2H5EF4	EC2	16.71	77	93.70%	230	10.5	ECI2A10P5	10.5
3-phase 380...480V AC (+/-10%) - 3 Phase 460V Output													
1	1800	4000	143T	TEFC	ECS100T4H1DF4	EC2	12.37	35	89.30%	460	1.2	ECI4A2P2	2.2
2	1800	4000	145T	TEFC	ECS100T4H2DF4	EC2	12.37	41	90.70%	460	2.2	ECI4A2P2	2.2
3	1800	4000	145T	TEFC	ECS100T4H3DF4	EC2	13.37	47	91.40%	460	3.5	ECI4A4P1	4.1
3	1800	4000	182T	TEFC	ECS100T4H3EF4	EC2	16.71	66	92.80%	460	3.7	ECI4A4P1	4.1
5	1800	4000	184T	TEFC	ECS100T4H5EF4	EC2	16.71	77	93.70%	460	5.3	ECI4A5P8	5.8
7 1/2	1800	4000	184T	TEFC	ECS100T4H7EF4	EC2	18.21	106	94.00%	460	8.8	ECI4A9P5	9.5
		3000	213T	TEFC	ECS100T4H7FF4	EC2	18.1	111	94.70%	460	8.6	ECI4A9P5	9.5
10	1800	3000	215T	TEFC	ECS100T4H10FF4	EC2	19.23	132	94.80%	460	11	ECI4A12P0	12
EC Titanium, Top Mount Integrated Drive Motor, three phase, totally enclosed, C-Face, foot mounted													
1-phase 100V...115V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100T1H1DB4	EC2	12.37	36	89.30%	115	2.4	ECI1A3P2	3.2
1-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100T8H1DB4	EC2	12.37	35	89.30%	230	2.4	ECI8A7P0	7
2	1800	4000	145TC	TEFC	ECS100T8H2DB4	EC2	13.37	41	90.70%	230	4.4	ECI8A7P0	7

Red catalog number indicates NEW product.
For EC Titanium Mod Express®, contact your local sales office.

EC Titanium™, top mount integrated drive motor, three phase, totally enclosed

Hp	Base Speed RPM	C.H. Speed Type	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Eff.	Voltage	Motor Input Amps	Drive Module (b)	Drive Output Amps
3-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100T2H1DB4	EC2	12.37	35	89.30%	230	2.4	ECI2A4P3	4.3
2	1800	4000	145TC	TEFC	ECS100T2H2DB4	EC2	13.37	41	90.70%	230	4.3	ECI2A7P0	7
3	1800	4000	182TC	TEFC	ECS100T2H3EB4	EC2	16.71	66	92.80%	230	7.3	ECI2A10P5	10.5
5	1800	4000	184TC	TEFC	ECS100T2H5EB4	EC2	16.71	77	93.70%	230	10.5	ECI2A10P5	10.5
3-phase 380...480V AC (+/-10%) - 3 Phase 460V Output													
1	1800	4000	143TC	TEFC	ECS100T4H1DB4	EC2	12.37	35	89.30%	460	1.2	ECI4A2P2	2.2
2	1800	4000	145TC	TEFC	ECS100T4H2DB4	EC2	13.37	41	90.70%	460	2.2	ECI4A2P2	2.2
3	1800	4000	145TC	TEFC	ECS100T4H3DB4	EC2	13.37	47	91.40%	460	3.5	ECI4A4P1	4.1
		4000	182TC	TEFC	ECS100T4H3EB4	EC2	16.71	67	92.80%	460	3.7	ECI4A4P1	4.1
5	1800	4000	184TC	TEFC	ECS100T4H5EB4	EC2	16.71	77	93.70%	460	5.3	ECI4A5P8	5.8
7 1/2	1800	4000	184TC	TEFC	ECS100T4H7EB4	EC2	18.21	106	94.00%	460	8.8	ECI4A9P5	9.5
		3000	213TC	TEFC	ECS100T4H7FB4	EC2	18.1	111	94.70%	460	8.6	ECI4A9P5	9.5
10	1800	3000	215TC	TEFC	ECS100T4H10FB4	EC2	19.23	132	94.80%	460	11	ECI4A12P0	12
EC Titanium, Top Mount Integrated Drive Motor, three phase, totally enclosed, C-Face, footless													
1-phase 100V...115V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100T1H1DC4	EC2	12.37	36	89.30%	115	2.4	ECI1A3P2	3.2
1-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100T8H1DC4	EC2	12.37	35	89.30%	230	2.4	ECI8A7P0	7
2	1800	4000	145TC	TEFC	ECS100T8H2DC4	EC2	13.37	41	90.70%	230	4.4	ECI8A7P0	7
3-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100T2H1DC4	EC2	12.37	35	89.30%	230	2.4	ECI2A4P3	4.3
2	1800	4000	145TC	TEFC	ECS100T2H2DC4	EC2	13.37	41	90.70%	230	4.3	ECI2A7P0	7
3	1800	4000	182TC	TEFC	ECS100T2H3EC4	EC2	16.71	66	92.80%	230	7.3	ECI2A10P5	10.5
5	1800	4000	184TC	TEFC	ECS100T2H5EC4	EC2	16.71	77	93.70%	230	10.5	ECI2A10P5	10.5
3-phase 380...480V AC (+/-10%) - 3 Phase 460V Output													
1	1800	4000	143TC	TEFC	ECS100T4H1DC4	EC2	12.37	35	89.30%	460	1.2	ECI4A2P2	2.2
2	1800	4000	145TC	TEFC	ECS100T4H2DC4	EC2	13.37	41	90.70%	460	2.2	ECI4A2P2	2.2
3	1800	4000	145TC	TEFC	ECS100T4H3DC4	EC2	13.37	47	91.40%	460	3.5	ECI4A4P1	4.1
		4000	182TC	TEFC	ECS100T4H3EC4	EC2	16.71	67	92.80%	460	3.7	ECI4A4P1	4.1
5	1800	4000	184TC	TEFC	ECS100T4H5EC4	EC2	16.71	77	93.70%	460	5.3	ECI4A5P8	5.8
7 1/2	1800	4000	184TC	TEFC	ECS100T4H7EC4	EC2	18.21	106	94.00%	460	8.8	ECI4A9P5	9.5
		3000	213TC	TEFC	ECS100T4H7FC4	EC2	18.1	111	94.70%	460	8.6	ECI4A9P5	9.5
10	1800	3000	215TC	TEFC	ECS100T4H10FC4	EC2	19.23	132	94.80%	460	11	ECI4A12P0	12

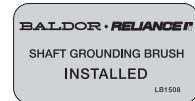
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For EC Titanium Mod Express®, contact your local sales office.

EC Titanium™

Axial mount integrated drive motor, three phase, totally enclosed

1 - 7.5 Hp



IP54

Features:

- Permanent Magnet PWM AC Drive Control
- IP54 Gasket Plastic Cover Enclosure
- Built-in ABB Ability and Bluetooth communications
- Serial Modbus RJ45 Interface
- 2 Digital Inputs, 2 Configurable Inputs (Analog or Digital)
- 1 Relay Output
- IE5+ Motor Efficiency
- Class F Insulation with Class B Motor temperature
- Internal grounding brush for bearing current mitigation
- Motor rated for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Unit handling
- HVAC systems
- Variable speed applications
- General purpose applications
- Compressors

Hp	Base Speed RPM	C.H. Speed Type	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Eff.	Motor Input Amps	Drive Input Voltage	Drive Module (b)	Drive Output Amps
EC Titanium, Axial Mount Integrated Drive Motor, three phase, totally enclosed													
1-phase 100V...115V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS100A1H1DF4	EC3	16.71	35	89.30%	2.4	115	ECI1A3P2	3.2
1-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS100A8H1DF4	EC3	16.71	35	89.30%	2.4	230	ECI8A7P0	7
2	1800	4000	145T	TEFC	ECS100A8H2DF4	EC3	16.71	38	90.70%	4.4	230	ECI8A7P0	7
3-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS100A2H1DF4	EC3	16.71	35	89.30%	2.4	230	ECI2A4P3	4.3
2	1800	4000	145T	TEFC	ECS100A2H2DF4	EC3	16.71	38	90.70%	4.3	230	ECI2A7P0	7
3	1800	4000	182T	TEFC	ECS100A2H3EF4	EC3	22.25	66	92.80%	7.3	230	ECI2A10P5	10.5
5	1800	4000	184T	TEFC	ECS100A2H5EF4	EC3	22.25	76	93.70%	10.5	230	ECI2A10P5	10.5
3-phase 380...480V AC (+/-10%) - 3 Phase 460V Output													
1	1800	4000	143T	TEFC	ECS100A4H1DF4	EC3	16.71	35	89.30%	1.2	460	ECI4A2P2	2.2
2	1800	4000	145T	TEFC	ECS100A4H2DF4	EC3	16.71	38	90.70%	2.2	460	ECI4A2P2	2.2
3	1800	4000	145T	TEFC	ECS100A4H3DF4	EC3	16.71	46	91.40%	3.5	460	ECI4A4P1	4.1
		4000	182T	TEFC	ECS100A4H3EF4	EC3	22.25	66	92.80%	3.7	460	ECI4A4P1	4.1
5	1800	4000	182T	TEFC	ECS100A4H5EF4	EC3	22.25	76	93.70%	5.3	460	ECI4A5P8	5.8
7 1/2	1800	4000	184T	TEFC	ECS100A4H7EF4	EC3	23.76	101	94.00%	8.8	460	ECI4A9P5	9.5
EC Titanium, Axial Mount Integrated Drive Motor, three phase, totally enclosed, C-Face, foot mounted													
1-phase 100V...115V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100A1H1DB4	EC3	16.71	36	89.30%	2.4	115	ECI1A3P2	3.2
1-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100A8H1DB4	EC3	16.71	35	89.30%	2.4	230	ECI8A7P0	7
2	1800	4000	145TC	TEFC	ECS100A8H2DB4	EC3	16.71	41	90.70%	4.4	230	ECI8A7P0	7

(b) Integrated Drive Model – available as a renewal parts replacement assembly

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For EC Titanium Mod Express®, contact your local sales office.

EC Titanium™, axial mount integrated drive motor, three phase, totally enclosed

Hp	Base Speed RPM	C.H. Speed Type	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Eff.	Motor Input Amps	Drive Input Voltage	Drive Module (b)	Drive Output Amps
3-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100A2H1DB4	EC3	16.71	35	89.30%	2.4	230	ECI2A4P3	4.3
2	1800	4000	145TC	TEFC	ECS100A2H2DB4	EC3	16.71	41	90.70%	4.3	230	ECI2A7P0	7
3	1800	4000	182TC	TEFC	ECS100A2H3EB4	EC3	22.25	66	92.80%	7.3	230	ECI2A10P5	10.5
5	1800	4000	184TC	TEFC	ECS100A2H5EB4	EC3	22.25	77	93.70%	10.5	230	ECI2A10P5	10.5
3-phase 380...480V AC (+/-10%) - 3 Phase 460V Output													
1	1800	4000	143TC	TEFC	ECS100A4H1DB4	EC3	16.71	35	89.30%	1.2	460	ECI4A2P2	2.2
2	1800	4000	145TC	TEFC	ECS100A4H2DB4	EC3	16.71	41	90.70%	2.2	460	ECI4A2P2	2.2
3	1800	4000	145TC	TEFC	ECS100A4H3DB4	EC3	16.71	47	91.40%	3.5	460	ECI4A4P1	4.1
		4000	182TC	TEFC	ECS100A4H3EB4	EC3	22.25	67	92.80%	3.7	460	ECI4A4P1	4.1
5	1800	4000	184TC	TEFC	ECS100A4H5EB4	EC3	22.25	77	93.70%	5.3	460	ECI4A5P8	5.8
7 1/2	1800	4000	184TC	TEFC	ECS100A4H7EB4	EC3	23.76	106	94.00%	8.8	460	ECI4A9P5	9.5
EC Titanium, Axial Mount Integrated Drive Motor, three phase, totally enclosed, C-Face, footless													
1-phase 100V...115V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100A1H1DC4	EC3	16.71	36	89.30%	2.4	115	ECI1A3P2	3.2
1-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100A8H1DC4	EC3	16.71	35	89.30%	2.4	230	ECI8A7P0	7
2	1800	4000	145TC	TEFC	ECS100A8H2DC4	EC3	16.71	41	90.70%	4.4	230	ECI8A7P0	7
3-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143TC	TEFC	ECS100A2H1DC4	EC3	16.71	35	89.30%	2.4	230	ECI2A4P3	4.3
2	1800	4000	145TC	TEFC	ECS100A2H2DC4	EC3	16.71	41	90.70%	4.3	230	ECI2A7P0	7
3	1800	4000	182TC	TEFC	ECS100A2H3EC4	EC3	22.25	66	92.80%	7.3	230	ECI2A10P5	10.5
5	1800	4000	184TC	TEFC	ECS100A2H5EC4	EC3	22.25	77	93.70%	10.5	230	ECI2A10P5	10.5
3-phase 380...480V AC (+/-10%) - 3 Phase 460V Output													
1	1800	4000	143TC	TEFC	ECS100A4H1DC4	EC3	16.71	35	89.30%	1.2	460	ECI4A2P2	2.2
2	1800	4000	145TC	TEFC	ECS100A4H2DC4	EC3	16.71	41	90.70%	2.2	460	ECI4A2P2	2.2
3	1800	4000	145TC	TEFC	ECS100A4H3DC4	EC3	16.71	47	91.40%	3.5	460	ECI4A4P1	4.1
		4000	182TC	TEFC	ECS100A4H3EC4	EC3	22.25	67	92.80%	3.7	460	ECI4A4P1	4.1
5	1800	4000	184TC	TEFC	ECS100A4H5EC4	EC3	22.25	77	93.70%	5.3	460	ECI4A5P8	5.8
7 1/2	1800	4000	184TC	TEFC	ECS100A4H7EC4	EC3	23.76	106	94.00%	8.8	460	ECI4A9P5	9.5

(b) Integrated Drive Model – available as a renewal parts replacement assembly

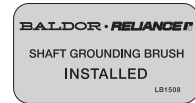
Red catalog number indicates NEW product.

For EC Titanium Mod Express®, contact your local sales office.

EC Titanium™

Plenum use, aluminum housing and fan cover, non-bluetooth drive

1 - 10 Hp



IP54



Features:

- IP54 Gasket Aluminum Cover Enclosure and Fan Cover
- Non-Bluetooth Drive
- Serial Modbus RJ45 Interface
- 2 Digital Inputs, 2 Configurable Inputs (Analog or Digital)
- 1 Relay Output
- IE5+ Motor Efficiency
- Class F Insulation with Class B Motor temperature
- Internal grounding brush for bearing current mitigation
- Motor rated for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Unit handling
- HVAC systems
- Variable speed applications
- General purpose applications

Hp	Base Speed RPM	C.H. Speed Type	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Eff.	Motor Input Amps	Drive Input Voltage	Drive Module (b)	Drive Output Amps
EC Titanium, Top Mount Integrated Drive Motor, three phase, totally enclosed, 1 to 10 Hp													
1-phase 100V...115V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS101T1H1DF4	EC2	16.71	36	89.30%	2.4	115	ECIN1A3P2	3.2
1-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS101T8H1DF4	EC2	16.71	35	89.30%	2.4	230	ECIN8A7P0	7
2	1800	4000	145T	TEFC	ECS101T8H2DF4	EC2	16.71	41	90.70%	4.4	230	ECIN8A7P0	7
3-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS101T2H1DF4	EC2	16.71	35	89.30%	2.4	230	ECIN2A4P3	4.3
2	1800	4000	145T	TEFC	ECS101T2H2DF4	EC2	16.71	41	90.70%	4.3	230	ECIN2A7P0	7
3	1800	4000	182T	TEFC	ECS101T2H3EF4	EC2	22.25	66	92.80%	7.3	230	ECIN2A10P5	10.5
5	1800	4000	184T	TEFC	ECS101T2H5EF4	EC2	22.25	77	93.70%	10.5	230	ECIN2A10P5	10.5
3-phase 380...480V AC (+/-10%) - 3 Phase 460V Output													
1	1800	4000	143T	TEFC	ECS101T4H1DF4	EC2	16.71	35	89.30%	1.2	460	ECIN4A2P2	2.2
2	1800	4000	145T	TEFC	ECS101T4H2DF4	EC2	16.71	41	90.70%	2.2	460	ECIN4A2P2	2.2
3	1800	4000	145T	TEFC	ECS101T4H3DF4	EC2	16.71	47	91.40%	3.5	460	ECIN4A4P1	4.1
		4000	182T	TEFC	ECS101T4H3EF4	EC2	22.25	67	92.80%	3.7	460	ECIN4A4P1	4.1
5	1800	4000	184T	TEFC	ECS101T4H5EF4	EC2	22.25	77	93.70%	5.3	460	ECIN4A5P8	5.8
7 1/2	1800	4000	184T	TEFC	ECS101T4H7EF4	EC2	23.76	106	94.00%	8.8	460	ECIN4A9P5	9.5
		3000	213T	TEFC	ECS101T4H7FF4	EC2	18.1	111	94.70%	8.6	460	ECIN4A9P5	9.5
10	1800	3000	215T	TEFC	ECS101T4H10FF4	EC2	19.23	132	94.80%	11	460	ECIN4A12P0	12
EC Titanium, Axial Mount Integrated Drive Motor, three phase, totally enclosed, 1 to 7 1/2 Hp													
1-phase 100V...115V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS101A1H1DB4	EC3	16.71	36	89.30%	2.4	115	ECIN1A3P2	3.2
1-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS101A8H1DB4	EC3	16.71	35	89.30%	2.4	230	ECIN8A7P0	7
2	1800	4000	145T	TEFC	ECS101A8H2DB4	EC3	16.71	41	90.70%	4.4	230	ECIN8A7P0	7

(b) Integrated Drive Model – available as a renewal parts replacement assembly

Red catalog number indicates NEW product.

For EC Titanium Mod Express®, contact your local sales office.

EC Titanium™, plenum use, aluminum housing and fan cover, non-bluetooth drive

Hp	Base Speed RPM	C.H. Speed Type	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Eff.	Motor Input Amps	Drive Input Voltage	Drive Module (b)	Drive Output Amps
3-phase 208...240V AC (+/-10%) - 3 Phase 230V Output													
1	1800	4000	143T	TEFC	ECS101A2H1DB4	EC3	16.71	35	89.30%	2.4	230	ECIN2A4P3	4.3
2	1800	4000	145T	TEFC	ECS101A2H2DB4	EC3	16.71	41	90.70%	4.3	230	ECIN2A7P0	7
3	1800	4000	182T	TEFC	ECS101A2H3EB4	EC3	22.25	66	92.80%	7.3	230	ECIN2A10P5	10.5
5	1800	4000	184T	TEFC	ECS101A2H5EB4	EC3	22.25	77	93.70%	10.5	230	ECIN2A10P5	10.5
3-phase 380...480V AC (+/-10%) - 3 Phase 460V Output													
1	1800	4000	143T	TEFC	ECS101A4H1DB4	EC3	16.71	35	89.30%	1.2	460	ECIN4A2P2	2.2
2	1800	4000	145T	TEFC	ECS101A4H2DB4	EC3	16.71	41	90.70%	2.2	460	ECIN4A2P2	2.2
3	1800	4000	145T	TEFC	ECS101A4H3DB4	EC3	16.71	47	91.40%	3.5	460	ECIN4A4P1	4.1
		4000	182T	TEFC	ECS101A4H3EB4	EC3	22.25	67	92.80%	3.7	460	ECIN4A4P1	4.1
5	1800	4000	184T	TEFC	ECS101A4H5EB4	EC3	22.25	77	93.70%	5.3	460	ECIN4A5P8	5.8
7 1/2	1800	4000	184T	TEFC	ECS101A4H7EB4	EC3	23.76	106	94.00%	8.8	460	ECIN4A9P5	9.5

(b) Integrated Drive Model – available as a renewal parts replacement assembly

Red catalog number indicates NEW product.

For EC Titanium Mod Express®, contact your local sales office.

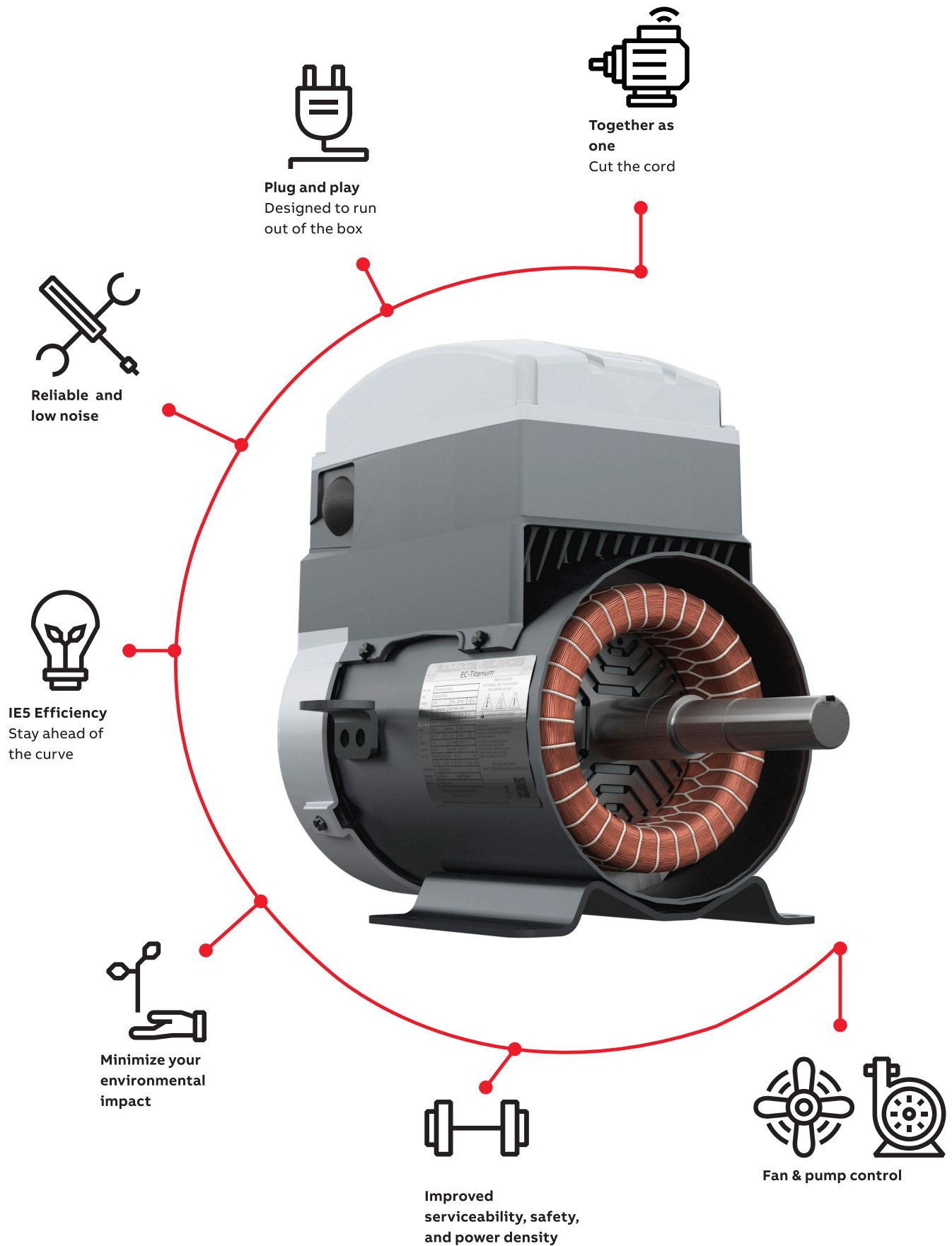
EC Titanium

Beyond EC efficiency and performance is here

Introducing the Baldor-Reliance® EC Titanium™ integrated motor-drive. FASR™ (Ferrite Assisted Synchronous Reluctance) motors are extremely efficient, especially at reduced speeds, compared to traditional AC induction motors. EC, or Electronically Commutated motors, have traditionally been used to meet the high efficiency requirements. However, as efficiency regulations tighten, more may be required. Our solution incorporates permanent magnet design into a synchronous reluctance rotor technology to achieve IE5+ ultra premium efficiency at rated design while maintaining performance across varying speed and load conditions. Equipment incorporating this technology can therefore achieve optimal performance no matter the operating point.

Get a glimpse into achieving the next level of energy efficiency





General purpose HVAC

Three phase, ODP, foot mounted
1 - 100 Hp

IP22



Features:

- External provisions for bearing current mitigation
- Designed for longevity with 3 year warranty
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Air handling
- HVAC systems
- Variable speed applications
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
230/460 volt									
1	1800	143T	EHM3116T	HV3	11.12	35	85.5	230/460	1.5
1 1/2	1800	145T	EHM3154T	HV3	11.62	37	86.5	230/460	2.2
2	1800	145T	EHM3157T	HV3	12.13	41	86.5	230/460	2.9
3	1800	182T	EHM3211T	HV3	15.00	72	89.5	230/460	4.2
	1200	213T	EHM3305T	HV3	16.32	114	88.5	230/460	4.5
5	1800	184T	EHM3218T	HV3	16.50	85	89.5	230/460	6.6
	1200	215T	EHM3309T	HV3	17.45	141	89.5	230/460	7.4
7 1/2	1800	213T	EHM3311T	HV3	16.32	115	91	230/460	9.7
	1200	254T	EHM2506T	HV3	23.19	248	90.2	230/460	11
10	1800	215T	EHM3313T	HV3	17.45	127	91.7	230/460	12.5
	1200	256T	EHM2511T	HV3	23.19	260	91.7	230/460	14.3
15	1800	254T	EHM2523T	HV3	21.69	212	93	230/460	17.7
	1200	284T	EHM2524T	HV3	23.81	285	91.7	230/460	20.5
20	1800	256T	EHM2515T	HV3	21.69	225	93	230/460	23.5
	1200	286T	EHM2528T	HV3	23.81	375	92.4	230/460	27
25	1800	284T	EHM2531T	HV3	25.06	345	93.6	230/460	30
	1200	324T	EHM2532T	HV3	27.69	393	93	230/460	34
30	1800	286T	EHM2535T	HV3	25.06	339	94.1	230/460	35
	1200	326T	EHM2536T	HV3	28.69	482	93.6	230/460	38
40	1800	324T	EHM2539T	HV3	27.19	433	94.1	230/460	49
50	1800	326T	EHM2543T	HV3	27.69	469	94.5	230/460	57
60	1800	364T	EHM2547T	HV3	29.94	582	95	230/460	68
75	1800	365T	EHM2551T	HV3	33.72	752	95	230/460	87
100	1800	404T	EHM2555T	HV3	36.97	911	95.4	230/460	113
230/460 volt, F2 mounting									
2	1800	145T	EHFM3157T	HV3	12.13	49	86.5	230/460	2.9
3	1800	182T	EHFM3211T	HV3	15.00	68	89.5	230/460	4.2
5	1800	184T	EHFM3218T	HV3	16.50	82	89.5	230/460	6.6
7 1/2	1800	213T	EHFM3311T	HV3	16.32	115	91	230/460	9.7
10	1800	215T	EHFM3313T	HV3	17.45	127	91.7	230/460	12.5
15	1800	254T	EHFM2523T	HV3	21.69	212	93	230/460	17.7
20	1800	256T	EHFM2515T	HV3	21.69	227	93	230/460	23.5
25	1800	284T	EHFM2531T	HV3	25.06	301	93.6	230/460	30
30	1800	286T	EHFM2535T	HV3	25.06	328	94.1	230/460	35
40	1800	324T	EHFM2539T	HV3	27.19	429	94.1	230/460	49
50	1800	326T	EHFM2543T	HV3	27.69	466	94.5	230/460	57

General purpose HVAC, three phase, ODP, foot mounted

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
208 volt									
1	1800	143T	EHM3116T-8	HV3	11.12	34	85.5	208	3.5
1 1/2	1800	145T	EHM3154T-8	HV3	11.62	38	86.5	208	5.1
2	1800	145T	EHM3157T-8	HV3	12.13	41	86.5	208	6.5
3	1800	182T	EHM3211T-8	HV3	15.00	71	89.5	208	9.7
5	1800	184T	EHM3218T-8	HV3	16.50	85	89.5	208	15.3
7 1/2	1800	213T	EHM3311T-8	HV3	16.32	115	91	208	22.2
10	1800	215T	EHM3313T-8	HV3	17.45	120	91.7	208	29.5
15	1800	254T	EHFM2523T-8	HV3	21.69	211	93	208	40.7
		254T	EHM2523T-8						
20	1800	256T	EHM2515T-8	HV3	21.69	226	93	208	54.3
25	1800	284T	EHM2531T-8	HV3	25.06	369	93.6	208	70
30	1800	286T	EHM2535T-8	HV3	25.06	331	94.1	208	81
40	1800	324T	EHM2539T-8	HV3	26.69	434	94.1	208	108
50	1800	326T	EHM2543T-8	HV3	27.69	459	94.5	208	132

General purpose HVAC

Three phase, TEFC, foot mounted
1 - 50 Hp



Features:

- External provisions for bearing current mitigation
- Designed for longevity with 3 year warranty
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- Fans
- Pumps
- Blowers
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
230/460 volt									
1	1800	143T	EHM3546T	HV3	12.31	37	85.5	230/460	1.5
1 1/2	1800	145T	EHM3554T	HV3	13.29	44	86.5	230/460	2.2
2	1800	145T	EHM3558T	HV3	13.29	46	86.5	230/460	2.9
3	1800	182T	EHM3611T	HV3	16.54	73	89.5	230/460	4.2
5	1800	184T	EHM3615T	HV3	18.04	93	89.5	230/460	6.7
	1200	215T	EHM3708T	HV3	19.78	154	89.5	230/460	7.3
7 1/2	1800	213T	EHM3710T	HV3	19.03	128	91.7	230/460	9.4
	1200	254T	EHM2276T	HV3	23.28	294	91	230/460	11
10	1800	215T	EHM3714T	HV3	20.53	165	91.7	230/460	12
	1200	256T	EHM2332T	HV3	23.28	290	91	230/460	14.1
15	1800	254T	EHM2333T	HV3	23.28	250	92.4	230/460	18.1
	1200	284T	EHM4100T	HV3	27.76	400	91.7	230/460	21
20	1800	256T	EHM2334T	HV3	23.28	288	93	230/460	24
	1200	286T	EHM4102T	HV3	27.76	457	91.7	230/460	27
25	1800	284T	EHM4103T	HV3	27.76	430	93.6	230/460	30
	1200	324T	EHM4111T	HV3	30.39	465	93	230/460	32
30	1800	286T	EHM4104T	HV3	27.76	423	93.6	230/460	38
40	1800	324T	EHM4110T	HV3	30.28	612	94.1	230/460	48
50	1800	326T	EHM4115T	HV3	30.28	622	94.5	230/460	58
575 volt									
1	1800	143T	EHM3546T-5	HV3	12.31	37	85.5	575	1.2
1 1/2	1800	145T	EHM3554T-5	HV3	13.29	44	86.5	575	1.8
2	1800	145T	EHM3558T-5	HV3	13.29	47	86.5	575	2.3
3	1800	182T	EHM3611T-5	HV3	16.54	74	89.5	575	3.3
5	1800	184T	EHM3615T-5	HV3	18.04	92	89.5	575	5.3
7 1/2	1800	213T	EHM3710T-5	HV3	19.03	127	91.7	575	7.6
10	1800	215T	EHM3714T-5	HV3	20.53	165	91.7	575	9.6
15	1800	254T	EHM2333T-5	HV3	23.28	255	92.4	575	14.6
20	1800	256T	EHM2334T-5	HV3	23.28	286	93	575	19.2
25	1800	284T	EHM4103T-5	HV3	27.76	397	93.6	575	24
30	1800	286T	EHM4104T-5	HV3	27.76	395	93.6	575	29
40	1800	324T	EHM4110T-5	HV3	30.28	575	94.1	575	39
50	1800	326T	EHM4115T-5	HV3	30.28	622	94.5	575	50

Cast iron frame

* IP54 when Drain Fitting Kit #HA5027A03 is installed in the weep holes (48 - 256T frame motors only)

General purpose HVAC

Three phase, TEAO, foot mounted
1/4 - 10 Hp

IP44*



Features:

- 36" long leads for ease of connectivity
- Oversized ball bearings for large overhung load from shaft mounted fans
- Locked drive end bearing to allow mounting in any configuration

Applications:

- Fans
- Pumps
- Blowers
- Condensers
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
1/4	1800	48	AOM3454	HV3	9.63	18	64	230/460	0.7
	1200	48	AOM3455	HV3	9.63	19	68	230/460	0.7
1/3	1800	48	AOM3458	HV3	9.63	18	68	230/460	0.9
	1200	56	AOM3535	HV3	10.25	22	70	208-230/460	0.9
1/2	1800	56	AOM3538	HV3	10.25	25	70	208-230/460	1.1
	1200	56	AOM3539	HV3	10.88	24	72	208-230/460	1.2
3/4	1800	56	AOM3542	HV3	10.25	23	72	208-230/460	1.6
	1200	56	AOM3543	HV3	11.75	31	77	208-230/460	1.5
1	1800	143T	AOM3546T	HV3	11.81	33	75.5	208-230/460	1.8
	1200	145T	AOM3556T	HV3	11.12	35	78.5	208-230/460	1.9
	900	182T	AOM3617T	HV3	13.62	62	74	208-230/460	2.2
1 1/2	1800	145T	AOM3554T	HV3	11.12	34	81.5	208-230/460	2.3
	1200	182T	AOM3607T	HV3	13.62	50	78.5	208-230/460	2.5
2	1800	145T	AOM3558T	HV3	12.12	38	82.5	208-230/460	3
	1200	184T	AOM3614T	HV3	15.00	63	81.5	208-230/460	3.4
	900	213T	AOM3702T	HV3	16.32	97	82.5	208-230/460	3.5
3	1800	182T	AOM3611T	HV3	13.62	59	85.5	208-230/460	4.5
	1200	213T	AOM3704T	HV3	16.32	92	84	208-230/460	4.8
	900	215T	AOM3705T	HV3	17.44	113	86.5	208-230/460	5.2
5	1800	184T	AOM3615T	HV3	15.00	71	87.5	208-230/460	6.8
	1200	215T	AOM3708T	HV3	16.32	115	86.5	208-230/460	7.6
	900	254T	AOM25904T	HV3	19.63	208	82.5	230/460	8.9
7 1/2	1800	213T	AOM3710T	HV3	16.32	106	87.5	208-230/460	10.9
10	1800	215T	AOM3714T	HV3	17.45	126	89.5	208-230/460	13.5

* IP54 when Drain Fitting Kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Chiller/cooling tower

Three phase, TEAO

3 - 60 Hp

IP55



Features:

- Severe duty construction for harsh environments
- Corrosion resistant epoxy finish
- Multiple lifting provisions for ease of installation
- Strategically placed drains for optimal moisture removal
- Four barrier shaft sealing system on drive end
- Lipped conduit lid for increased ingress protection

Applications:

- Cooling towers
- Chillers
- Fans
- Pumps
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps	Airflow Ft./Min
3	1800	213T	ECTM3611T-57	HV3	16.32	116	87.5	230/380-415	4.8	1200
	1200	213T	ECTM3704T	HV3	17.45	140	89.5	230/460	4.6	1200
5	1800	213T	ECTM3615T-57	HV3	17.45	134	88.5	230/380-415	7.4	1200
		184T	CTM3665T	HV3	13.68	100	87.5	208-230/460	6.9	1200
		184T	ECTM3665T	HV3	13.68	108	89.5	208-230/460	6.6	1200
	1200	213T	ECTM3708T	HV3	18.95	185	89.5	230/460	7.2	1200
		215T	CTM3768T	HV3	19.54	206	87.5	208-230/460	7.5	1200
		215T	ECTM3768T	HV3	19.54	227	90.2	230/460	7.3	1200
7 1/2	1800	213T	CTM3770T	HV3	19.54	164	89.5	208-230/460	10.3	1500
		213T	ECTM3770T	HV3	19.54	170	91.7	208-230/460	9.5	1500
	1200	254T	CTM2276T	HV3	22.16	179	89.5	208-230/460	10.9	1500
		254T	ECTM2276T	HV3	23.00	290	91	230/460	11	1500
10	1800	215T	CTM3774T	HV3	19.54	170	89.5	208-230/460	13	1500
		215T	ECTM3774T	HV3	19.54	231	91.7	208-230/460	12.2	1500
	1200	256T	CTM2332T	HV3	23.00	275	89.5	230/460	14.4	1500
		256T	ECTM2332T	HV3	23.00	297	91	230/460	14.4	1500
15	1800	254T	CTM2333T	HV3	22.16	236	91	208-230/460	18.5	1500
		254T	ECTM2333T	HV3	23.00	278	92.4	230/460	18.1	1500
	1200	284T	ECTM4100T	HV3	25.63	345	91.7	230/460	20	1500
20	1800	256T	CTM2334T	HV3	23.91	245	91	230/460	25	1500
		256T	ECTM2334T	HV3	23.00	293	93	230/460	24	1500
25	1800	284T	CTM4103T	HV3	25.78	343	92.4	230/460	29	1500
		284T	ECTM4103T	HV3	25.63	378	93.6	230/460	30	1500
30	1800	286T	CTM4104T	HV3	25.78	363	92.4	230/460	36	1500
		286T	ECTM4104T	HV3	25.63	410	93.6	230/460	38	1500
40	1800	324T	CTM4110T	HV3	28.38	529	93	230/460	47	2000
		324T	ECTM4110T	HV3	28.38	553	94.1	230/460	48	1500
50	1800	326T	ECTM4115T	HV3	28.38	598	94.5	230/460	58	2000
60	1800	364T	ECTM4314T	HV3	29.70	835	95	230/460	68	2000

Cast iron frame

Chiller/cooling tower

Three phase, two speed, TEFC
10 - 60 Hp

IP55



Features:

- Multi speed electrical design
- Severe duty construction for harsh environments
- Corrosion resistant epoxy finish
- Lead lugs for ease of connectivity

Applications:

- Cooling towers
- Chillers
- Fans
- Pumps
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency (b)	Voltage	Full Load Amps
10/2.5	1800/900	215T	CTM1760T	HV3	19.32	210	89.5	460	14.3
15/3.75	1800/900	254T	CTM1761T	HV3	24.78	290	90.2	460	18.1
20/5	1800/900	256T	CTM1762T	HV3	24.78	299	91	460	23.6
25/6.25	1800/900	284T	CTM1763T	HV3	27.93	342	91.7	460	32
30/7.5	1800/900	286T	CTM1764T	HV3	27.93	333	91.7	460	36
40/10	1800/900	324T	CTM1765T	HV3	30.28	619	92.4	460	48
50/12.5	1800/900	326T	CTM1766T	HV3	30.28	657	90.2	460	63
60/15	1800/900	364T	CTM1767T	HV3	33.44	836	93	460	69.6

(b) Full load efficiency is at 1800 RPM and low speed efficiency is not published.

Cast iron frame

Chiller/cooling tower

Three phase, TEAO, with internal AEGIS® shaft grounding ring

3 - 60 Hp



IP55



Features:

- Robust cast iron or rolled steel frame construction
- IP55 ingress protection
- Multicolor leads, for ease of connections
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2
- Space heaters
- Internal AEGIS® Bearing Protection Ring installed
- Designed for longevity with a 3 year warranty

Applications:

- Cooling towers
- Chillers
- Fans
- Pumps
- Air handling
- HVAC systems

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps	Airflow Ft/Min
3	1800	184	ECTM3611T-G-AO	HV3	16.32	116	87.5	230/380-415	4.8	1200
	1200	213T	ECTM3704T-G-AO	HV3	17.45	140	89.5	230/460	4.6	1200
5	1800	184T	ECTM3615T-G-AO	HV3	17.45	134	88.5	230/380-415	7.4	1200
		184T	ECTM3665T-G-AO	HV3	13.68	100	87.5	208-230/460	6.9	1200
	1200	213T	ECTM3708T-G-AO	HV3	18.95	185	89.5	230/460	7.2	1200
		215T	ECTM3768T-G-AO	HV3	19.54	206	87.5	208-230/460	7.5	1200
7 1/2	1800	213T	ECTM3770T-G-AO	HV3	19.54	164	89.5	208-230/460	10.3	1500
	1200	254T	ECTM2276T-G-AO	HV3	22.16	179	89.5	208-230/460	10.9	1500
10	1800	215T	ECTM3774T-G-AO	HV3	19.54	170	89.5	208-230/460	13	1500
	1200	256T	ECTM2332T-G-AO	HV3	23	275	89.5	230/460	14.4	1500
15	1800	254T	ECTM2333T-G-AO	HV3	22.16	236	91	208-230/460	18.5	1500
	1200	284T	ECTM4100T-G-AO	HV3	25.63	345	91.7	230/460	20	1500
20	1800	256T	ECTM2334T-G-AO	HV3	23.91	245	91	230/460	25	1500
25	1800	284T	ECTM4103T-G-AO	HV3	25.78	343	92.4	230/460	29	1500
30	1800	286T	ECTM4104T-G-AO	HV3	25.78	363	92.4	230/460	36	1500
40	1800	324T	ECTM4110T-G-AO	HV3	28.38	529	93	230/460	47	2000
50	1800	326T	ECTM4115T-G-AO	HV3	28.38	598	94.5	230/460	58	2000
60	1800	364T	ECTM4314T-G-AO	HV3	29.7	835	95	230/460	68	2000

Cast iron frame

Red catalog number indicates NEW product.

Chiller/cooling tower

Three phase, TEFC, with internal AEGIS® shaft grounding ring

1 - 100 Hp



IP55



Features:

- Robust cast iron frame construction
- IP55 ingress protection
- Multicolor leads, for ease of connections
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2
- Space heaters
- Internal AEGIS® Bearing Protection Ring installed
- Designed for longevity with a 3 year warranty

Applications:

- Cooling towers
- Chillers
- Fans
- Pumps
- Air handling
- HVAC systems

Hp	RPM	NEMA Frame	Catalog Number	Mult. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency (b)	Voltage	Full Load Amps
1	1800	143T	ECTM3581T-G	HV3	12.54	55	85.5	230/460	1.5
	1200	145T	ECTM3582T-G	HV3	12.54	56	82.5	230/460	1.7
1.5	1800	145T	ECTM3584T-G	HV3	12.54	61	86.5	230/460	2.3
	1200	182T	ECTM3667T-G	HV3	15.24	99	87.5	230/460	2.5
2	1800	145T	ECTM3587T-G	HV3	12.54	62	86.5	230/460	2.9
	1200	184T	ECTM3664T-G	HV3	15.24	123	88.5	230/460	3.15
3	1800	182T	ECTM3661T-G	HV3	15.24	105	89.5	230/460	4.1
	1200	213T	ECTM3764T-G	HV3	18.45	173	89.5	230/460	4.5
5	1800	184T	ECTM3665T-G	HV3	15.24	107	89.5	230/460	6.6
	1200	215T	ECTM3768T-G	HV3	18.45	195	89.5	230/460	7.4
7.5	1800	213T	ECTM3770T-G	HV3	18.45	170	91.7	230/460	9.5
	1200	254T	ECTM2276T-G	HV3	23.28	278	91	230/460	11
10	1800	215T	ECTM3774T-G	HV3	18.45	232	91.7	230/460	12.2
	1200	256T	ECTM2332T-G	HV3	23.28	290	91	230/460	14.1
15	1800	254T	ECTM2333T-G	HV3	23.28	270	92.4	230/460	18.1
	1200	284T	ECTM4100T-G	HV3	27.76	391	91.7	230/460	21
20	1800	256T	ECTM2334T-G	HV3	23.30	289	93	230/460	24
	1200	286T	ECTM4102T-G	HV3	27.76	399	91.7	230/460	27
25	1800	284T	ECTM4103T-G	HV3	27.76	388	93.6	230/460	30
	1200	324T	ECTM4111T-G	HV3	30.39	445	93	230/460	32
30	1800	286T	ECTM4104T-G	HV3	27.76	430	93.6	230/460	38
	1200	326T	ECTM4117T-G	HV3	30.28	604	93	230/460	39
40	1800	324T	ECTM4110T-G	HV3	30.28	570	94.1	230/460	48
	1200	364T	ECTM4308T-G	HV3	33.48	899	94.1	230/460	49.4
50	1800	326T	ECTM4115T-G	HV3	30.28	650	94.5	230/460	58
	1200	365T	ECTM4312T-G	HV3	33.48	902	94.1	230/460	61.7
60	1800	364T	ECTM4314T-G	HV3	33.44	912	95	230/460	67.8
	1200	404T	ECTM4403T-G	HV3	38.04	1187	95	230/460	69
75	1800	365T	ECTM4316T-G	HV3	33.48	955	95.4	230/460	84.9
	1200	405T	ECTM4404T-G	HV3	38.04	1229	94.5	230/460	86.8
100	1800	405T	ECTM4400T-4G	HV3	38.04	1203	95.4	230/460	112
	1200	444T	ECTM4409T-4G	HV3	44.75	1828	95	230/460	119

(b) Full load efficiency is at 1800 RPM and low speed efficiency is not published.

Cast iron frame

Red catalog number indicates NEW product.

Chiller/cooling tower

Three phase, TEFC, 575V, with internal AEGIS® shaft grounding ring

1 - 75 Hp



IP55



Features:

- Robust cast iron frame construction
- IP55 ingress protection
- Multicolor leads, for ease of connections
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2
- Space heaters
- Internal AEGIS® Bearing Protection Ring installed
- Designed for longevity with a 3 year warranty

Applications:

- Cooling towers
- Chillers
- Fans
- Pumps
- Air handling
- HVAC systems

Hp	RPM	NEMA Frame	Catalog Number	Mult. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency (b)	Voltage	Full Load Amps
1	1800	143T	ECTM3581T-5G	HV3	12.54	55	85.5	575	1.5
	1200	145T	ECTM3582T-5G	HV3	12.54	56	82.5	575	1.7
1.5	1800	145T	ECTM3584T-5G	HV3	12.54	61	86.5	575	2.3
	1200	182T	ECTM3667T-5G	HV3	15.24	99	87.5	575	2.5
2	1800	145T	ECTM3587T-5G	HV3	12.54	62	86.5	575	2.9
	1200	184T	ECTM3664T-5G	HV3	15.24	123	88.5	575	3.15
3	1800	182T	ECTM3661T-5G	HV3	15.24	105	89.5	575	4.1
	1200	213T	ECTM3764T-5G	HV3	18.45	173	89.5	575	4.5
5	1800	184T	ECTM3665T-5G	HV3	15.24	107	89.5	575	6.6
	1200	215T	ECTM3768T-5G	HV3	18.45	195	89.5	575	7.4
7.5	1800	213T	ECTM3770T-5G	HV3	18.45	170	91.7	575	9.5
	1200	254T	ECTM2276T-5G	HV3	23.28	278	91	575	11
10	1800	215T	ECTM3774T-5G	HV3	18.45	232	91.7	575	12.2
	1200	256T	ECTM2332T-5G	HV3	23.28	290	91	575	14.1
15	1800	254T	ECTM2333T-5G	HV3	23.28	270	92.4	575	18.1
	1200	284T	ECTM4100T-5G	HV3	27.76	391	91.7	575	21
20	1800	256T	ECTM2334T-5G	HV3	23.30	289	93	575	24
	1200	286T	ECTM4102T-5G	HV3	27.76	399	91.7	575	27
25	1800	284T	ECTM4103T-5G	HV3	27.76	388	93.6	575	30
	1200	324T	ECTM4111T-5G	HV3	30.39	445	93	575	32
30	1800	286T	ECTM4104T-5G	HV3	27.76	430	93.6	575	38
	1200	326T	ECTM4117T-5G	HV3	30.28	604	93	575	39
40	1800	324T	ECTM4110T-5G	HV3	30.28	570	94.1	575	48
	1200	364T	ECTM4308T-5G	HV3	33.48	899	94.1	575	49.4
50	1800	326T	ECTM4115T-5G	HV3	30.28	650	94.5	575	58
	1200	365T	ECTM4312T-5G	HV3	33.48	902	94.1	575	61.7
60	1800	364T	ECTM4314T-5G	HV3	33.44	912	95	575	67.8
	1200	404T	ECTM4403T-5G	HV3	38.04	1187	95	575	69
75	1800	365T	ECTM4316T-5G	HV3	33.48	955	95.4	575	84.9
	1200	405T	ECTM4404T-5G	HV3	38.04	1229	94.5	575	86.8

(b) Full load efficiency is at 1800 RPM and low speed efficiency is not published.

Cast iron frame

Red catalog number indicates NEW product.

Definite purpose HVAC

Condenser fan, three phase, ODP, “belly band” round body

1/2 - 1 1/2 Hp

IP22



Features:

- 6" long shaft with flat and keyway
- Terminal panel for ease of connectivity
- Automatic thermal overload protection
- Lubed for life double shielded bearings

Applications:

- Fans
- Pumps
- Blowers
- Condensers
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
1/2	1200	48YZ	CFM3036A	HV3	14.29	25	72	208-230/460	1.2
		56YZ	CFM3136A	HV3	15.30	28	70	208-230/460	1.2
3/4	1200	48YZ	CFM3046A	HV3	16.02	33	77	208-230/460	1.5
		56YZ	CFM3146A	HV3	15.55	33	75.5	208-230/460	1.4
1	1200	56YZ	CFM3156A	HV3	16.55	38	75.5	208-230/460	1.8
1 1/2	1200	56YZ	CFM3166A	HV3	17.43	48	76	208-230/460	2.5

Condenser fan, three phase, TEAO, “belly band” round body

1/2 Hp

IP44*



Features:

- Low temp grease for use in industrial freezers
- Terminal panel for ease of connectivity
- Automatic thermal overload protection
- Lubed for life double shielded bearings
- 60 and 50 Hz data included for connection at either frequency

Applications:

- Industrial freezers/refrigeration
- Food processing plants
- Low temperature condensers

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
1/2	1200	56	M3539-TP	HV3	11.68	29	70	208-230/460	1.2

* IP54 when Drain Fitting Kit #HA5027A03 is installed in the weep holes (48 - 256T frame motors only)

Definite purpose HVAC

Fan and blower, single and three phase, ODP, resilient base

1/4 - 2 Hp

IP22



Features:

- Resilient cushion base for low noise and reduced vibration
- Terminal panel for ease of connectivity
- Automatic thermal overload protection
- Lubed for life double shielded bearings

Applications:

- Fans
- Pumps
- Blowers
- Condensers
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Single phase									
1/4	1800	48	ERL1203A	HV1	10.34	20	68.5	115/230	1.3
1/3	1800	56	ERL1206A	HV1	10.96	24	72.4	115/230	1.7
1/2	3600	48	RL1209A	HV1	10.96	27	74	115/230	4.2
	1800	56	RL1304A	HV1	11.59	26	62	115/230	4.2
3/4	3600	56	RL1323A	HV1	10.97	24	62	115/230	4
		56	ERL1306A	HV1	11.59	26	76.2	115/230	3.3
	1800	56H	RL1307A	HV1	12.96	34	68	115/230	5.1
		56	RL1324A	HV1	12.47	31	71	115/230	5
1	3600	56H	ERL1309A	HV1	11.42	36	82	115/230	3.9
	1800	56H	RL1310A	HV1	12.04	34	68	115/230	6.5
1 1/2	3600	56H	ERL1313A	HV1	13.30	52	82	115/230	5.9
	1800	56H	ERL1319A	HV1	14.67	59	83.8	115/230	6.2
Single phase, 277 volt									
1/3	1800	56	RL1301A277	HV1	10.97	23	60	277	2.5
1/2	1800	56	RL1304A277	HV1	11.59	26	62	277	3.6
3/4	1800	56H	RL1307A277	HV1	12.47	34	66	277	4.2
1	1800	56H	RL1310A277	HV1	12.42	42	70	277	5.4
1 1/2	1800	56H	ERL1319A277	HV1	14.67	59	84	277	5.2
Three phase									
1/4	1800	48	ERM3003	HV3	10.34	21	69.5	230/460	0.5
1/3	1800	48	ERM3007	HV3	10.34	24	73.4	230/460	0.7
		56	ERM3104	HV3	10.97	24	73.4	230/460	0.7
1/2	3600	48	ERM3009	HV3	10.34	24	73.4	230/460	0.8
	1800	48	ERM3010	HV3	11.84	31	78.2	230/460	0.8
		56	ERM3108	HV3	11.97	31	78.2	230/460	0.8
3/4	3600	56	ERM3111	HV3	10.97	24	76.8	230/460	1.2
	1800	56	ERM3112	HV3	11.42	38	84	208-230/460	1.3
1	3600	56	ERM3115	HV3	12.47	27	77	230/460	1.6
	1800	56	ERM3116	HV3	11.42	37	83.5	230/460	1.45
1 1/2	3600	56H	ERM3120	HV3	11.42	34	84	208-230/460	2
	1800	56H	ERM3154	HV3	12.42	41	86.5	208-230/460	2.2
2	3600	56H	ERM3155	HV3	12.42	43	85.5	230/460	2.6
	1800	56H	ERM3157	HV3	12.42	43	86.5	208-230/460	2.9

Red catalog number indicates **NEW** product.

Definite purpose HVAC

Three phase, ODP

1/3 - 5 Hp

IP22



Features:

- Terminal panel for ease of connectivity
- Automatic thermal overload protection
- Lubed for life double shielded bearings

Applications:

- Fans
- Pumps
- Blowers
- Condensers
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Foot mounted									
5	1800	184T	EHM3218TA	HV3	16.50	84	89.5	230/460	6.6
Resilient base									
1/3	1800	48	RM3007A	HV3	10.34	21	68	230/460	0.8
1/2	1800	56H	RM3108A	HV3	10.97	25	72	230/460	0.9
3/4	1800	56H	RM3112A	HV3	11.59	32	74	230/460	1.5
1	1800	56H	RM3116A	HV3	12.47	32	78.5	230/460	2
1 1/2	1800	56H	RM3154A	HV3	12.04	34	78.5	208-230/460	2.4
2	1800	56H	RM3157A	HV3	12.42	40	81.5	208-230/460	2.9
3	3600	145TY	ERM3158TA	HV3	13.64	48	85.5	230/460	3.8
5	3600	145TY	ERHM3162TA	HV3	15.02	60	86.5	230/460	6.1

(PSC) – direct drive fan, single phase, foot mounted, TEAO

1/4 - 1/2 Hp

IP44*



Features:

- 1" extended through bolts for grille mounting
- Terminal panel for ease of connectivity
- Automatic thermal overload protection
- Lubed for life double shielded bearings
- Switchless design for increased reliability

Applications:

- Fans
- Pumps
- Blowers
- Condensers
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
1/4	1800	48Z	PSC3413A	HV1	11.34	19	65.5	115/230	1.3
1/3	1800	48Z	PSC3416A	HV1	11.34	21	62	115/230	1.8
1/2	1800	48Z	PSC3524A	HV1	11.96	24	65	115/230	3

* IP54 when Drain Fitting Kit #HA5027A03 is installed in the weep holes (48 - 256T frame motors only)

Definite purpose HVAC

Direct drive fan, single and three phase, TEAO
1/4 - 1 Hp

IP54



Features:

- Resilient cushion base for low noise and reduced vibration
- 1" extended through bolts for grille mounting
- Terminal panel for ease of connectivity
- Automatic thermal overload protection
- Lubed for life double shielded bearings

Applications:

- Fans
- Pumps
- Blowers
- Condensers
- Air handling
- HVAC systems
- General purpose applications

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Voltage	Full Load Amps	S.F.
Single phase, permanent split capacitor									
1/4	1800	48Z	CHC144A	HV1	11.35	21	115/230	1.4	1
	1200	48Z	CHC164A	HV1	11.35	22	115/230	1.5	1.15
1/3	1800	48Z	CHC244A	HV1	11.35	22	115/230	1.7	1.15
	1200	48Z	CHC264A	HV1	11.35	26	115/230	1.8	1.15
1/2	1800	56YZ	CHC345A	HV1	12.70	27	115/230	2.6	1.15
	1200	56YZ	CHC365A	HV1	13.58	31	115/230	3.2	1.15
3/4	1800	56YZ	CHC445A	HV1	13.58	35	115/230	3.7	1.15
	1800	56	CHC545A	HV1	13.04	39	115/230	4.9	1
1	1800	56	CHC565A	HV1	13.92	51	115/230	5.3	1
Three phase									
1/4	1200	48YZ	CHM164A	HV3	11.34	20	230/460	0.7	1.25
1/3	1200	48YZ	CHM264A	HV3	11.34	19	230/460	0.9	1.25
1/2	1800	48YZ	CHM344A	HV3	11.34	23	230/460	1.1	1.25
		56YZ	CHM345A	HV3	12.08	24	230/460	1.1	1.25
	1200	48YZ	CHM364A	HV3	11.96	25	230/460	1.2	1.25
		56YZ	CHM365A	HV3	12.70	28	230/460	1.2	1.25
3/4	1200	56YZ	CHM465A	HV3	13.58	34	208-230/460	1.5	1.15
1	1800	56YZ	CHM545A	HV3	13.58	34	208-230/460	1.7	1.15
	1200	56	CHM565A	HV3	13.04	40	208-230/460	1.8	1.15

Definite purpose HVAC

Yoke/pedestal fan, single phase, PSC, TEAO
1/4 - 1/2 Hp

IP54



Features:

- Robust stamped steel pedestal mount
- 1" extended through bolts for grille mounting
- Terminal panel for ease of connectivity
- Automatic thermal overload protection
- Lubed for life double shielded bearings
- Switchless design for increased reliability

Applications:

- Fans
- Pumps
- Blowers
- Condensers
- Air handling
- HVAC systems
- General purpose applications

		NEMA	Catalog	Disc.	"C"	Aprx.		Full Load	
Hp	RPM	Frame	Number	Sym.	Dim.	Wt. (lb)	Voltage	Amps	S.F.
1/4	1800	48YZ	YPC144A	HV1	10.68	18	115	2.5	1
	1200	48YZ	YPC164A	HV1	10.68	22	115	2.8	1
1/3	1800	48YZ	YPC244A	HV1	10.68	21	115	3.4	1
		56YZ	YPC245A	HV1	10.68	21	115	3.4	1
	1200	48YZ	YPC264A	HV1	10.68	22	115	3.5	1
1/2	1800	48YZ	YPC344A	HV1	10.68	22	115	5.1	1
		56YZ	YPC345A	HV1	10.68	24	115	5.1	1
	1200	48YZ	YPC364A	HV1	11.31	27	115	5.4	1

Ventilation fan, three phase TEAO, C-Face, footless
1/2 - 1 Hp

IP44*



Features:

- Terminal panel for ease of connectivity
- Lubed for life double sealed bearings
- Locked DE bearing to allow mounting in any configuration

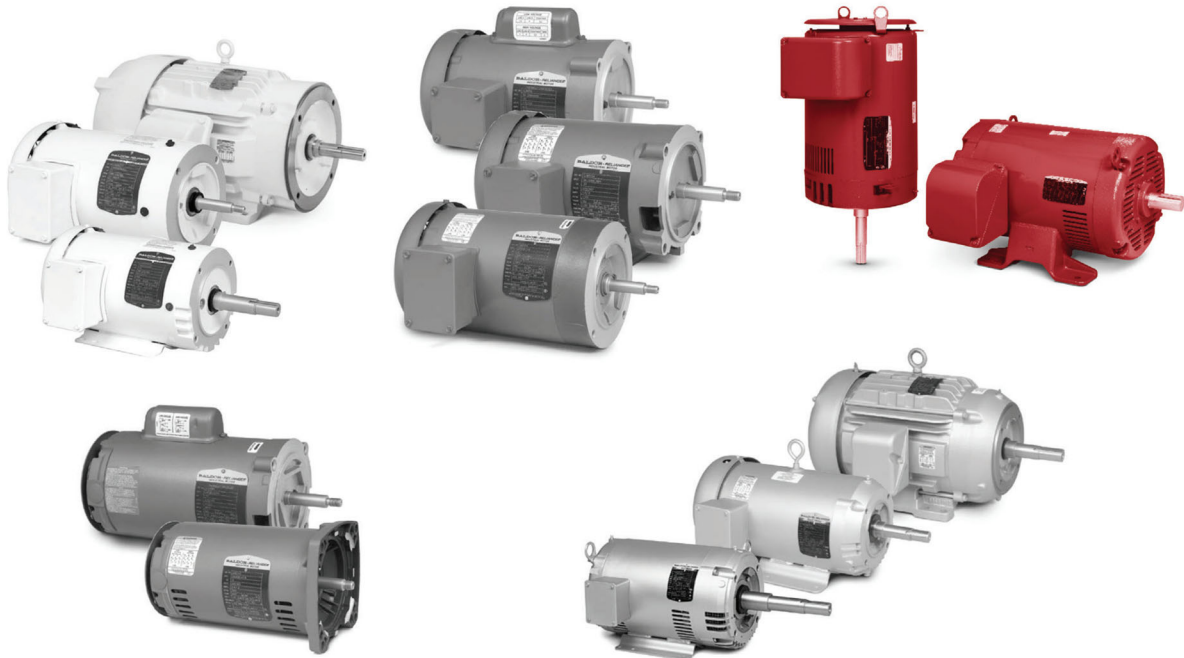
Applications:

- Fans
- Pumps
- Blowers
- Condensers
- Air handling
- HVAC systems
- General purpose applications

		NEMA	Catalog	Disc.	"C"	Aprx.	Full Load		Full Load
Hp	RPM	Frame	Number	Sym.	Dim.	Wt. (lb)	Efficiency	Voltage	Amps
1/2	900	56C	VAOM3560	HV3	12.68	50	64	208-230/460	1.6
1	900	56C	VAOM3527	HV3	14.93	57	74	208-230/460	3.2

* IP54 when Drain Fitting Kit #HA5027A03 is installed in the weep holes (48 - 256T frame motors only)

Pump motors



Baldor-Reliance® pump motors provide value by increasing reliability and reducing maintenance costs. Utilizing energy efficient designs, our pump motors meet NEMA Premium® efficiency and inverter ready with wide variable torque speed ranges.

Key features:

- Baldor-Reliance motors meet or exceed all efficiency requirements for US, Canada and Mexico regulations
- Dynamically balanced rotor to reduce noise and increase bearing life
- Color coded and numbered leads for ease of connectivity

Pump motor

Fire pump three phase, ODP, foot mounted
10 - 300 Hp

IP23



Features:

- 1.15 SF, 40°C ambient continuous
- NEMA Design B, 60 Hz
- 230/460 and 460 Volt models rated for 50 Hz at next lower Hp
- Dual voltage motors 20 Hp and larger have 12 leads, are suitable for wye-delta or across the line start on either voltage or part winding start on low voltage
- 460V motors have 12 leads and are suitable for wye-delta, across the line or part winding start
- UL file E481231
- Exterior red paint RAL3002

Applications:

- UL listed Fire Pump motors installed per NFPA-20

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
10	3600	213T	FPM3312T	PF3	16.32	121	88.5	230/460	12
	1800	215T	FPM3313T	PF3	16.32	130	89.5	230/460	12.7
15	3600	215T	FPM3314T	PF3	16.32	131	89.5	230/460	17.7
	1800	254T	FPM2513T	PF3	21.69	205	91	230/460	17.5
20	3600	254T	FPM2514T	PF3	22.25	145	90.2	230/460	23
	1800	256T	FPM2515T	PF3	21.69	210	91	230/460	24
25	3600	256T	FPM2516T	PF3	21.69	210	91	230/460	29
		256T	FPM2516T-2/4	PF3	21.69	206	91	200/400	34
	1800	284TS	FPM2531TS	PF3	23.56	236	92.4	230/460	29
		284TS	FPM2531TS-2/4	PF3	23.56	236	92.4	200/400	34
30	3600	284TS	FPM2534T	PF3	22.06	235	91	230/460	35
		284TS	FPM2534T-2/4	PF3	22.06	235	91	200/400	40
	1800	286TS	FPM2535TS	PF3	23.69	334	92.4	230/460	36
		286TS	FPM2535TS-2/4	PF3	23.69	375	92.4	200/400	41
40	3600	286TS	FPM2538T	PF3	23.56	280	91.7	230/460	45
		286TS	FPM2538T-2/4	PF3	23.56	254	91.7	200/400	52
	1800	324TS	FPM2539TS	PF3	24.69	400	93	230/460	49
		324TS	FPM2539TS-2/4	PF3	24.69	380	93	200/400	56
50	3600	324TS	FPM2542T	PF3	24.69	331	92.4	230/460	58
		324TS	FPM2542T-2/4	PF3	24.69	331	92.4	200/400	67
	1800	326TS	FPM2543TS	PF3	25.69	385	93	230/460	60
		326TS	FPM2543TS-2/4	PF3	25.69	385	93	200/400	70
60	3600	326TS	FPM2546T	PF3	25.69	385	93	230/460	68
		326TS	FPM2546T-2/4	PF3	25.69	385	93	200/400	78
	1800	364TS	FPM2547TS	PF3	25.81	480	93.6	230/460	72
		364TS	FPM2547TS-2/4	PF3	27.94	480	93.6	200/400	83
75	3600	364TS	FPM2549T	PF3	27.94	485	93	230/460	84
		364TS	FPM2549T-2/4	PF3	27.94	485	93	200/400	96
	1800	365TS	FPM2551TS	PF3	29.94	570	94.1	230/460	87
		365TS	FPM2551TS-2/4	PF3	29.94	570	94.1	200/400	100
100	3600	365TS	FPM2550T	PF3	28.94	533	93	230/460	113
		365TS	FPM2550T-2/4	PF3	28.94	533	93	200/400	130
	1800	404TS	FPM2555TS	PF3	31.85	597	94.1	230/460	117
		404TS	FPM2555TS-2/4	PF3	31.85	597	94.1	200/400	135

Cast iron frame

Pump motor, fire pump three phase, ODP, foot mounted

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
125	3600	404TS	FPM2554T-4	PF3	31.85	660	93.6	460	138
	1800	405TS	FPM2559TS-4	PF3	33.60	590	94.5	460	145
150	3600	405TS	FPM2556T-4	PF3	31.85	600	93.6	460	164
	1800	444TS	FPM2558TS-4	PF3	35.88	1579	95	460	167
200	3600	444TS	FPM2562T-4	PF3	35.88	1449	94.5	460	232
	1800	445TS	FPM2563TS-4	PF3	35.88	1718	95	460	224
250	3600	445TS	FPM2565T-4	PF3	35.88	1737	94.5	460	288
	1800	445TS	FPM2566TS-4	PF3	35.88	1844	95.4	460	272
300	3600	445TS	FPM2568T-4	PF3	35.88	1697	95	460	339
575 volt									
20	3600	254T	FPM2514T-5	PF3	22.25	145	90.2	575	18.5
	1800	256T	FPM2515T-5	PF3	21.69	231	91.0	575	19.6
25	3600	256T	FPM2516T-5	PF3	21.69	223	91.0	575	23
	1800	284TS	FPM2531TS-5	PF3	23.56	320	92.4	575	23
30	3600	284TS	FPM2534T-5	PF3	22.06	240	91.0	575	28
	1800	286TS	FPM2535TS-5	PF3	23.69	420	92.4	575	29
40	3600	286TS	FPM2538T-5	PF3	23.56	287	91.7	575	36
	1800	324TS	FPM2539TS-5	PF3	24.69	400	93.0	575	39
50	3600	324TS	FPM2542T-5	PF3	24.69	449	92.4	575	46
	1800	326TS	FPM2543TS-5	PF3	25.69	452	93.0	575	49
60	3600	326TS	FPM2546T-5	PF3	25.69	449	93.0	575	54
	1800	364TS	FPM2547TS-5	PF3	25.81	480	93.6	575	57
75	3600	364TS	FPM2549T-5	PF3	25.81	480	93.0	575	67
	1800	365TS	FPM2551TS-5	PF3	27.81	573	94.1	575	69
100	3600	365TS	FPM2550T-5	PF3	26.81	525	93.0	575	90
	1800	404TS	FPM2555TS-5	PF3	31.85	648	94.1	575	93

 Cast iron frame

Pump motor

Fire pump, three phase, ODP, footless, close-coupled pump

10 - 100 Hp

IP23



Features:

- 1.15 SF, 40°C ambient continuous
- NEMA Design B, 60 Hz
- 230/460 Volt models rated for 50 Hz at next lower Hp
- Dual voltage motors 20 Hp and larger have 12 leads, are suitable for wye-delta or across the line start on either voltage or part winding start on low voltage
- Vertical lifting
- UL file E481231
- Exterior red paint RAL3002

Applications:

- UL listed Fire Pump motors installed per NFPA-20

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
10	3600	213JP	VJPFPM3312T	PF3	24.41	121	88.5	230/460	12
		213JP	VJPFPM3312T-2/4	PF3	24.41	121	88.5	208/400	12
	1800	215JP	VJPFPM3313T	PF3	24.41	130	89.5	230/460	12.7
15	3600	215JP	VJPFPM3314T	PF3	24.41	131	89.5	230/460	17.7
		215JP	VJPFPM3314T-2/4	PF3	24.41	131	89.5	208/400	20.4
	1800	254JP	VJPFPM2513T	PF3	28.07	220	91	230/460	17.5
20	3600	254JP	VJPFPM2514T	PF3	27.66	145	90.2	230/460	23
		254JP	VJPFPM2514T-2/4	PF3	27.66	145	90.2	208/400	26.5
	1800	256JP	VJPFPM2515T	PF3	28.07	231	91	230/460	24
25	3600	256JP	VJPFPM2516T	PF3	28.07	221	91	230/460	29
		256JP	VJPFPM2516T-2/4	PF3	28.07	221	91	208/400	34
	1800	284JP	VJPFPM2531T	PF3	31.44	272	91.7	230/460	29
30	3600	284JP	VJPFPM2534T	PF3	29.23	235	91	230/460	35
		284JP	VJPFPM2534T-2/4	PF3	29.23	235	91	208/400	40
	1800	286JP	VJPFPM2535T	PF3	29.25	375	92.4	230/460	36
40	3600	286JP	VJPFPM2538T	PF3	31.44	263	91.7	230/460	45
		286JP	VJPFPM2538T-2/4	PF3	31.44	263	91.7	208/400	52
	1800	324JP	VJPFPM2539T	PF3	31.13	375	93	230/460	49
50	3600	324JP	VJPFPM2542T	PF3	31.13	331	92.4	230/460	58
		324JP	VJPFPM2542T-2/4	PF3	31.13	331	92.4	208/400	67
	1800	326JP	VJPFPM2543T	PF3	32.13	378	93	230/460	60
60	3600	326JP	VJPFPM2546T	PF3	32.13	385	93	230/460	68
		326JP	VJPFPM2546T-2/4	PF3	32.13	385	93	208/400	78
	1800	364JP	VJPFPM2547T	PF3	32.5	480	93.6	230/460	72
75	3600	364JP	VJPFPM2549T	PF3	32.5	472	93	230/460	84
		364JP	VJPFPM2549T-2/4	PF3	32.5	472	93	208/400	96
	1800	365JP	VJPFPM2551T	PF3	34.5	565	94.1	230/460	87
100	3600	365JP	VJPFPM2550T	PF3	33.5	523	93	230/460	113
		365JP	VJPFPM2550T-2/4	PF3	33.5	523	93	208/400	130

Pump motor, fire pump, three phase, ODP, footless, close-coupled pump

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
575 volt									
20	3600	254JP	VJPFPM2514T-5	PF3	27.66	145	90.2	575	18.5
	1800	256JP	VJPFPM2515T-5	PF3	28.07	208	91	575	19.6
25	3600	256JP	VJPFPM2516T-5	PF3	28.07	219	91	575	23
	1800	284JP	VJPFPM2531T-5	PF3	31.44	322	92.4	575	23
30	3600	284JP	VJPFPM2534T-5	PF3	29.23	266	91	575	28
	1800	286JP	VJPFPM2535T-5	PF3	29.25	396	92.4	575	29
40	3600	286JP	VJPFPM2538T-5	PF3	31.44	303	91.7	575	36
	1800	324JP	VJPFPM2539T-5	PF3	31.13	530	93	575	39
50	3600	324JP	VJPFPM2542T-5	PF3	31.13	396	92.4	575	46
	1800	326JP	VJPFPM2543T-5	PF3	32.13	396	93	575	49
60	3600	326JP	VJPFPM2546T-5	PF3	32.13	380	93	575	54
	1800	364JP	VJPFPM2547T-5	PF3	32.5	475	93.6	575	57
75	3600	364JP	VJPFPM2549T-5	PF3	32.5	648	93	575	67
	1800	365JP	VJPFPM2551T-5	PF3	34.5	565	94.1	575	69
100	3600	365JP	VJPFPM2550T-5	PF3	33.5	523	93	575	90

Pump motor

Jet pump, single phase, TEFC
1/3 - 2 Hp

IP44



Features:

- Automatic thermal overload protection
- Corrosion resistant stainless steel shaft extension
- Slotted opposite drive end shaft for easy installation
- Superior switch design provides optimized torque profiles
- Dynamically balanced rotor to reduce noise and increase bearing life

Applications:

- HVAC pumps
- Swimming pool pumps
- General purpose pumps

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Foot mounted									
1/3	1800	56J	CJL3501A	PJ1	11.84	23	60	115/230	3
1/2	1800	56J	CJL3504A	PJ1	12.47	28	68	115/230	3.7
3/4	1800	56J	CJL3507A	PJ1	12.97	35	74	115/230	4.1
1	3600	56J	CJL3509A	PJ1	13.74	39	66	115/230	6
1 1/2	3600	56J	CJL3513A	PJ1	13.74	47	70	115/230	8.3
2	3600	56J	CJL3515A	PJ1	14.62	51	74	115/230	11.5
Footless									
1/3	3600	56J	JL3405A	PJ1	11.85	19	60	115/230	3
	1800	56J	JL3501A	PJ1	11.85	22	60	115/230	3
1/2	3600	56J	JL3503A	PJ1	12.85	26	62	115/230	3.7
	1800	56J	JL3504A	PJ1	12.85	27	68	115/230	3.7
3/4	3600	56J	JL3506A	PJ1	12.85	29	66	115/230	5.4
	1800	56J	JL3507A	PJ1	12.97	33	74	115/230	4.1
1	3600	56J	JL3509A	PJ1	13.74	42	66	115/230	6
	1800	56J	JL3510A	PJ1	13.74	40	67	115/230	6.2
1 1/2	3600	56J	JL3513A	PJ1	13.74	45	70	115/230	8.3
	1800	56J	JL3514A	PJ1	14.62	51	75.5	115/230	8
2	3600	56J	JL3515A	PJ1	14.62	54	74	115/230	11.5
	1800	56J	JL3516A	PJ1	14.62	52	78	115/230	8.6

All threaded shaft, single phase motors are connected single rotation – CCW when viewing drive end.

All above ratings can be UL 1081 compliant through MOD Express®.

See M30A in the MOD Express program section of this catalog for more details.

Pump Motor

Jet pump, single phase, ODP
1/3 - 3 Hp

IP23



Features:

- Automatic thermal overload protection
- Corrosion resistant stainless steel shaft extension
- Slotted opposite drive end shaft for easy installation
- Superior switch design provides optimized torque profiles
- Optimized airflow design providing higher horsepower in a smaller package

Applications:

- HVAC pumps
- Swimming pool pumps
- General purpose pumps

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Foot mounted									
1/3	3600	56J	CJL1205A	PJ1	11.91	23	58	115/230	3.1
	1800	56J	CJL1301A	PJ1	11.89	23	60	115/208-230	3
1/2	3600	56J	CJL1303A	PJ1	12.51	30	66	115/230	3.7
	1800	56J	CJL1304A	PJ1	12.14	25	62	115/230	4.2
3/4	3600	56J	CJL1306A	PJ1	13.39	30	69	115/230	5.5
	1800	56J	CJL1307A	PJ1	12.25	35	63	115/230	5.4
1	3600	56J	CJL1309A	PJ1	13.89	32	65	115/208-230	7
1 1/2	3600	56J	CJL1313A	PJ1	13.89	37	78.5	115/230	6.5
2	3600	56J	CJL1317A	PJ1	13.25	45	70	115/230	13
Footless									
1/3	3600	56J	JL1205A	PJ1	11.89	25	58	115/230	3.1
	1800	56J	JL1301A	PJ1	11.89	23	60	115/230	3
1/2	3600	56J	JL1303A	PJ1	12.51	26	66	115/230	3.7
	1800	56J	JL1304A	PJ1	12.14	25	62	115/230	4.2
3/4	3600	56J	JL1306A	PJ1	13.39	33	69	115/230	5.5
	1800	56J	JL1307A	PJ1	13.89	33	68	115/230	5.1
1	3600	56J	JL1309A	PJ1	13.89	32	65	115/230	7
1 1/2	3600	56J	JL1313A	PJ1	13.89	36	78.5	115/230	6.5
2	3600	56J	JL1317A	PJ1	13.25	45	70	115/230	13
3	3600	56J	JL1323A	PJ1	14.13	52	82.5	230	13

All threaded shaft, single phase motors are connected single rotation - CCW when viewing drive end.

All above ratings can be UL 1081 compliant through MOD Express®.

See M30A in the MOD Express program section of this catalog for more details.

Pump motor

Jet pump, three phase, TEFC
1/3 - 3 Hp

IP44



Features:

- Corrosion resistant stainless steel shaft extension
- Slotted opposite drive end shaft for easy installation
- Dynamically balanced rotor to reduce noise and increase bearing life

Applications:

- HVAC pumps
- Swimming pool pumps
- General purpose pumps

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Footless									
1/3	3600	56J	JM3457	PJ3	11.84	19	62	230/460	0.8
	1800	56J	JM3458	PJ3	11.84	21	68	230/460	0.8
1/2	3600	56J	JM3460	PJ3	11.84	21	70	230/460	1.2
	1800	56J	JM3461	PJ3	11.84	23	74	230/460	1
3/4	3600	56J	JM3463	PJ3	11.84	23	74	208-230/460	1.5
	1800	56J	JM3542	PJ3	11.84	26	75.5	208-230/460	1.5
1	3600	56J	EJM3545	PJ3	12.47	27	77	230/460	1.6
	1800	56J	EJM3546	PJ3	13.74	37	85.5	230/460	1.7
1 1/2	3600	56J	EJM3550	PJ3	12.72	38	84	230/460	1.9
	1800	56J	EJM3554	PJ3	13.74	41	86.5	230/460	2.3
2	3600	56J	EJM3555	PJ3	13.74	41	85.5	230/460	2.5
	1800	56J	EJM3558	PJ3	14.62	48	86.5	230/460	2.9
3	3600	56J	EJM3559	PJ3	14.62	50	86.5	230/460	3.6
Foot mounted									
1/2	1800	56J	CJM3538	PJ3	11.84	23	74	230/460	1
3/4	1800	56J	CJM3542	PJ3	11.84	25	75.5	208-230/460	1.5
575 volts									
1/2	3600	56J	JM3460-5	PJ3	11.84	21	68	575	1
3/4	3600	56J	JM3463-5	PJ3	11.84	23	74	575	1.2
1	3600	56J	EJM3545-5	PJ3	12.47	27	77	575	1.2
2	3600	56J	EJM3555-5	PJ3	13.74	41	85.5	575	2
3	3600	56J	EJM3559-5	PJ3	14.62	50	86.5	575	2.9

All above ratings can be UL 1081 compliant through MOD Express®.
See M30A in the MOD Express program section of this catalog for more details.

Pump motor

Jet pump, three phase, ODP
1/3 - 3 Hp

IP23



Features:

- Corrosion resistant stainless steel shaft extension
- Slotted opposite drive end shaft for easy installation
- Dynamically balanced rotor to reduce noise and increase bearing life
- Optimized airflow design providing higher horsepower in a smaller package

Applications:

- HVAC pumps
- Swimming pool pumps
- General purpose pumps

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Footless									
1/3	3600	56J	JM3006	PJ3	11.72	19	62	230/460	0.8
1/2	3600	56J	JM3107	PJ3	11.72	21	70	230/460	1.2
	1800	56J	JM3108	PJ3	11.85	23	74	230/460	1
3/4	3600	56J	JM3111	PJ3	11.72	23	74	208-230/460	1.5
	1800	56J	JM3112	PJ3	12.34	27	75.5	208-230/460	1.5
1	3600	56J	JM3115	PJ3	12.34	32	77	230/460	1.6
	1800	56J	JM3116	PJ3	13.22	30	78.5	208-230/460	1.7
1 1/2	3600	56J	JM3120	PJ3	13.22	30	74	230/460	2.2
	1800	56J	JM3154	PJ3	13.72	34	77	208-230/460	2.8
2	3600	56J	JM3155	PJ3	13.72	35	82.5	230/460	2.7
3	3600	56J	JM3158	PJ3	13.72	42	80	208-230/460	4
Foot mounted									
1/3	1800	56J	CJM3104	PJ3	11.85	22	68	230/460	0.8
1/2	3600	56J	CJM3107	PJ3	11.72	22	70	230/460	1.2
	1800	56J	CJM3108	PJ3	11.72	24	74	230/460	1
3/4	3600	56J	CJM3111	PJ3	11.72	28	74	208-230/460	1.5
	1800	56J	CJM3112	PJ3	12.34	27	75.5	208-230/460	1.5
1	3600	56J	CJM3115	PJ3	12.34	29	77	230/460	1.6
1 1/2	3600	56J	CJM3120	PJ3	13.22	31	81.5	230/460	2
2	3600	56J	CJM3155	PJ3	13.72	34	82.5	230/460	2.7
3	3600	56J	CJM3158	PJ3	13.74	41	80	208-230/460	4

All above ratings can be UL 1081 compliant through MOD Express®.
See M30A in the MOD Express program section of this catalog for more details.

Pump motor

Washdown, jet pump, three phase, TEFC, C-Face
3/4 - 3 Hp

IP55



Features:

- 300 series stainless steel hardware and shaft extension
- Footless
- Neoprene gaskets
- Double sealed ball bearings
- Lip and V-Ring seal on drive end
- White epoxy, corrosion resistant finish
- Easy removable drain plugs

Applications:

- Wet environment
- Pumps and wastewater

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Footless									
3/4	3600	56J	JWDM3463	WDW	12.72	33	68	208-230/460	1.4
1	3600	56J	JEWDM3545	WDW	12.72	38	78.5	208-230/460	1.6
1 1/2	3600	56J	JEWDM3550	WDW	13.72	41	84	208-230/460	2
2	3600	56J	JEWDM3555	WDW	13.72	41	85.5	230/460	2.5
3	3600	56J	JEWDM3559	WDW	15.97	64	87.5	208-230/460	3.5
Foot mounted									
3/4	3600	56J	CJWDM3463	WDW	12.72	33	68	208-230/460	1.4
1	3600	56J	CJEWDM3545	WDW	12.72	38	78.5	208-230/460	1.6
1 1/2	3600	56J	CJEWDM3550	WDW	13.72	41	84	208-230/460	2
2	3600	56J	CJEWDM3555	WDW	13.72	41	85.5	230/460	2.5
3	3600	56J	CJEWDM3559	WDW	15.98	64	87.5	208-230/460	3.5

Pump motor
Square flange pump, ODP
1/2 - 2 Hp

IP23



Features:

- Corrosion resistant stainless steel shaft extension
- Dynamically balanced rotor to reduce noise and increase bearing life
- Heavy gauge steel design
- Safeguard drip cover

Applications:

- HVAC pumps
- General purpose pumps

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	“C” Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Single phase									
1/2	3600	56Y	JSL325A	PJ1	11.35	24	70	115/230	3.3
3/4	3600	56Y	JSL425A	PJ1	11.97	26	62	115/230	5.1
1	3600	56Y	JSL525A	PJ1	12.72	30	70	115/230	6.3
1 1/2	3600	56YZ	JSL625A	PJ1	14.44	42	72	115/230	9
2	3600	56YZ	JSL725A	PJ1	14.44	47	74	115/230	11
Three phase									
1/2	3600	56YZ	JSM3107	PJ3	11.40	21	70	230/460	1.2
3/4	3600	56YZ	JSM3111	PJ3	11.40	24	74	208-230/460	1.5
1	3600	56YZ	JSM3115	PJ3	12.02	27	77	230/460	1.6
1 1/2	3600	56YZ	JSM3120	PJ3	12.77	31	81.5	230/460	2
2	3600	56YZ	JSM3155	PJ3	13.40	35	82.5	230/460	2.7

Pump motor

Close-coupled pump, single phase
3 - 10 Hp



Features:

- Oversize ball bearings for the pump industry
- Locked drive end bearing to allow mounting in any configuration Lip and V-Ring seal on drive end
- Dynamically balanced rotor to reduce noise and increase bearing life
- Superior switch design provides
- Optimized torque profiles

Applications:

- HVAC pumps
- General purpose pump

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Totally enclosed fan cooled, mechanical seal, Type JM									
3	3600	182JM	JML3606T	PC1	18.06	79	76	115/230	14.5
5	3600	184JM	JML3608T	PC1	19.55	93	83	230	19.5
Open drip proof, mechanical seal, Type JM									
3	3600	182JM	JML1406T	PC1	16.5	69	78	115/208-230	14
	1800	184JM	JML1408T	PC1	16.5	80	78	115/230	16
5	3600	184JM	JML1409T	PC1	16.5	81	80	230	21.5
	1800	213JM	JML1508T	PC1	18.19	115	77	230	27
7 1/2	3600	213JM	JML1509T	PC1	18.19	116	81	230	37
	1800	215JM	JML1510T	PC1	19.31	142	85.5	230	31
10	3600	215JM	JML1511T	PC1	19.31	141	83	230	46
	1800	215JM	JML1512T	PC1	20.95	150	84	230	41
Open drip proof, packed pump, Type JP									
3	3600	182JP	JPL1406T	PC1	19.57	76	78	115/230	14
	1800	184JP	JPL1408T	PC1	19.57	87	78	115/230	16
5	3600	184JP	JPL1409T	PC1	19.57	88	80	230	21.5
	1800	213JP	JPL1508T	PC1	22.07	117	77	230	27
7 1/2	3600	213JP	JPL1509T	PC1	22.07	121	81	230	37
	1800	215JP	JPL1510T	PC1	23.19	143	85.5	230	31
10	3600	215JP	JPL1511T	PC1	23.19	148	83	230	46
	1800	215JP	JPL1512T	PC1	20.95	142	84	230	41
Open drip proof, west coast fit, Type TCZ									
3	3600	182TCZ	WCL1406T	PC1	19.69	81	78	115/230	14
	1800	184TCZ	WCL1408T	PC1	19.69	91	78	115/230	16
5	3600	184TCZ	WCL1409T	PC1	19.69	91	75	230	23
	1800	213TCZ	WCL1508T	PC1	21.25	116	77	230	27
7 1/2	3600	213TCZ	WCL1509T	PC1	21.25	117	81	230	37
	3600	215TCZ	WCL1511T	PC1	22.38	143	83	230	46

**ODP motors retain IP rating when mounted in horizontal position only.

Pump motor

Close-coupled pump, Inverter Duty, three phase, foot mounted with internal AEGIS®

1 - 50 Hp



Features:

- Internal grounding brush for bearing current mitigation on drive end retainer ring
- Class H insulation for increased protection on Inverter use
- Oversize ball bearings for the pump industry
- Locked drive end bearing to allow mounting in any configuration
- Designed for longevity with a 3 year warranty on premium efficient motors
- Suitable for Inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- HVAC pumps
- General purpose pumps

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Totally enclosed fan cooled									
1	1800	143JM	EJMM3546T-G	PC3	15.41	37	85.5	230/460	1.5
1 1/2	3600	143JM	EJMM3550T-G	PC3	15.41	38	86.5	230/460	1.9
	1800	143JM	EJMM3554T-G	PC3	15.41	41	84	230/460	2.2
2	3600	145JM	EJMM3555T-G	PC3	15.41	41	85.5	230/460	2.5
	1800	145JM	EJMM3558T-G	PC3	15.41	45	86.5	230/460	2.9
3	3600	182JM	EJMM3610T-G	PC3	16.91	60	86.5	230/460	3.6
	1800	182JM	EJMM3611T-G	PC3	18.06	76	89.5	230/460	4.2
5	3600	184JM	EJMM3613T-G	PC3	18.06	81	88.5	230/460	5.9
	1800	184JM	EJMM3615T-G	PC3	19.56	93	89.5	230/460	6.7
7 1/2	3600	213JM	EJMM3709T-G	PC3	19.76	124	89.5	230/460	9
	1800	213JM	EJMM3710T-G	PC3	20.89	134	91.7	230/460	9.4
10	3600	215JM	EJMM3711T-G	PC3	19.76	124	90.2	230/460	11.8
	1800	215JM	EJMM3714T-G	PC3	22.38	165	91.7	230/460	12
15	3600	254JM	EJMM2394T-G	PC3	25.30	260	91	230/460	17.5
	1800	254JM	EJMM2333T-G	PC3	25.30	265	92.4	230/460	18.1
20	3600	256JM	EJMM4106T-G	PC3	25.30	274	91	230/460	23
	1800	256JM	EJMM2334T-G	PC3	25.30	308	93	230/460	24
25	3600	284JM	EJMM4107T-G	PC3	26.96	265	91.7	230/460	29
	1800	284JM	EJMM4103T-G	PC3	26.96	437	93.6	230/460	31
30	3600	286JM	EJMM4108T-G	PC3	26.96	299	91.7	230/460	34
	1800	286JM	EJMM4104T-G	PC3	28.64	437	93.6	230/460	38
40	3600	324JM	EJMM4109T-G	PC3	30.64	470	92.4	230/460	45
	1800	324JM	EJMM4110T-G	PC3	30.64	578	94.1	230/460	48
50	3600	326JM	EJMM4114T-G	PC3	30.65	575	93	230/460	56
	1800	326JM	EJMM4115T-G	PC3	30.65	700	94.5	230/460	58

Cast iron frame

**ODP motors retain IP rating when mounted in horizontal position only.

Red catalog number indicates NEW product.

Pump motor, close-coupled pump, Inverter Duty, three phase, foot mounted with internal AEGIS®

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Open drip proof									
1	1800	143JM	EJMM3116T-G	PC3	13.75	37	85.5	230/460	1.5
1 1/2	1800	145JM	EJMM3154T-G	PC3	13.75	41	86.5	230/460	2.2
2	1800	145JM	EJMM3157T-G	PC3	14.25	44	86.5	230/460	2.9
3	3600	145JM	EJMM3158T-G	PC3	15.13	51	85.5	230/460	3.8
	1800	182JM	EJMM3211T-G	PC3	16.50	74	89.5	230/460	4.2
5	3600	182JM	EJMM3212T-G	PC3	15.12	64	86.5	230/460	6
	1800	184JM	EJMM3218T-G	PC3	18.00	88	89.5	230/460	6.6
7 1/2	3600	184JM	EJMM3219T-G	PC3	16.50	78	88.5	230/460	8.6
	1800	213JM	EJMM3311T-G	PC3	18.19	120	91	230/460	9.7
10	3600	213JM	EJMM3312T-G	PC3	18.19	121	89.5	230/460	12
	1800	215JM	EJMM3313T-G	PC3	19.31	132	91.7	230/460	12.5
15	3600	215JM	EJMM3314T-G	PC3	18.19	134	90.2	230/460	17.5
	1800	254JM	EJMM2513T-G	PC3	23.19	213	93	230/460	17.7
20	3600	254JM	EJMM2514T-G	PC3	23.19	185	91	230/460	23.5
	1800	256JM	EJMM2515T-G	PC3	24.69	255	93	230/460	24
25	3600	256JM	EJMM2516T-G	PC3	23.19	233	91.7	230/460	28
	1800	284JM	EJMM2531T-G	PC3	25.94	377	93.6	230/460	30
30	3600	284JM	EJMM2534T-G	PC3	24.69	320	91.7	230/460	35
	1800	286JM	EJMM2535T-G	PC3	26.94	378	94.1	230/460	36
40	3600	286JM	EJMM2538T-G	PC3	24.69	330	92.4	230/460	46
	1800	324JM	EJMM2539T-G	PC3	27.44	378	94.1	230/460	49
50	3600	324JM	EJMM2542T-G	PC3	27.44	375	93	230/460	56
	1800	326JM	EJMM2543T-G	PC3	27.94	497	94.5	230/460	57

 Cast iron frame

**ODP motors retain IP rating when mounted in horizontal position only.

Red catalog number indicates NEW product.

Pump motor

Close-coupled pump, Inverter Duty, three phase, TEFC
1 - 50 Hp

IP44



Features:

- Oversize ball bearings for the pump industry
- Locked drive end bearing to allow mounting in any configuration
- Oversize ball bearings for the pump industry
- Designed for longevity with a 3 year warranty on premium efficient motors
- Suitable for Inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- HVAC pumps
- General purpose pumps

		NEMA	Catalog	Disc.	"C"	Aprx.	Full Load		Full Load
Hp	RPM	Frame	Number	Sym.	Dim.	Wt. (lb)	Efficiency	Voltage	Amps
230/460 volts									
1	1800	143JM	EJMM3546T	PC3	15.43	40	85.5	230/460	1.5
1 1/2	3600	143JM	EJMM3550T	PC3	15.43	47	84	230/460	1.9
	1800	145JM	EJMM3554T	PC3	15.43	44	86.5	230/460	2.2
		145JP	EJPM3554T	PC3	18.5	41	86.5	230/460	2.2
2	3600	145JM	EJMM3555T	PC3	15.43	47	85.5	230/460	2.5
		145JP	EJPM3555T	PC3	18.49	41	85.5	230/460	2.5
	1800	145JM	EJMM3558T	PC3	15.43	50	86.5	230/460	2.9
		145JP	EJPM3558T	PC3	19.37	48	86.5	230/460	2.9
3	3600	145JM	EJMM3559T	PC3	16.31	54	86.5	230/460	3.6
		145JP	EJPM3559T	PC3	19.37	50	86.5	230/460	3.6
		182JM	EJMM3610T	PC3	16.81	56	86.5	230/460	3.6
		182JP	EJPM3610T	PC3	19.87	50	86.5	230/460	3.6
	1800	182JM	EJMM3611T	PC3	18.06	76	89.5	230/460	4.2
		182JP	EJPM3611T	PC3	21.11	70	89.5	230/460	4.2
5	3600	184JM	EJMM3613T	PC3	18.06	79	88.5	230/460	5.9
		184JP	EJPM3613T	PC3	21.11	81	88.5	230/460	5.6
	1800	184JM	EJMM3615T	PC3	19.56	93	89.5	230/460	6.7
		184JP	EJPM3615T	PC3	22.61	96	89.5	230/460	6.9
7 1/2	3600	184JM	EJMM3616T	PC3	19.56	101	89.5	230/460	8.4
		184JP	EJPM3616T	PC3	22.61	96	89.5	230/460	9.7
		213JM	EJMM3709T	PC3	19.76	125	89.5	230/460	9
		213JP	EJPM3709T	PC3	23.64	121	89.5	230/460	9
		213TCZ	EWCM3709T	PC3	23.45	96	89.5	230/460	9.7
	1800	213JM	EJMM3710T	PC3	20.88	134	91.7	230/460	9.4
		213JP	EJPM3710T	PC3	24.79	129	91.7	230/460	10.7
		213TCZ	EWCM3710T	PC3	23.95	129	91.7	230/460	10.7
10	3600	215JM	EJMM3711T	PC3	19.76	130	90.2	230/460	11.8
		215JP	EJPM3711T	PC3	23.64	118	90.2	230/460	11.8
		215TCZ	EWCM3711T	PC3	22.82	118	90.2	230/460	11.8
	1800	215JM	EJMM3714T	PC3	22.39	165	91.7	230/460	12
		215JP	EJPM3714T	PC3	26.29	165	91.7	230/460	12
		215TCZ	EWCM3714T	PC3	25.45	187	91.7	230/460	12.6

Cast iron frame

Pump motor, close-coupled pump, Inverter Duty, three phase, TEFC

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
15	3600	215JM	EJMM3713T	PC3	22.39	169	91	230/460	17
		215JP	EJPM3713T	PC3	26.29	169	91	230/460	17
		215TCZ	EWCM3713T	PC3	25.45	169	91	230/460	17
		254JM	EJMM2394T	PC3	25.3	257	91	230/460	17.5
		254JP	EJPM2394T	PC3	28.16	260	91	230/460	17.8
	1800	254JM	EJMM2333T	PC3	25.3	265	92.4	230/460	18.5
		254JP	EJPM2333T	PC3	28.16	265	92.4	230/460	18.5
20	3600	256JM	EJMM4106T	PC3	25.3	281	91	230/460	23
		256JP	EJPM4106T	PC3	28.16	264	91	230/460	23
	1800	256JM	EJMM2334T	PC3	25.3	304	93	230/460	24
			256JP	EJPM2334T	PC3	28.16	300	93	230/460
25	3600	284JM	EJMM4107T	PC3	26.96	353	91.7	230/460	29
		284JP	EJPM4107T	PC3	29.84	349	91.7	230/460	29
	1800	284JM	EJMM4103T	PC3	28.64	387	93.6	230/460	30
			284JP	EJPM4103T	PC3	31.51	412	93.6	230/460
30	3600	286JM	EJMM4108T	PC3	28.64	406	91.7	230/460	33
		286JP	EJPM4108T	PC3	31.51	405	91.7	230/460	35
	1800	286JM	EJMM4104T	PC3	28.64	422	93.6	230/460	36
			286JP	EJPM4104T	PC3	31.51	452	93.6	230/460
40	3600	324JM	EJMM4109T	PC3	30.64	487	92.4	230/460	45
		324JP	EJPM4109T	PC3	33.51	498	92.4	230/460	45
	1800	324JM	EJMM4110T	PC3	30.65	586	94.1	230/460	48
			324JP	EJPM4110T	PC3	33.41	602	94.1	230/460
50	3600	326JM	EJMM4114T	PC3	30.65	595	93	230/460	56
		326JP	EJPM4114T	PC3	33.41	604	93	230/460	56
	1800	326JM	EJMM4115T	PC3	30.65	624	94.5	230/460	58
			326JP	EJPM4115T	PC3	33.41	646	94.5	230/460
575 volts									
1	1800	143JM	EJMM3546T-5	PC3	15.43	38	85.5	575	1.2
1 1/2	3600	143JM	EJMM3550T-5	PC3	15.41	38	84	575	1.5
	1800	145JM	EJMM3554T-5	PC3	15.43	41	86.5	575	1.8
2	3600	145JM	EJMM3555T-5	PC3	15.41	41	85.5	575	2
	1800	145JM	EJMM3558T-5	PC3	15.43	45	86.5	575	2.3
3	3600	145JM	EJMM3559T-5	PC3	16.29	50	86.5	575	2.9
		182JM	EJMM3610T-5	PC3	16.69	63	86.5	575	2.9
	1800	182JM	EJMM3611T-5	PC3	18.06	70	89.5	575	3.3
5	3600	184JM	EJMM3613T-5	PC3	18.06	74	88.5	575	4.7
	1800	184JM	EJMM3615T-5	PC3	19.56	93	89.5	575	5.3
7 1/2	3600	184JM	EJMM3616T-5	PC3	19.56	96	89.5	575	6.8
	1800	213JM	EJMM3710T-5	PC3	20.88	127	91.7	575	7.6
10	3600	215JM	EJMM3711T-5	PC3	19.76	118	90.2	575	9.5
	1800	215JM	EJMM3714T-5	PC3	22.38	165	91.7	575	9.6
15	3600	215JM	EJMM3713T-5	PC3	22.38	169	91	575	13.4
		254JM	EJMM2394T-5	PC3	23.07	225	91	575	13.5
	1800	254JM	EJMM2333T-5	PC3	25.3	268	92.4	575	14.6

Cast iron frame

Pump motor

Close-coupled pump, three phase, TEFC, footless
1 - 20 Hp

IP44



Features:

- Oversize ball bearings for the pump industry
- Locked drive end bearing to allow mounting in any configuration
- Designed for longevity with a 3 year warranty on premium efficient motors
- Suitable for Inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- HVAC pumps
- General purpose pumps

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
230/460 volts									
1	1800	143JM	VEJMM3546T	PC3	14.43	38	85.5	230/460	1.5
1 1/2	1800	145JM	VEJMM3554T	PC3	15.43	45	86.5	230/460	2.2
2	1800	145JM	VEJMM3558T	PC3	15.43	44	86.5	230/460	2.9
3	1800	182JM	VEJMM3611T	PC3	18.05	74	89.5	230/460	4.2
5	1800	184JM	VEJMM3615T	PC3	19.55	90	89.5	230/460	6.7
	3600	213JM	VEJMM3709T	PC3	19.76	121	89.5	230/460	9
7 1/2	1800	213JM	VEJMM3710T	PC3	20.92	136	91.7	230/460	9.4
10	1800	215JM	VEJMM3714T	PC3	22.40	165	91.7	230/460	12
15	1800	254JM	VEJMM2333T	PC3	25.28	278	92.4	230/460	18.1
20	1800	256JM	VEJMM2334T	PC3	25.28	303	93	230/460	24
575 volts									
1	1800	143JM	VEJMM3546T-5	PC3	15.43	38	86.5	575	1.1
1 1/2	1800	145JM	VEJMM3554T-5	PC3	16.31	41	86.5	575	1.6
2	1800	145JM	VEJMM3558T-5	PC3	15.43	45	86.5	575	2.2
3	1800	182JM	VEJMM3611T-5	PC3	18.05	70	89.5	575	3.1
5	1800	184JM	VEJMM3615T-5	PC3	19.55	93	89.5	575	5.3
7 1/2	1800	213JM	VEJMM3710T-5	PC3	20.92	127	91.7	575	7.6
10	1800	215JM	VEJMM3714T-5	PC3	22.42	165	91.7	575	9.6
15	1800	254JM	VEJMM2333T-5	PC3	25.28	255	92.4	575	14.6
20	1800	256JM	VEJMM2334T-5	PC3	25.28	303	93	575	19.2

Cast iron frame

Pump motor

Close-coupled pump, three phase, ODP
1 - 75 Hp

IP23


Features:

- Rodent screens to protect against trash debris
- Oversize ball bearings for the pump industry
- Locked drive end bearing to allow mounting in any configuration
- Designed for longevity with a 3 year warranty on premium efficient motors optimized torque profiles
- Suitable for Inverter use per NEMA MG1 Part 31.4.4.2

Applications:

- HVAC pumps
- General purpose pump

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
Foot mounted, 230/460									
1	1800	143JM	EJMM3116T	PC3	13.75	38	85.5	230/460	1.5
		143JP	EJPM3116T	PC3	16.81	38	85.5	230/460	1.5
1 1/2	3600	143JM	EJMM3120T	PC3	13.75	34	84	230/460	2
	1800	145JM	EJMM3154T	PC3	13.75	38	86.5	230/460	2.2
		145JP	EJPM3154T	PC3	16.81	37	86.5	230/460	2.2
2	3600	145JM	EJMM3155T	PC3	13.75	44	85.5	230/460	2.5
	1800	145JM	EJMM3157T	PC3	14.25	44	86.5	230/460	2.9
		145JP	EJPM3157T	PC3	17.31	43	86.5	230/460	2.9
3	3600	145JM	EJMM3158T	PC3	15.13	49	85.5	230/460	3.8
		145JP	EJPM3158T	PC3	17.31	48	85.5	230/460	3.8
	1800	182JM	EJMM3211T	PC3	16.50	72	89.5	230/460	4.2
		182JP	EJPM3211T	PC3	19.56	74	89.5	230/460	4.2
5	3600	182JM	EJMM3212T	PC3	15.12	64	86.5	230/460	6
		182JP	EJPM3212T	PC3	18.18	63	86.5	230/460	6
		182TCZ	EWCM3212T	PC3	18.32	63	86.5	230/460	6
	1800	184JM	EJMM3218T	PC3	18.00	87	89.5	230/460	6.6
		184JP	EJPM3218T	PC3	21.06	92	89.5	230/460	6.6
	1200	215JM	EJMM3309T	PC3	19.31	141	89.5	230/460	7.4
7 1/2	3600	184JM	EJMM3219T	PC3	16.50	78	88.5	230/460	8.6
		184JP	EJPM3219T	PC3	19.56	77	88.5	230/460	8.6
		184TCZ	EWCM3219T	PC3	19.69	77	88.5	230/460	8.6
	1800	213JM	EJMM3311T	PC3	18.19	120	91	230/460	9.7
		213JP	EJPM3311T	PC3	20.94	130	91	230/460	9.3
	1200	254JM	EJMM2506T	PC3	24.69	248	90.2	230/460	11
10	3600	213JM	EJMM3312T	PC3	18.19	120	89.5	230/460	12
		213JP	EJPM3312T	PC3	22.07	122	89.5	230/460	12
		213TCZ	EWCM3312T	PC3	21.25	121	89.5	230/460	12
	1800	215JM	EJMM3313T	PC3	19.31	136	91.7	230/460	12.5
		215JP	EJPM3313T	PC3	23.20	138	91.7	230/460	12.5
	1200	256JM	EJMM2511T	PC3	24.69	255	91.7	230/460	14.3
15	3600	215JM	EJMM3314T	PC3	18.19	131	90.2	230/460	17.5
		215JP	EJPM3314T	PC3	22.07	134	90.2	230/460	17.5
		215TCZ	EWCM3314T	PC3	21.25	131	90.2	230/460	17.5
	1800	254JM	EJMM2513T	PC3	23.19	214	93	230/460	17.7
		254JP	EJPM2513T	PC3	26.06	219	93	230/460	17.7
	1200	284JM	EJMM2524T	PC3	24.69	300	91.7	230/460	20.5

**ODP motors retain IP rating when mounted in horizontal position only.

Pump motor, close-coupled pump, three phase, ODP

Hp	RPM	NEMA Frame	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
20	3600	254JM	EJMM2514T	PC3	23.19	195	91	230/460	23.5
		254JP	EJPM2514T	PC3	26.06	220	91	230/460	23.5
	1800	256JM	EJMM2515T	PC3	23.19	248	93	230/460	23.5
		256JP	EJPM2515T	PC3	26.06	236	93	230/460	23.5
25	3600	256JM	EJMM2516T	PC3	23.19	219	91.7	230/460	28
		256JP	EJPM2516T	PC3	26.06	230	91.7	230/460	28
	1800	284JM	EJMM2531T	PC3	25.94	317	93.6	230/460	30
		284JP	EJPM2531T	PC3	28.81	335	93.6	230/460	30
30	3600	284JM	EJMM2534T	PC3	26.56	309	91.7	230/460	33
		284JP	EJPM2534T	PC3	29.44	310	91.7	230/460	33
	1800	286JM	EJMM2535T	PC3	25.94	359	94.1	230/460	35
		286JP	EJPM2535T	PC3	28.81	370	94.1	230/460	35
40	3600	286JM	EJMM2538T	PC3	26.56	328	92.4	230/460	45
		286JP	EJPM2538T	PC3	29.44	329	92.4	230/460	45
	1800	324JM	EJMM2539T	PC3	27.44	417	94.1	230/460	49
		324JP	EJPM2539T	PC3	30.31	378	94.1	230/460	47
50	3600	324JM	EJMM2542T	PC3	26.94	421	93	230/460	58
		324JP	EJPM2542T	PC3	29.81	424	93	230/460	58
	1800	326JM	EJMM2543T	PC3	27.94	491	94.5	230/460	57
		326JP	EJPM2543T	PC3	30.81	500	94.5	230/460	57
60	3600	326JM	EJMM2546T	PC3	26.94	472	93.6	230/460	68
	1800	364JP	EJPM2547T	PC3	33.19	565	95	230/460	68
75	1800	365JP	EJPM2551T	PC3	36.22	597	95	230/460	87
Foot mounted, 575 volts									
3	3600	145JM	EJMM3158T-5	PC3	14.25	48	85.5	575	3
	1800	182JM	EJMM3211T-5	PC3	16.50	74	89.5	575	3.1
5	3600	182JM	EJMM3212T-5	PC3	16.50	63	90.2	575	4.5
	1800	184JM	EJMM3218T-5	PC3	18.00	92	89.5	575	5.2
7 1/2	3600	184JM	EJMM3219T-5	PC3	16.50	77	88.5	575	6.9
	1800	213JM	EJMM3311T-5	PC3	18.19	120	91	575	7.4
10	3600	213JM	EJMM3312T-5	PC3	19.31	137	91.7	575	9.2
	1800	215JM	EJMM3313T-5	PC3	18.19	132	91.7	575	10
15	3600	215JM	EJMM3314T-5	PC3	19.31	131	90.2	575	14
Footless, 230/460									
1	1800	143JM	VEJMM3116T	PC3	14.43	37	85.5	230/460	1.5
1 1/2	1800	145JM	VEJMM3154T	PC3	15.43	43	86.5	230/460	2.2
2	1800	145JM	VEJMM3157T	PC3	15.43	46	86.5	230/460	2.9
3	3600	145JM	VEJMM3158T	PC3	14.25	48	85.5	230/460	3.8
	1800	184JM	VEJMM3211T	PC3	18.06	74	89.5	230/460	4.2
5	3600	182JM	VEJMM3212T	PC3	16.66	63	86.5	230/460	6
	1800	184JM	VEJMM3218T	PC3	19.56	84	89.5	230/460	6.6
7 1/2	3600	184JM	VEJMM3219T	PC3	18.04	77	88.5	230/460	8.6
	1800	213JM	VEJMM3311T	PC3	19.78	125	91	230/460	9.6
10	3600	213JM	VEJMM3312T	PC3	18.19	121	89.5	230/460	12
	1800	215JM	VEJMM3313T	PC3	22.41	165	91.7	230/460	12
15	3600	215JM	VEJMM3314T	PC3	18.69	131	90.2	230/460	17.5
Footless, 575 volts									
1	1800	143JM	VEJMM3116T-5	PC3	15.43	44.00	86.5	575	1.1
1 1/2	1800	145JM	VEJMM3154T-5	PC3	16.31	51.00	86.5	575	1.6
2	1800	145JM	VEJMM3157T-5	PC3	16.31	52.00	86.5	575	2.1
3	1800	182JM	VEJMM3211T-5	PC3	18.06	74.00	89.5	575	3.1
5	1800	184JM	VEJMM3218T-5	PC3	18.06	77.00	89.5	575	5.2

**ODP motors retain IP rating when mounted in horizontal position only.

Pump motor

White washdown, close-coupled pump, three phase, totally enclosed, foot mounted

1 - 20 Hp

IP55



Features:

- Oversized, double sealed ball bearings
- Locked drive end bearing
- Neoprene gaskets
- Lip and V-Ring seal on drive end
- NEMA Premium® efficiency
- White epoxy, corrosion resistant finish
- 300 series stainless steel hardware and shaft extension

Applications:

- Water pumps commercial and industrial
- Wet environment

Hp	RPM	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
1	3600	143JM	TENV	JMEWDM3545T	WDW	15.41	35	84	230/460	1.4
	1800	143JM	TENV	JMEWDM3546T	WDW	14.25	39	85.5	230/460	1.5
1 1/2	3600	143JM	TENV	JMEWDM3550T	WDW	14.28	48	85.5	208-230/460	2
	1800	145JM	TENV	JMEWDM3554T	WDW	15.16	50	86.5	230/460	2.1
2	3600	145JM	TEFC	JMEWDM3555T	WDW	15.43	47	85.5	208-230/460	2.5
	1800	145JM	TEFC	JMEWDM3558T	WDW	16.34	48	86.5	230/460	2.9
3	3600	145JM	TEFC	JMEWDM3559T	WDW	16.31	50	86.5	230/460	3.6
	1800	182JM	TEFC	JMEWDM3611T	WDW	18.05	70	89.5	230/460	4.2
5	3600	184JM	TEFC	JMEWDM3613T	WDW	18.05	81	88.5	230/460	5.6
		184JM	TEFC	JMEWDM3613T-5	WDW	18.05	74	88.5	575	4.7
	1800	184JM	TEFC	JMEWDM3615T	WDW	19.55	93	89.5	230/460	6.7
7 1/2	3600	184JM	TEFC	JMEWDM3616T	WDW	19.55	96	89.5	230/460	8.4
	1800	213JM	TEFC	JMEWDM3710T	WDW	20.91	151	91.7	230/460	9.5
10	3600	215JM	TEFC	JMEWDM3711T	WDW	20.91	130	90.2	208-230/460	10.8
	1800	215JM	TEFC	JMEWDM3714T	WDW	22.41	165	91.7	230/460	12
15	3600	215JM	TEFC	JMEWDM3713T	WDW	21.64	169	91	230/460	17
	1800	254JM	TEFC	JMEWDM23933T	WDW	25.06	252	92.4	230/460	18
20	3600	256JM	TEFC	JMEWDM41906T	WDW	25.06	255	91	230/460	23
	1800	256JM	TEFC	JMEWDM23934T	WDW	25.06	275	93	230/460	24

Red catalog number indicates NEW product.

Pump motor

Washdown features, close-coupled pump, three phase, totally enclosed, foot mounted, 25 - 75 Hp

IP55


Features:

- Oversized, double sealed ball bearings
- Locked drive end bearing
- Neoprene gaskets
- Lip and V-Ring seal on drive end
- NEMA Premium® efficiency
- White epoxy, corrosion resistant finish
- 300 series stainless steel hardware and shaft extension
- Rugged cast iron construction

Applications:

- Water pumps commercial and industrial
- Wet environment

Hp	RPM	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
25	3600	284JM	TEFC	JMEWDM4107T	WDW	28.44	446	91.7	230/460	30
	1800	284JM	TEFC	JMEWDM4103T	WDW	28.44	437	93.6	230/460	30
30	3600	286JM	TEFC	JMEWDM4108T	WDW	28.44	459	91.7	230/460	34
	1800	286JM	TEFC	JMEWDM4104T	WDW	28.44	460	93.6	230/460	36
40	3600	324JM	TEFC	JMEWDM4109T	WDW	30.53	587	92.4	230/460	47
	1800	324JM	TEFC	JMEWDM4110T	WDW	30.53	600	94.1	230/460	46
50	3600	326JM	TEFC	JMEWDM4114T	WDW	30.53	635	93	230/460	55
	1800	326JM	TEFC	JMEWDM4115T	WDW	30.53	700	94.5	230/460	57
60	3600	364TCZ	TEFC	JMEWDM4310T	WDW	33.11	999	93.6	230/460	66.1
	1800	364TCZ	TEFC	JMEWDM4314T	WDW	33.11	961	95	230/460	70
75	3600	365TCZ	TEFC	JMEWDM4313T	WDW	33.11	1005	94.5	230/460	80.7
	1800	365TCZ	TEFC	JMEWDM4316T	WDW	33.11	965	95.4	230/460	86

Cast iron frame

Red catalog number indicates NEW product.

Pump motor

Food safe stainless steel, close-coupled, three phase,
foot mounted, encapsulated,
1 - 20 Hp

IP69



Features:

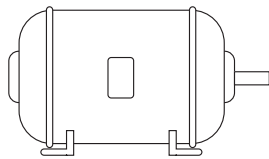
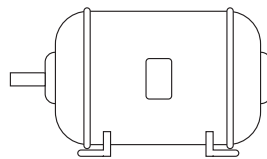
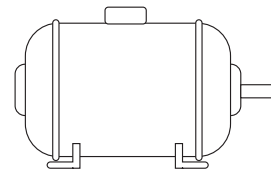
- Individually welded feet for ease of cleaning
- Rotatable, round conduit box
- Rotatable, round conduit box
- Welded & polished conduit box
- Smooth heads on external drains & hardware
- O-ring sealed endplates & conduit box
- Encapsulated, color-coded leads
- No crevices for food to collect
- 300 series stainless steel
- Epoxy encapsulated windings
- Laser etched nameplate
- Removable condensate drains in each endplate
- Internal & external shaft sealing
- Class H insulation system, inverter ready
- 3 year warranty, NEMA Premium® efficiency

Applications:

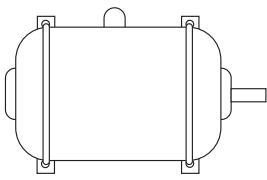
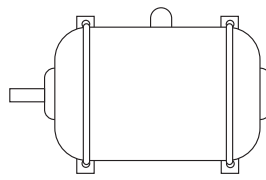
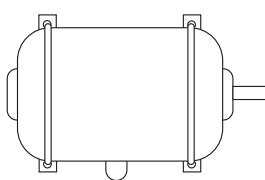
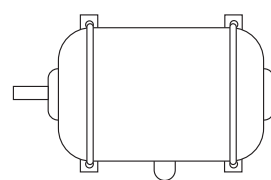
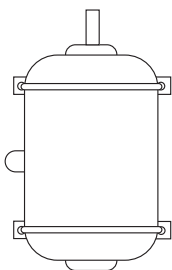
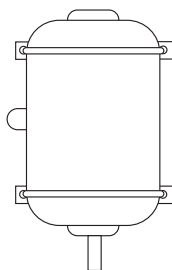
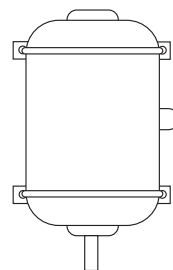
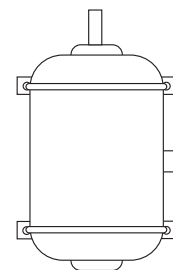
- Food processing
- High pressure washdown
- Caustic environment
- Pumps and wastewater
- Outdoors
- Sanitary washdown

Hp	RPM	NEMA Frame	Enclosure	Catalog Number	Disc. Sym.	"C" Dim.	Aprx. Wt. (lb)	Full Load Efficiency	Voltage	Full Load Amps
1	1800	143JM	TENV	JMFSWDM3546T-E	WDF	14.97	37	85.5	230/460	1.5
1 1/2	3600	143JM	TENV	JMFSWDM3550T-E	WDF	15.85	50	85.5	230/460	1.8
	1800	145JM	TEFC	JMFSWDM3554T-E	WDF	16.15	45	86.5	230/460	2.2
2	3600	145JM	TEFC	JMFSWDM3555T-E	WDF	17.03	50	86.5	230/460	2.5
	1800	145JM	TEFC	JMFSWDM3558T-E	WDF	18.4	56	88.5	230/460	2.7
3	3600	145JM	TEFC	JMFSWDM3559T-E	WDF	18.4	61	86.5	230/460	3.7
	1800	182JM	TEFC	JMFSWDM3611T-E	WDF	19.72	83	89.5	230/460	4.2
5	3600	184JM	TEFC	JMFSWDM3613T-E	WDF	18.22	81	89.5	230/460	5.6
	1800	184JM	TEFC	JMFSWDM3615T-E	WDF	19.72	101	89.5	230/460	6.5
7 1/2	3600	213JM	TEFC	JMFSWDM3709T-E	WDF	20.62	131	91	230/460	8.3
	1800	213JM	TEFC	JMFSWDM3710T-E	WDF	21.81	139	91.7	230/460	9.5
10	3600	215JM	TEFC	JMFSWDM3711T-E	WDF	21.81	154	91.7	230/460	10.6
	1800	215JM	TEFC	JMFSWDM3714T-E	WDF	23.56	187	92.4	230/460	12.5
15	3600	215JM	TEFC	JMFSWDM3713T-E	WDF	23.56	187	91.7	230/460	17
		254JM	TEFC	JMFSWDM23994T-E	WDF	25.67	265	91	230/460	16.5
	1800	254JM	TEFC	JMFSWDM23933T-E	WDF	25.67	286	92.4	230/460	17.5
20	3600	256JM	TEFC	JMFSWDM41906T-E	WDF	26.67	300	91	230/460	21.5
	1800	256JM	TEFC	JMFSWDM23934T-E	WDF	26.67	295	93	230/460	23.4

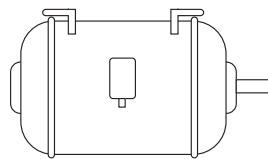
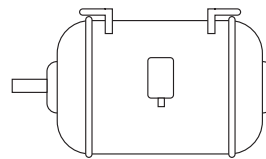
Floor Mountings

**Assembly F-1****Assembly F-2****Assembly F-3**

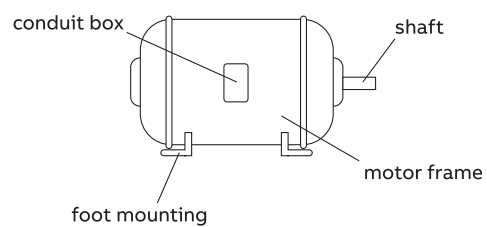
Wall Mountings

**Assembly W-1****Assembly W-2****Assembly W-3****Assembly W-4****Assembly W-5****Assembly W-6****Assembly W-7****Assembly W-8**

Ceiling Mountings

**Assembly C-1****Assembly C-2**

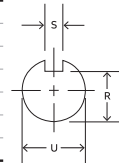
Note: For all NEMA mounting configurations, refer to NEMA MG 1-2016.



NEMA quick reference chart

NEMA Frame	D	E	2F	H	N	O	P	U	V	AA	AB	AH	AJ	AK	BA	BB	BD	XO	TAP
42	2- $\frac{1}{2}$	1- $\frac{3}{4}$	1- $\frac{11}{16}$	$\frac{5}{32}$	1- $\frac{1}{2}$	5	4- $\frac{11}{16}$	$\frac{3}{8}$	1- $\frac{1}{2}$	$\frac{3}{8}$	4- $\frac{1}{32}$	1- $\frac{3}{16}$	3- $\frac{3}{4}$	3	2- $\frac{1}{16}$	$\frac{1}{8}$	4- $\frac{1}{2}$	1- $\frac{9}{16}$	$\frac{1}{4}$ -20
				Slot															
48	3	2- $\frac{1}{8}$	2- $\frac{3}{4}$	$\frac{11}{32}$	1- $\frac{7}{8}$	5- $\frac{7}{8}$	5- $\frac{1}{16}$	$\frac{1}{2}$	1- $\frac{1}{2}$	$\frac{1}{2}$	4- $\frac{3}{8}$	1- $\frac{11}{16}$	3- $\frac{3}{4}$	3	2- $\frac{1}{2}$	$\frac{1}{8}$	5- $\frac{3}{8}$	2- $\frac{1}{4}$	$\frac{1}{4}$ -20
				Slot															
56	3- $\frac{1}{2}$	2- $\frac{1}{2}$	3	$\frac{11}{32}$	2- $\frac{1}{16}$	6- $\frac{7}{8}$	6- $\frac{3}{8}$	$\frac{3}{8}$	1- $\frac{7}{8}$	$\frac{1}{2}$	5	2- $\frac{1}{16}$	5- $\frac{7}{8}$	4- $\frac{1}{2}$	2- $\frac{3}{4}$	$\frac{1}{8}$	6- $\frac{1}{2}$	2- $\frac{1}{4}$	$\frac{3}{8}$ -16
56H			5	Slot	2- $\frac{1}{8}$														
143T	3- $\frac{1}{2}$	2- $\frac{3}{4}$	4	$\frac{11}{32}$	2- $\frac{1}{16}$	6- $\frac{7}{8}$	6- $\frac{3}{8}$	$\frac{7}{8}$	2- $\frac{1}{4}$	$\frac{3}{4}$	5- $\frac{1}{4}$	2- $\frac{1}{8}$	5- $\frac{7}{8}$	4- $\frac{1}{2}$	2- $\frac{1}{4}$	$\frac{1}{8}$	6- $\frac{1}{2}$	2- $\frac{1}{4}$	$\frac{3}{8}$ -16
145T			5																
182	4- $\frac{1}{2}$	3- $\frac{3}{4}$	4- $\frac{1}{2}$	$\frac{11}{32}$	2- $\frac{1}{16}$	8- $\frac{1}{16}$	7- $\frac{7}{8}$	$\frac{7}{8}$	2- $\frac{1}{4}$	$\frac{3}{4}$	5- $\frac{1}{2}$	2- $\frac{1}{8}$	5- $\frac{7}{8}$	4- $\frac{1}{2}$	2- $\frac{3}{4}$	$\frac{1}{8}$	6- $\frac{1}{2}$	2- $\frac{1}{4}$	$\frac{3}{8}$ -16
184			5- $\frac{1}{2}$		2- $\frac{11}{16}$			$\frac{7}{8}$	2- $\frac{1}{4}$				2- $\frac{1}{8}$	5- $\frac{7}{8}$	4- $\frac{1}{2}$		$\frac{1}{8}$	6- $\frac{1}{2}$	$\frac{3}{8}$ -16
182T			4- $\frac{1}{2}$		3- $\frac{1}{16}$			1- $\frac{1}{2}$	2- $\frac{1}{4}$				2- $\frac{5}{8}$	7- $\frac{1}{4}$	8- $\frac{1}{2}$		$\frac{1}{4}$	9	$\frac{1}{2}$ -13
184T			5- $\frac{1}{2}$		3- $\frac{9}{16}$			1- $\frac{1}{2}$	2- $\frac{3}{4}$				2- $\frac{5}{8}$	7- $\frac{1}{4}$	8- $\frac{1}{2}$		$\frac{1}{4}$	9	$\frac{1}{2}$ -13
213	5- $\frac{1}{4}$	4- $\frac{1}{4}$	5- $\frac{1}{2}$	$\frac{11}{32}$	3- $\frac{1}{2}$	10- $\frac{1}{4}$	9- $\frac{3}{8}$	1- $\frac{1}{2}$	3	1	7- $\frac{3}{8}$	2- $\frac{1}{4}$	7- $\frac{1}{4}$	8- $\frac{1}{2}$	3- $\frac{1}{2}$	$\frac{1}{4}$	9	2- $\frac{1}{4}$	$\frac{1}{2}$ -13
215			7		3- $\frac{1}{2}$			1- $\frac{1}{2}$	3				2- $\frac{1}{4}$						
213T			5- $\frac{1}{2}$		3- $\frac{7}{8}$			1- $\frac{1}{2}$	3- $\frac{3}{8}$				3- $\frac{1}{8}$						
215T			7		3- $\frac{1}{2}$			1- $\frac{1}{2}$	3- $\frac{3}{8}$				3- $\frac{1}{8}$						
254U	6- $\frac{1}{4}$	5	8- $\frac{1}{4}$	$\frac{11}{32}$	4- $\frac{1}{16}$	12- $\frac{7}{8}$	12- $\frac{15}{16}$	1- $\frac{3}{4}$	3- $\frac{3}{4}$	1	9- $\frac{3}{8}$	3- $\frac{1}{2}$	7- $\frac{1}{4}$	8- $\frac{1}{2}$	4- $\frac{1}{4}$	$\frac{1}{4}$	10	—	$\frac{1}{2}$ -13
256U			10		4- $\frac{1}{16}$			1- $\frac{3}{4}$	3- $\frac{3}{4}$				3- $\frac{1}{2}$						
254T			8- $\frac{1}{4}$		4- $\frac{9}{16}$			1- $\frac{3}{4}$	4				3- $\frac{3}{4}$						
256T			10		4- $\frac{9}{16}$			1- $\frac{3}{4}$	4				3- $\frac{3}{4}$						
284U	7	5- $\frac{1}{2}$	9- $\frac{1}{2}$	$\frac{11}{32}$	5- $\frac{1}{8}$	14- $\frac{1}{2}$	14- $\frac{1}{2}$	1- $\frac{3}{4}$	4- $\frac{7}{8}$	1- $\frac{1}{2}$	13- $\frac{1}{2}$	4- $\frac{5}{8}$	9	10- $\frac{1}{2}$	4- $\frac{3}{4}$	$\frac{1}{4}$	11- $\frac{1}{4}$	—	$\frac{1}{2}$ -13
286U			11		5- $\frac{1}{8}$			1- $\frac{3}{4}$	4- $\frac{7}{8}$				4- $\frac{5}{8}$						
284T			9- $\frac{1}{2}$		4- $\frac{7}{8}$			1- $\frac{3}{4}$	4- $\frac{7}{8}$				4- $\frac{5}{8}$						
286T			11		4- $\frac{7}{8}$			1- $\frac{3}{4}$	4- $\frac{7}{8}$				4- $\frac{5}{8}$						
284TS			9- $\frac{1}{2}$		3- $\frac{3}{8}$			1- $\frac{3}{4}$	3- $\frac{3}{4}$				3						
286TS			11		3- $\frac{3}{8}$			1- $\frac{3}{4}$	3- $\frac{3}{4}$				3						
324U	8	6- $\frac{1}{4}$	10- $\frac{1}{2}$	$\frac{11}{32}$	5- $\frac{1}{8}$	16- $\frac{1}{2}$	16- $\frac{1}{2}$	1- $\frac{3}{4}$	5- $\frac{1}{2}$	2	14- $\frac{1}{2}$	5- $\frac{3}{4}$	11	12- $\frac{1}{2}$	5- $\frac{1}{4}$	$\frac{1}{4}$	13- $\frac{3}{8}$	—	$\frac{3}{8}$ -11
326U			12		5- $\frac{1}{8}$			1- $\frac{3}{4}$	5- $\frac{1}{2}$				5- $\frac{3}{4}$						
324T			10- $\frac{1}{2}$		5- $\frac{1}{2}$			2- $\frac{1}{2}$	5- $\frac{1}{4}$				5						
326T			12		5- $\frac{1}{2}$			2- $\frac{1}{2}$	5- $\frac{1}{4}$				5						
324TS			10- $\frac{1}{2}$		3- $\frac{15}{16}$			1- $\frac{3}{4}$	3- $\frac{15}{16}$				3- $\frac{1}{2}$						
326TS			12		3- $\frac{15}{16}$			1- $\frac{3}{4}$	3- $\frac{15}{16}$				3- $\frac{1}{2}$						
364U	9	7	11- $\frac{1}{4}$		6- $\frac{3}{4}$			2- $\frac{3}{4}$	6- $\frac{3}{8}$		18	6- $\frac{3}{8}$	11	12- $\frac{1}{2}$	5- $\frac{7}{8}$	$\frac{1}{4}$	13- $\frac{3}{8}$	—	$\frac{3}{8}$ -11
365U			12- $\frac{1}{4}$		6- $\frac{3}{4}$			2- $\frac{3}{4}$	6- $\frac{3}{8}$		18	6- $\frac{3}{8}$							
364T			11- $\frac{1}{4}$	$\frac{11}{32}$	6- $\frac{1}{4}$	18- $\frac{1}{2}$	19- $\frac{1}{2}$	2- $\frac{3}{4}$	5- $\frac{7}{8}$	3	18- $\frac{1}{4}$	5- $\frac{7}{8}$							
365T			12- $\frac{1}{4}$		6- $\frac{1}{4}$			2- $\frac{3}{4}$	5- $\frac{7}{8}$		18- $\frac{1}{16}$	5- $\frac{7}{8}$							
364TS			11- $\frac{1}{4}$		4			1- $\frac{3}{4}$	3- $\frac{3}{4}$		18- $\frac{1}{16}$	3- $\frac{3}{4}$							
365TS			12- $\frac{1}{4}$		4			1- $\frac{3}{4}$	3- $\frac{3}{4}$		18- $\frac{1}{16}$	3- $\frac{3}{4}$							
404U	10	8	12- $\frac{1}{4}$		7- $\frac{3}{16}$			2- $\frac{3}{4}$	7- $\frac{7}{8}$		19- $\frac{1}{4}$	6- $\frac{7}{8}$	11	12- $\frac{1}{2}$	6- $\frac{1}{8}$	$\frac{1}{4}$	13- $\frac{3}{8}$	—	$\frac{3}{8}$ -11
405U			13- $\frac{3}{4}$		7- $\frac{3}{16}$			2- $\frac{3}{4}$	7- $\frac{7}{8}$		19- $\frac{1}{4}$	6- $\frac{7}{8}$							
404T			12- $\frac{1}{4}$	$\frac{11}{16}$	7- $\frac{1}{16}$	21- $\frac{1}{16}$	22- $\frac{1}{2}$	2- $\frac{3}{4}$	7- $\frac{1}{4}$	3	19- $\frac{3}{16}$	7							
405T			13- $\frac{3}{4}$		7- $\frac{1}{16}$			2- $\frac{3}{4}$	7- $\frac{1}{4}$		19- $\frac{3}{16}$	7							
404TS			12- $\frac{1}{4}$		4- $\frac{1}{2}$			2- $\frac{3}{4}$	4- $\frac{1}{4}$		19- $\frac{3}{16}$	4							
405TS			13- $\frac{3}{4}$		4- $\frac{1}{2}$			2- $\frac{3}{4}$	4- $\frac{1}{4}$		19- $\frac{3}{16}$	4							
444U	11	9	14- $\frac{1}{2}$		8- $\frac{3}{8}$	24.24	27.57	2- $\frac{3}{4}$	8- $\frac{3}{8}$	3	22.68	8- $\frac{3}{8}$	14	16	7- $\frac{1}{2}$	$\frac{1}{4}$	16- $\frac{3}{4}$	—	$\frac{3}{8}$ -11
445U			16- $\frac{1}{2}$		8- $\frac{3}{8}$	24.24	27.57	2- $\frac{3}{4}$	8- $\frac{3}{8}$	3	22.68	8- $\frac{3}{8}$							
444T			14- $\frac{1}{2}$		8- $\frac{3}{8}$	24.24	27.57	3- $\frac{3}{8}$	8- $\frac{3}{8}$	4	22.68	8- $\frac{3}{4}$							
445T			16- $\frac{1}{2}$		8- $\frac{3}{8}$	24.24	27.57	3- $\frac{3}{8}$	8- $\frac{3}{8}$	4	22.68	8- $\frac{3}{4}$							
447T			20	$\frac{11}{16}$	8- $\frac{3}{8}$	24.24	27.57	3- $\frac{3}{8}$	8- $\frac{3}{8}$	4	23.86	8- $\frac{1}{4}$							
449T			25		8- $\frac{3}{8}$	24.24	27.57	3- $\frac{3}{8}$	8- $\frac{1}{2}$	4	23.86	8- $\frac{1}{4}$							
444TS			14- $\frac{1}{2}$		4- $\frac{1}{16}$	24.24	27.57	2- $\frac{3}{4}$	4- $\frac{1}{8}$	4	22.68	4- $\frac{1}{2}$							
445TS			16- $\frac{1}{2}$		4- $\frac{1}{16}$	24.24	27.57	2- $\frac{3}{4}$	4- $\frac{1}{8}$	4	22.68	4- $\frac{1}{2}$							
447TS			20		4- $\frac{1}{16}$	24.24	27.57	2- $\frac{3}{4}$	4- $\frac{1}{8}$	4	23.86	4- $\frac{1}{2}$							
449TS			25		4- $\frac{1}{16}$	24.24	27.57	2- $\frac{3}{4}$	4- $\frac{1}{8}$	4	23.86	4- $\frac{1}{2}$							

NEMA Shaft	Keyseat Dimensions	NEMA Shaft	Keyseat Dimensions
(U)	(R) (S)	(U)	(R) (S)
$\frac{3}{8}$	$\frac{23}{64}$ FLAT	1- $\frac{1}{2}$	1- $\frac{19}{32}$ $\frac{1}{2}$
$\frac{1}{2}$	$\frac{29}{64}$ FLAT	2- $\frac{1}{2}$	1- $\frac{27}{32}$ $\frac{1}{2}$
$\frac{5}{8}$	$\frac{33}{64}$ $\frac{3}{16}$	2- $\frac{3}{4}$	2- $\frac{1}{4}$ $\frac{3}{8}$
$\frac{7}{8}$	$\frac{49}{64}$ $\frac{1}{4}$	2- $\frac{1}{2}$	2- $\frac{3}{16}$ $\frac{3}{8}$
1- $\frac{1}{8}$	$\frac{49}{64}$ $\frac{1}{4}$	2- $\frac{1}{2}$	2- $\frac{3}{16}$ $\frac{3}{8}$
1- $\frac{3}{8}$	1- $\frac{13}{64}$ $\frac{3}{16}$	3- $\frac{3}{4}$	2- $\frac{1}{8}$ $\frac{7}{8}$
1- $\frac{1}{2}$	1- $\frac{17}{32}$ $\frac{3}{8}$	3- $\frac{3}{4}$	3- $\frac{1}{8}$ 1



The chart on the next page provides typical legacy Baldor-Reliance motor dimensions. For more exact dimensional data, please check the specific drawing for each catalog number. NEMA states only a minimum value for AA dimension. AA dimensions shown in chart are legacy Baldor-Reliance typical values meeting or exceeding NEMA. Please check motor drawing for actual dimensions.

Frame L449T is not included in this chart. Please refer to the Large AC motor chart, or to the specific motor drawings for L449T dimensions.

Frame	NEMA frames prior to 1953						
	D	E	F	N	U	V	BA
66	4- $\frac{1}{8}$	2- $\frac{1}{16}$	2- $\frac{1}{2}$	2- $\frac{1}{4}$	$\frac{3}{4}$	2- $\frac{1}{4}$	3- $\frac{1}{2}$
203	5	4	2- $\frac{3}{4}$	2- $\frac{1}{8}$	$\frac{3}{4}$	2	3- $\frac{1}{2}$
204			3- $\frac{1}{4}$				
224	5- $\frac{1}{2}$	4- $\frac{1}{2}$	3- $\frac{3}{8}$	3- $\frac{1}{4}$	1	3	3- $\frac{1}{2}$
225			3- $\frac{3}{4}$				
254	6- $\frac{1}{4}$	5	4- $\frac{1}{2}$	3- $\frac{7}{8}$	1- $\frac{1}{8}$	3- $\frac{3}{8}$	4- $\frac{1}{4}$
284	7	5- $\frac{1}{2}$	4- $\frac{3}{4}$	4- $\frac{1}{4}$	1- $\frac{1}{4}$	3- $\frac{3}{4}$	4- $\frac{3}{4}$
324	8	6- $\frac{1}{4}$	5- $\frac{1}{4}$	5- $\frac{1}{8}$	1- $\frac{1}{2}$	4- $\frac{1}{8}$	5- $\frac{1}{4}$
326			6				
364	9	7	5- $\frac{1}{2}$	5- $\frac{1}{4}$	1- $\frac{1}{2}$	5- $\frac{1}{4}$	5- $\frac{1}{2}$
365			6- $\frac{1}{4}$				
404	10	8	6- $\frac{1}{2}$	6- $\frac{1}{4}$	2- $\frac{1}{2}$	6- $\frac{1}{4}$	6- $\frac{1}{2}$
405			6- $\frac{3}{4}$				
444	11	9	7- $\frac{1}{4}$	7- $\frac{1}{2}$	2- $\frac{3}{4}$	6- $\frac{1}{2}$	7- $\frac{1}{2}$
445			8- $\frac{1}{4}$				
504	12- $\frac{1}{2}$	10	8	8- $\frac{1}{2}$	2- $\frac{1}{2}$	8- $\frac{1}{4}$	8- $\frac{1}{2}$
505			9				

IEC Low Voltage Motors (<1,000 VAC)

Wide product portfolio for any industry, any application

True IEC design and dimensions

- TEFC – M3AA/M3BP, frame 63 - 500 – cast aluminum up to 280, cast iron up to 500
 - Power range – 0.09 to 1,500 kW (0.16 to **2,000 Hp**)
- Water Jacketed – M3LP, frame 280 - 500 – cast iron/fabricated steel
 - Power range – 90 to 2,000 kW (120 to **2,600 Hp**)
- Square-laminate frame – HDP blower cooled, water cooled, or TEFC, frame 80 - 400
 - Power range – 2 to 2,000 kW (3 to **2,600 Hp**)
- SynRM technology – M3AL/M3BL, frame 132 - 315 – cast aluminum or cast iron – IE5 efficiency on VFD
 - Power range – 5.5 to 350 kW (7 to **470 Hp**)
- Permanent Magnet – M3BJ/M3LJ air-cooled or water-cooled, frame 280 - 560
 - Power range – up to 2,500 kW (**3,300 Hp**)

NEMA dimensions

- TEFC – M3BN, frame 449, 5000, and 586/7/8 – cast iron
 - 250 to **900 Hp**

Safe area motors

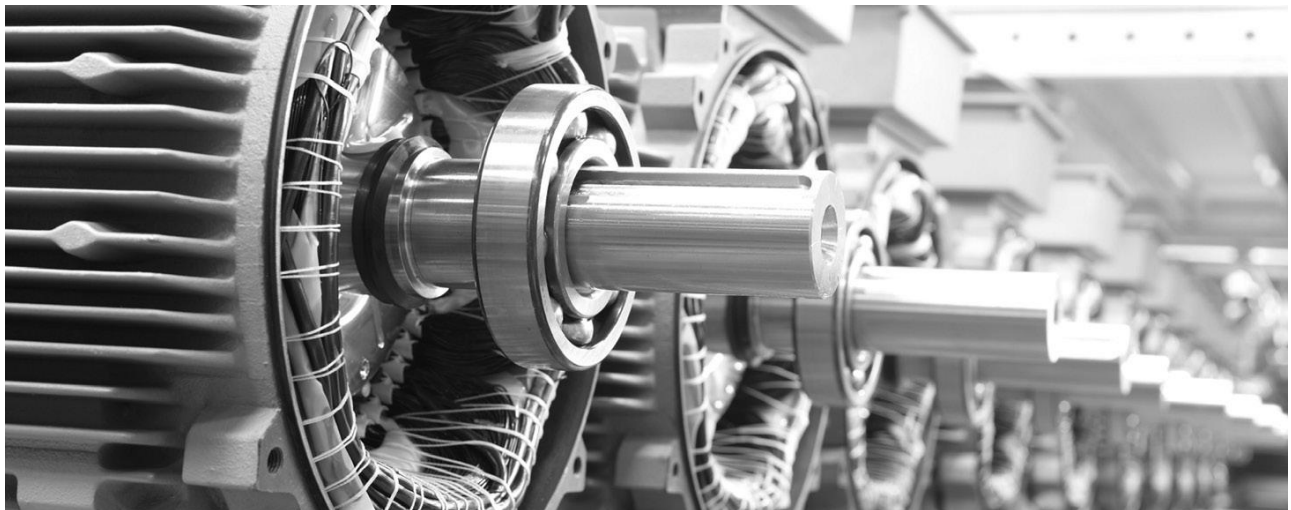
- Induction motors in aluminum and cast iron with efficiencies up to IE4
- Synchronous reluctance motors
- Permanent magnet motors
- High speed motors
- Water cooled motors

Hazardous area motors

- Flameproof motors
- Flameproof mining motors
- Increased safety motors
- Non-sparking motors
- Dust ignition proof motors

Industry and special applications

- Marine, mining, food & beverage, water, HVAC
- Food safe stainless motors
- Brake motors
- High ambient motors
- Square-laminate frame variable speed motors
- Roller table motors
- Smoke extraction motors
- E-mobility motors
- Smart sensor enabled motors



We have more to offer than just the IEC motors shown in this stock catalog. Contact your local sales office to discuss the full line of ABB custom IEC motors.

Process Performance

IEC aluminum, three phase, 50/60 Hz, 400/460VY
0.16-75 Hp



Features:

- Durable cast aluminum construction (extruded aluminum in frame sizes 200 and above)
- Cast iron end shield standard on frame sizes 160 and up
- IE3 efficiency per IEC 60034-30-1 (2014) (80 frame and above) All motors are compliant with DOE and NRCan.
- Complies with EU MEPS/ EcoDesign Regulation (EU) 2019/1781 effective July 2021. CE marked.
- 6 post terminal block in large, F3 terminal box provides easier, lower cost installation
- Class F insulation with Class B temperature limits
- Inverter ready 2:1CT and 20:1VT
- Painting system C3M acc. to ISO 12944-5
- (3) PTC thermistors, 150 °C standard on sizes 100-250
- IC411 enclosure (TEFC)

Applications:

- Pumps
- Compressors
- Fans
- Conveyors
- General machinery

kW // Hp*	RPM	IEC Frame	Catalog Number	ABB Product Code**	ABB Type Number	Disc. Sym.	"L" Dim. (in)	Aprx. Wt. (lb)	Voltage	Notes (a)
IM B3 (1001), foot mounted										
0.18 // 0.24	1500/1800	63	MM06184-S-AP	3GAA062312-ASF	M3AA 63B 4	IPP	8.43	10	230D/400Y,50Hz; 460Y,60Hz	
0.25 // 0.33	1500/1800	71	MM07254-S-AP	3GAA072311-ASE	M3AA 71A 4	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
0.37 // 0.5	3000/3600	71	MM07372-S-AP	3GAA071311-ASE	M3AA 71A 2	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	71	MM07374-S-AP	3GAA072312-ASE	M3AA 71B 4	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
0.55 // 0.73	3000/3600	71	MM07552-S-AP	3GAA071312-ASE	M3AA 71B 2	IPP	9.45	13	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	MM08554-S-AP	3GAA082311-ASE	M3AA 80A 4	IPP	10.45	19	230D/400Y,50Hz; 460Y,60Hz	
0.75 // 1	3000/3600	80	EMM08752-S-AP	3GAA081320-ASK	M3AA 80MB 2	IPP	10.45	21	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	EMM08754-S-AP	3GAA082350-ASK	M3AA 80ME 4	IPP	11.56	30	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	90	EMM09756-S-AP	3GAA093540-ASK	M3AA 90LD 6	IPP	13.05	42	230D/400Y,50Hz; 460Y,60Hz	
1.1 // 1.5	3000/3600	80	EMM08112-S-AP	3GAA081330-ASK	M3AA 80MC 2	IPP	10.45	23	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMM09114-S-AP	3GAA092530-ASK	M3AA 90LC 4	IPP	13.05	42	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMM10116-S-AP	3GAA103550-ASK	M3AA 100LE 6	IPP	13.05	77	230D/400Y,50Hz; 460Y,60Hz	
1.5 // 2	3000/3600	90	EMM09152-S-AP	3GAA091520-ASK	M3AA 90LB 2	IPP	13.05	37	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMM09154-S-AP	3GAA092540-ASK	M3AA 90LD 4	IPP	13.05	42	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMM10156-S-AP	3GAA103560-ASK	M3AA 100LF 6	IPP	17.01	77	230D/400Y,50Hz; 460Y,60Hz	
2.2 // 3	3000/3600	90	EMM09222-S-AP	3GAA091530-ASK	M3AA 90LC 2	IPP	13.05	44	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMM10224-S-AP	3GAA102550-ASK	M3AA 100LE 4	IPP	17.01	79	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	112	EMM11226-S-AP	3GAA113330-ASK	M3AA 112MC 6	IPP	16.97	95	230D/400Y,50Hz; 460Y,60Hz	
3 // 4	3000/3600	100	EMM10032-S-AP	3GAA101530-ASK	M3AA 100LC 2	IPP	17.01	62	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMM10034-S-AP	3GAA102560-ASK	M3AA 100LF 4	IPP	17.01	79	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMM13036-S-AP	3GAA133330-ASK	M3AA 132MC 6	IPP	19.17	145	230D/400Y,50Hz; 460Y,60Hz	
4 // 5.3	3000/3600	112	EMM11042-S-AP	3GAA111320-ASK	M3AA 112MB 2	IPP	16.97	84	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	112	EMM11044-S-AP	3GAA112320-ASK	M3AA 112MB 4	IPP	16.97	97	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMM13046-S-AP	3GAA133340-ASK	M3AA 132MD 6	IPP	19.17	148	230D/400Y,50Hz; 460Y,60Hz	
5.5 // 7.3	3000/3600	132	EMM13552-S-AP	3GAA131120-ASK	M3AA 132SB 2	IPP	19.17	128	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	132	EMM13554-S-AP	3GAA132320-ASK	M3AA 132MB 4	IPP	19.17	150	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMM13556-S-AP	3GAA133350-ASK	M3AA 132ME 6	IPP	19.17	139	230D/400Y,50Hz; 460Y,60Hz	
7.5 // 10	3000/3600	132	EMM13752-S-AP	3GAA131130-ASK	M3AA 132SC 2	IPP	19.17	139	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	132	EMM13754-S-AP	3GAA132330-ASK	M3AA 132MC 4	IPP	19.17	150	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	160	EMM16756-S-AP	3GAA163410-ASK	M3AA 160MLA 6	IPP	22.99	275	230D/400Y,50Hz; 460Y,60Hz	

(a) See notes on inside back flap.

* Motors are stamped with kW only.

** Included variant codes are not shown in Product Code, please contact local sales office

Motors are suitable for use at 230VD, 60Hz

3 year warranty

Process Performance, IEC aluminum, three phase

kW // Hp*	RPM	IEC Frame	Catalog Number	ABB Product Code**	ABB Type Number	Disc. Sym.	"L" Dim. (in)	Aprx. Wt. (lb)	Voltage	Notes (a)
IM B3 (1001), foot mounted (continued)										
11 // 14.7	3000/3600	160	EMM16112-S-AP	3GAA161410-ASK	M3AA 160MLA 2	IPP	22.99	234	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	160	EMM16114-S-AP	3GAA162410-ASK	M3AA 160MLA 4	IPP	22.99	277	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	160	EMM16116-S-AP	3GAA163420-ASK	M3AA 160MLB 6	IPP	26.81	306	230D/400Y,50Hz; 460Y,60Hz	
15 // 20	3000/3600	160	EMM16152-S-AP	3GAA161420-ASK	M3AA 160MLB 2	IPP	22.99	271	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	160	EMM16154-S-AP	3GAA162420-ASK	M3AA 160MLB 4	IPP	26.81	308	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	180	EMM18156-S-AP	3GAA183410-ASK	M3AA 180MLA 6	IPP	28.58	385	230D/400Y,50Hz; 460Y,60Hz	
18.5 // 24.6	3000/3600	160	EMM16182-S-AP	3GAA161430-ASK	M3AA 160MLC 2	IPP	26.81	302	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	180	EMM18184-S-AP	3GAA182410-ASK	M3AA 180MLA 4	IPP	28.58	389	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	200	EMM20186-S-AP	3GAA203410-ASK	M3AA 200MLA 6	IPP	32.32	502	230D/400Y,50Hz; 460Y,60Hz	
22 // 29.3	3000/3600	180	EMM18222-S-AP	3GAA181410-ASK	M3AA 180MLA 2	IPP	28.58	387	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	180	EMM18224-S-AP	3GAA182420-ASK	M3AA 180MLB 4	IPP	28.58	387	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	200	EMM20226-S-AP	3GAA203420-ASK	M3AA 200MLB 6	IPP	32.32	539	230D/400Y,50Hz; 460Y,60Hz	
30 // 40	3000/3600	200	EMM20302-S-AP	3GAA201410-ASK	M3AA 200MLA 2	IPP	32.32	518	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	200	EMM20304-S-AP	3GAA202410-ASK	M3AA 200MLA 4	IPP	32.32	542	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	225	EMM22306-S-AP	3GAA223210-ASK	M3AA 225SMA 6	IPP	34.65	705	230D/400Y,50Hz; 460Y,60Hz	
37 // 49.3	3000/3600	200	EMM20372-S-AP	3GAA201420-ASK	M3AA 200MLB 2	IPP	32.32	531	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	225	EMM22374-S-AP	3GAA222210-ASK	M3AA 225SMA 4	IPP	34.65	694	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	250	EMM25376-S-AP	3GAA253210-ASK	M3AA 250SMA 6	IPP	34.80	809	230D/400Y,50Hz; 460Y,60Hz	
45 // 60	3000/3600	225	EMM22452-S-AP	3GAA221210-ASK	M3AA 225SMA 2	IPP	33.46	719	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	225	EMM22454-S-AP	3GAA222220-ASK	M3AA 225SMB 4	IPP	34.65	696	230D/400Y,50Hz; 460Y,60Hz	
55 // 73.3	3000/3600	250	EMM25552-S-AP	3GAA251210-ASK	M3AA 250SMA 2	IPP	34.80	773	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	250	EMM25554-S-AP	3GAA252210-ASK	M3AA 250SMA 4	IPP	34.80	828	230D/400Y,50Hz; 460Y,60Hz	
IM B5 (3001), flange mounted, footless										
0.12 // 0.16	1500/1800	63	MVM06124D-S-AP	3GAA062311-BSF	M3AA 63A 4	IPP	8.43	9	230D/400Y,50Hz; 460Y,60Hz	
0.18 // 0.25	3000/3600	63	MVM06182D-S-AP	3GAA061311-BSF	M3AA 63A 2	IPP	8.43	9	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	63	MVM06184D-S-AP	3GAA062312-BSF	M3AA 63B 4	IPP	8.43	10	230D/400Y,50Hz; 460Y,60Hz	
0.25 // 0.33	3000/3600	63	MVM06252D-S-AP	3GAA061312-BSF	M3AA 63B 2	IPP	8.43	10	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	71	MVM07254D-S-AP	3GAA072311-BSE	M3AA 71A 4	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
0.37 // 0.5	3000/3600	71	MVM07372D-S-AP	3GAA071311-BSE	M3AA 71A 2	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	71	MVM07374D-S-AP	3GAA072312-BSE	M3AA 71B 4	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
0.55 // 0.75	3000/3600	71	MVM07552D-S-AP	3GAA071312-BSE	M3AA 71B 2	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	MVM08554D-S-AP	3GAA082311-BSE	M3AA 80A 4	IPP	10.45	19	230D/400Y,50Hz; 460Y,60Hz	
0.75 // 1	3000/3600	80	EMVM08752D-S-AP	3GAA081320-BSK	M3AA 80MB 2	IPP	10.45	21	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	EMVM08754D-S-AP	3GAA082350-BSK	M3AA 80ME 4	IPP	11.56	30	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	90	EMVM09756D-S-AP	3GAA093540-BSK	M3AA 90LD 6	IPP	13.05	42	230D/400Y,50Hz; 460Y,60Hz	
1.1 // 1.5	3000/3600	80	EMVM08112D-S-AP	3GAA081330-BSK	M3AA 80MC 2	IPP	10.45	23	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMVM10116D-S-AP	3GAA103550-BSK	M3AA 100LE 6	IPP	17.01	77	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMVM09114D-S-AP	3GAA092530-BSK	M3AA 90LC 4	IPP	13.05	77	230D/400Y,50Hz; 460Y,60Hz	
1.5 // 2	3000/3600	90	EMVM09152D-S-AP	3GAA091520-BSK	M3AA 90LB 2	IPP	13.05	37	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMVM09154D-S-AP	3GAA092540-BSK	M3AA 90LD 4	IPP	13.05	42	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMVM10156D-S-AP	3GAA103560-BSK	M3AA 100LF 6	IPP	17.01	77	230D/400Y,50Hz; 460Y,60Hz	
2.2 // 3	3000/3600	90	EMVM09222D-S-AP	3GAA091530-BSK	M3AA 90LC 2	IPP	13.05	44	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMVM10224D-S-AP	3GAA102550-BSK	M3AA 100LE 4	IPP	17.01	79	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	112	EMVM11226D-S-AP	3GAA113330-BSK	M3AA 112MC 6	IPP	16.97	95	230D/400Y,50Hz; 460Y,60Hz	
3 // 4	3000/3600	100	EMVM10032D-S-AP	3GAA101530-BSK	M3AA 100LC 2	IPP	17.01	62	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMVM10034D-S-AP	3GAA102560-BSK	M3AA 100LF 4	IPP	17.01	79	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13036D-S-AP	3GAA133330-BSK	M3AA 132MC 6	IPP	19.17	145	230D/400Y,50Hz; 460Y,60Hz	
4 // 5.3	3000/3600	112	EMVM11042D-S-AP	3GAA111320-BSK	M3AA 112MB 2	IPP	16.97	84	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	112	EMVM11044D-S-AP	3GAA112320-BSK	M3AA 112MB 4	IPP	16.97	97	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13046D-S-AP	3GAA133340-BSK	M3AA 132MD 6	IPP	19.17	148	230D/400Y,50Hz; 460Y,60Hz	
5.5 // 7.3	3000/3600	132	EMVM13552D-S-AP	3GAA131120-BSK	M3AA 132SB 2	IPP	19.17	128	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	132	EMVM13554D-S-AP	3GAA132320-BSK	M3AA 132MB 4	IPP	19.17	150	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13556D-S-AP	3GAA133350-BSK	M3AA 132ME 6	IPP	19.17	139	230D/400Y,50Hz; 460Y,60Hz	
7.5 // 10	3000/3600	132	EMVM13752D-S-AP	3GAA131130-BSK	M3AA 132SC 2	IPP	19.17	139	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	132	EMVM13754D-S-AP	3GAA132330-BSK	M3AA 132MC 4	IPP	19.17	150	230D/400Y,50Hz; 460Y,60Hz	

(a) See notes on inside back flap.

* Motors are stamped with kW only.

** Included variant codes are not shown in Product Code, please contact local sales office

Motors are suitable for use at 230VD, 60Hz

3 year warranty

Process Performance, IEC aluminum, three phase

kW // Hp*	RPM	IEC Frame	Catalog Number	ABB Product Code**	ABB Type Number	Disc. Sym.	"L" Dim. (in)	Aprx. Wt. (lb)	Voltage	Notes (a)
IM B14 (3601), face mounted, footless										
0.18 //	3000/3600	63	MVM06182C-S-AP	3GAA061311-CSF	M3AA 63A 2	IPP	8.43	9	230D/400Y,50Hz; 460Y,60Hz	
0.25	1500/1800	63	MVM06184C-S-AP	3GAA062312-CSF	M3AA 63B 4	IPP	8.43	10	230D/400Y,50Hz; 460Y,60Hz	
0.25 //	3000/3600	63	MVM06252C-S-AP	3GAA061312-CSF	M3AA 63B 2	IPP	8.43	10	230D/400Y,50Hz; 460Y,60Hz	
0.33	1500/1800	71	MVM07254C-S-AP	3GAA072311-CSE	M3AA 71A 4	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
0.37 //	3000/3600	71	MVM07372C-S-AP	3GAA071311-CSE	M3AA 71A 2	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	71	MVM07374C-S-AP	3GAA072312-CSE	M3AA 71B 4	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
0.55 //	3000/3600	71	MVM07552C-S-AP	3GAA071312-CSE	M3AA 71B 2	IPP	9.45	11	230D/400Y,50Hz; 460Y,60Hz	
0.75	1500/1800	80	MVM08554C-S-AP	3GAA082311-CSE	M3AA 80A 4	IPP	10.45	19	230D/400Y,50Hz; 460Y,60Hz	
0.75 //	3000/3600	80	EMVM08752C-S-AP	3GAA081320-CSK	M3AA 80MB 2	IPP	10.45	21	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	EMVM08754C-S-AP	3GAA082350-CSK	M3AA 80ME 4	IPP	11.56	30	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	90	EMVM09756C-S-AP	3GAA093540-CSK	M3AA 90LD 6	IPP	13.05	42	230D/400Y,50Hz; 460Y,60Hz	
1.1 //	3000/3600	80	EMVM08112C-S-AP	3GAA081330-CSK	M3AA 80MC 2	IPP	10.45	23	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMVM10116C-S-AP	3GAA103550-CSK	M3AA 100LE 6	IPP	17.01	77	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMVM09114C-S-AP	3GAA092530-CSK	M3AA 90LC 4	IPP	13.05	77	230D/400Y,50Hz; 460Y,60Hz	
1.5 //	3000/3600	90	EMVM09152C-S-AP	3GAA091520-CSK	M3AA 90LB 2	IPP	13.05	37	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMVM09154C-S-AP	3GAA092540-CSK	M3AA 90LD 4	IPP	13.05	42	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMVM10156C-S-AP	3GAA103560-CSK	M3AA 100LF 6	IPP	17.01	77	230D/400Y,50Hz; 460Y,60Hz	
2.2 //	3000/3600	90	EMVM09222C-S-AP	3GAA091530-CSK	M3AA 90LC 2	IPP	13.05	44	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMVM10224C-S-AP	3GAA102550-CSK	M3AA 100LE 4	IPP	17.01	79	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	112	EMVM11226C-S-AP	3GAA113330-CSK	M3AA 112MC 6	IPP	16.97	95	230D/400Y,50Hz; 460Y,60Hz	
3 //	3000/3600	100	EMVM10032C-S-AP	3GAA101530-CSK	M3AA 100LC 2	IPP	17.01	62	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMVM10034C-S-AP	3GAA102560-CSK	M3AA 100LF 4	IPP	17.01	79	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13036C-S-AP	3GAA133330-CSK	M3AA 132MC 6	IPP	19.17	145	230D/400Y,50Hz; 460Y,60Hz	
4 //	3000/3600	112	EMVM11042C-S-AP	3GAA111320-CSK	M3AA 112MB 2	IPP	16.97	84	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	112	EMVM11044C-S-AP	3GAA112320-CSK	M3AA 112MB 4	IPP	16.97	97	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13046C-S-AP	3GAA133340-CSK	M3AA 132MD 6	IPP	19.17	148	230D/400Y,50Hz; 460Y,60Hz	
5.5 //	3000/3600	132	EMVM13552C-S-AP	3GAA131120-CSK	M3AA 132SB 2	IPP	19.17	128	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	132	EMVM13554C-S-AP	3GAA132320-CSK	M3AA 132MB 4	IPP	19.17	150	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13556C-S-AP	3GAA133350-CSK	M3AA 132ME 6	IPP	19.17	139	230D/400Y,50Hz; 460Y,60Hz	
7.5 //	3000/3600	132	EMVM13752C-S-AP	3GAA131130-CSK	M3AA 132SC 2	IPP	19.17	139	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	132	EMVM13754C-S-AP	3GAA132330-CSK	M3AA 132MC 4	IPP	19.17	150	230D/400Y,50Hz; 460Y,60Hz	

(a) See notes on inside back flap.

* Motors are stamped with kW only.

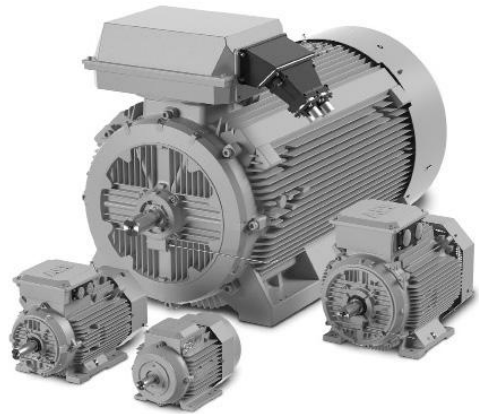
** Included variant codes are not shown in Product Code, please contact local sales office

Motors are suitable for use at 230VD, 60Hz

3 year warranty

Process Performance

IEC cast iron, three phase, 50/60 Hz, 400/460V
0.33-125 Hp



Features:

- Rugged cast iron construction (including endplates)
- IE3 efficiency per IEC 60034-30-1 (2014) (80 frame and above) All motors are compliant with DOE and NRCan
- Complies with EU MEPS/EcoDesign Regulation (EU) 2019/1781 effective July 2021. CE marked.
- 6 post terminal block in large, F3 terminal box provides easier, lower cost installation
- Class F insulation with Class B temperature limits
- Inverter ready 2:1CT and 20:1VT
- Painting system C3M acc. to ISO 12944-5:2007
- (3) PTC thermistors, 150 °C standard on sizes 71-280
- IC411 enclosure (TEFC)

Applications:

- Pumps
- Compressors
- Fans
- Conveyors
- General machinery

kW // Hp*	RPM	IEC Frame	Catalog Number	ABB Product Code**	ABB Type Number	Disc. Sym.	"L" Dim. (in)	Aprx. Wt. (lb)	Voltage	Notes (a)
IM B3 (1001), foot mounted										
0.25 // 0.33	1500/1800	71	MM07254-S-PP	3GBP072321-ASB	M3BP 71MA 4	IPP	10.39	22	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	80	EMM08256-S-PP	3GBP083310-ASK	M3BP 80MA 6	IPP	13.03	31	230D/400Y,50Hz; 460Y,60Hz	
0.37 // 0.50	3000/3600	71	MM07372-S-PP	3GBP071321-ASB	M3BP 71MA 2	IPP	10.39	24	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	71	MM07374-S-PP	3GBP072322-ASB	M3BP 71MB 4	IPP	10.39	24	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	80	EMM08376-S-PP	3GBP083340-ASK	M3BP 80MD 6	IPP	13.03	35	230D/400Y,50Hz; 460Y,60Hz	
0.55 // 0.75	3000/3600	71	MM07552-S-PP	3GBP071322-ASB	M3BP 71MB 2	IPP	10.39	24	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	EMM08554-S-PP	3GBP082440-ASK	M3BP 80MLD 4	IPP	14.29	44	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	80	EMM08556-S-PP	3GBP083470-ASK	M3BP 80MLG 6	IPP	14.29	46	230D/400Y,50Hz; 460Y,60Hz	
0.75 // 1	3000/3600	80	EMM08752-S-PP	3GBP081340-ASK	M3BP 80MD 2	IPP	13.03	40	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	EMM08754-S-PP	3GBP082470-ASK	M3BP 80MLG 4	IPP	14.29	49	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	90	EMM09756-S-PP	3GBP093570-ASK	M3BP 90LG 6	IPP	15.35	75	230D/400Y,50Hz; 460Y,60Hz	
1.1 // 1.5	3000/3600	80	EMM08112-S-PP	3GBP081370-ASK	M3BP 80MG 2	IPP	13.03	42	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMM10116-S-PP	3GBP103870-ASK	M3BP 100LKG 6	IPP	17.13	104	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMM09114-S-PP	3GBP092530-ASK	M3BP 90LC 4	IPP	15.35	73	230D/400Y,50Hz; 460Y,60Hz	
1.5 // 2	3000/3600	90	EMM09152-S-PP	3GBP091520-ASK	M3BP 90LB 2	IPP	15.35	68	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMM09154-S-PP	3GBP092540-ASK	M3BP 90LD 4	IPP	15.35	75	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	112	EMM11156-S-PP	3GBP113380-ASK	M3BP 112MH 6	IPP	17.40	117	230D/400Y,50Hz; 460Y,60Hz	
2.2 // 3	3000/3600	90	EMM09222-S-PP	3GBP091530-ASK	M3BP 90LC 2	IPP	15.35	77	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMM10224-S-PP	3GBP102810-ASK	M3BP 100LKA 4	IPP	17.13	108	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMM13226-S-PP	3GBP133230-ASK	M3BP 132SMC 6	IPP	20.94	179	230D/400Y,50Hz; 460Y,60Hz	
3 // 4	3000/3600	100	EMM10032-S-PP	3GBP101810-ASK	M3BP 100LKA 2	IPP	17.13	110	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMM10034-S-PP	3GBP102820-ASK	M3BP 100LKB 4	IPP	17.13	108	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMM13036-S-PP	3GBP133240-ASK	M3BP 132SMD 6	IPP	20.94	181	230D/400Y,50Hz; 460Y,60Hz	
4 // 5.3	3000/3600	112	EMM11042-S-PP	3GBP111370-ASK	M3BP 112MG 2	IPP	17.40	123	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	112	EMM11044-S-PP	3GBP112370-ASK	M3BP 112MG 4	IPP	17.40	115	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMM13046-S-PP	3GBP133270-ASK	M3BP 132SMG 6	IPP	20.94	181	230D/400Y,50Hz; 460Y,60Hz	
5.5 // 7.5	3000/3600	132	EMM13552-D-PP	3GBP131260-ADK	M3BP 132SMF 2	IPP	20.94	170	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	132	EMM13554-D-PP	3GBP132260-ADK	M3BP 132SMF 4	IPP	20.94	179	400D/415D/690Y,50Hz; 460D,60Hz	25
	1000/1200	132	EMM13556-D-PP	3GBP133280-ADK	M3BP 132SMH 6	IPP	20.94	174	400D/415D/690Y,50Hz; 460D,60Hz	25
7.5 // 10	3000/3600	132	EMM13752-D-PP	3GBP131270-ADK	M3BP 132SMG 2	IPP	20.94	170	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	132	EMM13754-D-PP	3GBP132270-ADK	M3BP 132SMG 4	IPP	20.94	179	400D/415D/690Y,50Hz; 460D,60Hz	25

(a) See notes on inside back flap.

□ Cast iron frame

* Motors are stamped with kW only.

** Included variant codes are not shown in Product Code, please contact local sales office

Catalog numbers with (-D-) are not suitable for VFD operation at 690VY.

Catalog numbers with (-S-) are suitable for use on 230VD, 60Hz

3 year warranty

Process Performance, IEC cast iron, three phase

kW // Hp*	RPM	IEC Frame	Catalog Number	ABB Product Code**	ABB Type Number	Disc. Sym.	"L" Dim. (in)	Aprx. Wt. (lb)	Voltage	Notes (a)
IM B3 (1001), foot mounted (continued)										
11 // 15	3000/3600	160	EMM161112-D-PPN	3GBP161410-ADK	M3BP 160MLA 2	IPP	22.99	311	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	160	EMM161114-D-PPN	3GBP162410-ADK	M3BP 160MLA 4	IPP	22.99	382	400D/415D/690Y,50Hz; 460D,60Hz	25
15 // 20	3000/3600	160	EMM161152-D-PPN	3GBP161420-ADK	M3BP 160MLB 2	IPP	22.99	375	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	160	EMM161154-D-PPN	3GBP162420-ADK	M3BP 160MLB 4	IPP	26.81	413	400D/415D/690Y,50Hz; 460D,60Hz	25
18.5 // 25	3000/3600	160	EMM161182-D-PPN	3GBP161430-ADK	M3BP 160MLC 2	IPP	26.81	403	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	180	EMM181184-D-PPN	3GBP182410-ADK	M3BP 180MLA 4	IPP	28.58	519	400D/415D/690Y,50Hz; 460D,60Hz	25
22 // 30	3000/3600	180	EMM182222-D-PPN	3GBP181410-ADK	M3BP 180MLA 2	IPP	28.58	516	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	180	EMM182224-D-PPN	3GBP182420-ADK	M3BP 180MLB 4	IPP	28.58	519	400D/415D/690Y,50Hz; 460D,60Hz	25
30 // 40	3000/3600	200	EMM20302-D-PPN	3GBP201410-ADK	M3BP 200MLA 2	IPP	32.32	657	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	200	EMM20304-D-PPN	3GBP202410-ADK	M3BP 200MLA 4	IPP	32.32	703	400D/415D/690Y,50Hz; 460D,60Hz	25
37 // 50	3000/3600	200	EMM20372-D-PPN	3GBP201420-ADK	M3BP 200MLB 2	IPP	32.32	692	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	225	EMM22374-D-PPN	3GBP222210-ADK	M3BP 225SMA 4	IPP	34.65	877	400D/415D/690Y,50Hz; 460D,60Hz	25
45 // 60	3000/3600	225	EMM22452-D-PPN	3GBP221210-ADK	M3BP 225SMA 2	IPP	33.46	692	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	225	EMM22454-D-PPN	3GBP222220-ADK	M3BP 225SMB 4	IPP	34.65	877	400D/415D/690Y,50Hz; 460D,60Hz	25
55 // 75	3000/3600	250	EMM25552-D-PPN	3GBP251210-ADK	M3BP 250SMA 2	IPP	34.80	997	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	250	EMM25554-D-PPN	3GBP252210-ADK	M3BP 250SMA 4	IPP	34.80	1049	400D/415D/690Y,50Hz; 460D,60Hz	25
75 // 100	3000/3600	280	EMM28752-D-PP	3GBP281220-ADK	M3BP 280SMB 2	IPP	34.80	1466	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	280	EMM28754-D-PP	3GBP282220-ADK	M3BP 280SMB 4	IPP	34.80	1466	400D/415D/690Y,50Hz; 460D,60Hz	25
90 // 125	3000/3600	280	EMM28902-D-PP	3GBP281230-ADK	M3BP 280SMC 2	IPP	34.80	1598	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	280	EMM28904-D-PP	3GBP282230-ADK	M3BP 280SMC 4	IPP	34.80	1598	400D/415D/690Y,50Hz; 460D,60Hz	25
IM B5 (3001), flange mounted, footless										
0.25 // 0.33	1000/1200	80	EMVM08256D-S-PP	3GBP083310-BSK	M3BP 80MA 6	IPP	13.03	31	230D/400Y,50Hz; 460Y,60Hz	
0.37 // 0.50	1000/1200	80	EMVM08376D-S-PP	3GBP083340-BSK	M3BP 80MD 6	IPP	13.03	35	230D/400Y,50Hz; 460Y,60Hz	
0.55 // 0.75	1500/1800	80	EMVM08554D-S-PP	3GBP082440-BSK	M3BP 80MLD 4	IPP	14.29	44	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	80	EMVM08556D-S-PP	3GBP083470-BSK	M3BP 80MLG 6	IPP	14.29	46	230D/400Y,50Hz; 460Y,60Hz	
0.75 // 1	3000/3600	80	EMVM08752D-S-PP	3GBP081340-BSK	M3BP 80MD 2	IPP	13.03	40	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	EMVM08754D-S-PP	3GBP082470-BSK	M3BP 80MLG 4	IPP	14.29	49	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	90	EMVM09756D-S-PP	3GBP093570-BSK	M3BP 90LG 6	IPP	15.35	75	230D/400Y,50Hz; 460Y,60Hz	
1.1 // 1.5	3000/3600	80	EMVM08112D-S-PP	3GBP081370-BSK	M3BP 80MG 2	IPP	13.03	42	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMVM10116D-S-PP	3GBP103870-BSK	M3BP 100LKG 6	IPP	17.13	104	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMVM09114D-S-PP	3GBP092530-BSK	M3BP 90LC 4	IPP	15.35	73	230D/400Y,50Hz; 460Y,60Hz	
1.5 // 2	3000/3600	90	EMVM09152D-S-PP	3GBP091520-BSK	M3BP 90LB 2	IPP	15.35	68	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMVM09154D-S-PP	3GBP092540-BSK	M3BP 90LD 4	IPP	15.35	75	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	112	EMVM11156D-S-PP	3GBP113380-BSK	M3BP 112MH 6	IPP	17.40	117	230D/400Y,50Hz; 460Y,60Hz	
2.2 // 3	3000/3600	90	EMVM09222D-S-PP	3GBP091530-BSK	M3BP 90LC 2	IPP	15.35	77	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMVM10224D-S-PP	3GBP102810-BSK	M3BP 100LKA 4	IPP	17.13	108	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13226D-S-PP	3GBP133230-BSK	M3BP 132SMC 6	IPP	20.94	179	230D/400Y,50Hz; 460Y,60Hz	
3 // 4	3000/3600	100	EMVM10032D-S-PP	3GBP101810-BSK	M3BP 100LKA 2	IPP	17.13	110	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMVM10034D-S-PP	3GBP102820-BSK	M3BP 100LKB 4	IPP	17.13	108	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13036D-S-PP	3GBP133240-BSK	M3BP 132SMD 6	IPP	20.94	181	230D/400Y,50Hz; 460Y,60Hz	
4 // 5.3	3000/3600	112	EMVM11042D-S-PP	3GBP111370-BSK	M3BP 112MG 2	IPP	17.40	123	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	112	EMVM11044D-S-PP	3GBP112370-BSK	M3BP 112MG 4	IPP	17.40	115	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13046D-S-PP	3GBP133270-BSK	M3BP 132SMG 6	IPP	20.94	181	230D/400Y,50Hz; 460Y,60Hz	
5.5 // 7.5	3000/3600	132	EMVM13552D-D-PP	3GBP131260-BDK	M3BP 132SMF 2	IPP	20.94	170	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	132	EMVM13554D-D-PP	3GBP132260-BDK	M3BP 132SMF 4	IPP	20.94	179	400D/415D/690Y,50Hz; 460D,60Hz	25
	1000/1200	132	EMVM13556D-D-PP	3GBP133280-BDK	M3BP 132SMH 6	IPP	20.94	174	400D/415D/690Y,50Hz; 460D,60Hz	25
7.5 // 10	3000/3600	132	EMVM13752D-D-PP	3GBP131270-BDK	M3BP 132SMG 2	IPP	20.94	170	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	132	EMVM13754D-D-PP	3GBP132270-BDK	M3BP 132SMG 4	IPP	20.94	179	400D/415D/690Y,50Hz; 460D,60Hz	25

(a) See notes on inside back flap.

□ Cast iron frame

* Motors are stamped with kW only.

** Included variant codes are not shown in Product Code, please contact local sales office

Catalog numbers with (-D-) are not suitable for VFD operation at 690VY.

Catalog numbers with (-S-) are suitable for use on 230VD, 60Hz

3 year warranty

Process Performance, IEC cast iron, three phase

kW // Hp*	RPM	IEC Frame	Catalog Number	ABB Product Code**	ABB Type Number	Disc. Sym.	"L" Dim. (in)	Aprx. Wt. (lb)	Voltage	Notes (a)
IM B14 (3601), face mounted, footless										
0.25 // 0.33	1000/1200	80	EMVM08256C-S-PP	3GBP083310-BSK	M3BP 80MA 6	IPP	13.03	31	230D/400Y,50Hz; 460Y,60Hz	
0.37 // 0.50	1000/1200	80	EMVM08376C-S-PP	3GBP083340-BSK	M3BP 80MD 6	IPP	13.03	35	230D/400Y,50Hz; 460Y,60Hz	
0.55 // 0.75	1500/1800	80	EMVM08554C-S-PP	3GBP082440-BSK	M3BP 80MLD 4	IPP	14.29	44	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	80	EMVM08556C-S-PP	3GBP083470-BSK	M3BP 80MLG 6	IPP	14.29	46	230D/400Y,50Hz; 460Y,60Hz	
0.75 // 1	3000/3600	80	EMVM08752C-S-PP	3GBP081340-BSK	M3BP 80MD 2	IPP	13.03	40	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	80	EMVM08754C-S-PP	3GBP082470-BSK	M3BP 80MLG 4	IPP	14.29	49	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	90	EMVM09756C-S-PP	3GBP093570-BSK	M3BP 90LG 6	IPP	15.35	75	230D/400Y,50Hz; 460Y,60Hz	
1.1 // 1.5	3000/3600	80	EMVM08112C-S-PP	3GBP081370-BSK	M3BP 80MG 2	IPP	13.03	42	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	100	EMVM10116C-S-PP	3GBP103870-BSK	M3BP 100LKG 6	IPP	17.13	104	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMVM09114C-S-PP	3GBP092530-BSK	M3BP 90LC 4	IPP	15.35	73	230D/400Y,50Hz; 460Y,60Hz	
1.5 // 2	3000/3600	90	EMVM09152C-S-PP	3GBP091520-BSK	M3BP 90LB 2	IPP	15.35	68	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	90	EMVM09154C-S-PP	3GBP092540-BSK	M3BP 90LD 4	IPP	15.35	75	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	112	EMVM11156C-S-PP	3GBP113380-BSK	M3BP 112MH 6	IPP	17.40	117	230D/400Y,50Hz; 460Y,60Hz	
2.2 // 3	3000/3600	90	EMVM09222C-S-PP	3GBP091530-BSK	M3BP 90LC 2	IPP	15.35	77	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMVM10224C-S-PP	3GBP102810-BSK	M3BP 100LKA 4	IPP	17.13	108	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13226C-S-PP	3GBP133230-BSK	M3BP 132SMC 6	IPP	20.94	179	230D/400Y,50Hz; 460Y,60Hz	
3 // 4	3000/3600	100	EMVM10032C-S-PP	3GBP101810-BSK	M3BP 100LKA 2	IPP	17.13	110	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	100	EMVM10034C-S-PP	3GBP102820-BSK	M3BP 100LKB 4	IPP	17.13	108	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13036C-S-PP	3GBP133240-BSK	M3BP 132SMD 6	IPP	20.94	181	230D/400Y,50Hz; 460Y,60Hz	
4 // 5.3	3000/3600	112	EMVM11042C-S-PP	3GBP111370-BSK	M3BP 112MG 2	IPP	17.40	123	230D/400Y,50Hz; 460Y,60Hz	
	1500/1800	112	EMVM11044C-S-PP	3GBP112370-BSK	M3BP 112MG 4	IPP	17.40	115	230D/400Y,50Hz; 460Y,60Hz	
	1000/1200	132	EMVM13046C-S-PP	3GBP133270-BSK	M3BP 132SMG 6	IPP	20.94	181	230D/400Y,50Hz; 460Y,60Hz	
5.5 // 7.5	3000/3600	132	EMVM13552C-D-PP	3GBP131260-BDK	M3BP 132SMF 2	IPP	20.94	170	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	132	EMVM13554C-D-PP	3GBP132260-BDK	M3BP 132SMF 4	IPP	20.94	179	400D/415D/690Y,50Hz; 460D,60Hz	25
	1000/1200	132	EMVM13556C-D-PP	3GBP133280-BDK	M3BP 132SMH 6	IPP	20.94	174	400D/415D/690Y,50Hz; 460D,60Hz	25
7.5 // 10	3000/3600	132	EMVM13752C-D-PP	3GBP131270-BDK	M3BP 132SMG 2	IPP	20.94	170	400D/415D/690Y,50Hz; 460D,60Hz	25
	1500/1800	132	EMVM13754C-D-PP	3GBP132270-BDK	M3BP 132SMG 4	IPP	20.94	179	400D/415D/690Y,50Hz; 460D,60Hz	25

(a) See notes on inside back flap.

□ Cast iron frame

* Motors are stamped with kW only.

** Included variant codes are not shown in Product Code, please contact local sales office

Catalog numbers with (-D-) are not suitable for VFD operation at 690VY.

Catalog numbers with (-S-) are suitable for use on 230VD, 60Hz

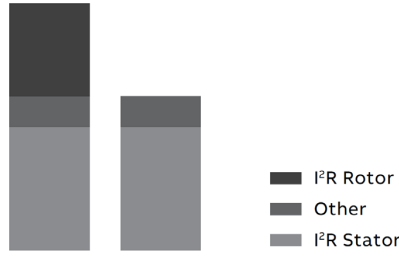
3 year warranty

Synchronous reluctance motors

Ultimate efficiency and reliability to optimize your cost of ownership



IE5 SynRM motor



Losses

Innovation inside

The idea is simple. Take a conventional, proven stator technology and a innovative rotor design. Then combine them with a best-in-class ABB drive loaded with new, purpose-designed software.

Magnet-free design

Synchronous reluctance technology combines the performance of the permanent magnet motor with the simplicity and service-friendliness of an induction motor. The rotor has neither magnets nor windings and suffers virtually no power losses. And because there are no magnetic forces in the rotor, maintenance is as straightforward as with induction motors.

Highest reliability to minimize the cost of not running

IE5 synchronous reluctance motors have very low winding temperatures, which increases the reliability and lifetime of the winding. More importantly, the cool synchronous reluctance rotor means significantly lower bearing temperatures – an important factor because bearing failures cause about 70 percent of unplanned motor outages.

SynRM technology	Benefit
Higher efficiency IE5	Lowest energy consumption
No rare earth metals	Environmental sustainability
Magnet-free rotor	Easy service
Lower winding and bearing temperatures	Longer life time, extended service intervals
Better controllability	Accurate speed and torque control
Lower noise level	Better working environment
Same size with IE2	Perfect for retrofits

Full motor control, down to zero speed

Many processes require accurate speed control. As the name says, SynRM is a synchronous motor that always runs at reference speed with practically no error, without an encoder. Even the best slip compensation systems in an induction motor inverter will never match the precision of SynRM. Sometimes your application may require you to run your motor at slow speeds, for example at less than 40 rpm. If you are using SynRM and your drive cannot provide the necessary torque, it may trip. This means you may have downtime while the problem is being debugged. ABB drives provide full control and torque down to zero speed, even without speed sensors.

For all applications

This is important if you are planning on using the motor with applications other than quadratic torque applications like pumps and fans. Our drives provide full SynRM motor control for constant torque applications such as extruders, conveyors and wire drawing machines.

Perfect for retrofits

The SynRM package is a perfect solution for motor retrofits. The IE5 SynRM is the same size as an IE2 induction motor, eliminating the need for mechanical modifications. The increased efficiency will, on the other hand, reduce the payback time of the investment.

Motor type: M3AL/M3BL

Output: 5.5 to 315 kW (7.5 to 400HP)

Frame sizes: IEC 132–315

For further information and ordering, please speak to your HVAC Channel Partner or local ABB sales office.

Customized solutions for special applications



Low Voltage Permanent Magnet Motors

ABB's low voltage permanent magnet motors combine the high speed accuracy of synchronous technology with the robust design of induction motors. They have the capability to deliver very high torque from small motor sizes at low speed.

Summary of benefits:

- Lower maintenance cost
- Reduced spare parts inventories
- Easier system installation
- Higher "system reliability"
- No mechanical power transmission losses
- Well suited for district/campus energy designs

Main features:

Motor Type: M3BJ and M3LJ
 Power: 17 to 2,500 kW (25 to 3,000 HP)
 Torque: 1,000 to 50,000 Nm (735 to 36,000 ft lbs)
 Voltage: 400 to 690 V
 Frame size: IEC 280 to 560
 Protection: IP55, IP56
 Cooling form: IC411, IC416, IC417, IC71W
 Starting method: ABB frequency converter



Low Voltage Water Cooled Motors

ABB's water-cooled low-voltage motors are an ideal choice for applications where reliable and powerful operation is required. The motors are robust, compact, economical and simple in design.

Summary of benefits:

- Extremely power dense for tight spaces
- Cooler running for enhanced motor life
- Reliable in harsh environments
- Highly customizable to fit the application
- Energy efficient making them an Ideal choice for some 24/7 industrial applications

Main features:

Motor Type: M3LP
 Output power: 90 to 2,000 kW (120 to 2,700HP)
 Frame size: IEC 280 to 500
 Number of poles: 2-8
 Voltages: All commonly used voltages
 Frequency: 50 or 60 Hz
 Protection: IP55, IP56
 Cooling: IC71W
 Efficiency classes: IE2 and IE3



Smoke Extraction Motors

ABB's Smoke Extraction and Ventilation motors are specially designed to meet the needs of emergency ventilation systems. In case of a fire, the ventilation system or dedicated smoke extraction fans maintain escape routes and help emergency services suppress the fire.

Summary of benefits:

- Operate reliably even at high temperatures seen within a fire zone.
- Comply with smoke and heat control systems standard EN 12101-3, classes F200-120, F300-60, F400-120, T250-120.
- Designed for direct-on-line and VSD operation, both in normal and emergency situations.
- Frame sizes IEC 160 to 450, up to 1000 kW (1,300HP)
- Extended cable with protective conduit and remote terminal box
- Flexible cabling solutions, halogen free materials
- IP55 protection as standard, IP66 as option
- Insulation class H, Temperature rise class B, F
- Cooling IC411 as standard, IC418 as option
- Wide range surface treatment and corrosion protection options
- Efficiency classes IE2, IE3 and IE4

For further information and ordering, please speak to your HVAC Channel Partner or local ABB sales office

Catalog notes

Customers have easy access to additional data and information by visiting new.abb.com/motor-generators or baldor.com.

- Local sales offices
- Authorized distributors
- Sales terms & conditions
- Freight policy
- Warranty information
- Authorized service centers
- Product literature
- Energy efficiency
- Performance data
- Connection diagrams
- Dimension sheets
- Installation manuals
- Renewal parts
- Customer product education

Catalog notes:

Efficiencies – Efficiencies of all 60 Hz motor designs are listed as NEMA nominal at full load (Except the motors designed to meet the Small Motor Rule average efficiencies as specified by the DOE).

Full Load Amps (FLA) – For low voltage amps, double high voltage amps shown, excluding medium voltage amps for 2300/4000 voltage.

Motor bearings – Motors with ball bearings are suitable for coupled loads. If a load is belted, a roller bearing may be required, contact your local sales office if you have questions or need assistance.

Service factor – NEMA T-frames in TEFC construction have a service factor of 1.15 or greater except where noted. All NEMA U-frame TEFC motors (except explosion-proof) have NEMA open service factors. Fractional horsepower TEFC motors have NEMA open service factors. All Inverter-Duty® and Vector Duty® AC motors have 1.0 Service Factors. All DC motors have 1.0 service factors.

Mounting holes – Most steel band and cast iron foot-mounted motors have dual mounting holes (143T-145T, 182T-184T, etc.)

F1/F2 – All Cast iron motors are built with symmetrical frames which may be converted from F1 to F2 by switching endplates and rotor from end-to-end except for L182T, L184T, L213T, L215T and L449T. TEFC 5000 and 5800 frame motors are field convertible from F1 to F2 via swingarm. For ODP 5000 and 5800 Frames, please check with factory for F-1/F-2 conversion. Frames with the “L” prefix have standard NEMA base and BA dimensions. Also applies to TC versions of these frame sizes.

SCR drive motors – Field Amps listed are for High Voltage Connections with motor at operating temperature.

Modified motors – Using stock motors, ABB can modify motors to fit a variety of applications in only 2 to 5 working days for most modifications. Please see the Mod Express section in this catalog for more information.

Custom motors – For information on motor designs and capabilities not found in this catalog, please contact your local sales office.

IP Protection – Baldor-Reliance® enclosures ⁽¹⁾	
Open motor enclosures:	
IP22 or 23 -	Open drip proof AC or DC motors
Totally enclosed motor enclosures * :	
IP44 -	LV General purpose AC or DC motors **
IP54 -	MV General purpose AC motors
IP55 -	ABB IEC motors Severe duty AC motors (ECP) Crusher, Quarry & Dirty Duty motors White Washdown & Paint-Free motors
IP56 -	LV Motors meeting IEEE 841 Dirty Duty motors Feather Picker motors Stainless steel motors (non-encapsulated)
IP69 for Water -	Food Safe Stainless steel encapsulated motors

Notes:

⁽¹⁾ Codes are not included on stock motor nameplate as standard.

* Totally enclosed motors will meet IP protection level indicated when drain plugs and/or T-drains are properly installed.

** IP54 when drain fitting kit #HA5027A03 is installed in the weep holes (48 thru 256T frame motors only)

Summary of IP protection numbers

First #	Second #
Protection Against Solid Objects	Protection Against Liquids
IP Tests	0 No protection
0 No protection	1 Protection against vertical drops of water. (e.g. condensation.)
1 Protection against solid objects up to 50 mm. (e.g. Accidental touch by hands.)	2 Protection against falling water up to 15 degrees from the vertical.
2 Protection against solid objects up to 12 mm. (e.g. fingers)	3 Protection against falling water up to 60 degrees from the vertical.
3 Protection against solid objects over 2.5 mm. (e.g. tools, wires)	4 Protection against splashing water from all directions, limited ingress.
4 Protection against solid objects over 1mm. (e.g. tools, wires and small wires)	5 Protection against low pressure jets of water from all directions, limited ingress.
5 Protection against dust - limited ingress	6 Protection against strong jets of water. (e.g. Use on ship decks, limited ingress.)
6 Totally protected against all dust.	7 Protection against immersion.
	8 Protection against submersion.
	9 Protection against high pressure, high temperature spray of water from all directions

Contact your local sales office for clarification, assistance or additional information on any Baldor-Reliance or ABB product.

A listing of the offices can be found on baldor.com

Catalog notes

1. Class F insulated motor with 1.15 service factor or higher that operates within Class "B" temperature limits at rated horsepower.
2. 1.00 service factor.
3. Capacitor start, induction run.
5. Belted duty only, roller bearing.
6. F-2 mounting
7. Copper bar rotor
8. Class "H" Insulated.
9. Metric frame dimensions
10. Non-stock, built on demand.
11. F-3 mounting
12. 1.25 service factor
13. 1.35 service factor
14. 1.00 service factor, Class F rise
15. Small Motor Rule compliant. Average efficiency.
16. Motor can no longer be produced as of June 1, 2016. The Integral Horsepower Rule allows for existing inventory of this motor built prior to June 1, 2016 to be sold until inventory is depleted.
17. Capable of 100% thrust in either direction.
18. Motors are rated for Division 2, Class I, Groups C&D only
19. 60/50 Hertz motor. 60 Hertz data shown, contact your local sales office for 50 Hertz data.
20. Class F insulation.
21. Stage 3 EU MEPS.
22. Non-encapsulated winding.
24. Part winding start or DOL.
25. Wye start, delta run or DOL.
27. Motors have ball bearing suitable for coupled loads. If load is belted, a roller bearing may be required, contact your local sales office.
29. V-dimension is 2.5".
30. Usable at 208 volts.
31. Design D
33. Voltage @ 60 Hz.
35. Design A, exceeds Design B inrush limits.
36. Can mount as NEMA 56, 143T & 145T frames with NEMA 56 frame shaft dimensions.
37. Can mount as NEMA 56, 143T & 145T frames with NEMA 143T-145T frame shaft dimensions.
38. Motor not suitable for inverter use.
40. Brake motors may be mounted for vertical mounting with brake below motor.
41. Brake motors may be mounted for vertical mounting with brake above or below motor.
42. Brake motors must be modified for vertical mounting. Springs included with brake.
45. Horizontal mount, no C-Face. May be converted to C-Face in Mod Express® or built as custom motors.
46. Includes 1024 ppr encoder.
47. BA dimension does not meet NEMA standards.
48. Includes phase insulation. Suitable for use on inverter.
50. Voltage @ 50 Hz, usable on 460 Volt 60 Hz.
51. Full Load Amps @ 400 Volt nominal - 50 Hz.
52. IP55 enclosure.
53. Tungsten carbide outer seal
56. Legacy Reliance® E-Line motor design. Has F1 side mounted conduit box. Single frame mounting holes in 447 & 449 frame sizes.
57. Can mount as NEMA 145T frame with 145T frame shaft dimensions.
59. Suitable for operation @ 415V, 50 Hz.
60. Totally-enclosed, non-ventilated, continuous duty.
63. Foot also drilled for 447T frame mounting.
64. Motors include 100 ohm platinum winding RTDs and space heaters.
65. Capacitor start, capacitor run (two value capacitor).
66. Resilient mount single phase motors with moderate starting torque for fan applications.
67. NEMA 48 Base Mount, not swivel mount.
68. 3 lead.
69. 6 lead suitable for part winding start on 200 volts.
70. Constant velocity fan: 230/460 volts, three phase.
71. Nominal efficiency is based at the 1800 RPM (High RPM) and low speed efficiency is available just not published.
73. SCR motors with a 3:1 constant torque speed range.
74. V-dimension is 3".
77. Inverter duty.
78. Furnished without conduit box. (Order kit BK2400)
80. Motor has thermostat and provisions for adding flange mounted tach.
81. 230/460V 3Φ motor, 200/400V 3Φ motor or 115/230V 1Φ motor connected for voltage shown. Can be reconnected for other voltage.
82. Single voltage motor. Cannot reconnect.
83. May be operated on 50Hz rectified power supply with full nameplate rating. AC supply voltage must be same as 60Hz supply; i.e., either 230 or 460 volts. Motor nameplate is stamped D-50/60. Motor mounted blower may be added to DPG enclosure.
84. May be operated on 50Hz rectified power supply with full nameplate rating only when motor is force ventilated with motor mounted blower. AC supply voltage must be same as 60Hz supply.
85. Cannot be operated at full nameplate rating on 50Hz rectified power supply.
87. Motor has thermostat and provisions for adding adapter mounted tach.
88. Sleeve bearings - coupled loads only.
89. Cooling fan on each end.
90. Foot mounted and 180TC face.
91. Foot mounted and 210TC face.
92. Foot mounted and 250TC face.
93. Foot mounted only.
94. Foot mounted only. These stock models include VPI insulation on L440 only, insulated ODE bearing, shaft ground brush, and stator RTD's.

Catalog notes

- 95. Foot mounted only. Includes filter, VPI, insulated ODE bearing and two sets of thermostats.
- 96. UL Recognized thermal protection.
- 97. One size smaller flange and shaft.
- 99. G-Series motor design. Has F3 Lead outlet in frame and an arm mounted conduit box for F1 & F2 Lead Location. Dual Frame mounting holes in 445/447 and 447/449 frames.
- 100. Motor will be discontinued once inventory is depleted
- 101. Blower on drive end.
- 102. Force vent with blower and filter. Full nameplate rating on 50 Hz rectified power, AC supply voltage must be same as 60 Hz supply.
- 103. Force vent with blower, full nameplate rating on 50 Hz rectified power. AC supply voltage must be same as 60 Hz supply, thermostats and tach provisions.
- 104. Force vent with blower, cannot run full nameplate on 50 Hz rectified power, thermostats and tach provisions.
- 105. Force vent with blower on drive end filter, thermostats and tach provisions.
- 106. Suitable for sinewave operation.
- 107. Uses HS25 encoder, 1024 PPR

Abbreviations

The basic catalog number consists of a letter(s) prefix and several non-significant proceeding numbers. A suffix letter(s) and/or number(s) may also be part of the catalog number. For example L3510 or L3510T. Following is a list of prefix and suffix definitions.

Motors Prefix		Motors Prefix	
AEM	Automotive Motor, three phase	FM	F-2 mounted motor
AFL	Aeration Fan Motor, single phase	FP	Fire pump motor
AFM	Aeration Fan Motor, three phase	FSWDM	All stainless steel food safe washdown motor, three phase
ANFL	Auger Fan Motor, single phase	FSWDL	All stainless steel food safe washdown motor, single phase
AOM	Air Over Motor, three phase	FVB	Blower kit
AP	Subfractional Hp, PM motor	FWDM	Washdown duty motor, TEFC, three phase
B	Brake motor	GD	Grain dryer centrifugal fan motor
BN	Brake motor, TENV enclosure	GSL	Grain stirring motor, single phase
BTG	Tachometer generator	HFM	HVAC duty, F-2 mounted connection box, three phase
C	NEMA C-Face with base	HIC	Incubator/hatchery vent fan motor, permanent split capacitor
CBXM	General Purpose explosion proof, Brake, three phase, C-Face foot mounted	HM	HVAC duty motor, three phase
CBXMN	General Purpose explosion proof, Brake, three phase, C-Face foot mounted, TENV	HPM	Hydraulic pump motor, three phase
CCPX	Severe Duty explosion proof, three phase, C-Face foot mounted	IDBRPM	RPMAC Inverter-Duty® motor – laminated frame, TEBC
CD	Wound field DC motor NEMA C-Face with base	IDCSWDM	Inverter-Duty® motor, paint free washdown, C-Face with base
CDM	Dirty Duty - three phase, C-Face	IDDRPM	RPMAC Inverter-Duty® motor – laminated frame, DPG-FV
CDMG	Lifting magnet generator, C-Face	IDFRPM	RPMAC Inverter-Duty® motor – laminated frame, TEFC
CDP	PM SCR drive motor	IDM	Inverter-Duty® motor, TEBC
CDPSWD	Paint free washdown PM SCR drive motor C-Face with base	IDNM	Inverter-Duty® motor, TENV
CDPT	PM SCR drive motor with integral tachometer	IDNRPM	RPMAC Inverter-Duty® motor – laminated frame, TENV
CDPWD	Washdown PM SCR drive motor NEMA C-Face with base	IDVSM	VS Master Inverter-Duty® motor
CDPX	Explosion proof PM SCR drive motor C-Face with base	IDVSNM	VS Master Inverter-Duty® motor, TENV
CDRX	Drill Rig Duty explosion proof, three phase, C-face foot mounted	IDVSWDM	Inverter-Duty® motor, paint free washdown, C-Face less base
CDRXL	Drill Rig Duty explosion proof, single phase, C-face foot mounted	IDWNM	Washdown Inverter-Duty® motor, TENV
CDX	Explosion proof wound Field DC motor, NEMA C-Face	IM	Irrigation drive motor
CEL	Super-E® premium efficient motor, single phase, C-Face	IR	Instant reversing single phase farm motor
CEM	Super-E premium efficient motor, three phase, C-Face	J	56J stainless steel threaded shaft with drip cover/jet pump
CFC	Condenser fan motor, permanent split capacitor	JM	JM pump shaft and face
CFM	Condenser fan motor, three phase	JMXM	General purpose explosion proof, three phase, Close Coupled Pump
CHC	Direct drive fan motor, permanent split capacitor	JP	JP pump shaft & face with base/close-coupled pump
CHL	Direct drive fan motor, single phase	JPDRX	Drill Rig Duty explosion proof, three phase, Close Coupled pump
CHM	Direct drive fan motor, three phase	JPM	JP pump shaft and face with base, three phase/close-coupled pump
CJWDM	Washdown jet pump, three phase, foot mounted	JS	Square flange pump mount motors with threaded shaft
CP	Severe duty motor	JXL	General purpose explosion proof, single phase, jet pump
CPX	Severe Duty explosion proof, three phase	JXM	General purpose explosion proof, three phase, jet pump
CR	Crusher duty motor	K	Model 34 diameter motor with 56 C-Face, less base
CSC	Checkout stand motor	L	Single phase motor
CTM	Cooling tower motor, three phase	M	Three phase motor
CXL	General Purpose explosion proof, single phase, C-Face foot mounted	MM	Metric dimension motor with base
CXM	General Purpose explosion proof, three phase, C-Face foot mounted	MP	Metering pump motor, three phase
D	Wound field DC motor	MVM	Metric dimension motor, flange mount less base, three phase
DDC	Direct drive, indoor blower motor, permanent split capacitor	N	Totally enclosed non-ventilated motor
DEL	Dairy/vacuum pump motor, single phase	PCL	Pressure washer motor, C-Face with base, single phase
DM	Dirty Duty - three phase	PFTG	Tachometer generator foot mount
DRX	Drill Rig Duty explosion proof, three phase	PL	Pressure washer motor, single phase
E	Super-E premium efficient motor	PSC	Permanent split capacitor motor
ECP	Super-E Severe duty motor	PTG	Tachometer generator
ECP6	IEEE 661 motor	R	Repulsion-start induction-run motor
ECP8	IEEE 841 motor	RBM	High cycle brake motor, three phase
ENCP	Super-E severe duty motor, TENV	RHM	Definite purpose HVAC motors, three phase
ENCP8	IEEE 841 motor, TENV	RL	Resilient base motor (cradle mount), single phase
F	TEFC motor (when special)	RM	Resilient base motor (cradle mount), three phase
FDL	Farm duty motor, single phase	SPM	Synchronous permanent magnet motor
FDEM	Farm duty motor, three phase, premium efficient, standard NEMA frame	SSEWDM	All stainless encapsulated Super-E washdown motor, three phase
FLT	Filter kit	SSWDM	All stainless washdown, three phase
		SWDM	Paint free washdown duty motor, three phase
		UCC	Universal crop dryer motor, permanent split capacitor, open air over

Abbreviations

Motors Prefix

UCL	Grain dryer/vane axial fan, single phase, open air over
UCLE	Grain dryer/vane axial fan, single phase, TEAO
UCM	Grain dryer/vane axial fan, three phase, open air over
UCME	Grain dryer/vane axial fan, three phase, TEAO
UH	Unit handling motor
UHM	Unit handling motor, three phase
V	NEMA C-Face less base
V2L	Two compartment jet pump motor C-Face less base, single phase
VDRX	Drill Rig Duty explosion proof, three phase, C-face footless
VEM	Super-E premium efficient motor, three phase, C-Face, less base
VHECP	Super-E vertical pump motor, severe duty - normal thrust
VHM	Vertical pump motor - normal thrust, three phase
VLCP	Vertical pump motor, severe duty – medium thrust
VP	PM SCR drive motor with metric flange or C-Face
VPCP	Vertical pump motor, severe duty – high thrust
VXL	General Purpose explosion proof, single phase, C-Face footless
VXM	General Purpose explosion proof, three phase, C-Face footless
WC	West coast fit TCZ
WD	Washdown duty motor
WDBM	Washdown brake motor, three phase
XL	General purpose explosion proof, single phase
XM	General purpose explosion proof, three phase
YPC	Yoke pedestal fan motor, permanent split capacitor
ZDBRPM	RPMAC Vector Duty® motor – laminated frame, TEBC
ZDFRPM	RPMAC Vector Duty® motor – laminated frame, TEFC
ZDM	Vector Duty® motor, TEBC
ZDNM	Vector Duty® motor, TENV
ZDNRPM	RPMAC Vector Duty® motor - laminated frame, TENV
ZDPM	RPMAC permanent magnet rotor - laminated frame
ZDVSCP	VS Master severe duty Vector Duty® motor
ZDVSM	VS Master Vector Duty® motor
ZDVSNCP	VS Master severe duty Vector Duty® motor, TENV
ZDVSNM	VS Master Vector Duty® motor, TENV
ZDWNM	Washdown Vector Duty® motor, TENV
ZDVSNM	VS Master Vector Duty® motor, TENV
ZDWNM	Washdown Vector Duty® motor, TENV

Kits & Accessories Prefix

BLW	Blower kit
BU	Bushing kit
CBL	Cable assembly
CC	Corrective capacitor bank
EN	Encoder kit
FCD	Drip cover kit
FFC	Fan cover/conduit box Kit
FL	Flange kit
RBT	Roller bearing conversion kit
RES	Resolver feedback kit
TK	Tachometer mounting kit

Motors Suffix

/35	Full 140 frame band diameter
/36	Full 180 frame band diameter
-2	120/240V field
-2/4	200/400 volt winding
-4	460 volt winding
-5	575 volt winding
-8	200 volt winding
-9	NEMA Design C high torque winding
-12	12 leads
-50	Wound for 50 hertz service
-57	230/380-415 volt winding
-58	380-415 Volt Y-start/delta-run

Motors Suffix (continued)

-2340	2300/4000 volt winding
-AP	Aluminum process performance
-PP	Cast iron process performance
-BG	Baldor-Reliance® shaft ground motor
-BV	Blower vented
-CI	Cast iron frame
-D	Dodge D-series brake
-DI	Dings Brake
-E	Encapsulated windings
-EX1	Ex nA
-EX2	Ex d
-EX3	Ex de
-G	AEGIS shaft ground motor
-H	56H mounting
-I	Explosion-proof, 1.15 service factor
-NL	Non linear - for VFD use
-P	Partial AC motor excludes pulley endplate
-S	Dodge short-series brake
-TP	Refrigerator fan motor
A	Automatic thermal overload
C	IEC frame B14 face mount
D	IEC frame B5 flange mount
E	New electrical design
L	Long shafted motor with ball bearings that may be converted to have D.E. roller bearing.
LR	Long shafted motor with D.E. roller bearing that may be converted to ball bearings.
M	Manual thermal overload
P	Wound field DC motor NEMA “AT” frame
S	Motor has a short shaft for coupled loads
T	NEMA “T” frame dimensions
TP	Feather picker motor
TR	NEMA “T” frame - roller bearing
TS	NEMA “T” frame - short shaft
Y	Special mounting dimension

Grinders Suffix

D	Deluxe
E	Exhaust guards
W	Wide design



Services Contents

- 3-2 Services to match your needs**
- 3-4 A lifetime of peak performance**

Services to match your needs

Your service needs depend on your operations, the life cycle of your equipment, and your business priorities. We have identified our customers' four most common needs, and we created service options to satisfy them. Which will you choose to keep your drives at peak performance?

Is uptime your priority?

Keep your drives running with precisely planned and executed maintenance.

Example services include:

- ABB Ability™ Life Cycle Assessment
- Installation and Commissioning
- Spare Parts
- Preventive Maintenance
- Reconditioning
- ABB Drive Care agreement
- Drive Exchange



Operational efficiency

Is rapid response a key consideration?

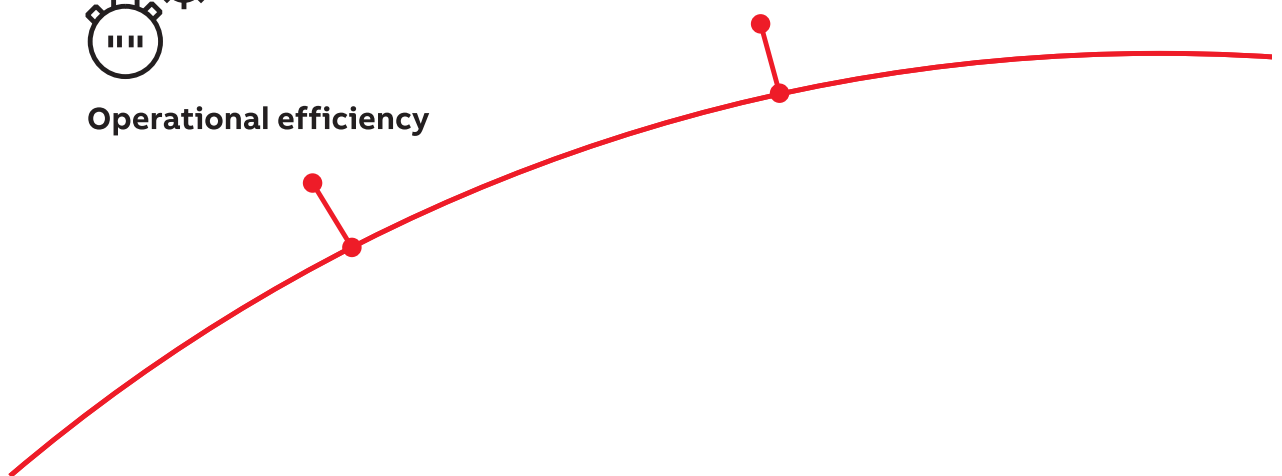
If your drives need immediate action, our global network is at your service.

Example services include:

- Technical Support
- On-site Repair
- ABB Ability™ Remote Assistance
- Response time agreements
- Training



Rapid response



Drives service

Your choice, your future

The longevity of your drives is influenced by the service you choose.

Whatever you choose, it should be a well-informed decision. We have the expertise and experience to help you find and implement the right service for your drive equipment. Start by asking yourself these two critical questions:

- Why would my drive be serviced?
- What would my optimal service options be?

From here, count on our guidance and full support throughout the entire lifetime of your drives.

Your choice, your business efficiency

ABB Drive Care lets you focus on your core business. A selection of predefined service options matching your needs provides optimal, more reliable performance, extends your drive's lifetime, and controls costs. This reduces the risk of unplanned downtime and makes it easier to budget for maintenance.

We can help you more if we know where you are!

Register your drive for advanced services.

Need to extend your assets' lifetime?

Maximize the lifetime of your drive with our services.

Example services include:

- ABB Ability™ Life Cycle Assessment
- Upgrades, Retrofits and Modernization
- Replacement, Disposal and Recycling



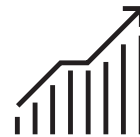
Life cycle management

Is performance most critical to your operation?

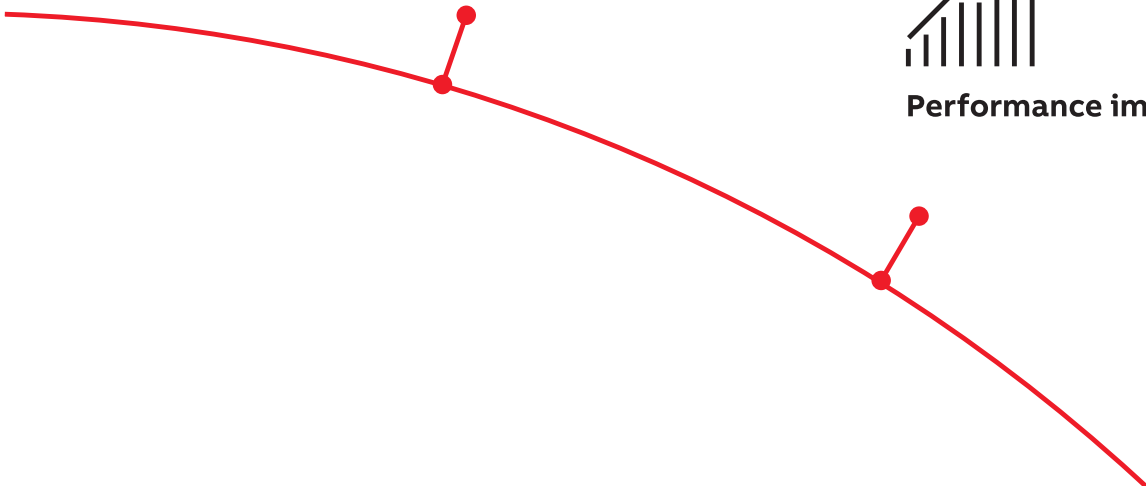
Get optimal performance out of your machinery and systems.

Example services include:

- ABB Ability™ Remote Services
- Engineering and Consulting
- Inspection and Diagnostics
- Upgrades, Retrofits and Modernization
- Workshop Repair
- Tailored services



Performance improvement



A lifetime of peak performance

You're in control of every phase of the life of your drive. At the heart of drive services is a four-phase product life cycle management model. This model defines the services recommended and available throughout your drive's lifespan.

Now it's easy for you to see the exact service and maintenance available for your drives.

ABB drives life cycle phases explained:

	Active	Classic	Limited	Obsolete
	Full range of life cycle services and support		Limited range of life cycle services and support	Replacement and end-of-life services
Product	Product is in active sales and manufacturing phase.	Serial production has ceased. Product may be available for plant extensions, as a spare part or for installed base renewal.	Product is no longer available.	Product is no longer available.
Services	Full range of life cycle services is available.	Full range of life cycle services is available. Product enhancements may be available through upgrade and retrofit solutions.	Limited range of life cycle services is available. Spare parts availability is limited to available stock.	Replacement and end-of-life services are available.

Keeping you informed

We notify you every step of the way using life cycle status statements and announcements.

The benefit for you is clear information about the status of your drives and the exact services available. It helps you plan the preferred service actions ahead of time and make sure that continuous support is always available.

Step 1

Life Cycle Status Announcement

Provides early information about the upcoming life cycle phase change and how it affects the availability of services.

Step 2

Life Cycle Status Statement

Provides information about the drive's current life cycle status, the availability of product and services, the life cycle plan, and recommended actions.





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

new.abb.com/drives/HVAC
locator.abbnw.com
abb.com/motors-generators
**[www.baldor.com/brands/baldor-reliance/
products/motors/ac-motors/hvac](https://www.baldor.com/brands/baldor-reliance/products/motors/ac-motors/hvac)**

ABB Inc.
16250 W. Glendale Drive
New Berlin, WI 53151
(800) 752-0696

HVAC Controls - BABAA Non-Compliant Components Current through 2025-06-11						
Manufacturer	Part #	Description		Qty	Item Value	Total Value
ABB	ACH580-VCR-04A8-4+F267	PUMP VFD's with Bypass		4	\$ 4,795.97	\$ 19,183.88

FINANCIAL ASSISTANCE AWARD**FEDERAL AWARD ID NUMBER**

60NANB23D159

RECIPIENT NAME

Burlington School District

PERIOD OF PERFORMANCE

09/01/2023 - 08/31/2026

STREET ADDRESS

150 Colchester Ave

FEDERAL SHARE OF COST

\$9,900,000.00

CITY, STATE ZIP

Burlington, VT 05401-1422

RECIPIENT SHARE-OF COST

\$0.00

AUTHORITY

Consolidated Appropriations Act, 2022

TOTAL ESTIMATED COST

\$9,900,000.00

CFDA NO. AND NAME

11.617 Congressionally-Identified Projects

PROJECT TITLE:

Burlington Aviation Technology Center Facility

This Award Document (Form CD-450) signed by the Grants Officer constitutes an obligation of Federal funding. By signing this Form CD-450, the Recipient agrees to comply with the Award provisions checked below and attached. Upon acceptance by the Recipient, the Form CD-450 must be signed by an authorized representative of the Recipient and returned to the Grants Officer. If not signed and returned without modifications by the Recipient within 30 days of receipt, the Grants Officer may unilaterally withdraw this Award offer and de-obligate the funds.

☒ DEPARTMENT OF COMMERCE FINANCIAL ASSISTANCE STANDARD TERMS AND CONDITIONS

R & D AWARD

FEDERAL-WIDE RESEARCH TERMS AND CONDITIONS, AS ADOPTED BY THE DEPT. OF COMMERCE

☒ SPECIFIC AWARD CONDITIONS

☒ LINE ITEM BUDGET

☒ 2 CFR PART 200, UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS, AS ADOPTED PURSUANT TO 2 CFR § 1327.101

48 CFR PART 31, CONTRACT COST PRINCIPLES AND PROCEDURES

MULTI-YEAR AWARD. PLEASE SEE THE MULTI-YEAR SPECIFIC AWARD CONDITION.

☒ OTHER(S): U.S. DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
STANDARD TERMS AND CONDITIONS FOR EXTRAMURAL CONSTRUCTION PROJECTS, MAY 11, 2023

SIGNATURE OF DEPARTMENT OF COMMERCE GRANTS OFFICER

SHIOU YUN LIU

Digitally signed by SHIOU YUN
LIU
Date: 2023.09.15 08:23:32 -04'00'

Shiou Liu

DATE

PRINTED NAME, PRINTED TITLE, AND SIGNATURE OF AUTHORIZED RECIPIENT OFFICIAL

Tom Flanagan, Superintendent



DATE

9/18/23

Award Number: 60NANB23D159, Amendment Number 0

Federal Program Officer: Robert Slocum

Requisition Number: 195161

Employer Identification Number: 471351664

UEI Number: VCCSKXGSMEJ5

Recipient ID: 1155128

Requestor ID: 1155128

Award ACCS Information

Bureau	FCFY	Project-Task	Organization	Object Class	Obligation Amount
57	2023	1959000-000	10-19-0195-00-00-00-00	41-98-00-00	\$9,900,000.00

Award Contact Information

Contact Type	Contact Name	Email	Phone
Administrative	Mr. Barry Gruessner	bgruessn@bsdvt.org	8028648462

NIST Grants Officer:

Shiou Liu
100 Bureau Drive, MS 1650
Gaithersburg, MD 20899-1650
(301) 975-8245

NIST Grants Specialist:

LaShae Green
100 Bureau Drive, MS 1650
Gaithersburg, MD 20899-1650
(301) 975-3070

**NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
2022 CONGRESSIONALLY IDENTIFIED CONSTRUCTION GRANT PROGRAM
FINANCIAL ASSISTANCE
SPECIFIC AWARD CONDITIONS**

1. Description of Work:

The National Institute of Standards and Technology (NIST) hereby enters into this grant number 60NANB23D159 with Burlington School District to support the work described in the proposal entitled “Burlington Aviation Technology Center Facility” dated November 17, 2022, and any revisions received during the application review, which are hereby incorporated into this award by reference.

The scope of work for this project is anticipated to provide a total building space in the range of 30,000 to 45,000 gross SF to include classrooms, offices, shops/tech areas, storage, hangar space and general building facilities with the intent to educate up to 150 high school students and adults each year with the technical center housing aviation for 11th and 12th graders as well as adult programs that finishes the airframe and powerplant training.

Work will be completed in accordance with the schedule submitted by Burlington School District in the Project Management and Schedule dated November 17, 2022.

The Burlington School District shall diligently pursue the development of the project to ensure completion within this time schedule and shall promptly notify NIST in writing of any event that could substantially delay meeting any of the prescribed time limits for the project as set forth above. The Burlington School District further acknowledges that failure to meet the development time schedule may result in NIST taking action to suspend or terminate the Award in accordance with the regulations set forth at 2 CFR § 200.339.

Where the terms of this award and the proposal differ, the terms of this award shall prevail.

2. Recipient Contact Information:

Administrative:

Barry Gruessner
Grants Director
Burlington School District
150 Colchester Avenue
Burlington, VT 05401-1422
Telephone: 802-864-8462
Email: bgruessn@bsdvt.org

NIST Financial Assistance Award Number: 60NANB23D159

Amendment: NEW

Recipient: Burlington School District

Authorized Representative:

Tom Flanagan
Superintendent
Burlington School District
150 Colchester Avenue
Burlington, VT 05401-1422
Telephone: 802-865-5332
Email: tflanagan@bsdvt.org

3. NIST Award Contact Information:

Grants Officer:

Michelle Shiouyun Liu
National Institute of Standards and Technology
100 Bureau Drive, Mail Stop 1650
Gaithersburg, MD 20899-1650
Telephone: 301-975-8245
Email: shiouyun.liu@nist.gov

Grants Specialist:

LaShae Green
National Institute of Standards and Technology
100 Bureau Drive, Mail Stop 1650
Gaithersburg, MD 20899-1650
Telephone: 301-975-3070
Email: lashae.green@nist.gov

Federal Program Officer:

Robert Slocum
National Institute of Standards and Technology
100 Bureau Drive
Gaithersburg, MD 20899
Email: robert.slocum@nist.gov

4. Award Payments:

This award is hereby funded through advanced payments using the Department of Treasury's Automated Standard Application for Payments (ASAP) system. Payments will be issued in accordance with 2 CFR § 200.305 and the Department of Commerce Financial Assistance Standard Terms and Conditions, B.02, dated November 12, 2020.

Payments for allowable costs may be drawn down as needed by the Recipient enrolled in ASAP. Funds may be requested through ASAP by the authorized *Payment Requestor* who is the individual designated by the Recipient to access Federal funds.

NIST Financial Assistance Award Number: 60NANB23D159

Amendment: NEW

Recipient: Burlington School District

This award has the following control or withdrawal limits set in ASAP:

- ☐ None
- ☐ Agency Review required for all withdrawals (see explanation below)
- ☐ Agency Review required for all withdrawal requests over
\$ _____ (see explanation below)
- ☒ Maximum Draw Amount controls (see explanation below)
 - \$ _____ each month
 - \$ _____ each quarter
 - \$0.00 _____ Max drawdown amount

Explanation:

Environmental & Historic Compliance Requirements

A total of \$9,900,000.00 in Federal funding is hereby withheld until the requirements identified in Specific Award Condition (SAC) #17 Environmental and Historic Review is satisfied. A Six-Month Expenditure Plan may be submitted to request funding for expenditures limited to Environmental and Historic Requirement compliance as identified in SAC #17.

In addition, the final site selection for the Burlington Aviation Technology Center Facility must be provided to NIST and approved by NIST prior to advertisement of construction. All federal funding is hereby withheld until this requirement is satisfied, as identified in SAC #19 Final Site Selection, below.

5. Return Payments for Funds Withdrawn through ASAP:

Funds that have been withdrawn through ASAP may be returned to ASAP via the Automated Clearing House (ACH) or via FEDWIRE. The ACH or FEDWIRE transaction may only be completed by the Recipient's financial institution. Full or partial amounts of payments received by a Payment Requestor/Recipient Organization may be returned to ASAP. All funds returned to the ASAP system will be credited to the ASAP Suspense Account. The Suspense Account allows the Regional Financial Center to monitor returned items and ensure that funds are properly credited to the correct ASAP account. Returned funds that cannot be identified and classified to an ASAP account will be dishonored and returned to the originating depository financial institution (ODFI). The Payment Requestor/Recipient Organization should notify the NIST Grants Office and provide a reason whenever return payments are made.

It is essential that the Payment Requestor/Recipient Organization provide its financial institution with ASAP account information (ALC, Recipient ID and Account ID) to which the return is to be credited. Additional detailed information is accessible at:
<https://www.fiscal.treasury.gov/asap/>.

6. Period of Performance and Funding Limitations:

NIST Financial Assistance Award Number: 60NANB23D159

Amendment: NEW

Recipient: Burlington School District

The period of performance and budget incorporated into this award cover a 3-year period of performance and provide for a maximum total amount of \$9,900,000.00 in Federal funding. This award is being fully funded via this award action.

The maximum amount of NIST funding in support of this award will not exceed the amount specified in the award documents, unless otherwise amended in writing by the NIST Grants Officer. The Department of Commerce is not liable for any obligations, expenditures, or commitments which involve any amount in excess of the Federal funds being made available pursuant to this award.

7. Request for Application - 2022 Congressionally Identified Construction Grant Program:

The Department of Commerce, National Institute of Standards and Technology Request for Application (RFA) No. 2022-NIST-RFA-CICGP-01, dated October 18, 2022, is incorporated by reference into this award. It is accessible at:

<https://www.grants.gov/web/grants/view-opportunity.html?oppId=344108>

8. Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements:

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements as published in the *Federal Register* on December 30, 2014 (79 FR 78390) is incorporated by reference into this award. It is accessible at:

<http://www.gpo.gov/fdsys/pkg/FR-2014-12-30/pdf/2014-30297.pdf>.

9. Uniform Administrative Requirements, Cost Principles and Audit Requirements

Through 2 C.F.R. § 1327.101, the Department of Commerce adopted Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 C.F.R. Part 200, which apply to awards in this program. Refer to <http://go.usa.gov/SBYh> and <http://go.usa.gov/SBg4>. Awards issued pursuant to this program may be subject to specific award conditions as authorized by 2 C.F.R. § 200.208.

10. Deviation to the Department of Commerce Financial Assistance Standard Terms and Conditions, Section A.01 "Reporting Requirements":

The Recipient must submit a Federal Financial Report (SF-425) and Performance Progress Report on a quarterly basis for the periods ending March 31, June 30, September 30, and December 31, or any portion thereof.

Reports are due no later than 30 calendar days following the end of each reporting period. A final SF-425 and Performance Progress Report must be submitted within 120 days after the expiration of the period of performance.

All SF-425 and Performance Progress Reports must be submitted to: GReports@nist.gov, within the prescribed timeframes identified in the terms and conditions of the award.

The Recipient organization name, NIST award number, and reporting period must be included in the email subject line. The Recipient contact information should be included in the body of the message. To the greatest extent possible, SF-425 and Performance Progress Reports should be submitted together in the same email.

SF-425 and Performance Progress Reports must not be sent directly to NIST personnel (e.g. Grants Specialist, Grants Officer, Administrative Assistant, GMD Division Chief, Federal Program Officer, etc.).

Any SF-425 or Performance Progress Reports sent directly to NIST personnel will be returned to the sender with instructions on how to submit through the GReports@nist.gov mailbox.

No other correspondence may be sent through this mailbox; timely responses to any other inquiries received in this mailbox are not guaranteed. The mailbox will not be used for any other purpose except for purposes identified above.

11. Department of Commerce Financial Assistance Standard Terms and Conditions:

As indicated on the Form CD-450 for this award, the Department of Commerce Financial Assistance Standard Terms and Conditions (ST&C) issued November 12, 2020, are incorporated by reference into this award. The Department's ST&C, as well as a link to 2 CFR Part 200, are accessible at: <https://www.commerce.gov/oam/policy/financial-assistance-policy>.

12. NIST Standard Terms and Conditions for Extramural Construction Projects:

As indicated on the Form CD-450 for this award, the National Institute of Standards and Technology Standard Terms and Conditions for Extramural Construction Projects (Construction ST&Cs) dated May 11, 2023 are incorporated by reference into this award. The Construction ST&Cs are accessible at [NIST Standard Terms and Conditions for Extramural Construction Projects | NIST](#).

13. Unfunded Grant Actions Mailbox (UGAM):

Requests for unfunded award actions, which include, but are not limited to, requests for no-cost extension, change in key personnel, change in scope of work, and budget revisions must be submitted to: UGAM@nist.gov, within the prescribed timeframes identified in the terms and conditions of the award.

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Amendment: NEW

Recipient: Burlington School District

Unfunded award action requests and related correspondence, including justification to support the request, sent to the mailbox must contain the following information in the email subject line: (1) Recipient name; (2) NIST award number; (3) Principal Investigator/Project Director; and (4) Action being requested (e.g. no cost extension, change in key personnel, etc.).

Unfunded award action requests must not be sent directly to NIST personnel (e.g. Grants Specialist, Grants Officer, Administrative Assistant, GMD Director, Federal Program Officer, etc.).

Any requests sent directly to NIST personnel will be returned to the sender with instructions on how to submit through the UGAM@nist.gov mailbox.

No other correspondence may be sent through this mailbox; timely responses to any other inquiries received in this mailbox are not guaranteed. The mailbox will not be used for any other purpose except for purposes identified above.

Requests that are processed will be authorized via a Form CD-451 Amendment to the Financial Assistance Award or a Non-Funded Administrative Change Letter.

14. Supervision of the Recipient's Staff and Associates and Compliance with NIST Policies on Use of Federal Facilities and Equipment:

Consistent with Department of Commerce Financial Assistance Standard Terms and Conditions, Section A.05, nothing in this award will be construed as authorizing the Recipient or its employees, agents, or assigns to act as an agent or assign of NIST, and the Recipient must exercise all diligence to ensure that no third party construes the Recipient as an actual, ostensible, or apparent agent of NIST. For purposes of this award, the use of the term "personnel" herein includes all third parties, such as contractors, subrecipients, students, fellows, or others participating under the direction of the Recipient's programs. The Recipient acknowledges that it is independent of NIST in the performance of the approved projects, and that the Recipient assumes full and sole responsibility for all benefits and protections of the Recipient's personnel and agents whose services are utilized by the Recipient in the execution of this award.

Accordingly, the Recipient must control the means and manner of its personnel's activities on the project, including those conducted on a NIST campus, on Recipient property, and at other locations for the project. The Recipient must directly provide a salary, stipend, or other funding to the personnel, and must establish the work schedule and tenure for the personnel. The Recipient is the supervisor of record for the personnel and will coordinate with NIST as needed to ensure that the research remains consistent with NIST program objectives.

15. Estimated Useful Life:

The estimated useful life of the building renovation portion of this project is 15 years from when the date on which the Certificate of Occupancy for the renovations is issued.

16. Property Trust Relationship and Public Notice Filings for Grant-Acquired Property:

In accordance with 2 CFR § 200.316 (Property trust relationship), real property, equipment, and intangible property, that are acquired or improved with a Federal award must be held in trust by the non-Federal entity (*i.e.*, Recipient or Subrecipient) as trustee for the beneficiaries of the project or program under which the property was acquired or improved. This trust relationship exists throughout the duration of the property's estimated useful life, as determined by the Grants Officer in consultation with the Program Office, during which time the Federal Government retains an undivided, equitable reversionary interest in the property (Federal Interest). The non-Federal entity must comply with all use and disposition requirements and restrictions as set forth in 2 C.F.R. §§ 200.310 (Insurance coverage) through 200.316 (Property trust relationship), as applicable, and in the terms and conditions of the Federal award.

The Grants Officer may require a non-Federal entity (*i.e.*, a Recipient or Subrecipient) to execute and to record (as applicable) a statement of interest, financing statement (Form UCC-1), lien, mortgage or other public notice of record to indicate that real or personal property acquired or improved in whole or in part pursuant to this award is subject to the Federal Interest, and that certain use and disposition requirements apply to the property. The statement of interest, financing statement (Form UCC-1), lien, mortgage or other public notice must be acceptable in form and substance to the NIST Grants Officer and must be placed on record in accordance with applicable State and local law, with continuances re-filed as appropriate. In such cases, the NIST Grants Officer may further require the non-Federal entity to provide a written statement from a licensed attorney in the jurisdiction where the property is located, certifying that the Federal Interest has been protected, as required under the award and in accordance with applicable State and local law. The attorney's statement, along with a copy of the instrument reflecting the recordation of the Federal Interest, must be promptly returned to the Grants Officer.

Without releasing or excusing the non-Federal entity from these obligations, the non-Federal entity, by execution of the financial assistance award or by expending Federal financial assistance funds (in the case of a subrecipient), authorizes the NIST Grants Officer to file such notices and continuations as it determines to be necessary or convenient to disclose and protect the Federal Interest in the property. The NIST Grants Officer may elect not to release any or a portion of the Federal award funds until the non-Federal entity has complied with this provision and any other applicable award terms or conditions, unless other arrangements satisfactory to the NIST Grants Officer are made.

17. Environmental and Historic Review:

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Amendment: NEW

Recipient: Burlington School District

The Recipient must comply with all applicable requirements, environmental and historic preservation laws, Executive Orders, regulations, standards, and guidance, and identify to NIST any impact a project may have on the environment or historic resources.

Project implementation may not begin prior to the completion of a review of potential environmental impacts, per the National Environmental Policy Act of 1969 (42 U.S.C. 4321, et. seq.) (NEPA) and Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. § 470, et. seq.).

The completion of NEPA compliance activities will result in one of the following: a Categorical Exclusion, an Environmental Assessment/Finding of No Significant Impact (EA/FONSI), or an Environmental Impact Statement. A decision document will not be issued until all required consultations, including, Section 7 of the Endangered Species Act (16 U.S.C. §1531, et. seq.), and any other required consultations are complete. The Recipient must also address compliance with all other applicable federal, state, and local environmental laws and regulations.

Under Section 106 of the NHPA, federal agencies, and by extension recipients of federal grant funds, must evaluate the potential effects of any proposed projects ("undertakings") on properties listed on, or eligible for listing on, the National Register of Historic Places. Grant recipients are encouraged to initiate Section 106 consultation with relevant State Historic Preservation Offices (SHPOs) or, in the case of institutions located on tribal lands, the proper Tribal Historic Preservation Office (THPO) as directed by NIST. NIST will remain involved in resolution in the event of an adverse effect determination.

A Environmental and Historic Review, to include any required consultations under NEPA and Section 106 of the NHPA, must be completed no later than six months after the award start date; unless a formal request for extension is submitted and approved by the Grants Officer. The Recipient must comply with all conditions placed on the project as the result of the consultation processes. The Recipient may not expend any federal grant funds, except as authorized by the Grants Officer pursuant to approval of the 6-month expenditure plan (discussed below).

The Recipient is required to provide the following information that will enable NIST to make a preliminary determination regarding the potential impact of the proposed project on environmental and historic resources:

1. A thorough description of all proposed project activities, particularly buildings and other capital improvement activities that will be conducted. Include: (i) the area and extent of earthwork (drilling, excavation, fill, blasting, dredging, etc.), (ii) environmental communication, documentation, or permitting (planned, pending, or in place), (iii) any determination upon the project by any department of environment or other agency or office, (iv) floodplain mapping on the site itself or any adjacent or contiguous property, (v) any special interest in the project or the site, (vi) any public meetings planned or held regarding the on the site itself or adjacent or contiguous property, (vii) any threatened or

endangered species or any migratory birds or bald or golden eagles on the site itself or adjacent or contiguous property, or (viii) any essential fish habitat or any portion of the National Wild and Scenic River System or Coastal Barrier System or navigable waters on the site itself or adjacent or contiguous property, (ix) any waters of any stream or other body of water “proposed or authorized, permitted or licensed to be impounded, diverted, or otherwise controlled or modified”, (x) any identified or potential wetland on the site itself or any adjacent or contiguous property, (xi) any hazardous or regulated substances or Superfund activity on the site itself or adjacent or contiguous property, and/or (xii) any invasive species on the site itself or adjacent or contiguous property.

2. Maps of the project area and ground-level and aerial photographs with installation/renovation locations clearly marked on the buildings impacted. Free online resources, such as Google maps or similar images, are acceptable.

3. For the list of buildings, referenced in Item #1, state the year those buildings were first constructed as well as the dates of any subsequent major renovations. For buildings that are 45 years old or older, provide photos of installation sites, as well as exterior and interior photos of the building. Provide any property relevant to this application which is (i) within the viewshed of a registered historic property or (ii) within a historic district or (iii) registered as historic itself or (iv) noted to be historically or architecturally significant in any study or article of public interest. Provide any communication, documentation, or permitting under the project, e.g., determination upon the project by a SHPO and/or THPO.

NOTE: The Recipient must submit a draft Environmental and Historic Review with all initial required project information listed above in Items #1 – #3 to NIST via UGAM@nist.gov no later than 60 calendar days after award start date, unless an extension has been requested in writing by the Recipient and approved by the Grants Officer.

Follow-on information may be required for NIST to determine the level of impacts of the project on environmental and historic resources. If consultation is required, grantees are encouraged to initiate consultation as referenced above and must provide NIST with relevant documentation of the consultation process. Once appropriate and applicable consultations have been completed, and environmental review documentation has been completed, NIST will review all documentation and determine whether the review sufficiently addresses all resource areas and whether the project may qualify for an approval decision.

Once the above information is provided, NIST will review and provide guidance on the next steps that the recipient should take regarding required consultations and/or environmental and historic preservation documentation required to make environmental determinations. Next steps may include, but are not limited to, the submittal and completion of the following:

1. The completion of any required consultations as described above where applicable and directed by NIST, to include consultations with the SHPO and/or THPO and the appropriate federally-recognized Native American tribes (if applicable), under Section 106 of the NHPA, and/or consultations with the USFWS under Section 7 of the ESA;
2. The completion of environmental review and issuance by NIST of a decision document, as described above, that meets the requirements of NEPA; and
3. Compliance with all other applicable federal, state, and local environmental laws and regulations.

The Recipient is required to provide any information requested by NIST in a timely and effective manner to ensure both initial and ongoing compliance with environmental and historic preservation laws, regulations, and best practices. All such information must be sent to the FPO.

The Recipient shall notify NIST within 24 hours upon receipt of any notices of foreclosure; notices for continuing consultation received from the SHPO, THPO or other consulting party; or notices of noncompliance received from consulting authorities or regulatory agencies. These notices shall be sent to the FPO. Projects which, after consultation with appropriate agencies, are determined to be ineligible for a CE will require the development of an EA/FONSI. The Recipient may wish to coordinate with NIST to rescope or descope the proposed project to avoid or minimize impacts to environmental and historic resources.

Any change to the approved project scope, resulting from consultations or for other reasons, that have the potential for altering the nature or extent of environmental or cultural resources impacts must immediately be brought to the attention of NIST and will be re-evaluated for compliance with applicable regulatory requirements.

For all ground disturbing activities in the vicinity of known archaeological sites or suspected or known burials, the Recipient must ensure that an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards monitors ground disturbance, and if any potential archeological resources or buried human remains are discovered, then the Recipient must immediately cease construction in that area and notify NIST and the interested SHPO, THPO, and tribes. Such construction activities may then only continue with the written approval of NIST.

6-Month Expenditure Plan

While this SAC is in effect, the Recipient shall submit, in advance of any program fund drawdowns from ASAP.gov, a 6-month expenditure plan that presents the proposed expenditure of award funds prior to the completion of the environmental review process, including any preliminary procurement activities. The NEPA Coordinator and the Federal

Preservation Officer will review the plan and provide recommendations to the Federal Program Officer and the Grants Officer for final approval to ensure that the proposed activities and expenditures are reasonable and necessary in the context of environmental and historical compliance. Approval of the Grants Officer is required prior to fund drawdowns of the 6-Month Expenditure Plan through ASAP.gov.

The allowable use of funds for preliminary expenditures prior to beginning project implementation includes, but is not limited to, the initiation of activities necessary to meet the project completion requirements as specified in the award including environmental and historic preservation requirements:

1. Required environmental and historic preservation consultation activities;
2. Purchase or lease of equipment, or entering into binding contracts to do so; and
3. Purchase of applicable or conditional insurance.

The allowable use of preliminary expenditure funds is limited; must not result in an irrevocable commitment of resources; and is only allowed after inclusion in and approval of a 6-month expenditure plan.

18. Signage and Public Acknowledgement Requirements:

a. Signs - The Recipient is encouraged to include project signage, satisfactory in form and content to NIST, that identifies the nature of the project and indicates that “the project is funded by the Consolidated Appropriations Act, 2022.” In addition, guidelines for project signage, including an emblem and corresponding logomark, is available in the Official Investing in America Emblem Style Guide: <https://www.whitehouse.gov/wp-content/uploads/2023/02/Investing-in-America-Brand-Guide.pdf>. Costs associated with signage must be reasonable and limited. The Recipient is encouraged to use recycled or recovered materials when procuring signs. Signs should not be produced or displayed if doing so results in unreasonable cost, expense, or recipient burden. Any construction site sign should be displayed throughout the construction phase of the project in an easily visible location directly linked to the work taking place. The Recipient is responsible to maintain the sign in good condition throughout the construction period.

b. Plaque - Any plaque installed at the discretion of the Recipient, citing the origins or history of the project, should identify the project as a “project funded by Consolidated Appropriations Act, 2022.”

c. Communications - Any banner or other message intended for public display on the project site should remain within the spirit of transparency and public information provided herein.

19. Final Site Selection:

NIST Financial Assistance Award Number: 60NANB23D159

Amendment: NEW

Recipient: Burlington School District

Within 60 calendar days of the award start date, the Recipient must provide to the Federal Program Officer and Grants Specialist identified in this award, a final site selection for the Burlington Aviation Technology Center Facility. The site selection must be approved by NIST prior to advertisement of construction. All grant funding will be withheld until this Specific Award Condition is deemed satisfied in writing by the NIST Grants Officer.

End of Specific Award Conditions

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	\$	\$	\$
2. Land, structures, rights-of-way, appraisals, etc.	\$	\$	\$
3. Relocation expenses and payments	\$	\$	\$
4. Architectural and engineering fees	\$ 947,427.00	\$ 547,427.00	\$ 400,000.00
5. Other architectural and engineering fees	\$ 50,000.00	\$	\$ 50,000.00
6. Project inspection fees	\$ 600,000.00	\$	\$ 600,000.00
7. Site work	\$ 7,050,000.00	\$	\$ 7,050,000.00
8. Demolition and removal	\$	\$	\$
9. Construction	\$	\$	\$
10. Equipment	\$	\$	\$
11. Miscellaneous	\$	\$	\$
12. SUBTOTAL (sum of lines 1-11)	\$ 8,647,427.00	\$ 547,427.00	\$ 8,100,000.00
13. Contingencies	\$ 1,800,000.00	\$	\$ 1,800,000.00
14. SUBTOTAL	\$ 10,447,427.00	\$ 547,427.00	\$ 9,900,000.00
15. Project (program) income	\$	\$	\$
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ 10,447,427.00	\$ 547,427.00	\$ 9,900,000.00
FEDERAL FUNDING			
17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.			Enter eligible costs from line 16c Multiply X 100 % \$ 9,900,000.00

