

Datasheet

Aircore EC

Frame 15, 7.5 HP, 3600 RPM

Motor and drive all in one

Integrated variable frequency drive (VFD) facilitates variable speed applications, reducing overall energy usage.

Power more with less

50% lighter, 30% quieter and up to 25% more efficient, averaging \$2,300 in energy savings per motor.*



Powerful intelligence

- State-of-the-art VFD for precise speed control which contributes to energy and audible noise reduction.
- I-con (motor control software) enables users to fine tune operational parameters to their specific applications. Mobile versions available.
- Maximum power density in a 50% smaller and lighter package.

Optimized efficiency

- Meets highest efficiency standards at a wide range of load conditions.
- Increased operational efficiency by eliminating torque ripple, cogging, stator hysteresis and eddy current losses.
- Compact form factor reduces wiring and facilitates direct mounting to fan applications, increasing efficiency by up to 25% compared to a traditional motor.

Sustainable solution

- Our PCB stator uses 66% less copper and is 10x more reliable than traditional iron-core, copper-wound stators.
- Enhanced serviceability due to modular design enables the reuse and extended lifespan of components, keeping them out of the landfill.
- Increased efficiency reduces customer's scope 2 emissions by up to 25%.

Applications



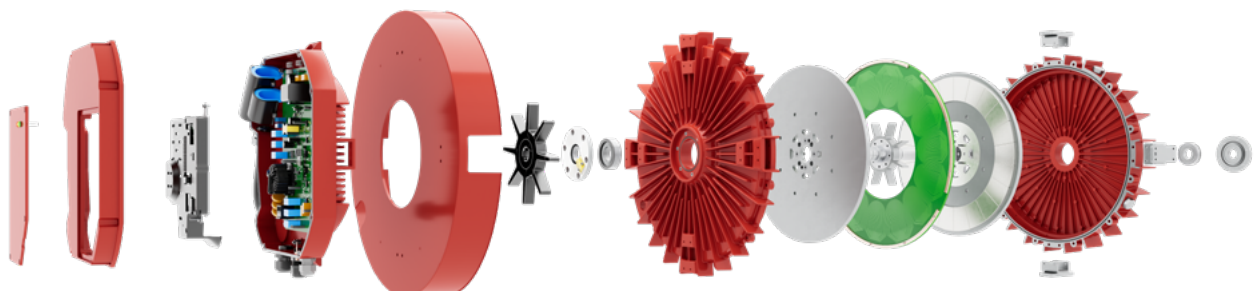
Commercial HVAC



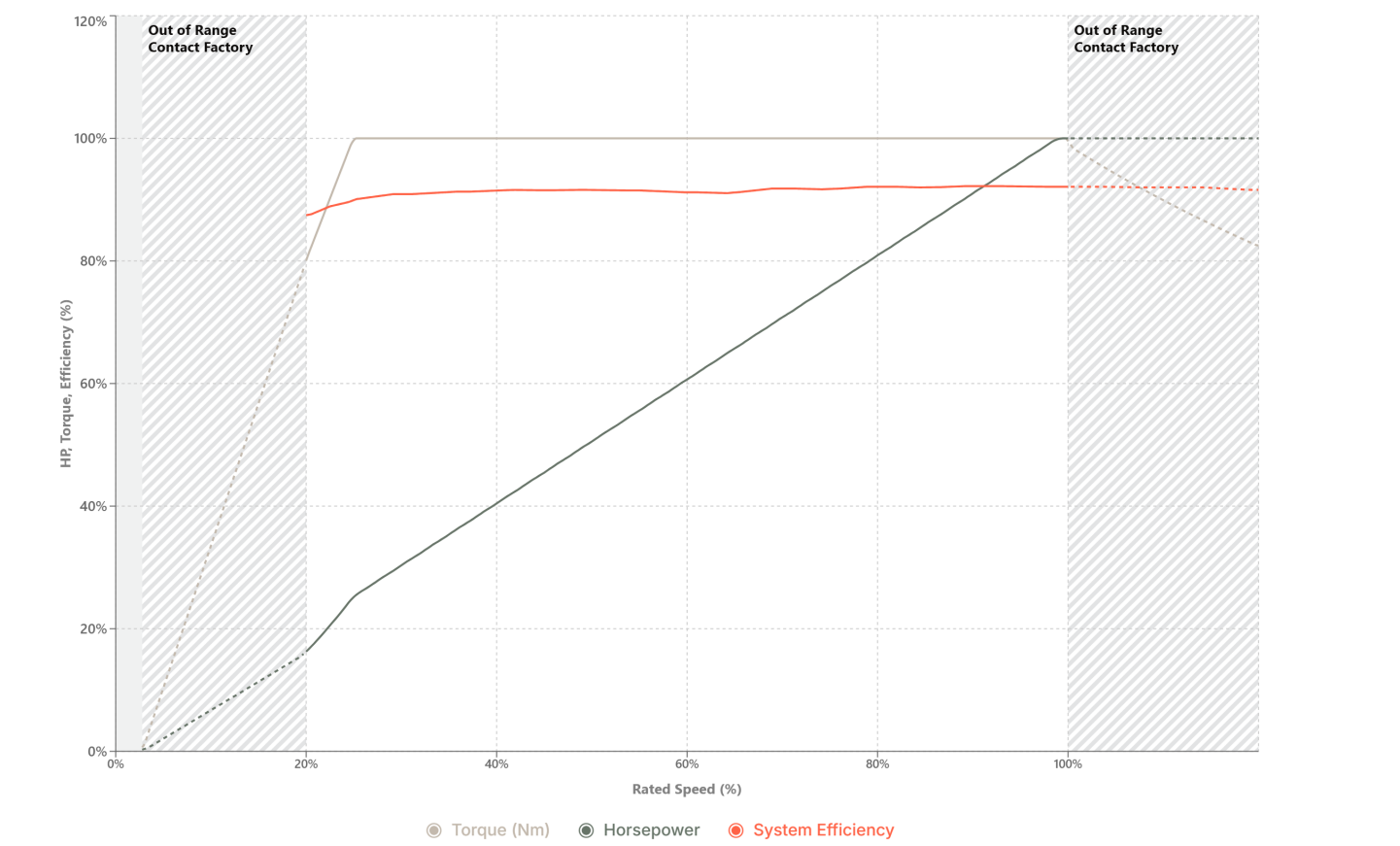
Pumps



Material handling



Performance



The recommended RPM range for this motor is 720-3600 RPM. Operating below 720 RPM is not advised except during coasting or ramp-up. For operation outside of this recommended range, please contact Infinitem for a customized solution. These curves are for reference only; actual performance may vary.

| Motor information | |
|--------------------------|----------------------------|
| Rated power | 7.5 HP, 5.6 kW |
| Rated torque | 11 lb-ft, 15 Nm |
| Rated speed | 3600 RPM |
| Max speed | 4320 RPM (see above) |
| Min speed | 100 RPM (see above) |
| Weight (motor & drive) | 81.4 lbs, 36.0 kg |
| Frame diameter | 16.4", 41.17cm |
| Length (motor & drive) | 8.7", 22.2 cm |
| System efficiency | 92.1% (460 V) |
| Duty cycle | Continuous |
| Variable speed | Yes, integrated VFD |
| Service factor | 1.0 |
| Motor thermal protection | Electronically-protected L |
| Motor type | TEFC |
| Enclosure rating | IP54 |

Electrical

| | |
|-------------------------------------|---------------------------------|
| Supply voltage | 460 VAC \pm 10% |
| Supply phase | 3 Phase |
| Supply voltage frequency | 60 Hz \pm 5% |
| Voltage imbalance | \pm 3% Phase to phase voltage |
| Short circuit current rating (SCCR) | Input – 5 kA, 500 V maximum |
| Rated amps | 8.2 A (460 VAC) |
| Motor insulation class | B |
| Grounding | Grounded Wye, Delta, HRG |

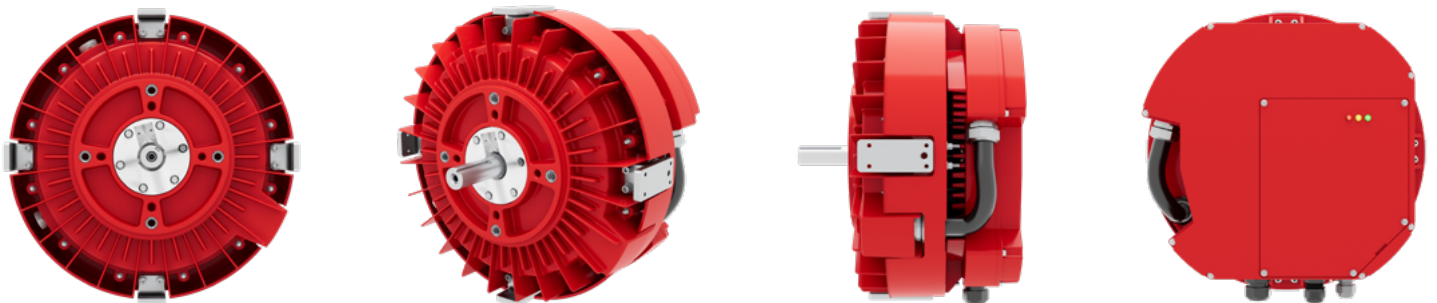
*Calculated.

Mechanical

| | |
|-------------------------|---|
| Direction of rotation | CW/CCW |
| Motor frame material | Aluminum |
| Rotor inertia | 0.49 kg.m ² |
| Bearing type – DE | Standard: steel, 6206 sealed, permanently lubricated Optional: hybrid ceramic (see catalog number) |
| Bearing type – NDE | Standard: steel, 6206 sealed, permanently lubricated Optional: hybrid ceramic (see catalog number) |
| Grease specification | Mobil polyrex EM |
| Regreasable | No |
| Grounding brushes | Included – NDE |
| Shaft design | Keyed |
| Motor mounting position | Horizontal or vertical |
| Motor mounting type | C-face (182TC) and body mount |

Ambient operating conditions

| Condition | Operation | Storage & transportation |
|----------------------|--|------------------------------|
| Altitude | 0 to 3300 ft. (1,000 m) above sea level 9% power derate per 1,000 m up to 4,000 m | NA |
| Ambient temperature | -13 to 104 °F (-25 to 40 °C) 2% power derate per 1 °C up to 50 °C | -40 to 185 °F (-40 to 85 °C) |
| Relative humidity | 95%, No condensation allowed | 95%, No condensation allowed |
| Contamination levels | No conductive dust allowed | No conductive dust allowed |



Control connections

Refer to [IOM Manual](#) for more details.

| Description | Quantity | Type |
|--|----------|--|
| Analog input Software selectable for voltage or current input | 1 | Voltage signal – 0 to 10 VDC, RIN = 20 k Ω Current signal – 4 to 20 mA, RIN = 500 Ω Resolution – 0.1% Accuracy – \pm 5% |
| Analog output | 1 | Voltage – 0 to 10 VDC, 10 mA maximum, 1 k Ω minimum |
| Auxiliary voltage | 1 | 24 VDC \pm 5%, user output, 250 mA maximum |
| Digital input | 4 | 24 VDC with internal or external supply Input impedance – 1 k Ω |
| Digital output | 2 | Open drain output Maximum switching voltage 40 VDC Maximum switching current 350 mA |
| Relay output | 1 | Normally open (NO), normally closed (NC) contact arrangements Maximum switching voltage of 125 VAC / 30 VDC Maximum switching current of: NO – 10 A (VAC) / 5 A (VDC) NC – 3 A (VAC) / 3 A (VDC) |
| EIA-485 Interface for Modbus RTU or BACnet MS/TP | 1 | Shielded twisted pair cable with impedance of 120 Ω Half duplex Modbus or BACnet communication protocol |
| Modbus TCP | 1 | Ethernet for I-con (desktop and mobile) |

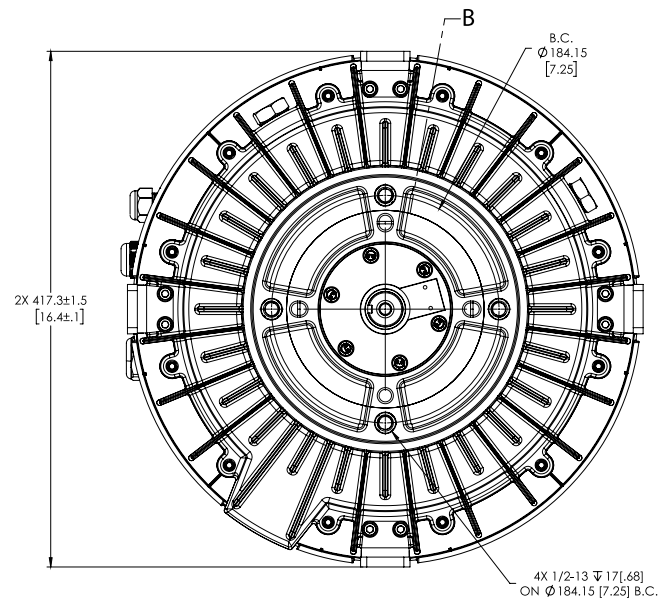
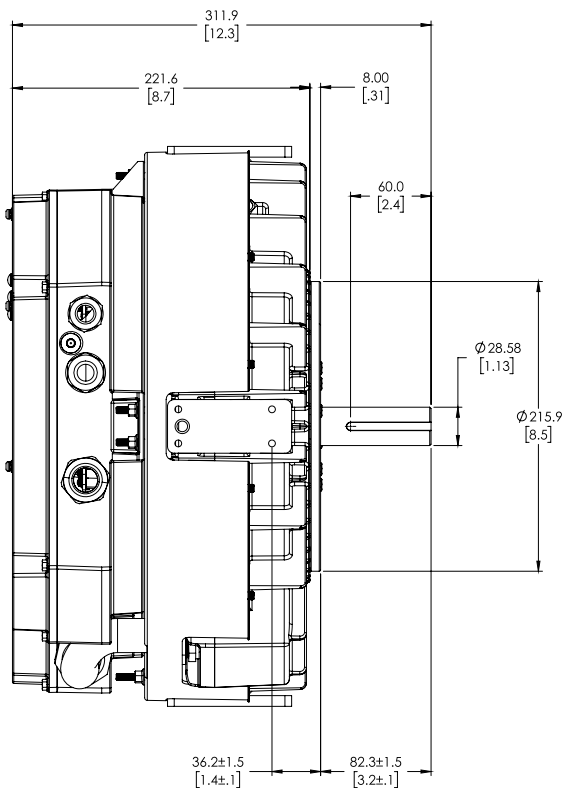
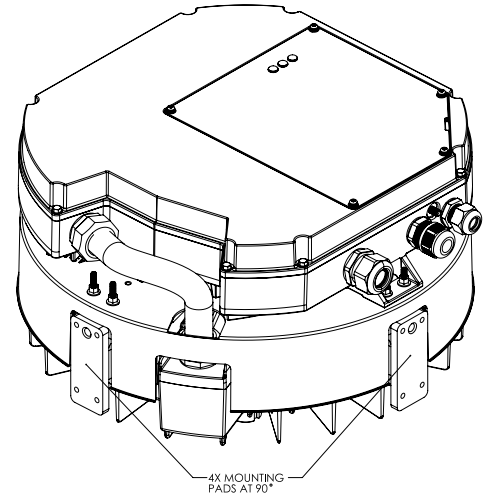
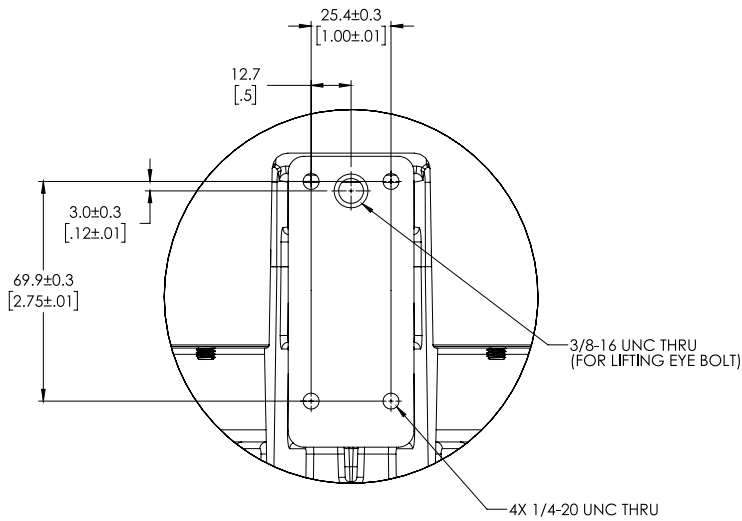
Certifications

| Regulatory | |
|-----------------|---|
| UL 1004-7 | Standard for electronically protected motors |
| UL 1004-1 | Rotating electrical machines – general requirements |
| CSA C22.2 No.77 | Motors with inherent overheating protection |
| UL 61800-5-1 | Standard for adjustable speed electrical power drive systems, Part 5-1: safety requirements & electrical, thermal & energy |

Mounting & dimensions mm [inches]

Below are the measurements needed for installation tasks.

- There are four mounting pad locations.
- Each pad is spaced 90° apart, containing 4 mounting holes and one lifting eye hole.
- The DE face of the mounting block has threaded holes for four bolts (1/2"-13).
- All bolt holes should be used for secure mounting of the motor to equipment.



Catalog number decoder

| Family | Frame | Rated power | Rated speed | Volts | VFD & I/O | Reserved | Bearings | Shaft Length | Wireless Support | IP rating | Grounding |
|--------|-------|-------------|-------------|------------------|----------------------------------|----------|-----------------------|--------------|------------------|-----------|----------------------------------|
| XX | XX | XXXX | XXXX | X | X | X | X | X | X | X | X |
| AE | 15 | 0750 | 3600 | A: 460 V / 60 Hz | A: Modbus RTU B: BACnet MS/TP | A: none | S: steel H: hybrid | A: 3.25" | A: none | 4: IP54 | 0: Grounded Wye 3: Delta, HRG |

Ordering information

| Catalog number | Modbus RTU | BACnet MS/TP | Steel bearings | Hybrid bearings | Grounded Wye | Delta, HRG |
|--------------------------|------------|--------------|----------------|-----------------|--------------|------------|
| 460V | | | | | | |
| AE15-0750-3600-AAAS-AA40 | X | | X | | X | |
| AE15-0750-3600-AAAH-AA40 | X | | | X | X | |
| AE15-0750-3600-ABAH-AA40 | | X | | X | X | |
| AE15-0750-3600-ABAS-AA40 | | X | X | | X | |
| | | | | | | |
| AE15-0750-3600-AAAS-AA43 | X | | X | | | X |
| AE15-0750-3600-AAAH-AA43 | X | | | X | | X |
| AE15-0750-3600-ABAH-AA43 | | X | | X | | X |
| AE15-0750-3600-ABAS-AA43 | | X | X | | | X |



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This motor is based on a standard AE15-0750-3600. Datasheet generated by MST version 4.1.2.
* Infinitum motor system compared to IE4/ NEMA Super Premium AC Induction motor + VFD over a 10-year lifetime. Efficiencies are dependent on specific motor and application.

Office
106 Old Settlers Blvd
Suite D106
Round Rock, TX 78664

Contact
info@goinfinitum.com
goinfinitum.com
support@goinfinitum.com