



Frame 18
10 HP (7.46 kW)



Frame 20
15 HP (11.2 kW)

66% Less copper

50% Less weight and size

Up to 25% Higher efficiency



Robust direct-drive design boosts reliability, extends lifespan, and lowers maintenance



Lower operational costs with higher efficiency and reduced maintenance costs

Applications



PUMPS



BLOWERS/PRODUCERS



HVAC



CAR WASH

Motor and drive all-in-one

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

Power more with less

The Aircore HD's reduced size and weight unlock infinite design potential making any machine lighter, quieter, and more efficient.

Powerful intelligence

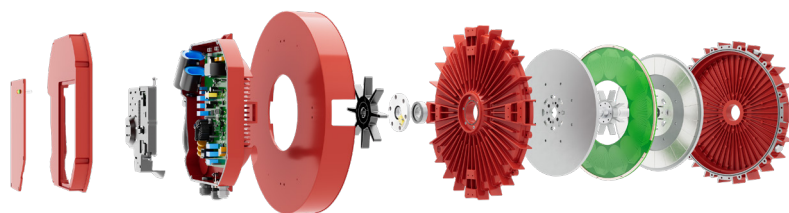
- State-of-the-art VFD for precise speed control, lower energy use, and quieter operation
- I-con software fine-tunes performance for any application
- 50% smaller & lighter with maximum power density
- Configurable analog/digital inputs for sensors and switches

Optimized efficiency

- Exceeds top efficiency standards across all loads
- Eliminates torque ripple, cogging, and core losses
- Nema flange enables direct pump or fan mounting

Sustainable solutions

- PCB stator uses 66% less copper and has proven to be 10x more reliable than traditional iron-core, copper-wound stators
- Smaller and lighter housing reduces transportation emissions by 30%
- Easy serviceability through our modular design enables the reuse and extended lifespan of components, keeping them out of the landfill



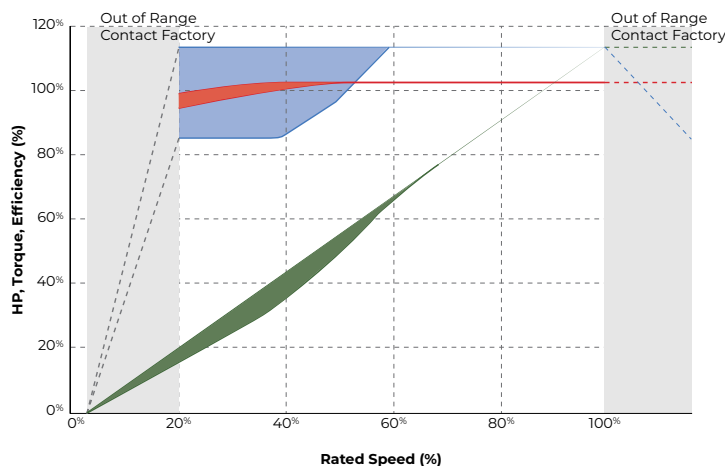
Customize your motor system and instantly generate a tailored datasheet using our Motor Selection Tool.



Preview power, amperage, energy savings, and more.

mst.goinfinitum.com

Performance



The recommended RPM range for this motor is 20-100% RPM. Operating below 20% RPM is not advised except during coasting or ramp-up. For operation outside of this recommended range, please contact Infinitum. These curves are for reference only; actual performance may vary. This graph is a composite performance for the Aircore EC portfolio. Refer to the Motor Selection Tool (MST) for individual models.

- Torque (Nm)
- Power
- Efficiency

General Information

Motor Technology	Axial Flux, PCB Stator
VFD Technology	Integrated, Si-Ca based High Efficiency Drives
System Efficiency (Motor + VFD)	85% to 90%
Rated Speed	1800 to 3600RPM (See Table)
Minimum Speed	100RPM
Maximum Speed	120% Rated
Duty Cycle	Continuous
Service Factor	1.0
Cooling	TEFC
Thermal Protection	Electronically Protected (EPL)
IP Rating	IP65
Mounting	Peripheral Mount C-Face 213/5-TC (AH18-x) 254/6-TC (AH20-x)
Mounting Orientation	Horizontal Vertical

Mechanical Information

Rotation	CW, CCW
Bearing (DE & NDE)	6308, 6309 Steel
Grease	Permanent Mobil Polyrex
Rotor Inertia	0.49 kg.m ²
Grounding Brush	Included, DE


Electrical Information

Supply Voltage	415VAC +/-10% 460VAC +/-10% 575VAC +/-10%
Rated Amps	12A-18A
Maximum Voltage Imbalance	+/-3% Phase-Phase Voltage
Short Circuit Rating (SCCR)	5kA
Insulation Class	MOT150 Class B
Grounding	Solid Ground High Resistance Ground (HRG)

Power, Speed

Frame Size	Rated Torque (Nm)	Rated Power (HP)	Rated Speed (RPM)	Weight (Lbs)
AH20-x	30	15	3600	150
AH18-x	20	10	3600	120

Controls & Communication

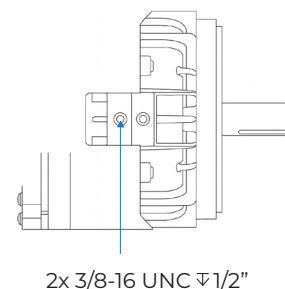
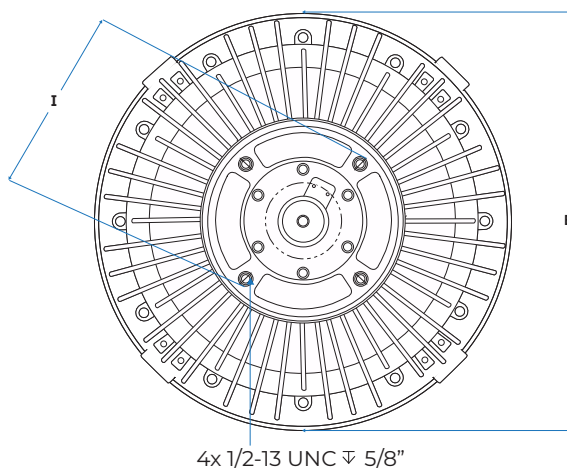
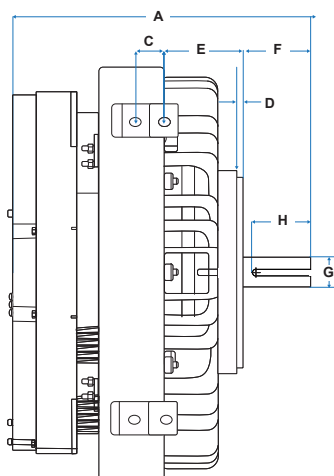
Communication	MODBUS RTU, BACnet MS/TP, Analog
	MODBUS TCP for I-con (Desktop or Mobile)
Analog Input	0-10V, 4-20mA
Analog Output	10V for Potentiometer
Digital Input	4x
Digital Outputs	2x
Relay	NO/NC, 125VAC/30VDC
Aux Power	250mA, 24VDC

Ambient Conditions

Ambient Temp (Operation)	-13F to 104F (-25C to 40C) 2% Power Derate per 1C up to 50C
Ambient Temp (Storage)	-40F to 185F (-40 to 85C)
Altitude	0 to 3300 ft. (0-1000M) 9% Power Derate per 1000 M up to 4000 M
Humidity (Operation & Storage)	95% RH, No Condensation
Contamination (Operation & Storage)	No conductive dust

Certifications

UL 1004-7 UL 1004-1 UL 61800-5-1 CSA 22.2 N077



Frame Size	A	B	C	D	E	F	G	H	I	NEMA Frame	Bearing
AH20-X	369.3	536.0	25.4	6.4	88.9	96.1	41.3	74.0	184.1	254/6 TC	6309
AH18-X	343.2	476.0	25.4	6.4	85.73	79.2	34.9	62.0	184.1	213/5 TC	6308

All measurements in mm

Catalog Number Decoder

AH20-0590-1225-AAAS-AA40 Example

Family	Frame	HP	Rated Speed	Product Code
AH	20	0590	1225	AAAS - AA40
				1 2 3 4 5 6 7 8

Family	Name
AH	Aircore EC Heavy Duty

Frame	Motor Diameter
18	Refer to Dimensions
20	Refer to Dimensions

HP	Motor Power
XXXX <i>(Example)</i>	XX.XX
1000 <i>(Example)</i>	10HP
0590 <i>(Example)</i>	5.90HP
List is not exhaustive	

Rated Speed	RPM
1225 <i>(Example)</i>	1225 RPM
List is not exhaustive	

Product Code

Postion 1	Voltage
A	460V* 3-phase
B	415V* 3-phase
C	575V* 3-phase

*Check the Motor Selection Tool (MST) for compatible models.

Product Code

Postion 2	Communication
A (Default)	MODBUS RTU/Analog
B (Optional)	BACnet MS/TP/Analog

Postion 3	VFD
A (Default)	All Features

Position 4	Bearings
S (Default)	Steel (Sealed or Shielded)

Position 5	Shaft
A (Default)	NEMA

Postion 6	Reserved
A	Default

Position 7	Ingress Protection
6 (Default)	IP65

Position 8	Miscellaneous
0 (Default)	Grounded Wye, EP-L
1	Grounded Wye, EP
3 (Optional)	EP-L, HRG, Delta

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