

AFM-140 Axial Flux Motor

EVO Electric offers permanent magnet motors based on proprietary axial flux technology that can be used in conjunction with custom built or standard industrial inverters. AFM type electric motors combine high performance with low weight and size, ideal for electric and hybrid electric vehicles and a wide range of demanding industrial applications.

The AFM-140 motor range has the following key features:

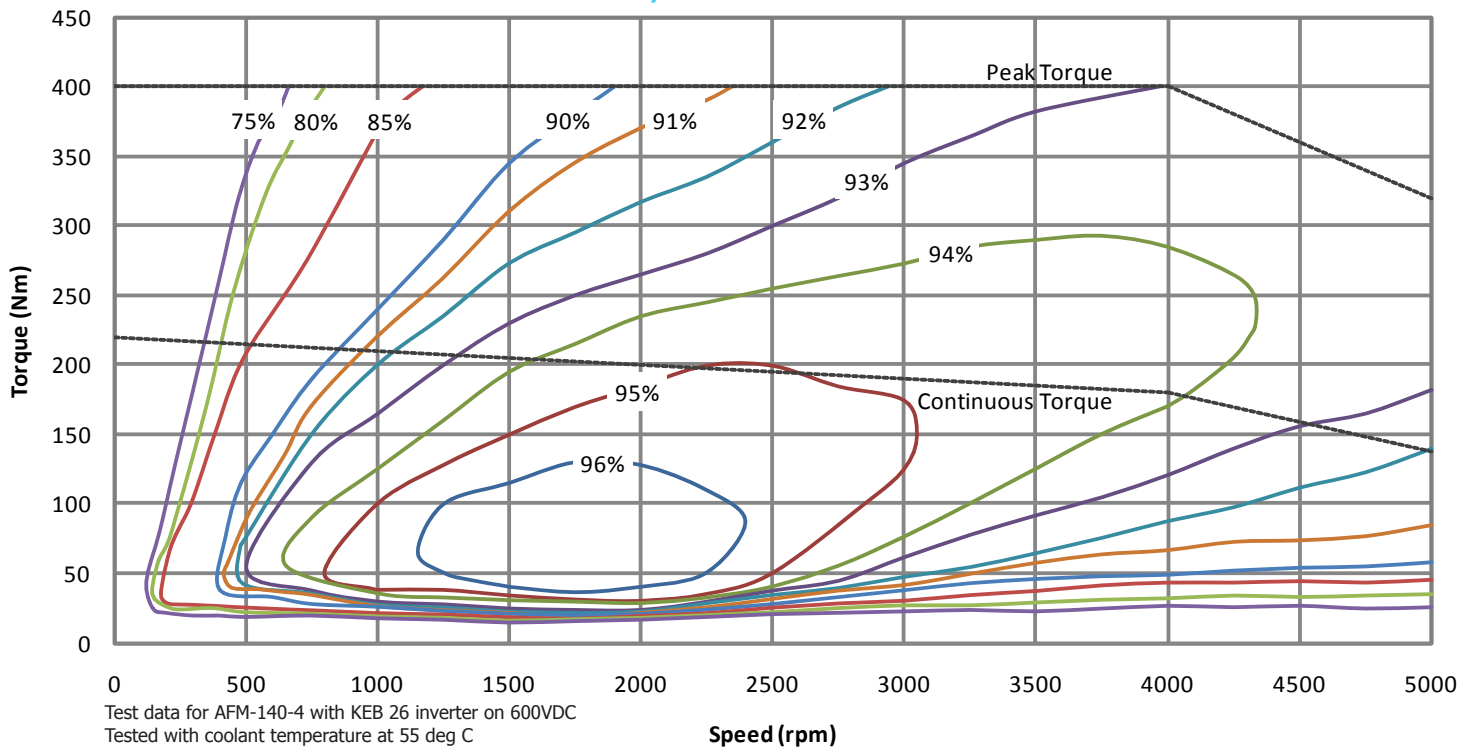
- Very high torque and power density
- Low cogging torque
- Compact design with flat front and back faces for mounting
- Integrated resolver for rotor position feedback
- Vibration tested to military standard
- Liquid cooling for enhanced performance
- Through shaft and customised versions available



AFM-140 Specification

Type	PM Synchronous - Axial Flux
Maximum Speed	5000rpm
Nominal Torque	220Nm
Peak Torque (for up to 60s)	400Nm
Launch Torque (for up to 18s)	600Nm
Nominal Output Power	75kW
Peak Output Power (for up to 60s)	167.5kW
Torque Density	10Nm/kg
Power Density	4.2kW/kg
Peak Efficiency	96.5%
Coolant Medium	Water/Glycol (50/50)
Coolant Flow Rate	> 8l/min
Length	115.2mm
Diameter	380mm
Weight	40kg

Motor Performance and Efficiency



Winding Configurations

Motor Type	Motor Constants		Base Speed / Inverter Supply Voltage			
	K_T (Nm/A)	K_E (Vs/rad)	320VDC	450VDC	600VDC	750VDC
AFM-140-3	1.36	0.81	2850rpm	4000rpm	>5000rpm	>5000rpm
AFM-140-4	1.81	1.08	2150rpm	3000rpm	4000rpm	5000rpm
AFM-140-6	2.72	1.62	1400rpm	2000rpm	2650rpm	3300rpm

Data shown are for indication only. Actual values are inverter dependent and might vary. K_T , K_E for Star configuration; K_E in Vrms,pp

