



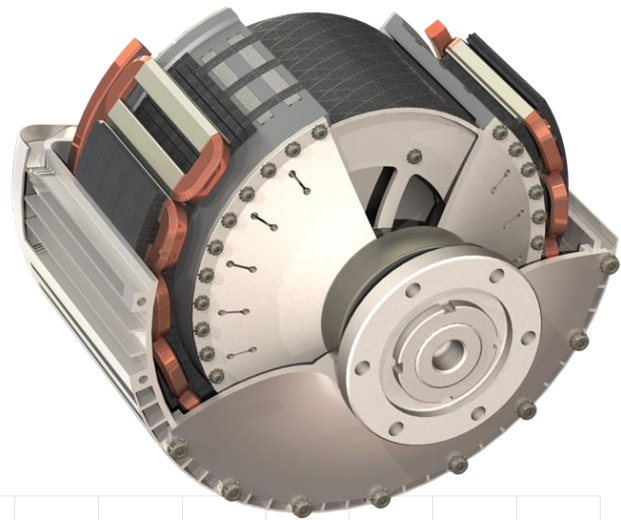
High performance motor for EVTOLs and fixed wing aircraft

Magnomatics' PDD, a high performance magnetically geared motor, offers an efficient, lightweight, air-cooled solution for EVTOL, UAM and fixed wing aircraft. Specifically designed to handle loads from tilt-propeller systems, it supersedes the current state of the art direct drive permanent magnet motors by providing all the advantages of a mechanically geared machine without the risk of jamming.

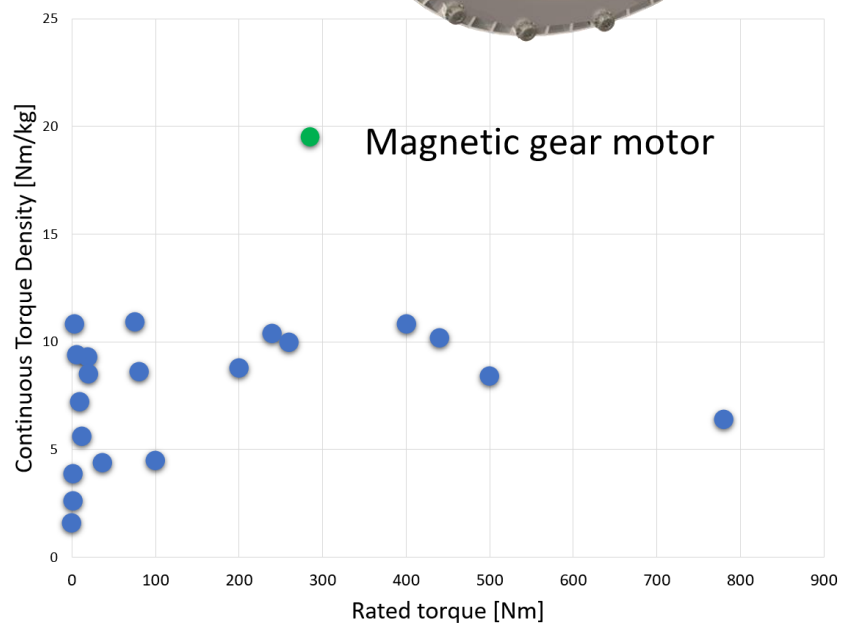
Project partner on the NATEP grant funded project, Carbon ThreeSixty are continuing with additional designs to improve the light weighting options still further.

Advantages include:

- Highest continuous torque density >30Nm/kg with simple air cooling (IP67)
- <60% size and mass of a PM machine
- Highest efficiency - reduced battery capacity requirements, increased payload/range
- Fault tolerant
- Built-in passive torque fuse (protecting drivetrain)
- Low maintenance
- High reliability



Technical Specifications	
Diameter	227 mm
Length	209 mm
Weight	14.6 kg
Efficiency	~96%
Cooling	Air
Continuous torque	280 Nm
Peak torque	465 Nm
Rated speed	1773 rpm
Max speed	1950 rpm
Rated power	49.5 kW
Max power	86.3 kW
Supply voltage	800 VDC
Torque Density (cont)	19.2 Nm/kg
Torque Density (peak)	31.8 Nm/kg



Continuous torque density of competing E-propulsion motors.

A Review of Electric Aircraft Drivetrain Motor Technology – Jonathan Z. Bird