

IP HybriTorq-SPM E-Machines

A perfect fit for your hybrid application



HybriTorq-SPM

Applying the latest advances in radial-flux permanent-magnet technology, the HybriTorq-SPM family of Surface-mounted Permanent-Magnet motors delivers a flexible, scalable and cost effective solution to hybrid powertrain e-machine applications.

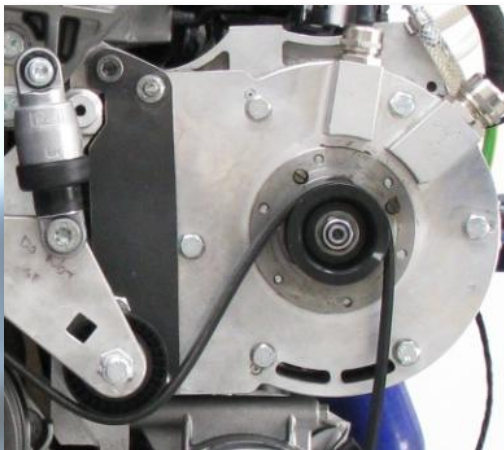
Designed within Integral Powertrain's fully parametric AID-EM e-machine engineering system, HybriTorq-SPM designs can be precisely configured to meet specific size, performance and cost requirements for even the most demanding hybrid applications.

Technology highlights

- Outstanding specific-power & torque
- Excellent efficiency
- Compact dimensions
- Integrated inverter options
- 12-800V compatible
- Engineered for low-cost

Applications

- integrated starter-generators
- transmission-integrated electric-drives
- ancillary drives and boosting systems
- electric vehicles and mass-transit
- lightweight generators



Luke Barker - Technical Director

“Bringing advanced hybrid technology to market demands a wide range of specialist expertise and engineering application systems - Our goal is to deliver genuine competitive advantage through superior hybrid and electric motor powertrain project delivery.”

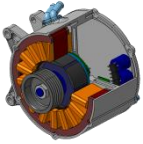
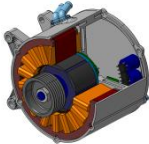
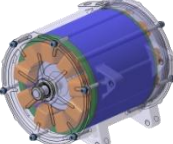

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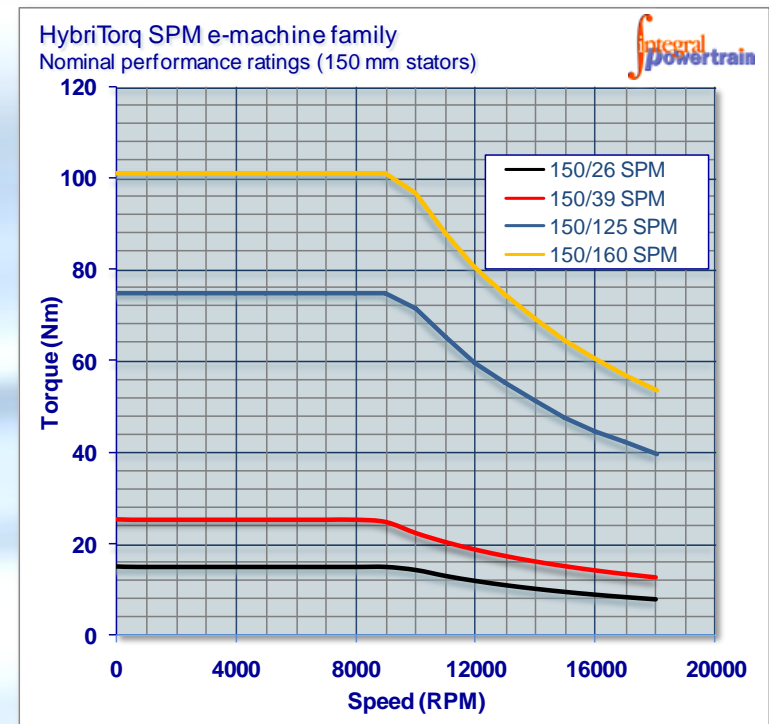
Specific torque - direct drive (Nm/kg)	Up to 5
Specific torque - 3:1 geared (Nm/kg)	Up to 14
Typical specific power (kW/kg)	1 – 3.5
Maximum speed (rpm)	15,-20,000
Overall diameter (mm)	100-200
CPSR (max/base speed)	1.5 – 2.5
Efficiency (% machine, max)	~95
Cooling	Liquid <120 C

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Typical Performance Specifications



Specifications	150/25 SPM	150/40 SPM	150/125 SPM	150/160 SPM
Applications	B-ISG Supercharging E-Ancillaries	Transmission – integrated HEV Torque Assist Unit	Transmission – integrated HEV Torque Assist Unit	Transmission – integrated HEV Torque Assist Unit
Rotor / Magnet Configuration	Surface-mounted Permanent Magnet			
Stator Diameter (mm)	150	150	150	150
Overall Diameter (mm)	150	150	170	170
Stack Length (mm)	25	40	125	160
Overall Length (mm)	95	125	190	230
Rated Torque (Nm)	8	15	45	60
Maximum Torque (Nm)	15	25	75	100
Maximum Power (kw)	15	25	75	100
Maximum Speed (RPM)	18000	18000	18000	18000
Cooling	Liquid	Liquid	Liquid	Liquid
Package Model				



Complete System Rapid Prototyping

Our typical prototype development lead-time is 16-24 weeks depending on client requirements. A wide range of alternative form-factors and machine performances may be directly evolved from these designs. Development inverter solutions for a wide range of system voltages are also available.

Contact us to discuss your requirements.

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