



LaunchPoint Technologies 7.5" Dual Halbach Motor

DHA-075-6-75-1-4T3PY Housed

Rated > 6 kW Continuous Output at 7500 RPM, ~ 95% Efficient

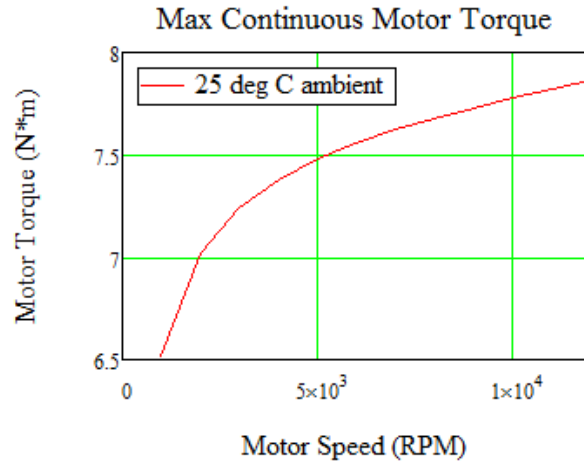
Parameter ¹	Units	Value
Max Rated Bus Voltage	VDC	400
Continuous Torque (Stall)	N-m	2
Continuous Torque @ Max Rated Speed	N-m	7.8
Peak Torque (10 seconds, starting at 20° C)	N-m	12.7
Continuous Current (Stall)	A _{rms}	5.2
Continuous Current @ Max Rated Speed ²	A _{rms}	20
Peak Current (10 seconds, 7500 RPM)	A _{rms}	33.5
Max Rated Speed	RPM	7500
Peak Power (10 seconds starting at 20° C) at Max Rated Speed	kW	10
Torque Constant	N-m/A _{rms}	.381
Back EMF Constant (line-line, 3 phase wye)	V _{pk} /k _{rpm}	32.7
Resistance (line-line, wye terminated) ³	Ohm	.33
Inductance (line-line, wye terminated)	uH	20
Inertia	kg-cm ²	
Weight	kg	~1.8
Static Friction	N-m	n/a
Drag Torque at Max Rated Speed	N-m	n/a
Thermal Time Constant (stall/max rated speed)	seconds	
Thermal Resistance (stall/max rated speed)	Deg C/W	
Pole Pairs		16

¹ All parameters assume sinusoidal motor currents

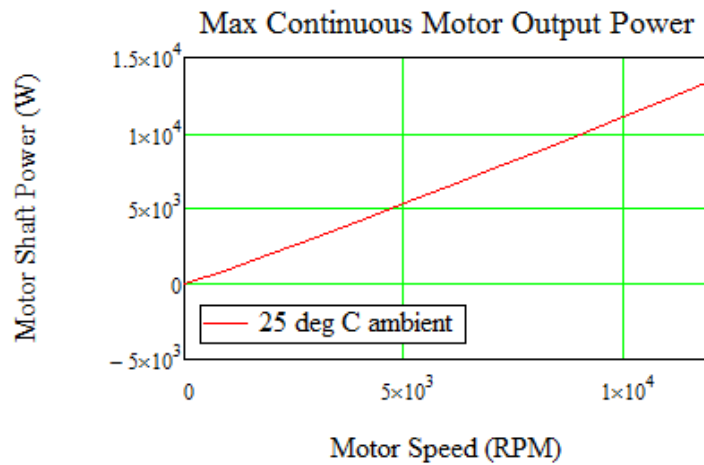
² Coil at 60° C, 25° C ambient air

³ Coil at 25° C

Predicted Performance at 25° C Ambient:

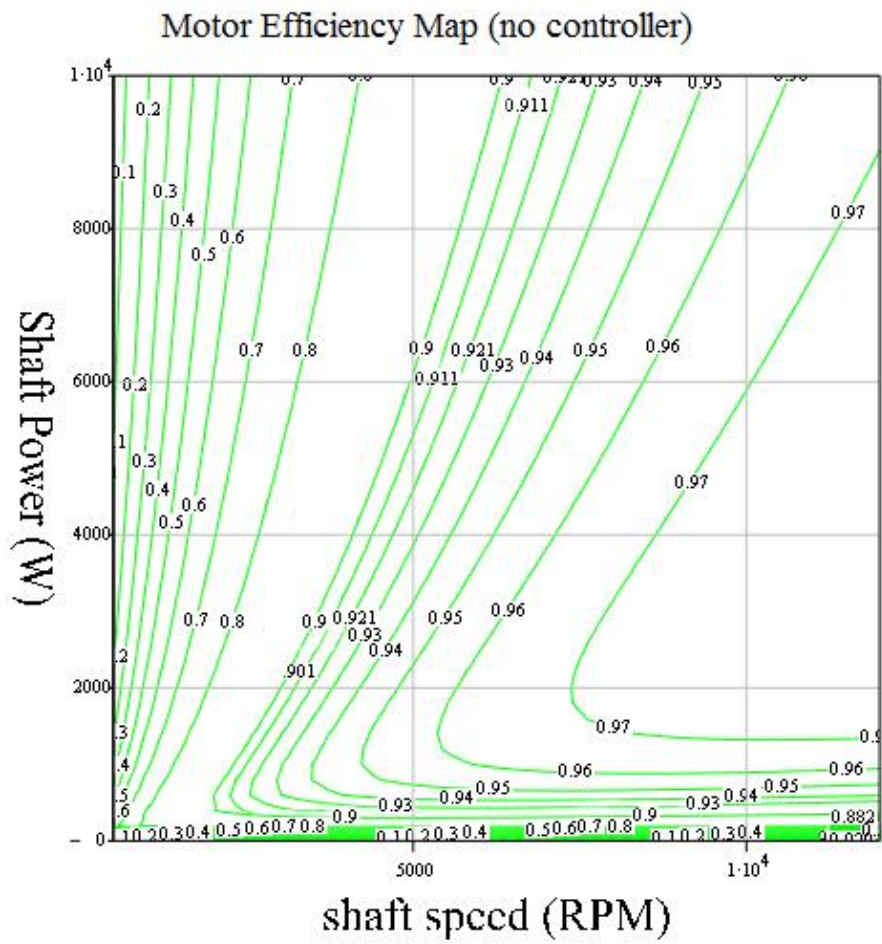


The LaunchPoint Technologies Dual Halbach motor is air cooled by centrifugal pumping created from the spinning rotor disks. Thus the allowable torque and current in the stator go up as the motor spins faster and has more available cooling. More torque would be available at low speeds if external cooling were added.

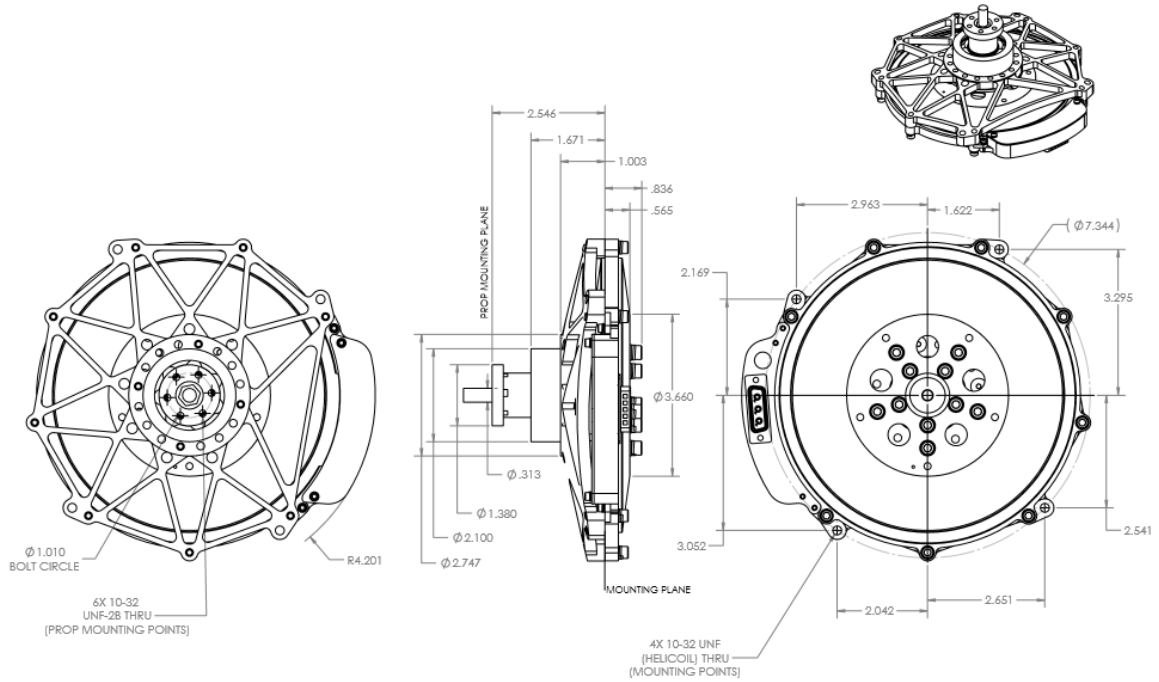


Motor Loss Data

Predicted Performance Map (assuming sinusoidal waveforms with minimal ripple)



eff_cruise



(Dimensions in inches)

