

2s-158-6-56.3-AC Datasheet



Rating

5 KW at 4,651 RPM

The 2s-158-6-56.3-AC motor is a member of the 2s-158-6 family of SEMA motors and generators. It cools itself by pumping ambient air through itself when turning. Similar motors in the 2s-158-6 SEMA family are available with different voltage and current requirements, and with different cooling options.

2s-158-6-56.3-AC Parameters			
<i>Parameter</i>	<i>Symbol</i>	<i>Value</i>	
Continuous Ratings 25°C ambient air			
Bus Voltage ¹	V_{bus}	~440 V _{DC}	
Speed	S	4,651 RPM	
Torque	T_c	10.6 N·m	7.8 lbf·ft
Current	I_c	12.9 A _{RMS}	
Power	P_{out}	5.1 KW	6.9 HP
Peak Ratings ²			
Torque	T_c	52.8 N·m	38.9 lbf·ft
Current	I_c	64.4 A _{RMS}	
Power	P_{out}	25.7 KW	34.5 HP
Motor Constants			
Torque Constant ³	K_T	0.93 N·m/A	0.69 lbf·ft/A
Torque Constant ⁴	K_T	0.86 N·m/A	0.63 lbf·ft/A
Voltage Constant (phase-phase) ³	K_E	56.3 V _{rms} /krpm	
Voltage Constant (phase-phase) ⁴	K_E	51.9 V _{rms} /krpm	
Electrical			
Resistance (phase-phase) ³	R	1 Ω	
Inductance (phase-phase)	L	296 μH	
Peak efficiency	e_{pk}	~92 %	
Thermal Limit			
Max. Thermocouple Temperature ⁵	T_{max_tc}	135 °C	275 °F
Mechanical			
Inertia (rotating components)	J_r	104 kg·cm ²	1.47 ozf·in·s ²
Mass	m	5.53 kg	12.2 lb
Pole Pairs	pp	6	
Motor diameter	AC	220 mm	8.661 in.
Motor length (not including shaft)	$ℓ$	71.7 mm	2.823 in.

¹Minimum bus voltage controller dependant

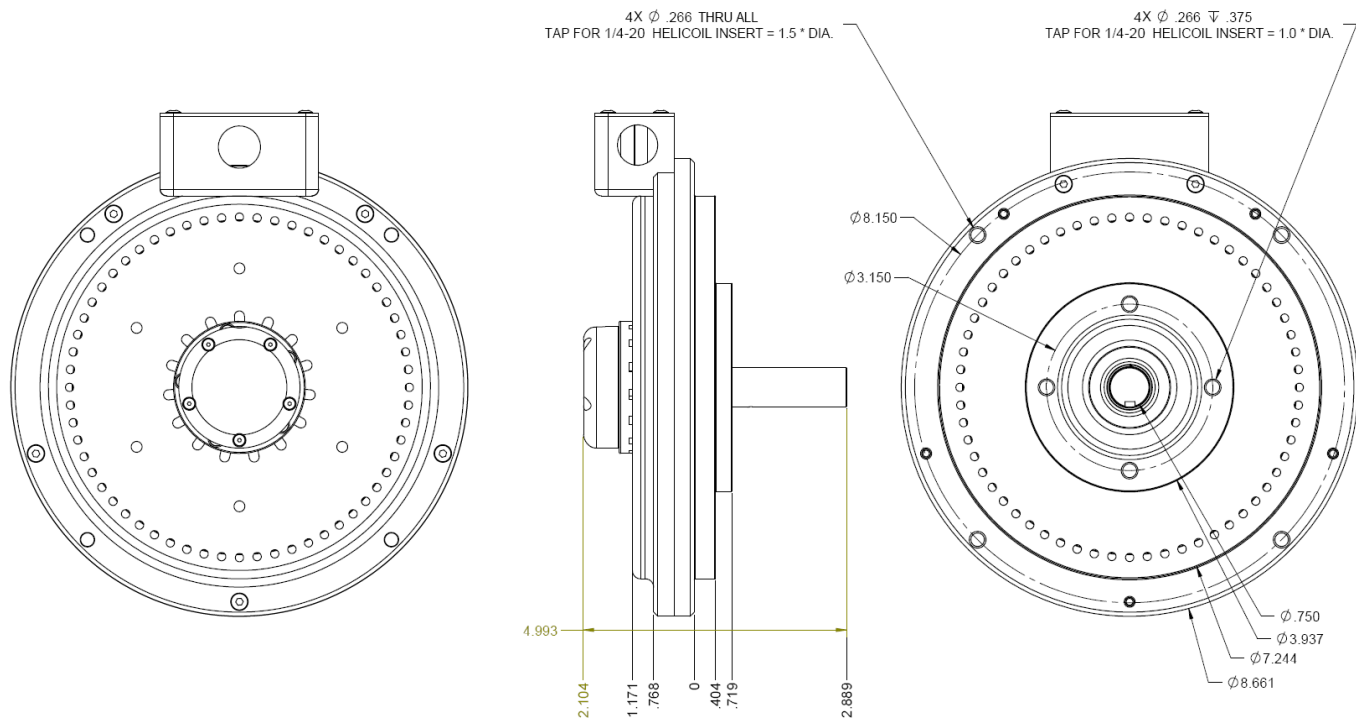
²Peak values highly time dependent. 5X rated values shown - 10x is achievable.

³At 21°C

⁴With 100°C magnets.

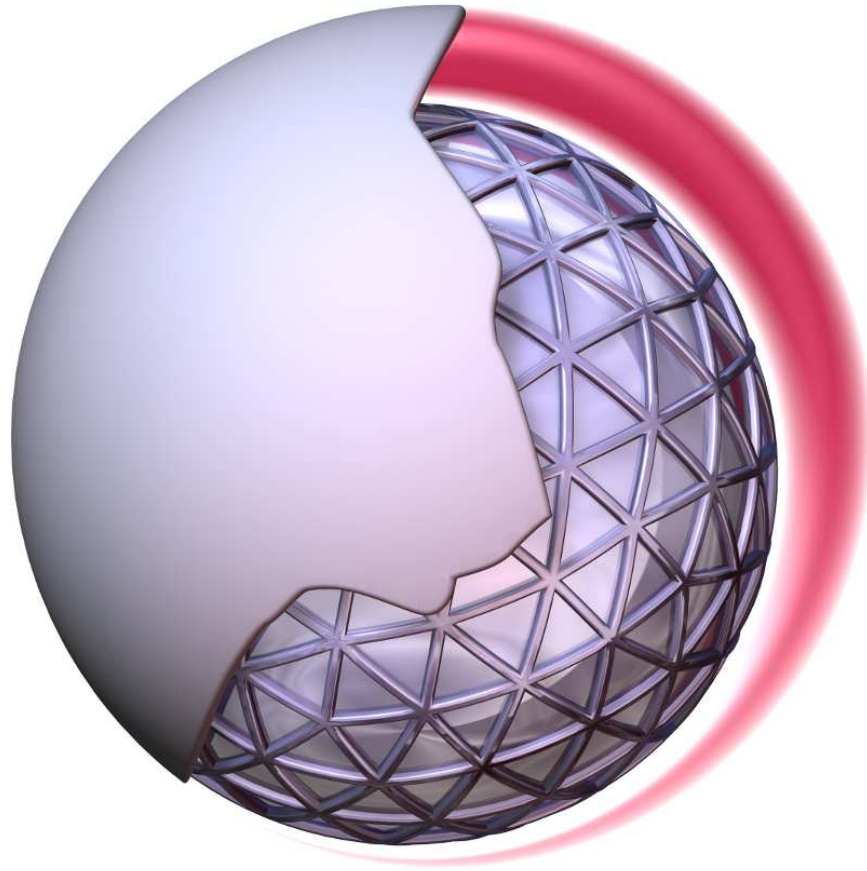
⁵Never exceed this value.

Mechanical Drawings



Efficiency Map





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