

 ELECTRIC POWERTRAIN SOLUTIONS	<b>SMAC SERIE</b>		MDS	51J20015719HT0804P0	
	<b>MOTOR CURVE</b>		Rev.	01	
			Date	27/01/2023	
	<b>3-PHASE SYNCHRONOUS MOTOR</b>		Page	1	di

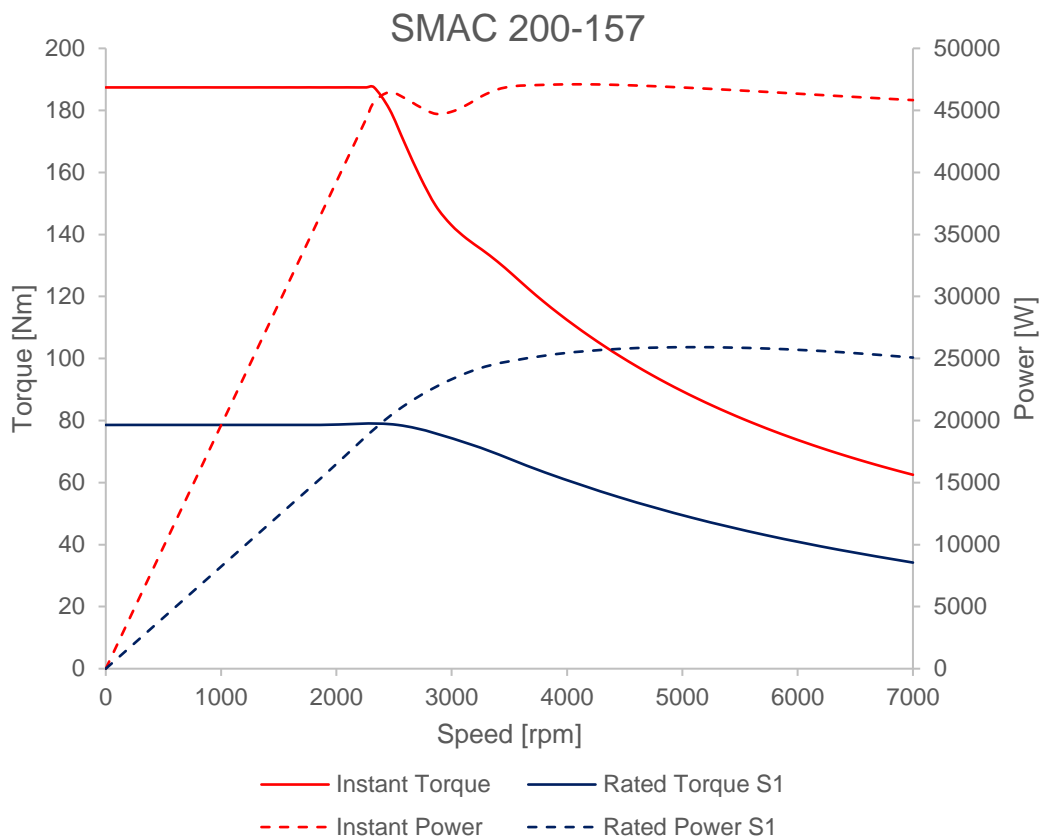
<b>Motor Rated Power</b>			<b>20000W</b>	
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<b>Inverter Power Supply</b>			<b>96Vdc</b>	
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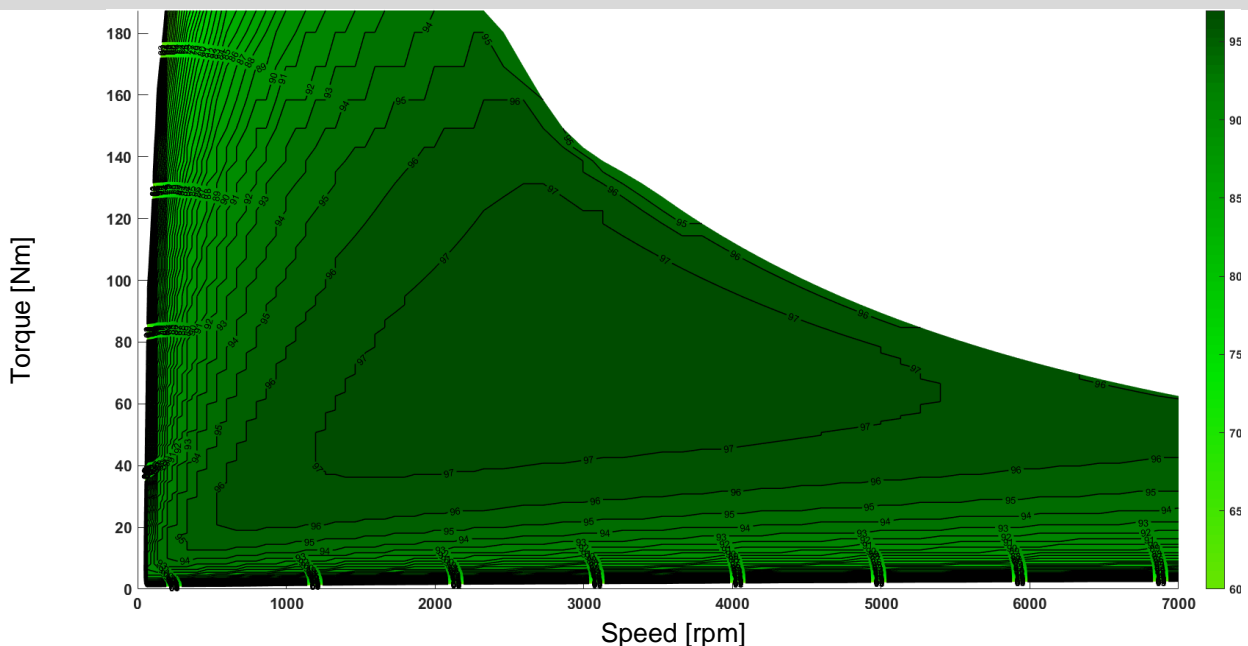
Description	Symbol	Unit		
Duty	-	-	S1	
Nominal Speed	$n_n$	rpm	2500	
Frequency (N° poles)	$f (2p)$	Hz	166.6 (8)	
Costant Voltage	$K_e$	Vrms/Krpm	20.0	
Costant Torque	$K_t$	Nm/Arms	0.33	
Instant Torque	$T_i$	Nm	185.0	
Instant Current	$I_i$	Arms	660.0	
Rated Torque S1	$T_r$	Nm	80.0	
Rated Current S1	$I_r$	Arms	240.0	
Rotor Inertia	$J_r$	kg x m <sup>2</sup>	0.015	
Ambient Temperature	$\theta_a$	°C	-15 ÷ +40	
Protection Degree	IP		IP 54	up to IP67
Insulation Class	-	-	F	
Thermal protection	-	-	PTY 84-130	
Cooling system			Liquid	

**PRELIMINARY**  
Simulation Only

Speed-Torque & Speed Power Motor Curves (\*)



Efficiency Map % (\*)



\* MTPA / MTPV Field Weakening strategy control & Optimized Advance Angle  
(Ref. Simulation temperature 20.0°C)

Simulatin Only