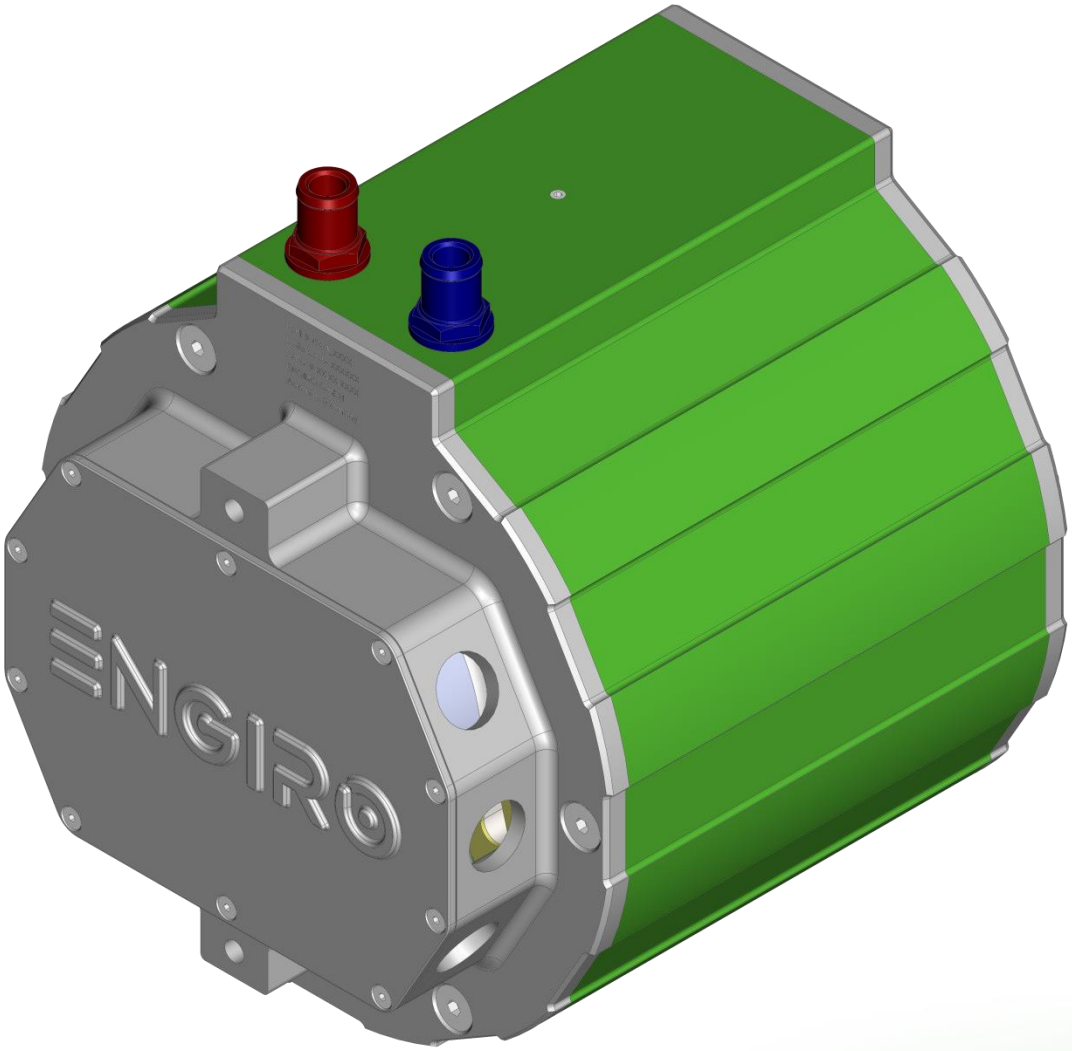
205W-08020-ABC

water-cooled motor / generator with up to 26 kW continuous power



KEY FEATURES

- permanent magnet synchronous machine
- water-cooled
- high peak power for motor applications
- convincing cost-benefit ratio
- recommended voltage range from 48V to 200V
- delivery with controller possible
- various mechanical interfaces available

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Version: 010

Table of Content

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Nominal Operation (S1, cooling as specified below)					
Torque	T_{nom}		89	82	Nm
Power	P_{nom}		9.8	26	kW
Speed	n_{nom}		1050	3100	rpm
Phase rms-current	I_{nom}		254[1,2)]	237[1,2)]	A
Battery voltage (DC)	U_{nom}		48	140	V
Electric frequency	$f_{el,nom}$		70	207	Hz
Power factor	cos(φ)		0.72	0.69	
Maximal Values (S2, 10s, cooling as specified below)					
Torque	T_{max}		188	188	Nm
Power	P_{max}		14	44	kW
Phase rms-current	I_{max}		625[2)]	625[2)]	A
Battery voltage (DC)	U_{max}			200	V
Speed	n_{max}			8000	rpm
Electric frequency	$f_{el,\ max}$			533	Hz
Electrical Data					
Number of phases				3	
Number of pole pairs				4	
Maximal efficiency				96	%
T/I constant (I<I_{nom})				0.36	Nm/A_{rms}
U/n constant (AC) at a temperature of 30°C	rms:	24.4	peak:	41.5	V/(1000rpm)
K_e constant (AC) at a temperature of 30°C	rms:	0.058	peak:	0.099	$V/(rad*s^{-1})$
Additional Data					
Weight (w/o cables)				see page 4	
Rotor moment of inertia				0.0123	$kg*m^2$
Protection category				IP6K9K[3)]	
Maximal motor temperature				140	°C
Allowed ambient temperature				-20 … 45[4)]	°C
Cooling (medium, flow rate, inlet temperature, pressure)				water/glycol 50/50, 8 l/min, ≤ 45°C, ≤ 0.5 bar	
Temperature monitoring				1 x KTY84-130	
Type approval				CE, EN 60034	
Customs tariff number				8501 5230	
Connectors					
Power terminals				3 x M25 cable gland	
Signal connectors				M16, 10 Pin	
Cooling connectors				2 x ¾'' / 19 mm	

[1)] Nominal current strongly dependent on cooling as specified below.
[2)] The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition.
[3)] Please note that the IP6K9K rating is only valid if the machine is installed with suitable cable glands and an appropriate sealed interface at the drive side of the motor (flange and/or shaft). Please contact ENGIRO for further questions.
[4)] other range on request

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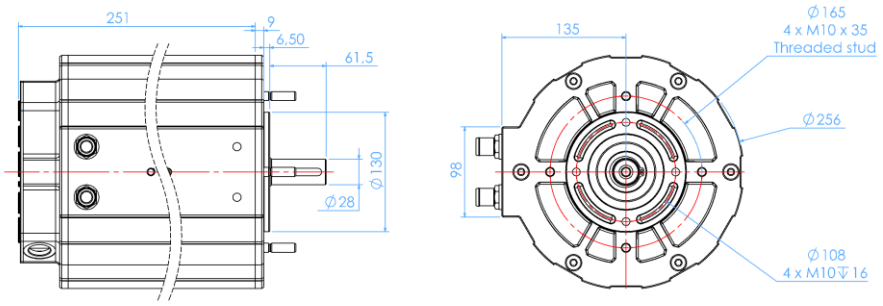
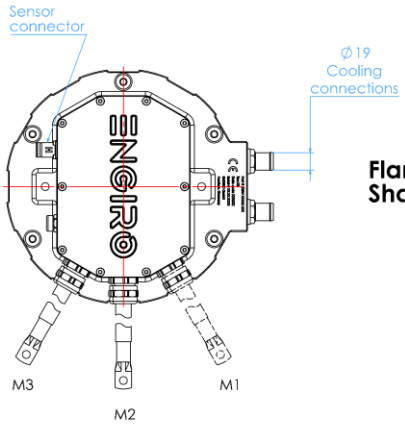
Available Type Variants			
type number	A: flange	B: shaft	C: position sensor
205W-08020-	S: standard	S: cylindrical shaft with keyway Ø28mm	E: sin/cos encoder
	C: flange for fan without insert	H: hollow shaft with internal splines ANSI B 92.1	
		D: hollow shaft with internal splines ANSI B 92.1	

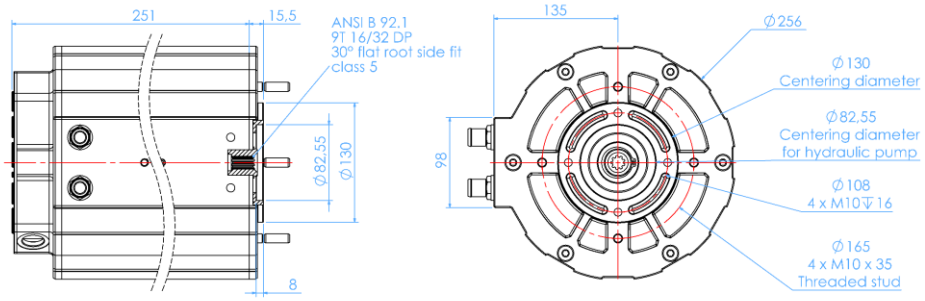
Approximate machine weight		
flange	shaft	kg
S	S	35
S	H	34
C	D	37

Flange S
Shaft S

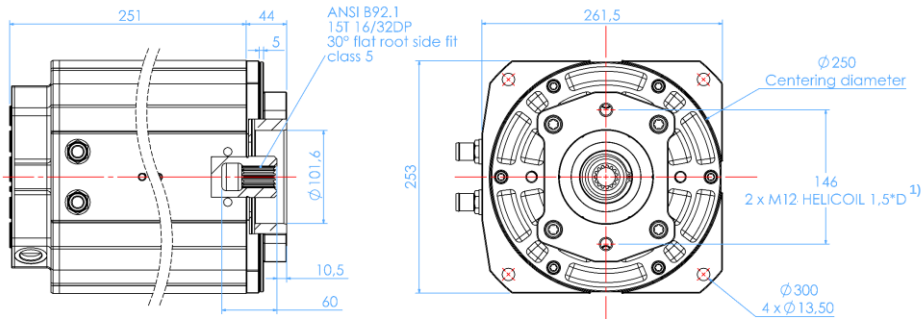




Flange S
Shaft H



Flange C
Shaft D



[1)] Machines with C-Flange and a revision number smaller than Rev15 have an M14 Helicoil 1,5*D. Revision number is printed on each machine on the rear flange below the water-cooling hose barbs.

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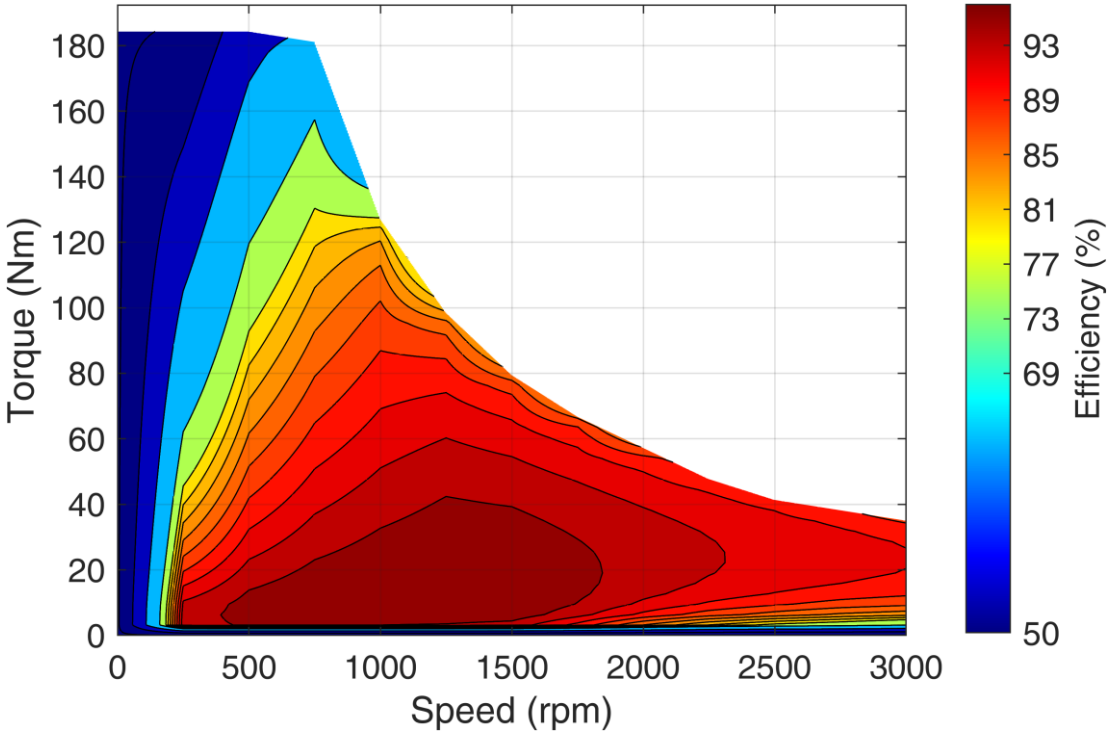
Simulated Efficiency of Motor Application

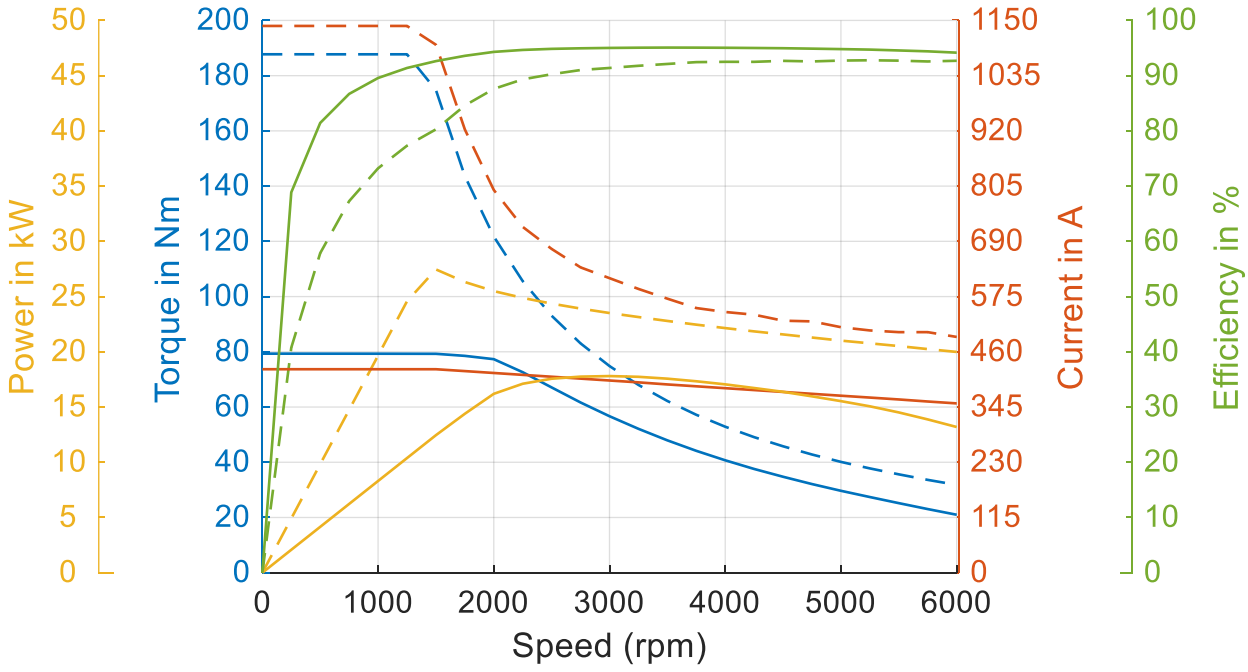
(electric machine only; U_{nom} = 48 V; machine at 140 °C;)



Simulated Characteristic Motor Parameters

U_{nom} = 48 V

solid lines: continuous; dashed lines: maximum;



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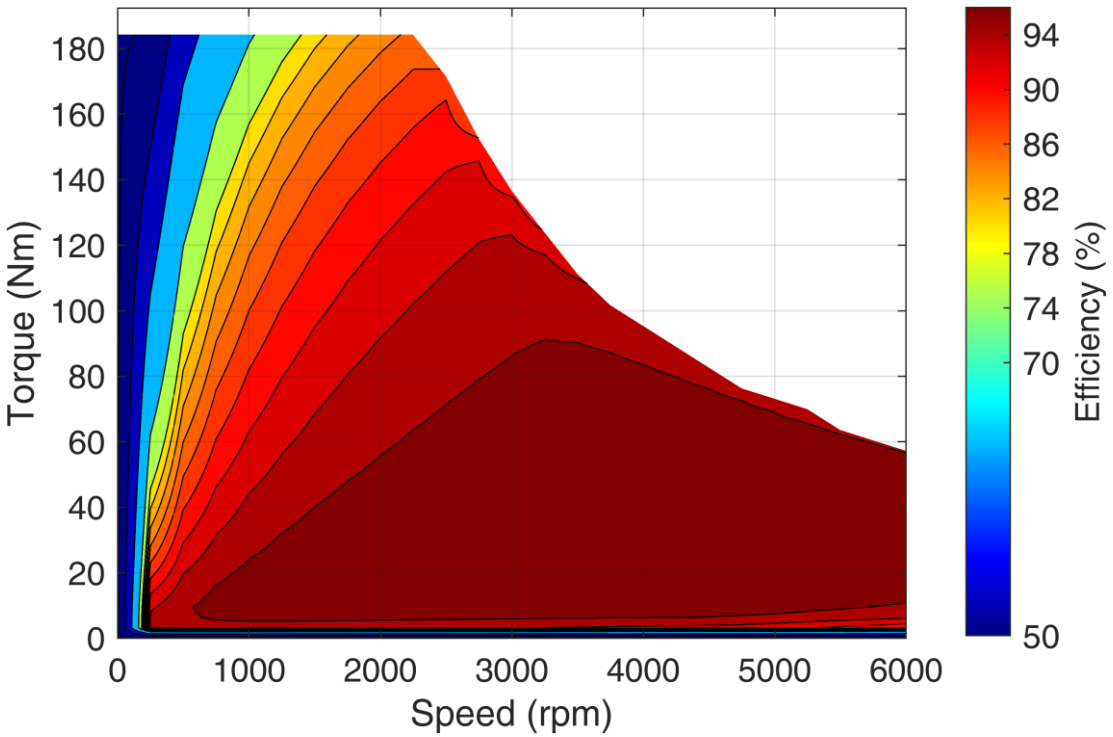
Simulated Efficiency of Motor Application

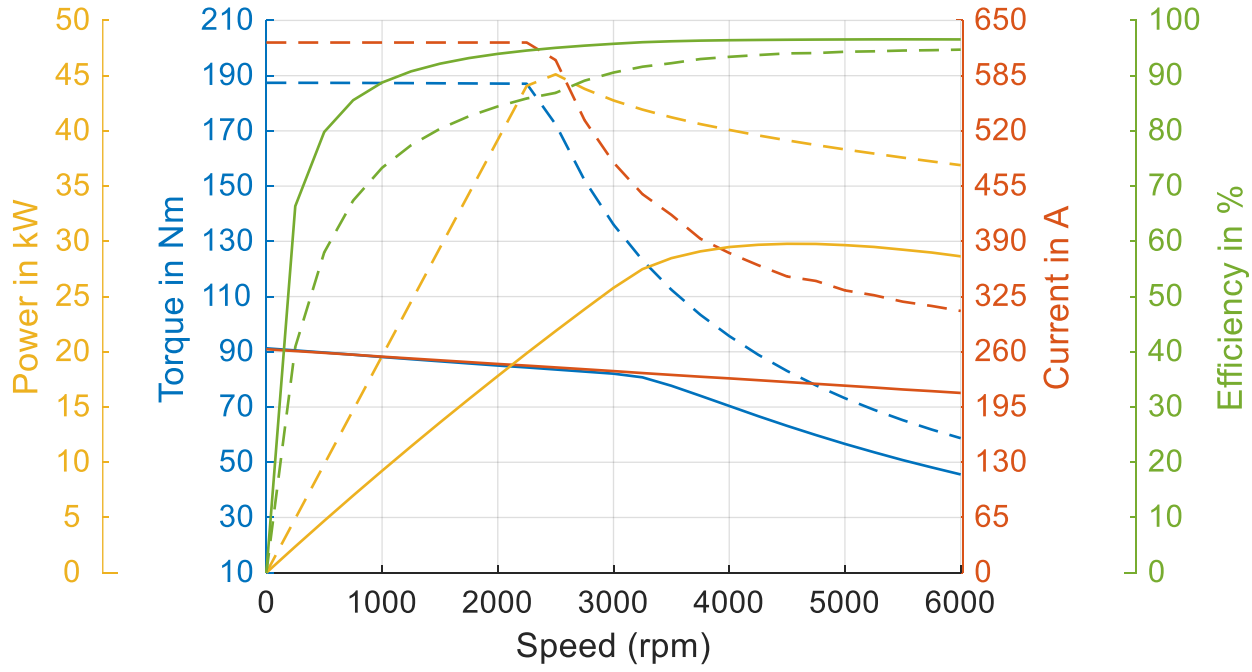
(electric machine only; U_{nom} = 140 V; machine at 140 °C;)



Simulated Characteristic Motor Parameters

U_{nom} = 140 V

solid lines: continuous; dashed lines: maximum;



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