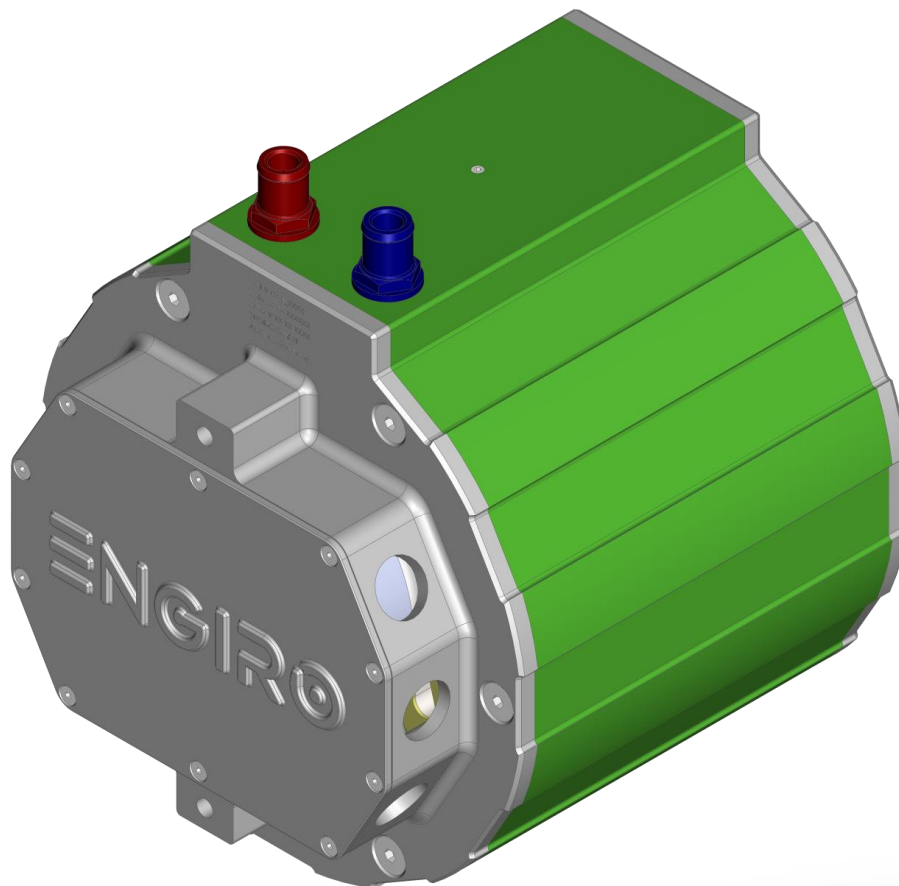


205W-08095-P-ABC

water-cooled motor / generator with up to 28 kW continuous power

This datasheet refers to art.no.: see page 2



KEY FEATURES

- permanent magnet synchronous machine
- water-cooled
- high peak power for motor applications
- convincing cost-benefit ratio
- recommended voltage range from 350 V to 850 V
- delivery with controller possible
- various mechanical interfaces available

Section	Page
Operating Range	3
Available Type Variants	4
Technical Drawing	5
Performance Plots 400V	6
Performance Plots 700V	7

Note:

On September 1st, 2024, we transferred our ERP systems to SAP. Due to this change, we are altering our current part numbers. To see how our article numbers and motor naming scheme has changed, please consider the conversion table below:

Article Number Conversion				
Part. No.	Old Part. No.	Flange	Shaft	Position Sensor
4872312	205W_08095_BCF_P	B1	C1	F
4872347	205W_08095_BCN_P	B1	C1	N
4872370	205W_08095_SHF_P	S1	H1	F
4872349	205W_08095_BDF_P	B1	D1	F
4872351	205W_08095_CDF_P	C1	D1	F
4872367	205W_08095_CDN_P	C1	D1	N
4872374	205W_08095_SSF_P	S1	S1	F
4872378	205W_08095_SSN_P	S1	S1	N

To be noted:

The information in this technical data sheet is based on our current knowledge and experience. Due to the wide range of possible influences during application, they do not exempt the processor and user from carrying out their own tests and trials. Although the suitability for a specific application can be estimated from our information, a legally binding assurance is by no means possible. Depending on the individual case, we recommend consultation with us. Any industrial property rights and applicable laws must be observed by the recipient of our products on his own responsibility.

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Nominal Operation (S1, cooling as specified below)				
Torque	M_{nom}	88	82	Nm
Power	P_{nom}	17	28	kW
Speed	n_{nom}	1750	3270	rpm
Phase rms-current	I_{nom}	54 ^{1,2)}	51 ^{1,2)}	A
Battery voltage (DC)	U_{nom}	400	700	V
Electric frequency	$f_{el,nom}$	117	218	Hz
Power factor	$\cos(\varphi)$	0.70	0.72	

Maximal Values (S2, 10s, cooling as specified below)				
Torque	M_{max}	188	189	Nm
Power	P_{max}	26	48	kW
Phase rms-current	I_{max}	132 ²⁾	132 ²⁾	A
Battery voltage (DC)	U_{max}		850	V
Speed	n_{max}		6100	rpm
Electric frequency	$f_{el,max}$		407	Hz

Electrical Data				
Number of phases			3	
Number of pole pairs			4	
Maximal efficiency			96	%
T/I constant ($I < I_{nom}$)			1.69	Nm/A _{rms}
U/n constant (AC) at a temperature of 30°C	rms:	116	peak:	197.2 V/(1000rpm)
K_{ϕ} constant (AC) at a temperature of 30°C	rms:	0.277	peak:	0.471 V/(rad*s ⁻¹)

Additional Data				
Weight (w/o cables)			see page 4	
Rotor moment of inertia			0.0149	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 Hummel Connector	
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.

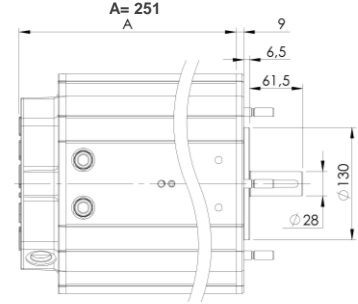
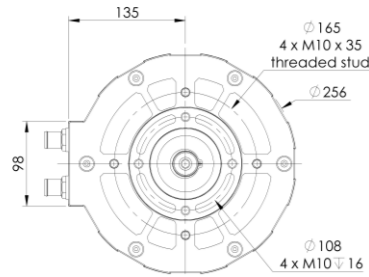
⁴⁾ other range on request

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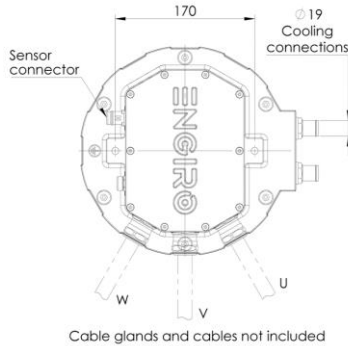
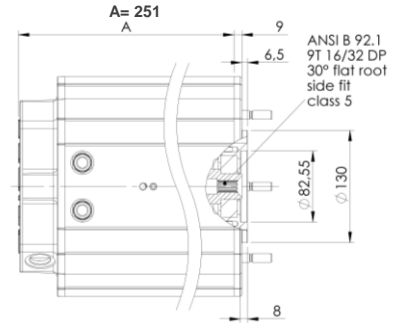
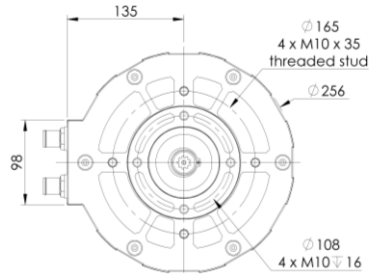
Shaft and Flange Combinations for 205W-08095-P-ABC		Flange (A)		
		S1 (Standard with 4xM10x35 threaded stud)	B1 (Hydraulic pump ANSI 127-4 / SAE C - Ø127 mm centering shoulder)	C1 (Hydraulic Pump ANSI 101-2 / SAE B - Ø101,6 mm centering hole)
Shaft (B)	H1 (Hollow shaft with internal splines ANSI B 92.1 9T)	● (~35kg)		
	D1 (Hollow shaft with internal splines ANSI B 92.1 15T)		● (~39kg)	
	S1 (Cylindrical shaft with keyway Ø 28mm)	● (~36kg)		
	C1 (cylindrical shaft with keyway Ø35mm)		● (~39kg)	
	D1 (hollow shaft with internal splines ANSI B 92.1 15T)			● (~39kg)
Position Sensor (C)		N: None F: resolver gain 0.29 R: resolver gain 0.5 (Please note: The R resolver is a phase-out version with a 0.5 gain, which is replaced by the F resolver with a 0.29 gain)		

Other individual combinations are also possible on request.

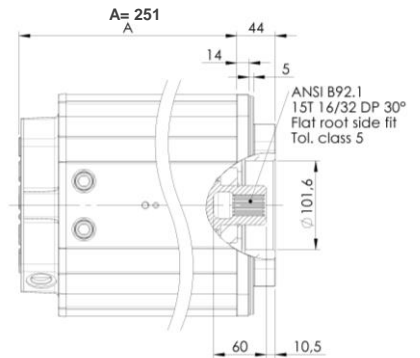
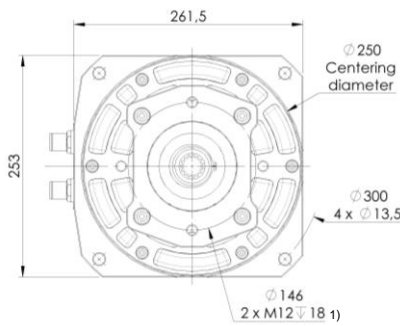
**Flange S1
Shaft S1**



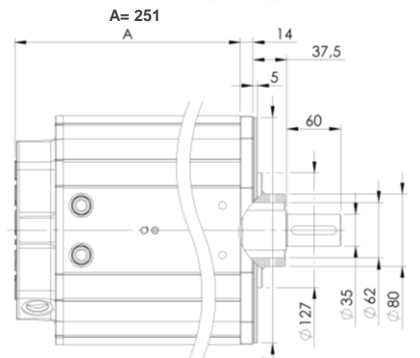
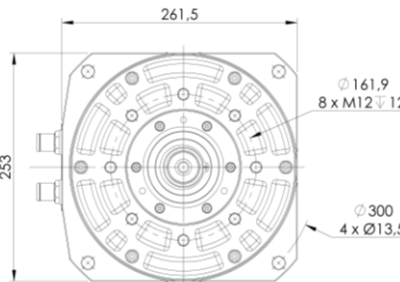
**Flange S1
Shaft H1**



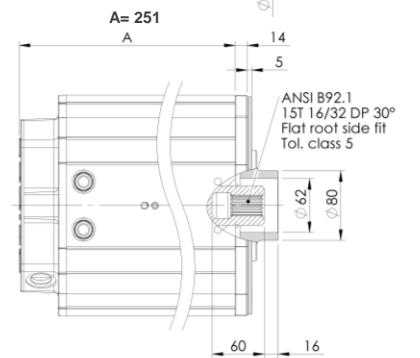
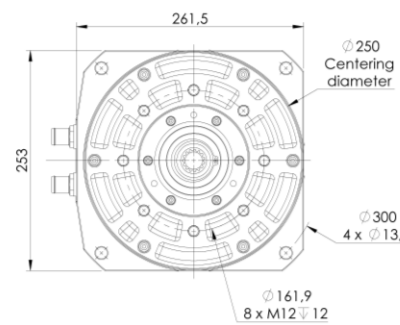
**Flange C1
Shaft D1**



**Flange B1
Shaft C1**



**Flange B1
Shaft D1**

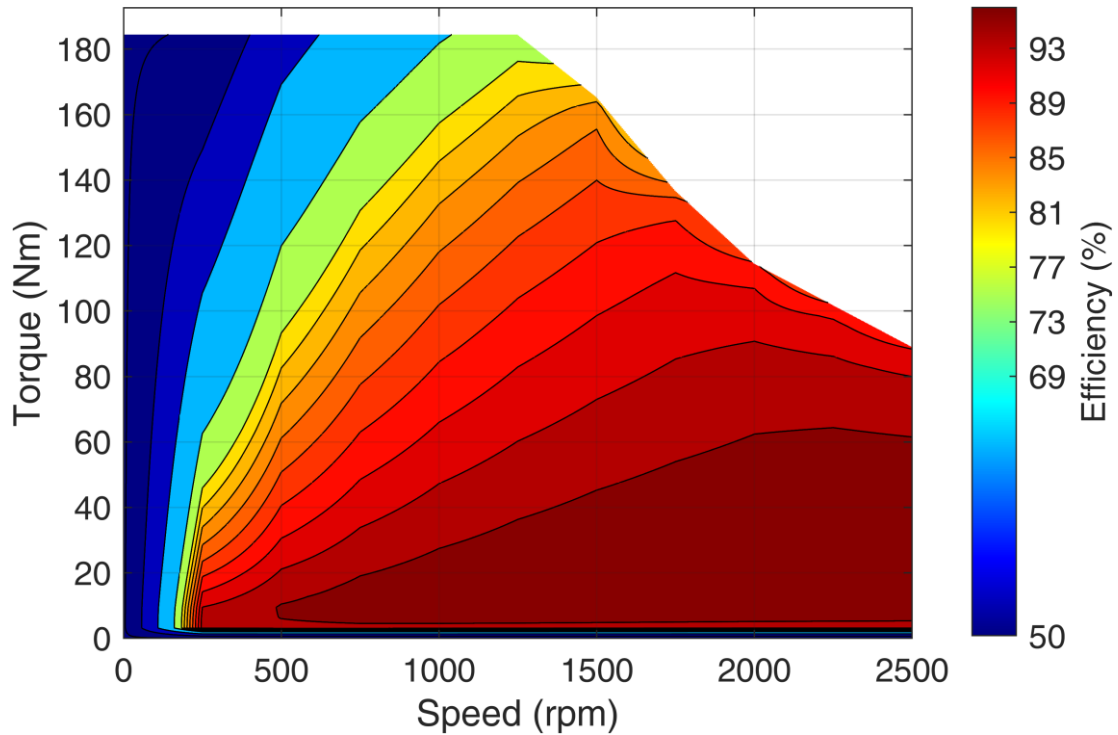


1) Machines with C1-Flange and a revision number smaller than Rev16 have an M14 Helicoil 1,5"D. Revision number is printed on each machine on the rear flange below the water-cooling hose barbs.

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Simulated Efficiency of Motor Application

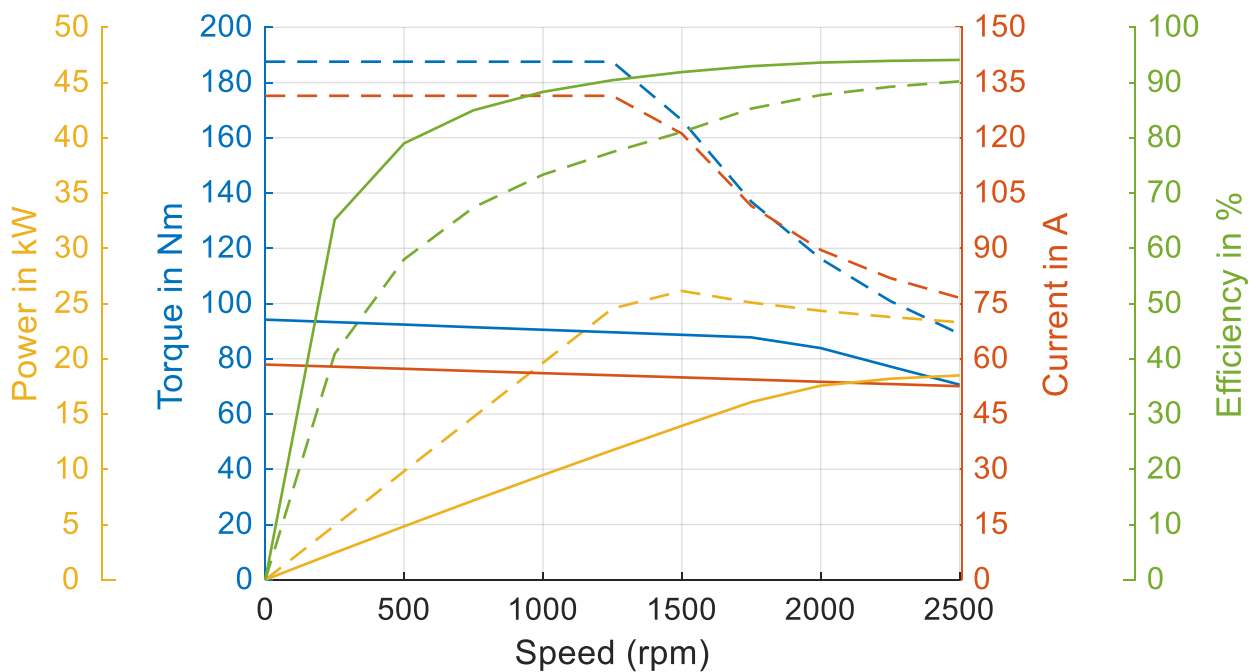
(electric machine only; $U_{nom} = 400\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

$U_{nom} = 400\text{ V}$

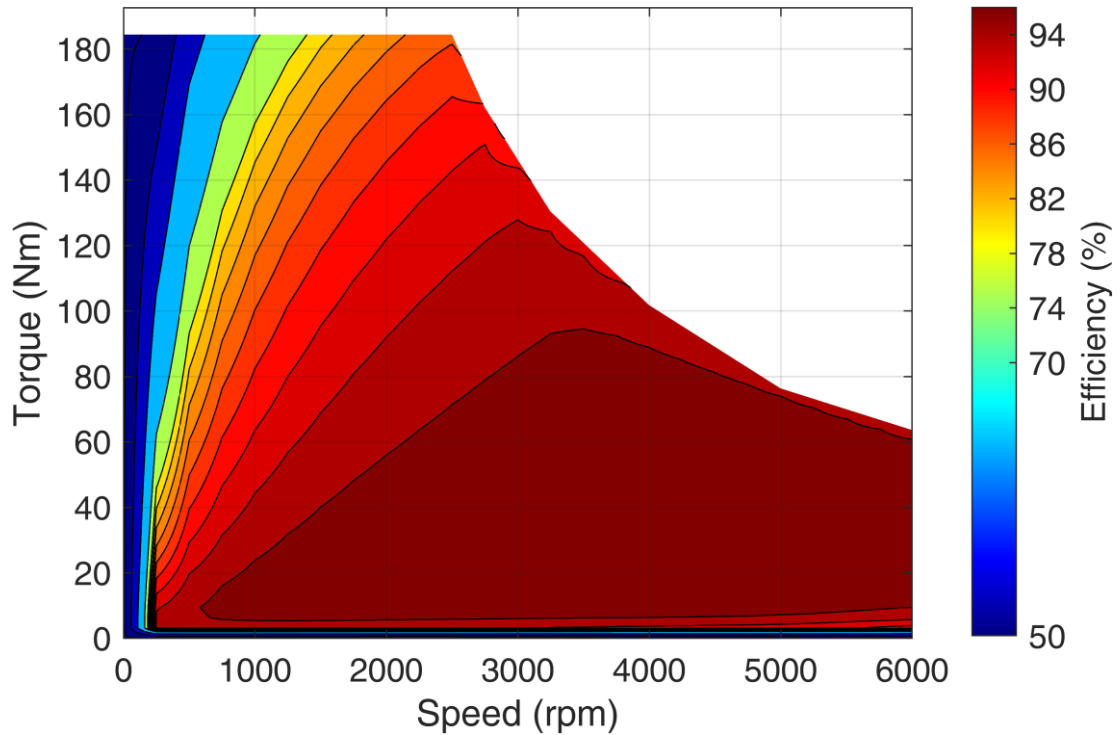
solid lines: continuous; dashed lines: maximum;



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Simulated Efficiency of Motor Application

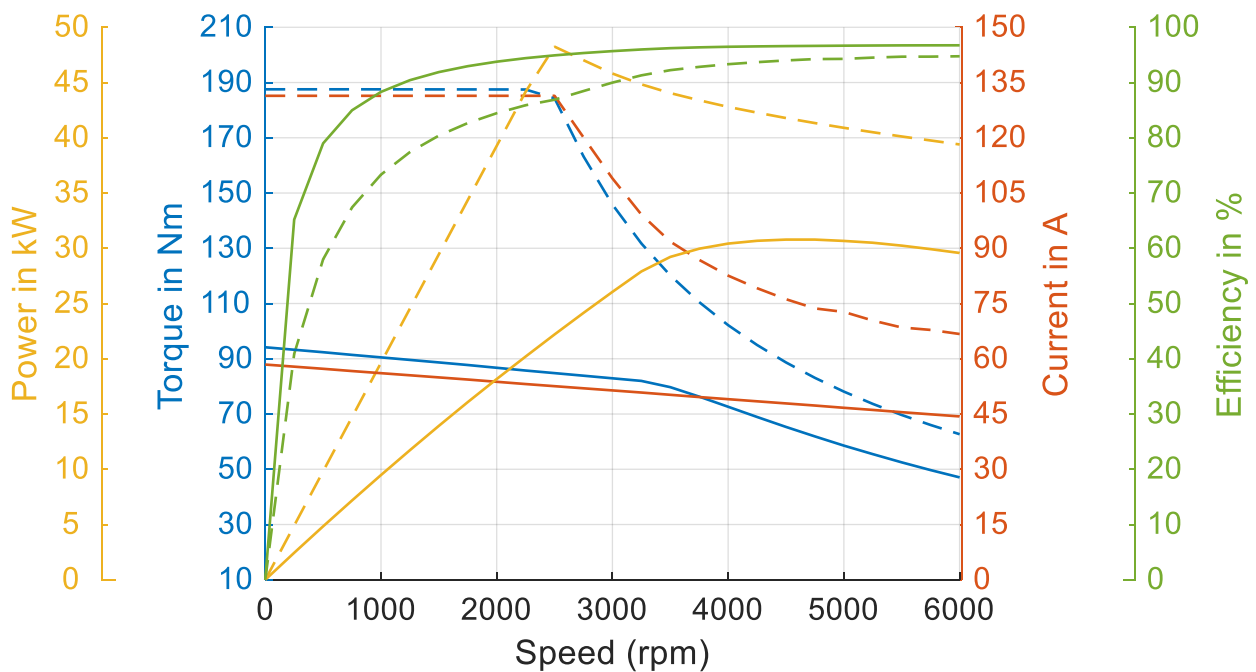
(electric machine only; $U_{nom} = 700\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

$U_{nom} = 700\text{ V}$

solid lines: continuous; dashed lines: maximum;



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