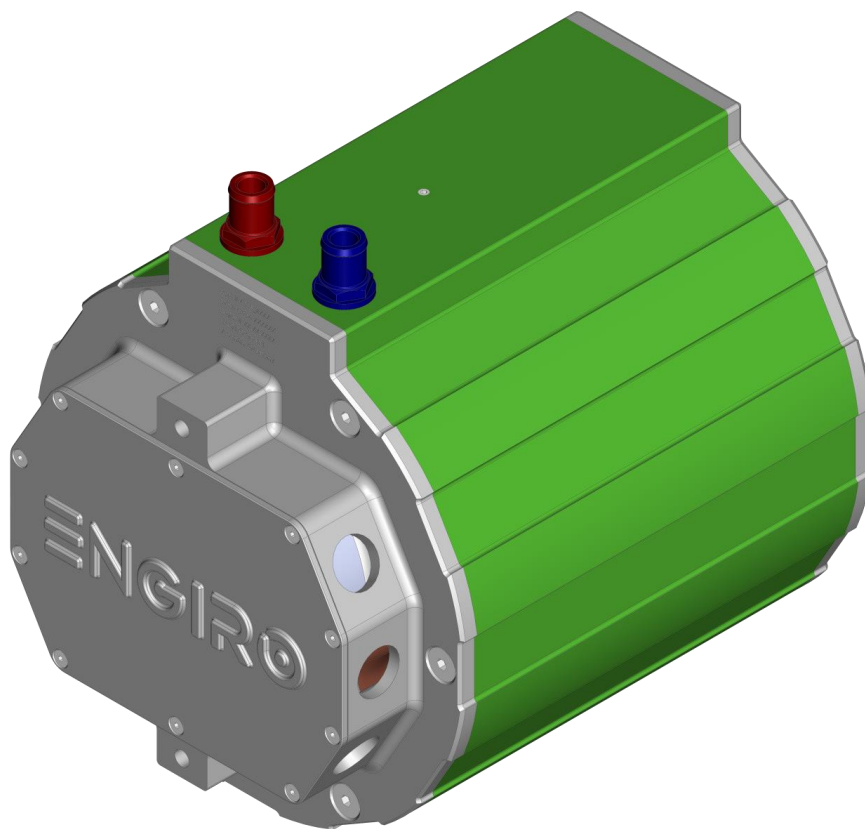


Data Sheet

205W-12043-ABC

water-cooled motor / generator with up to 59 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 350V to 850V
- delivery with controller possible
- various mechanical interfaces available

Section	Page
Technical Data Machine	3
Table Shaft and Flange Combinations	4
Technical Drawings Machine	5
Characteristics Machine	6

Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice and are intended for general information only. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.

Nominal Operation (S1, cooling as specified below)			
Torque	T_{nom}	112	Nm
Power	P_{nom}	59	kW
Speed	n_{nom}	5000	rpm
Phase rms-current	I_{nom}	108 ^{1,2)}	A
Battery voltage (DC)	U_{nom}	700	V
Electric frequency	$f_{el,nom}$	333	Hz
Power factor	$\cos(\varphi)$	0.72	

Maximal Values (S2, 10s, cooling as specified below)			
Torque	T_{max}	298	Nm
Power	P_{max}	115	kW
Phase rms-current	I_{max}	298 ²⁾	A
Battery voltage (DC)	U_{max}	850	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 ($I < I_{nom}$)		1.15	Nm/A _{rms}
U/n constant (AC) at a temperature of 30°C	rms:	78.7	peak: 133.8 V/(1000rpm)
K_e constant (AC) at a temperature of 30°C	rms:	0.188	peak: 0.319 V/(rad*s ⁻¹)

Additional Data			
Weight (w/o cables)		see page 4	
Rotor moment of inertia		0.0208	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 5290	

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.

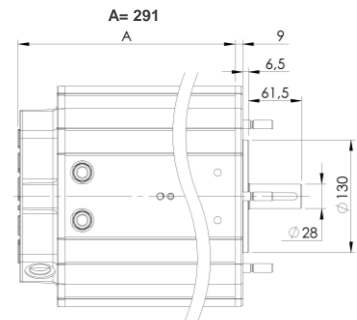
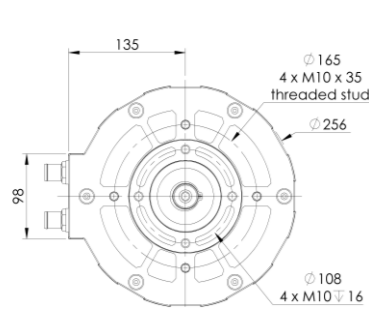
⁴⁾ other range on request

Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice and are intended for general information only. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.

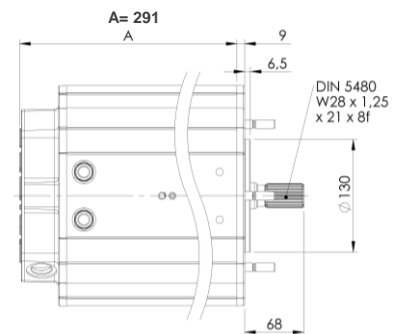
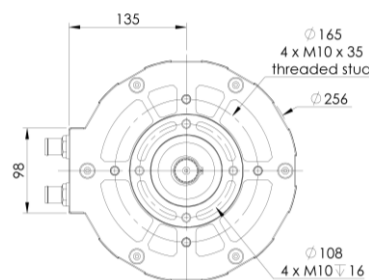
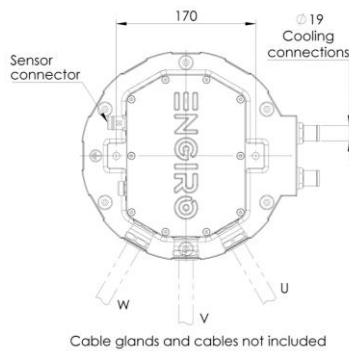
Shaft and Flange Combinations for 205W-12043-ABC		Flange (A)	
		S (Standard)	C (flange for fan with hydraulic pump adapter)
Shaft (B)	S (Cylindrical shaft with keyway Ø 28mm)	● (~46kg)	
	D (D: hollow shaft with internal splines ANSI B 92.1 15T)		● (~48kg)
	G (hollow shaft with internal splines ANSI B 92.1 13T)		● (~49kg)
	E (External splines, DIN 5480)	● (~46kg)	
Position Sensor (C)		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.

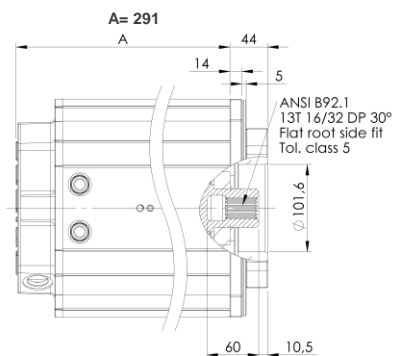
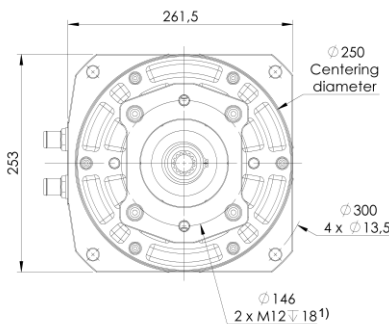
**Flange S
Shaft S**



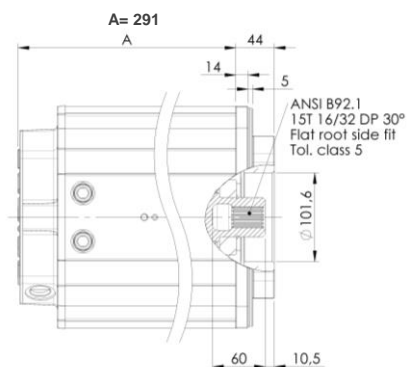
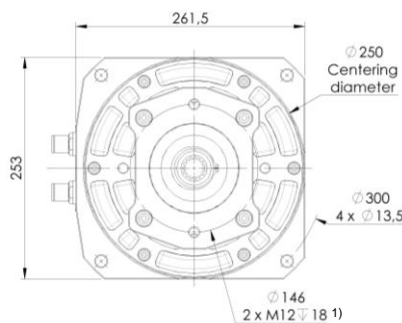
**Flange S
Shaft E**



**Flange C
Shaft G**



**Flange C
Shaft D**

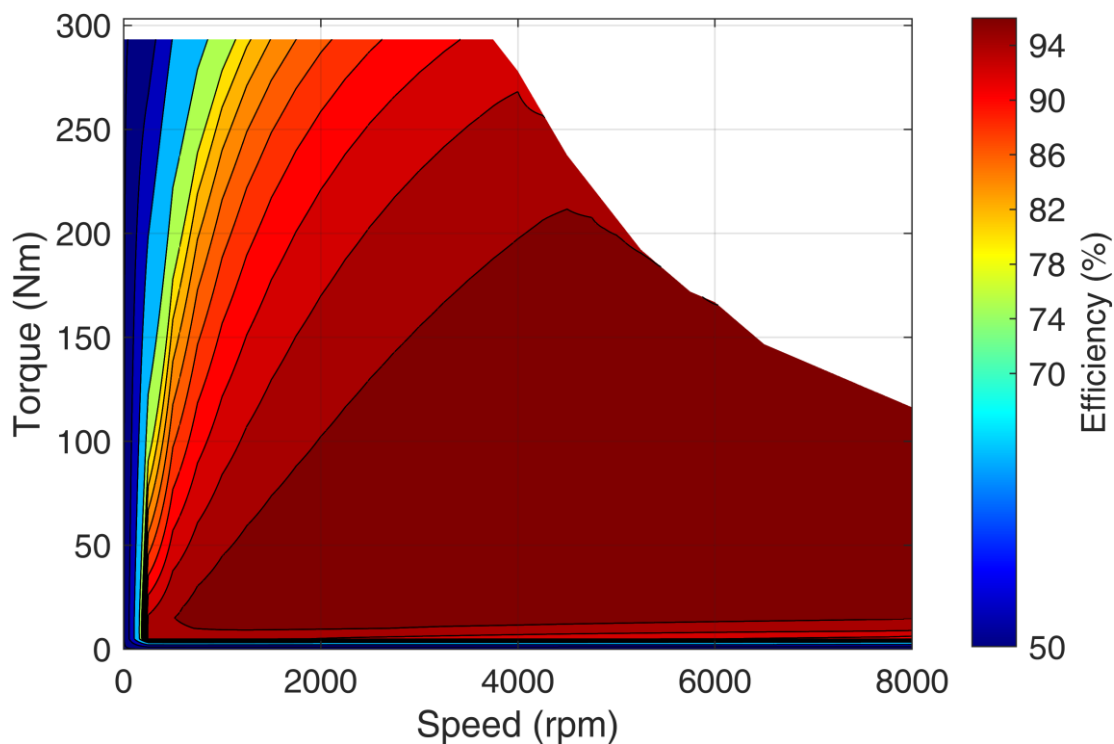


¹⁾ Machines with C-Flange and a revision number smaller than Rev16 have an M14 Helicoil 1,5*D. Revision number is printed on each machine on the rear flange below the water-cooling hose barbs.

Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice and are intended for general information only. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.

Simulated Efficiency of Motor Application

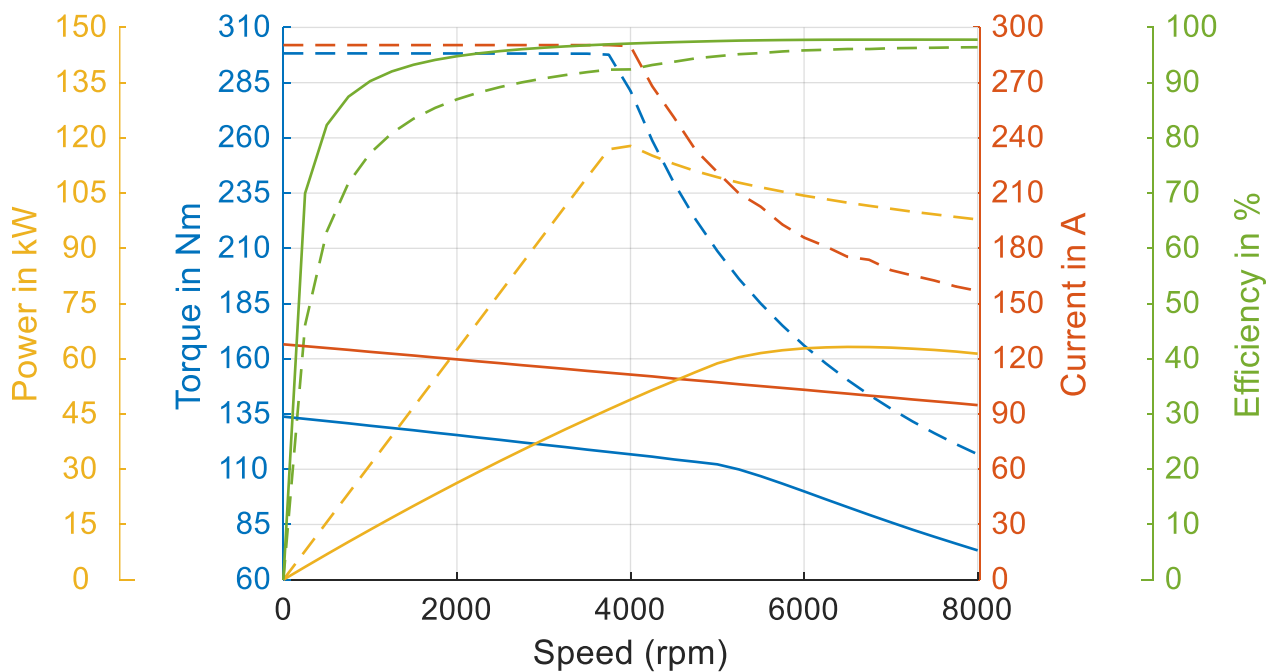
(electric machine only; $U_{nom} = 700\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

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

solid lines: continuous; dashed lines: maximum;



Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice and are intended for general information only. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.