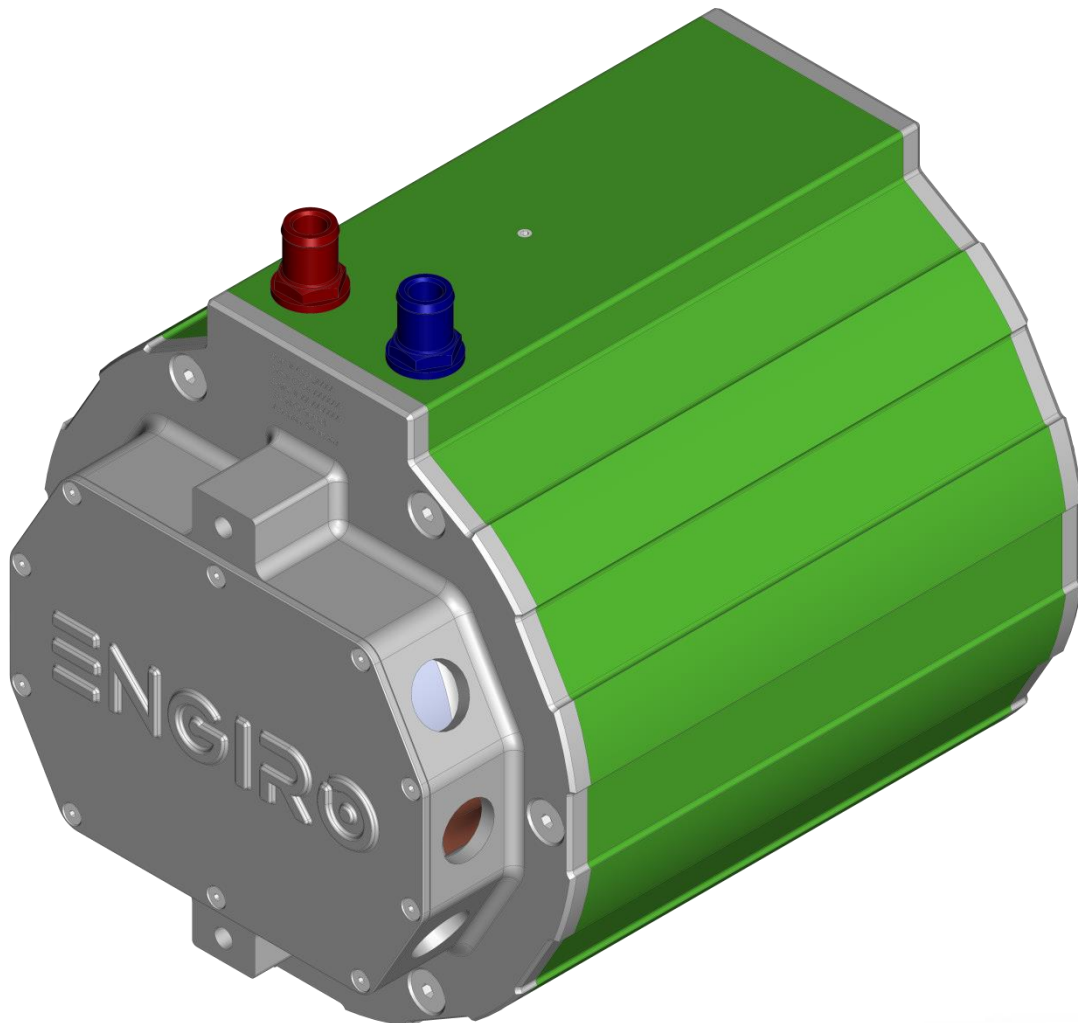


# 205W-12043-ABC

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

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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 <sup>1,2)</sup>	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 <sup>2)</sup>	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 <sub>rms</sub>
$U/n$ 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 <sup>-1</sup> )
Additional Data			
Weight (w/o cables)		see page 4	
Rotor moment of inertia		0.0182	kg*m <sup>2</sup>
Protection category		IP6K9K <sup>3)</sup>	
Maximal motor temperature		140	°C
Allowed ambient temperature		-20 ... 45 <sup>4)</sup>	°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	
Cooling connectors		2 x 3/4" / 19 mm	

<sup>1)</sup> Nominal current strongly dependent on cooling as specified below.

<sup>2)</sup> The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition.

<sup>3)</sup> 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.

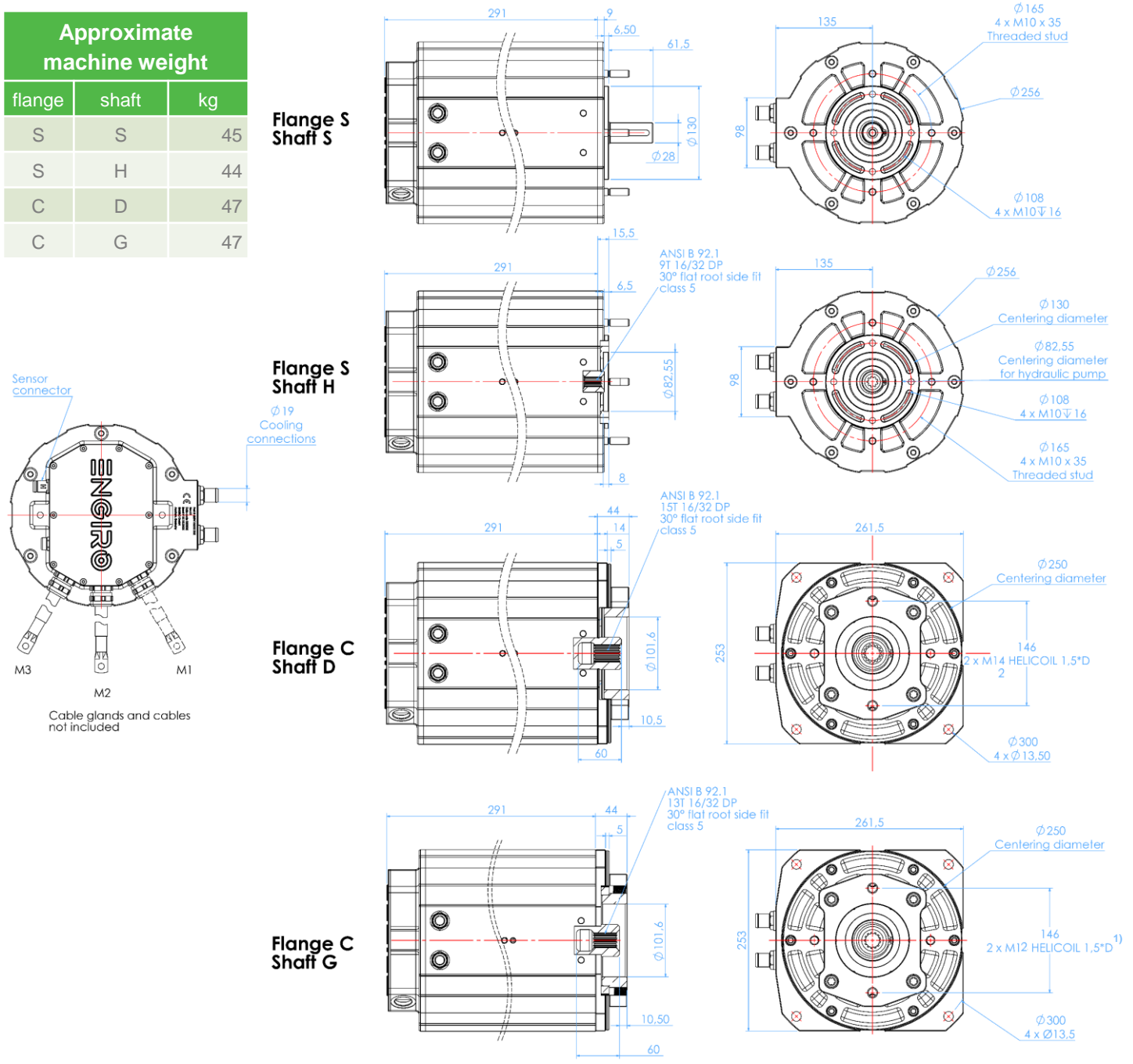
<sup>4)</sup> other range on request

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Available Type Variants

type number	A: flange	B: shaft	C: position sensor
205W-12043-	S: standard	S: cylindrical shaft with keyway $\varnothing 28\text{mm}$	R: resolver (gain 0.5)
	C: flange for fan with hydraulic pump adapter	H: hollow shaft with internal splines ANSI B 92.1 9T	F: resolver (gain 0.29)
		D: hollow shaft with internal splines ANSI B 92.1 15T	N: none
		G: hollow shaft with internal splines ANSI B 92.1 13T	

Approximate machine weight		
flange	shaft	kg
S	S	45
S	H	44
C	D	47
C	G	47

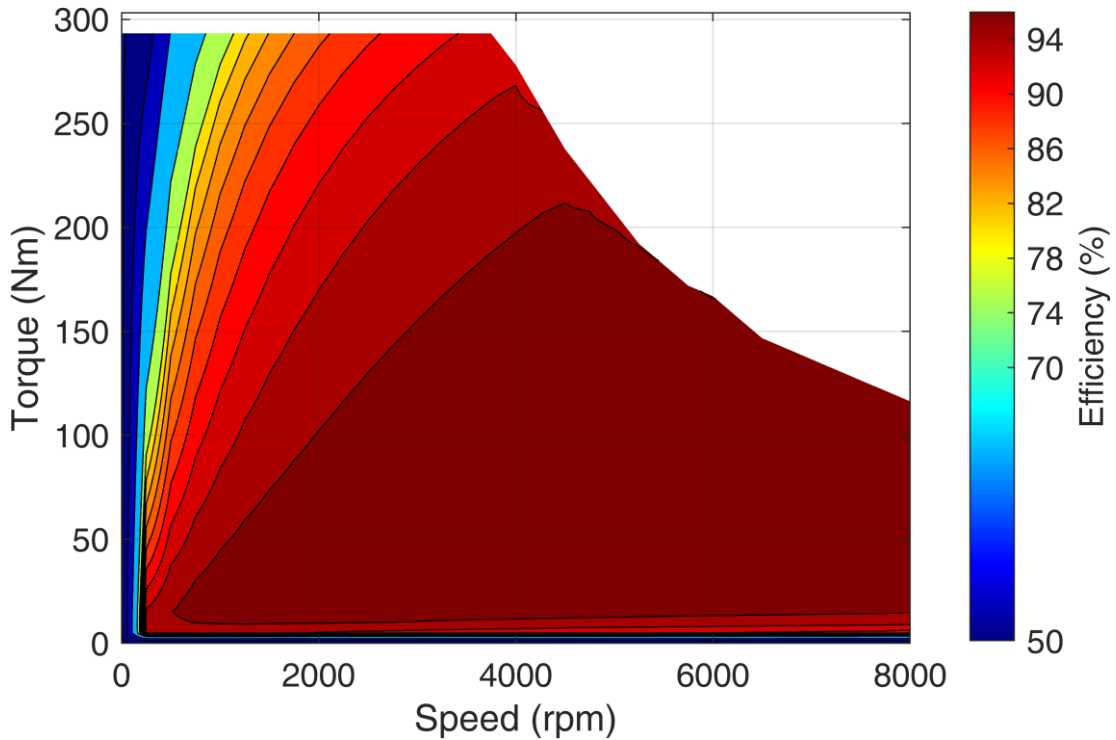


<sup>1)</sup> Machines with C-Flange and a revision number smaller than Rev15 have an M14 Helicoil 1,5°D. Revision number is printed on each machine on the rear flange below the water-cooling hose barbs.

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Simulated Efficiency of Motor Application

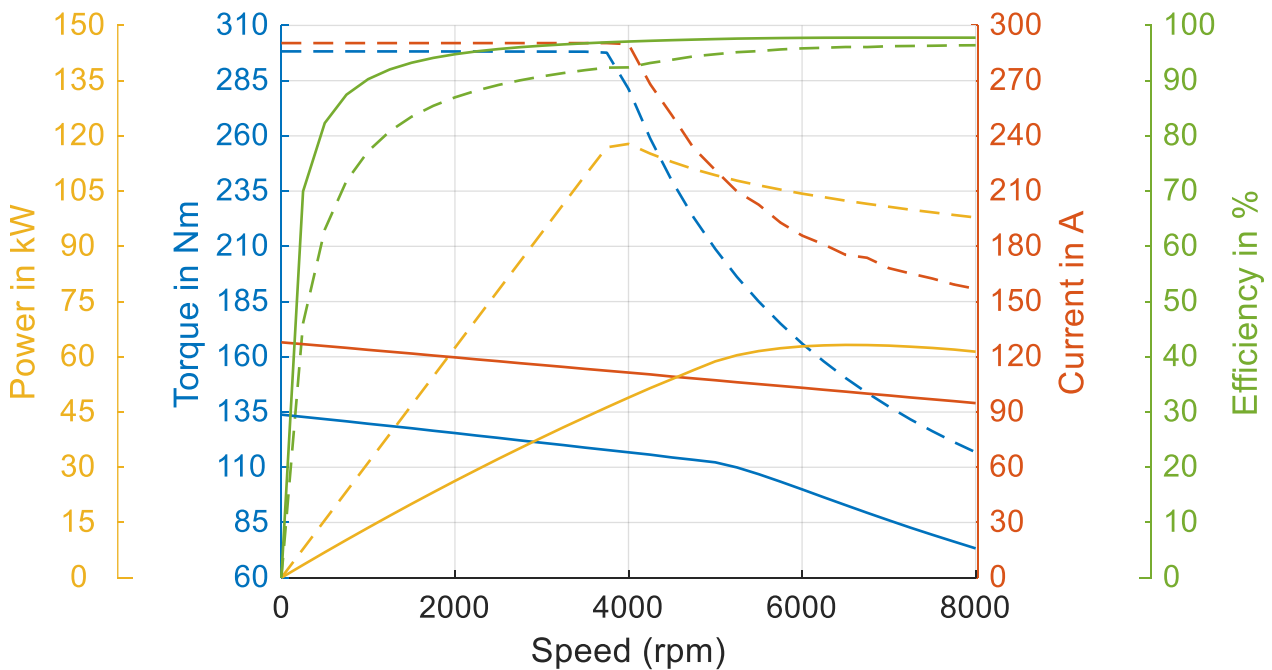
(electric machine only;  $U_{nom} = 700\text{ V}$ ; machine at  $140\text{ °C}$ ;)



Simulated Characteristic Motor Parameters

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

solid lines: continuous; dashed lines: maximum;



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