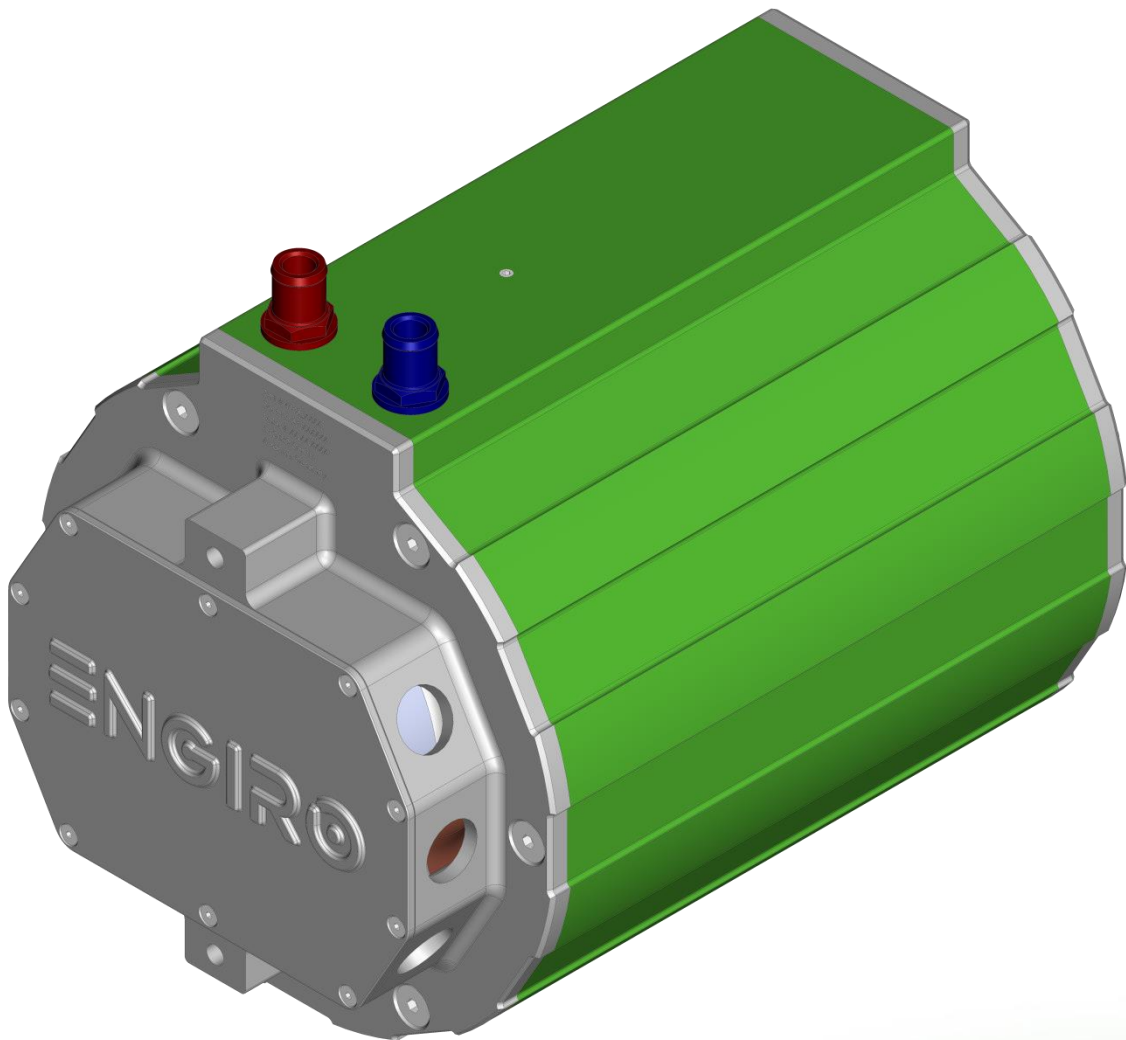


205W-16018-ABC

water-cooled motor / generator with up to 93 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 300V to 850V
- delivery with controller possible
- various mechanical interfaces available

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Technical Drawings Machine	4
Characteristics Machine	5

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Nominal Operation (S1, cooling as specified below)				
Torque	T_{nom}		177	Nm
Power	P_{nom}		93	kW
Speed	n_{nom}		4940	rpm
Phase rms-current	I_{nom}		270 ^{1,2)}	A
Battery voltage (DC)	U_{nom}		400	V
Electric frequency	$f_{el,nom}$		329	Hz
Power factor	$\cos(\varphi)$		0.75	
Maximal Values (S2, 10s, cooling as specified below)				
Torque	T_{max}		392	Nm
Power	P_{max}		164	kW
Phase rms-current	I_{max}		694 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 ($I < I_{nom}$)			0.64	Nm/A _{rms}
U/n constant (AC)		rms: 43.9	peak: 74.6	V/(1000rpm)
K_e constant (AC)		rms: 0.105	peak: 0.178	V/(rad*s ⁻¹)
Additional Data				
Weight (w/o cables)			see page 4	kg
Rotor moment of inertia			0.0240	kg*m ²
Protection category			IP65 / IP69k	
Maximal motor temperature			140	°C
Allowed ambient temperature			-20 ... 45 ³⁾	°C
Cooling (medium, flow rate, inlet temperature, pressure)			water/glycol 50/50, 12 l/min, ≤ 45°C, ≤ 0.5 bar	
Temperature monitoring			1 x KTY84-130	
Type approval			CE, EN 60034	
Customs tariff number			8501 5381	
Connectors				
Power terminals			3 x M25 cable gland	
Signal connectors			M16, 10 Pin	
Cooling connectors			2 x 3/4" / 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⁾ other range on request

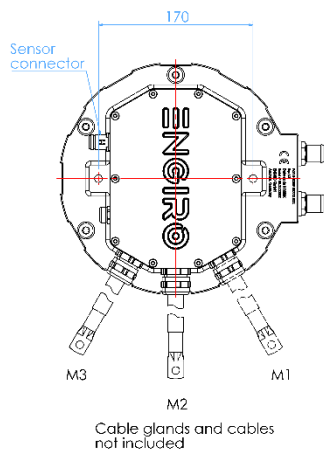
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Available Type Variants

type number	A: flange	B: shaft	C: position sensor
205W-16018-	S: standard	S: cylindrical shaft with keyway $\varnothing 28\text{mm}$	R: resolver
	D: flange for fan without insert	J: external splines, DIN 5480	E: sin/cos encoder
			N: none

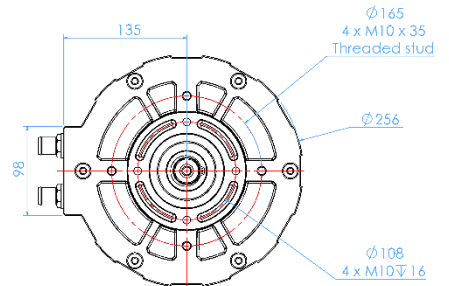
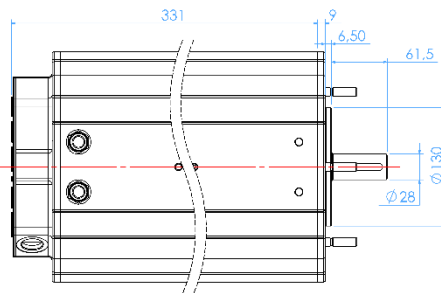
Approximate machine weight

flange	shaft	kg
S	S	55
B	C	58



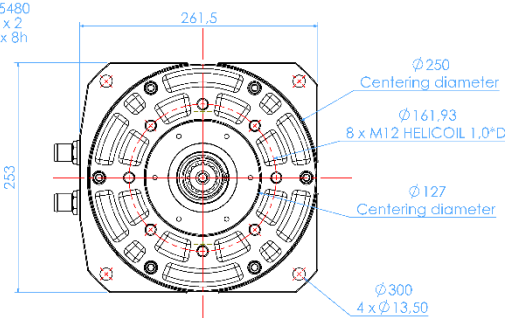
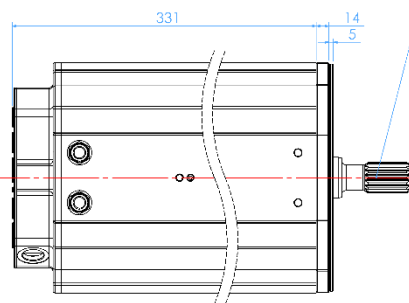
Flange S
Shaft S

$\varnothing 19$
Cooling connections



Flange D
Shaft J

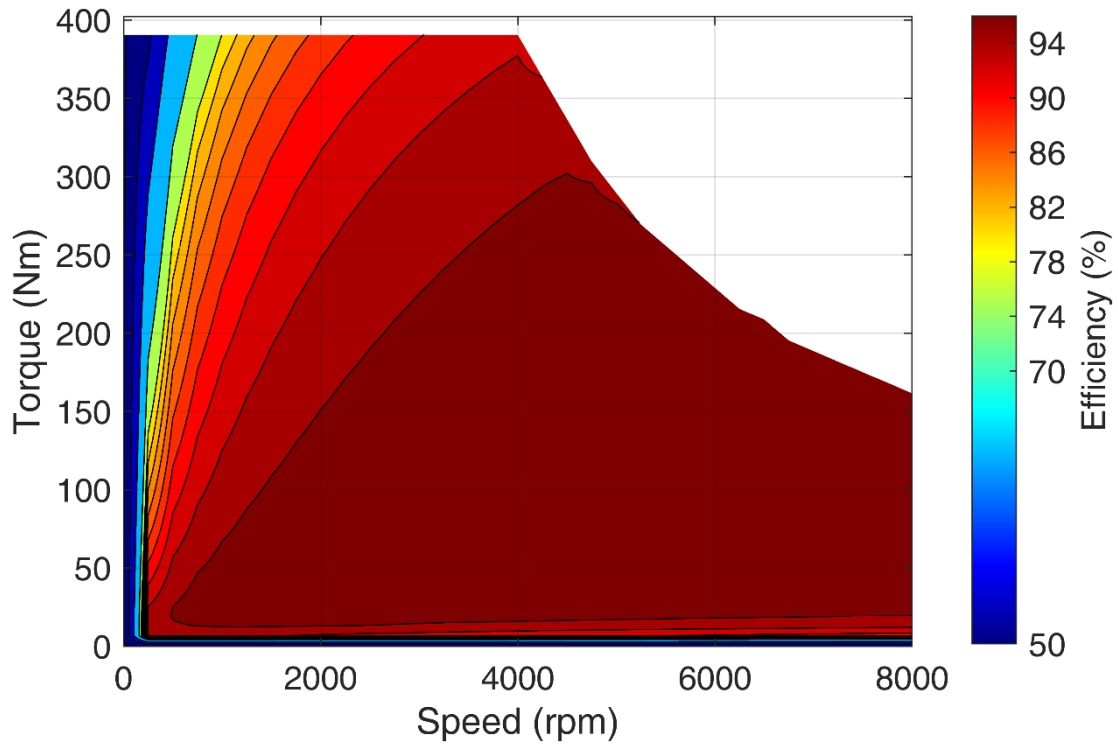
DIN 5480
W35 x 2
x 16 x 8h



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Simulated Efficiency of Motor Application

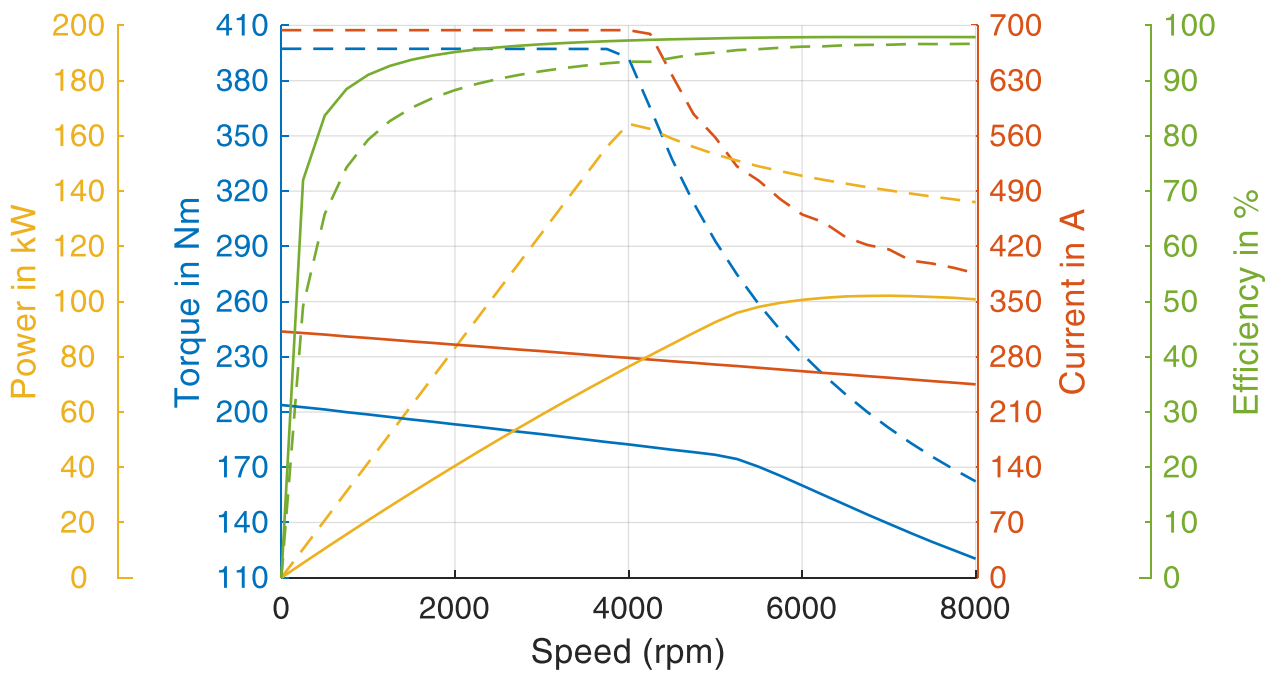
(electric machine only; $U_{nom} = 400\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

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

solid lines: continuous; dashed lines: maximum;



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