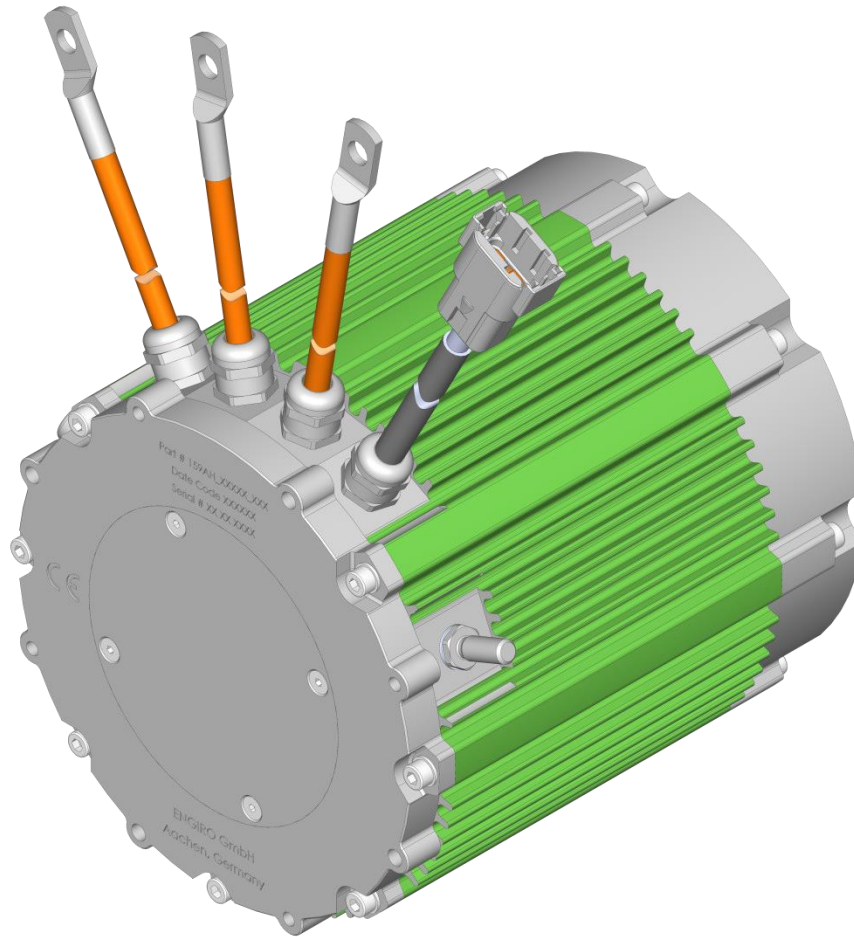


159AH-06020-ABC

air-cooled motor / generator with 9.6 kW continuous power



KEY FEATURES

- permanent magnet synchronous machine
- air-cooled
- convincing cost-benefit ratio
- delivery with controller possible

Section	Page
Technical Data Machine	3
Technical Drawings Machine	4
Characteristics Machine	5

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Nominal Operation (S1, cooling as specified below)				
Torque	T_{nom}		20	Nm
Power	P_{nom}		9.6	kW
Speed	n_{nom}		4600	rpm
Phase rms-current	I_{nom}		113 ^{1,2)}	A
Battery voltage (DC)	U_{nom}		96	V
Electric frequency	$f_{el,nom}$		384	Hz
Power factor	$\cos(\varphi)$		0.76	
Maximal Values (S2, 10s, cooling as specified below)				
Torque	T_{max}		74	Nm
Power	P_{max}		26	kW
Phase rms-current	I_{max}		500 ²⁾	A
Battery voltage (DC)	U_{max}		200	V
Speed	n_{max}		8000	rpm
Electric frequency	$f_{el,max}$		667	Hz
Electrical Data				
Number of phases			3	
Number of pole pairs			5	
Maximal efficiency			95	%
T/I constant ($I < I_{nom}$)			0.20	Nm/A _{rms}
U/n constant (AC)		rms: 11.3	peak: 17.5	V/(1000rpm)
K_e constant (AC)		rms: 0.022	peak: 0.033	V/(rad*s ⁻¹)
Additional Data				
Weight (w/o cables)			see page 4	
Protection category			IP65 / IP69k	
Maximal motor temperature			140	°C
Allowed ambient temperature			-20 ... 45 ³⁾	°C
Cooling (medium, flow rate, inlet temperature, pressure)			air, >12 m/s, ≤ 25°C	
Temperature monitoring			1 x KTY84-130	
Type approval			CE, EN 60034	
Customs tariff number			8501 5230	
Connectors				
Power terminals			3 x AWG 4 (21 mm ²) cables with M8 cable lugs	
Signal connectors			Deutsch DTM04-08PA 8 pins	

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

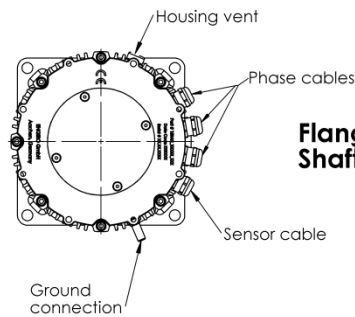
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Available Type Variants

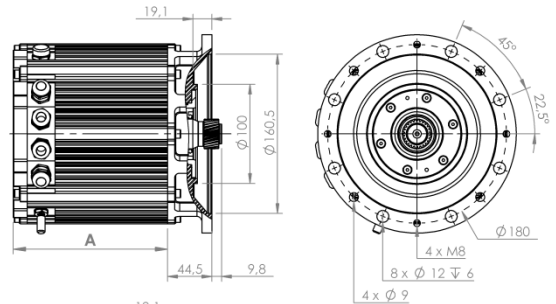
type number	A: flange	B: shaft	C: position sensor
159AH-06020-	B: gearbox Allweier PGR 1500	C: shaft with external splines	R: resolver
	C: standard squared 80mm centering	D: cylindrical shaft with keyway $\varnothing 19\text{mm}$	E: sin/cos encoder
	D: IEC B14 90 squared 95mm centering	E: prolonged shaft with external splines	H: UVW hall sensor
	E: IEC B14 90 round 95mm centering		N: none

Dimension „A“ = 155.5 mm

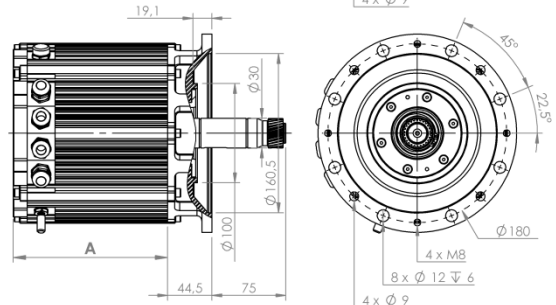
Approximate machine weight		
flange	shaft	Kg
B	C	14,7
B	E	15
C	D	14,9
D	D	14,9
E	D	14,9



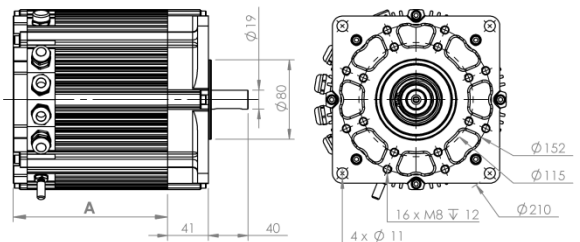
Flange B
Shaft C



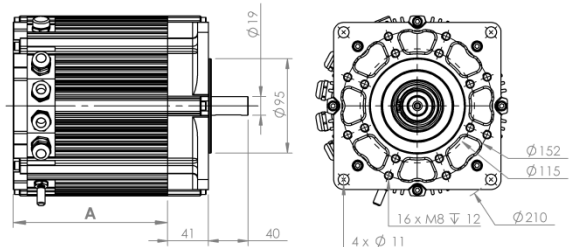
Flange B
Shaft E



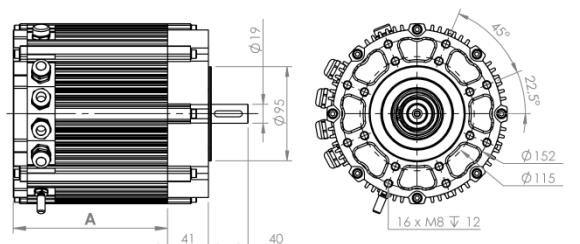
Flange C
Shaft D



Flange D
Shaft D



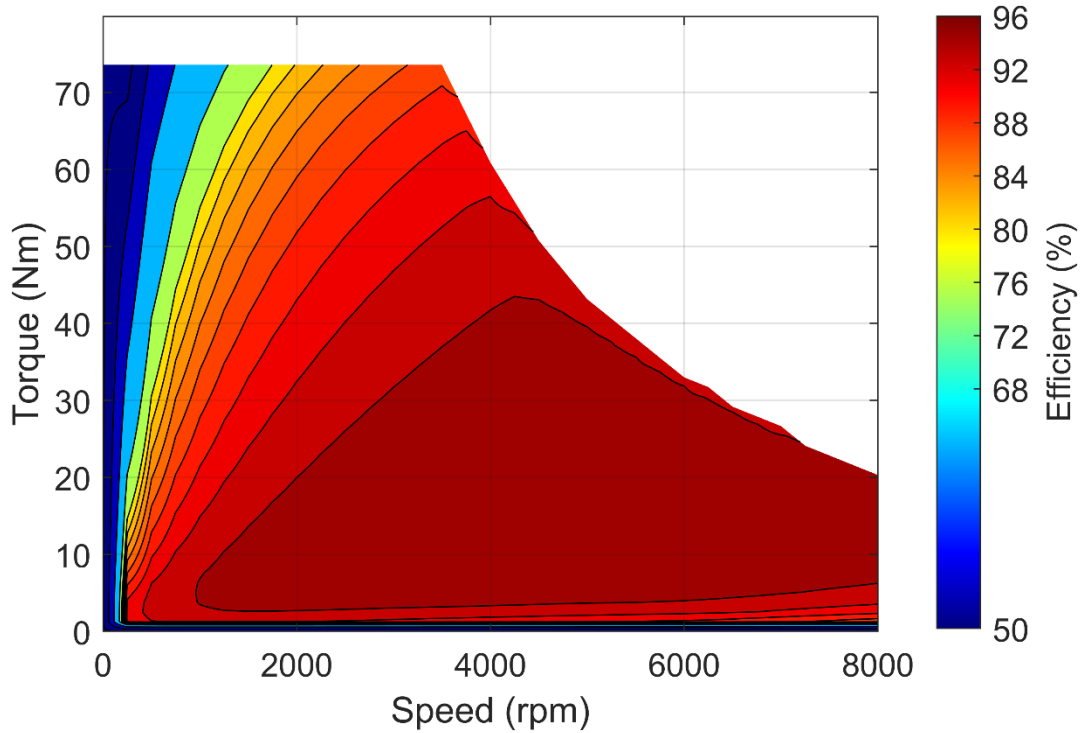
Flange E
Shaft D



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Simulated Efficiency of Motor Application

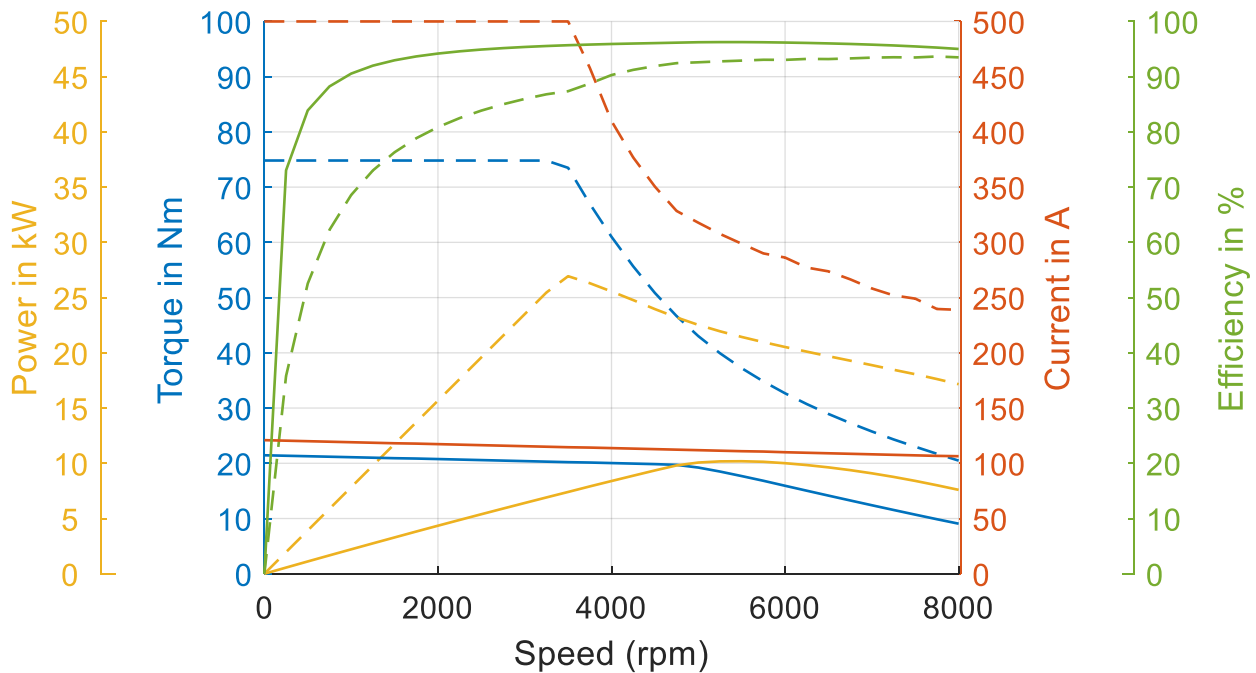
(electric machine only; $U_{nom} = 96\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

$U_{nom} = 96\text{ V}$

solid lines: continuous; dashed lines: maximum;



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