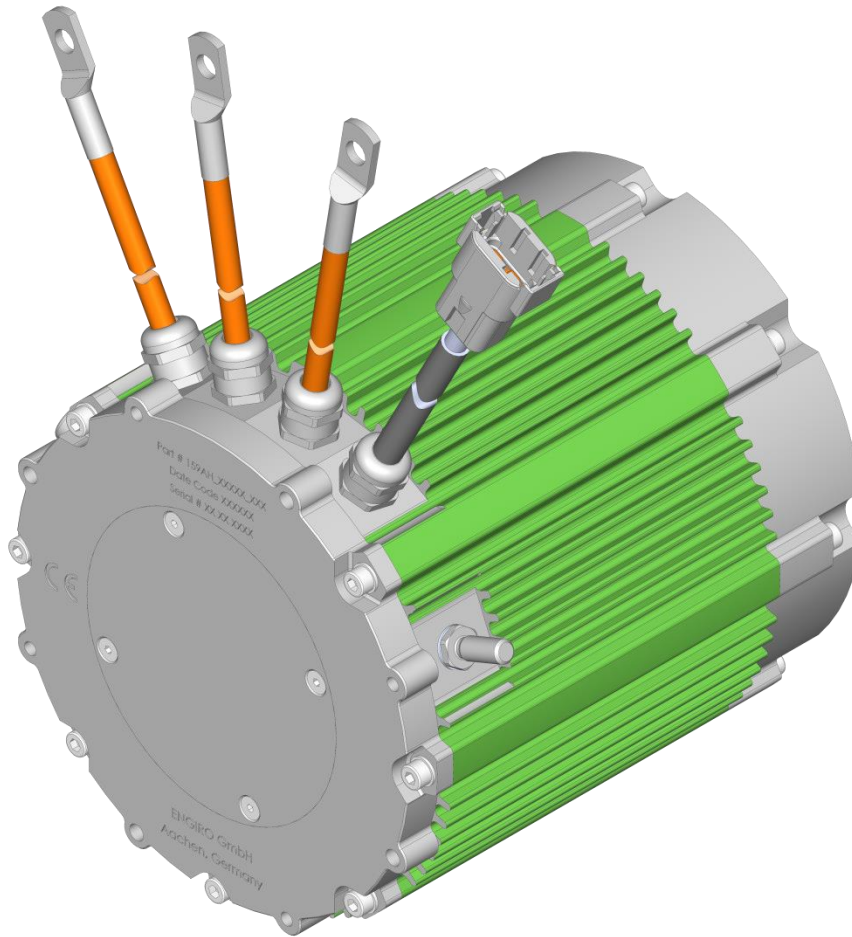


# 159AH-06020-ABC

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

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## Nominal Operation (S1, cooling as specified below)

Torque	$T_{\text{nom}}$	20	Nm
Power	$P_{\text{nom}}$	9.6	kW
Speed	$n_{\text{nom}}$	4600	rpm
Phase rms-current	$I_{\text{nom}}$	113 <sup>1,2)</sup>	A
Battery voltage (DC)	$U_{\text{nom}}$	96	V
Electric frequency	$f_{\text{el, nom}}$	384	Hz
Power factor	$\cos(\varphi)$	0.76	

## Maximal Values (S2, 10s, cooling as specified below)

Torque	$T_{\text{max}}$	74	Nm
Power	$P_{\text{max}}$	26	kW
Phase rms-current	$I_{\text{max}}$	500 <sup>2)</sup>	A
Battery voltage (DC)	$U_{\text{max}}$	200	V
Speed	$n_{\text{max}}$	8000	rpm
Electric frequency	$f_{\text{el, max}}$	667	Hz

## Electrical Data

Number of phases		3	
Number of pole pairs		5	
Maximal efficiency		95	%
$T/I$ constant ( $I < I_{\text{nom}}$ )		0.20	Nm/A <sub>rms</sub>
$U/n$ constant (AC)	rms:	11.3	peak: 17.5 V/(1000rpm)
$K_e$ constant (AC)	rms:	0.022	peak: 0.033 V/(rad*s <sup>-1</sup> )

## Additional Data

Weight (w/o cables)	see page 4	
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)	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 <sup>2</sup> ) cables with M8 cable lugs	
Signal connectors	Deutsch DTM04-08PA 8 pins	

<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.

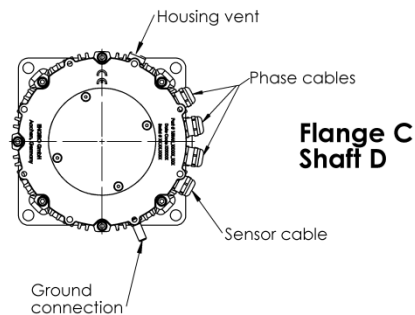
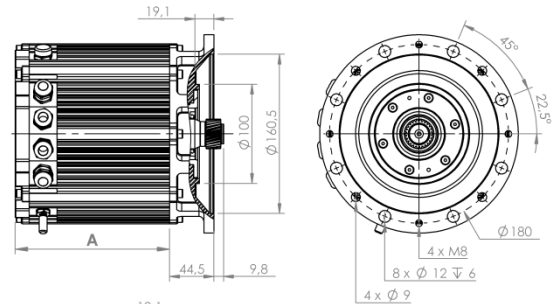
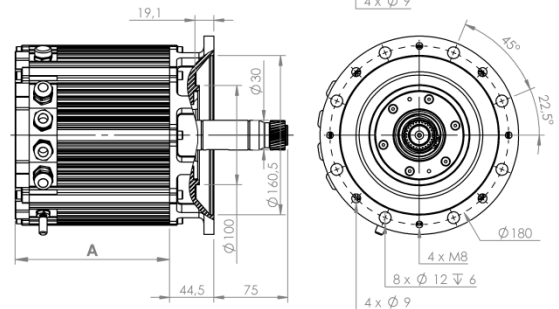
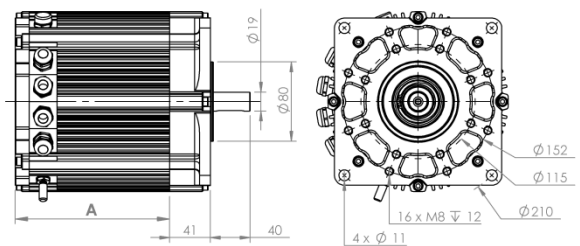
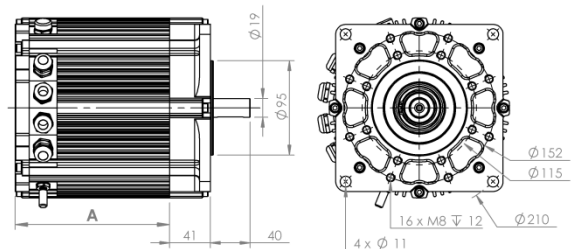
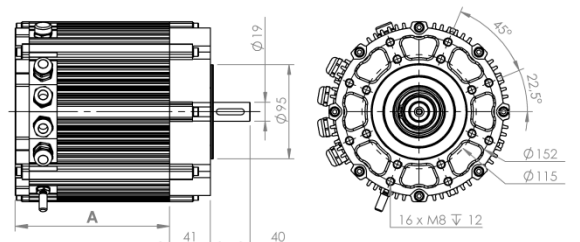
<sup>4)</sup> other range on request

## 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 Ø19mm	E: sin/cos encoder
	D: IEC B14 90 squared 95mm centering	E: prolonged shaft with external splines	
	E: IEC B14 90 round 95mm centering		

Dimension „A“ = 155.5 mm

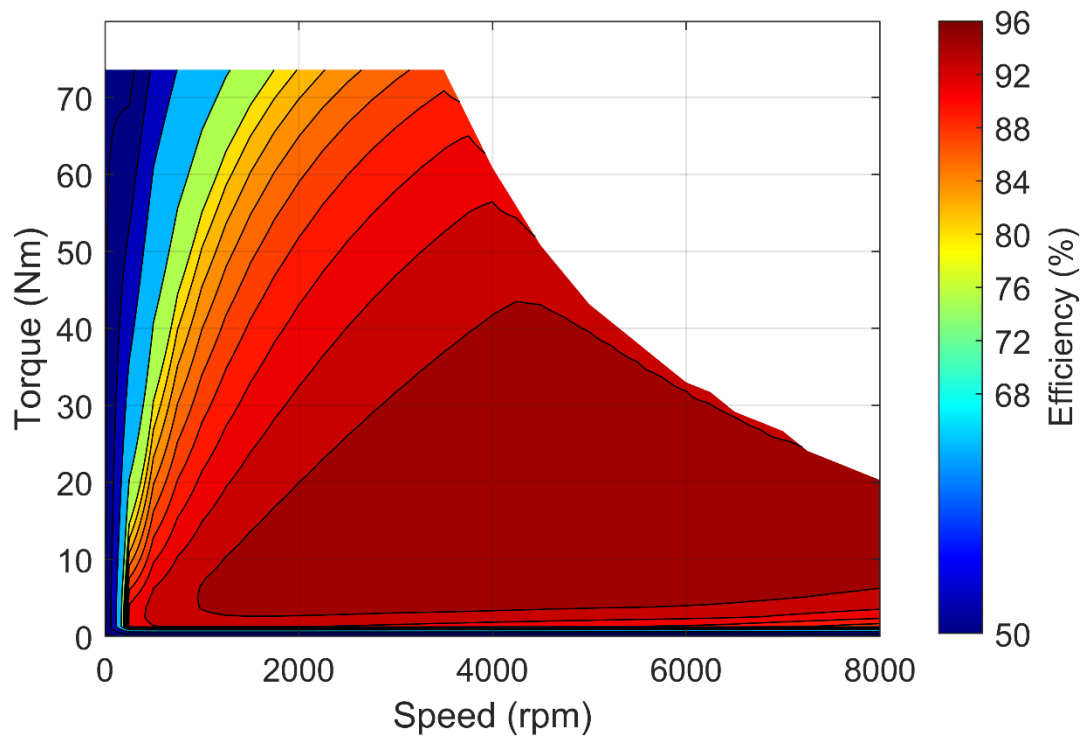
Approximate machine weight		
flange	shaft	Kg
B	C	14,7
B	E	15
C	D	14,9
D	D	14,9
E	D	14,9

Flange B  
Shaft CFlange B  
Shaft EFlange C  
Shaft DFlange D  
Shaft DFlange E  
Shaft D

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### Simulated Efficiency of Motor Application

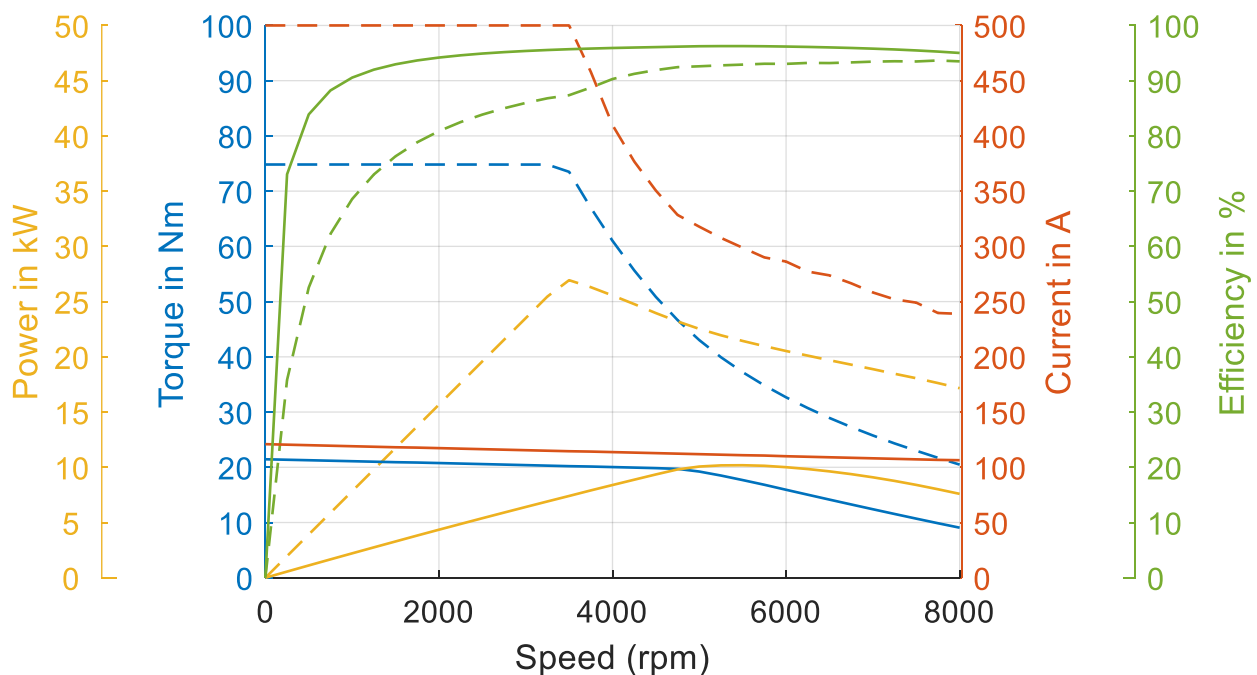
(electric machine only;  $U_{\text{nom}} = 96 \text{ V}$ ; machine at  $140^\circ\text{C}$ ;) )



### Simulated Characteristic Motor Parameters

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

solid lines: continuous; dashed lines: maximum;



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