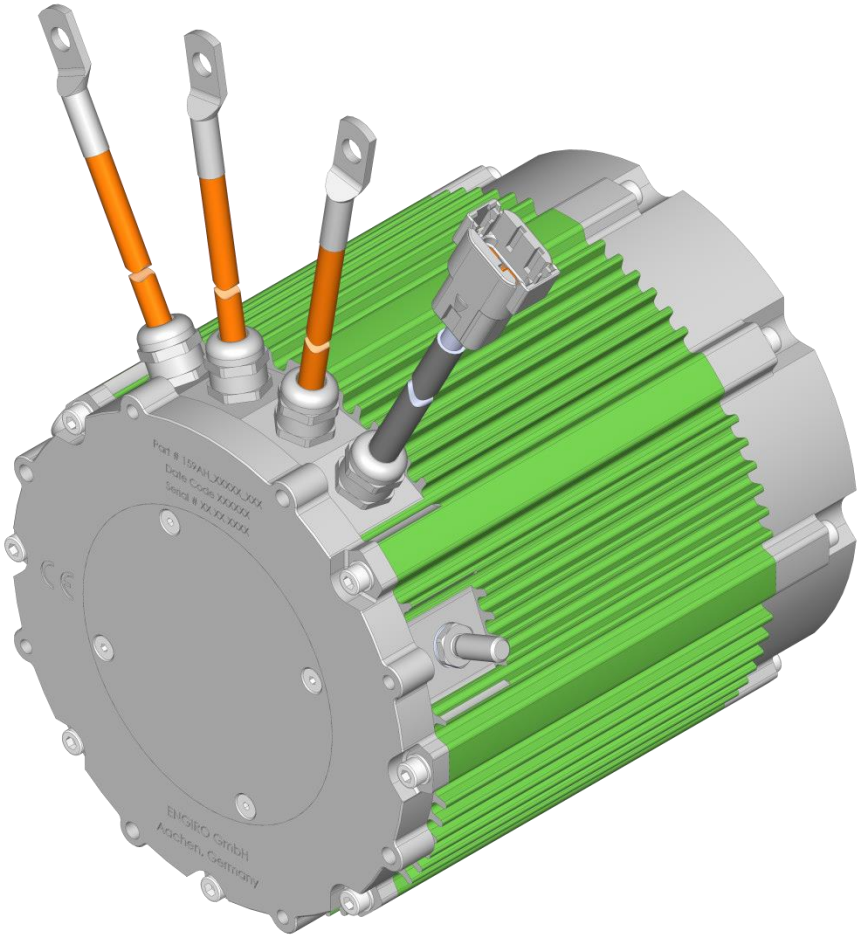
159AH-06030-ABC

air-cooled motor / generator with 8.4 kW continuous power



KEY FEATURES

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

ENGIRO GmbH · Avantisallee 51 · 52072 Aachen · Germany
Tel. +49 (0)241 99798-0 · E-Mail: engineering@engiro.de · www.engiro.de

Table of Content

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Nominal Operation (S1, cooling as specified below)						
Torque	T_{nom}				26	Nm
Power	P_{nom}				8.4	kW
Speed	n_{nom}				3100	rpm
Phase rms-current	I_{nom}				101[1,2)]	A
Battery voltage (DC)	U_{nom}				96	V
Electric frequency	$f_{el,nom}$				258	Hz
Power factor	cos(φ)				0.78	
Maximal Values (S2, 10s, cooling as specified below)						
Torque	T_{max}				75	Nm
Power	P_{max}				17	kW
Phase rms-current	I_{max}				334[1)]	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})					0.30	Nm/A_{rms}
U/*n* constant (AC)		rms:	17.0	peak:	24.0	V/(1000rpm)
K_e constant (AC)		rms:	0.033	peak:	0.046	$V/(rad*s^{-1})$
Additional Data						
Weight (w/o cables)					see page 4	
Rotor moment of inertia					0.0063	$kg*m^2$
Protection category					IP6K9K[3)]	
Maximal motor temperature					140	°C
Allowed ambient temperature					-20 … 45[4)]	°C
Cooling (medium, flow rate, inlet temperature, pressure)					air, > 12 m/s, ≤ 25°C	
Temperature monitoring					1 x KTY84-130	
Type approval					CE, EN 60034	
Customs tariff number					8501 5220	
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)] 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

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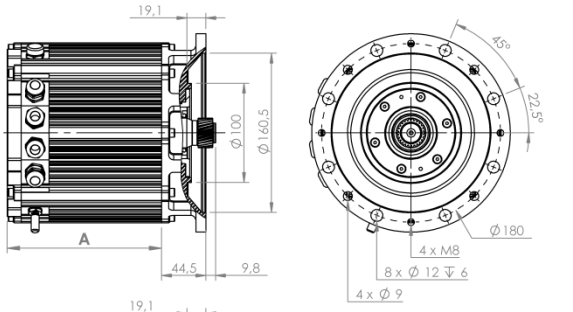
Technical Drawings

Available Type Variants			
type number	A: flange	B: shaft	C: position sensor
159AH-06030-	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		

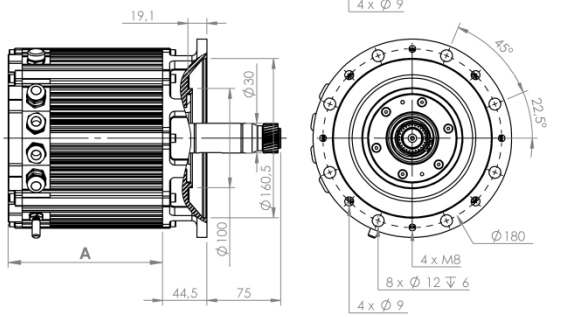
Dimension „A“ = 155.5 mm

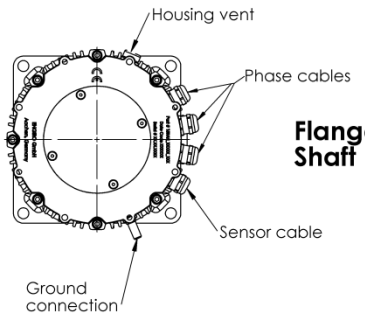
Approximate machine weight		
flange	shaft	Kg
B	C	14,7
B	E	15
C	D	14,9
D	D	14,9
E	D	14,9

Flange B Shaft C

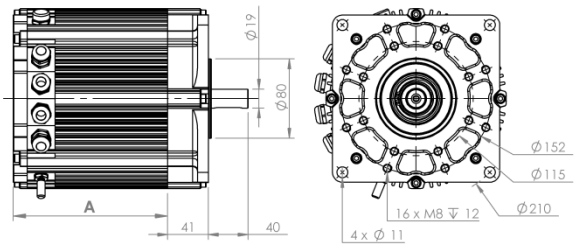


Flange B Shaft E

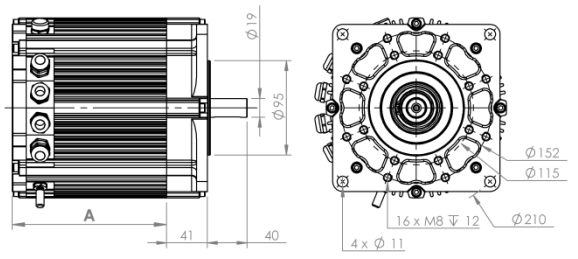




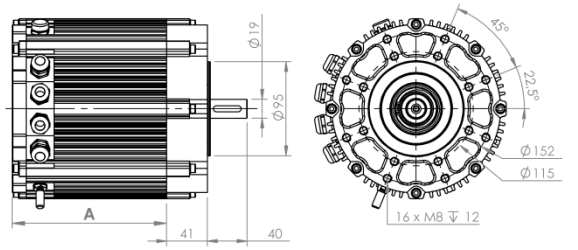
Flange C Shaft D



Flange D Shaft D



Flange E Shaft D



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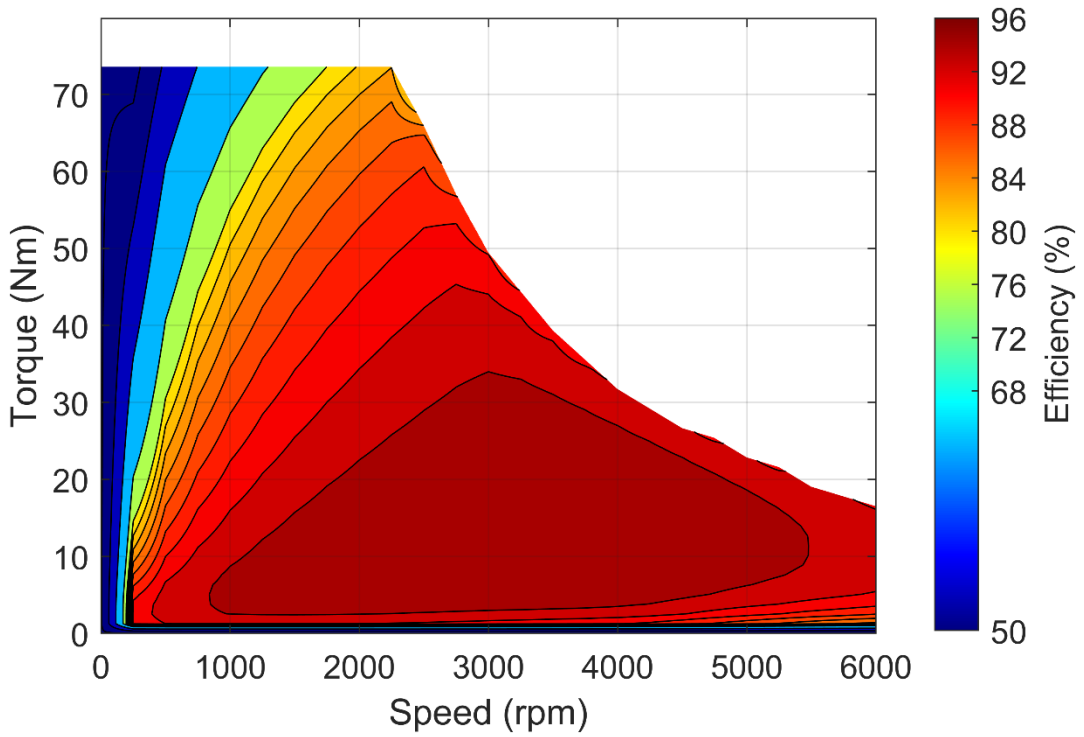
Simulated Efficiency of Motor Application

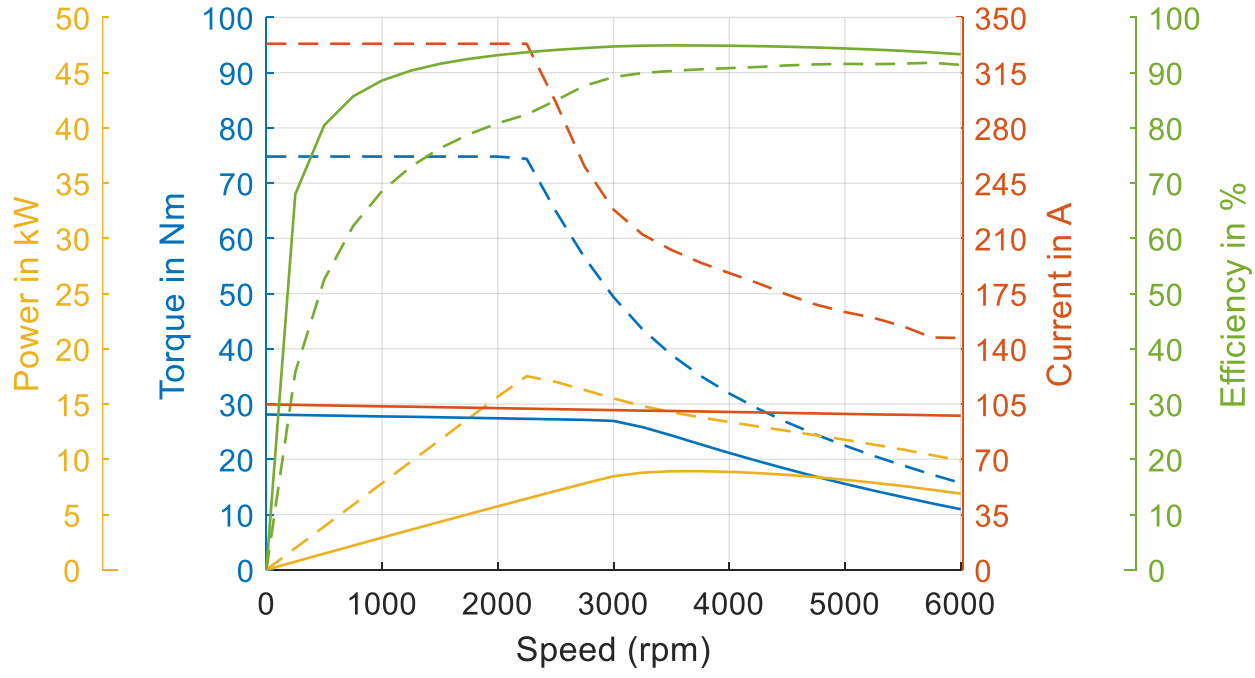
(electric machine only; U_{nom} = 96 V; machine at 140 °C;)



Simulated Characteristic Motor Parameters

U_{nom} = 96 V

solid lines: continuous; dashed lines: maximum;



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