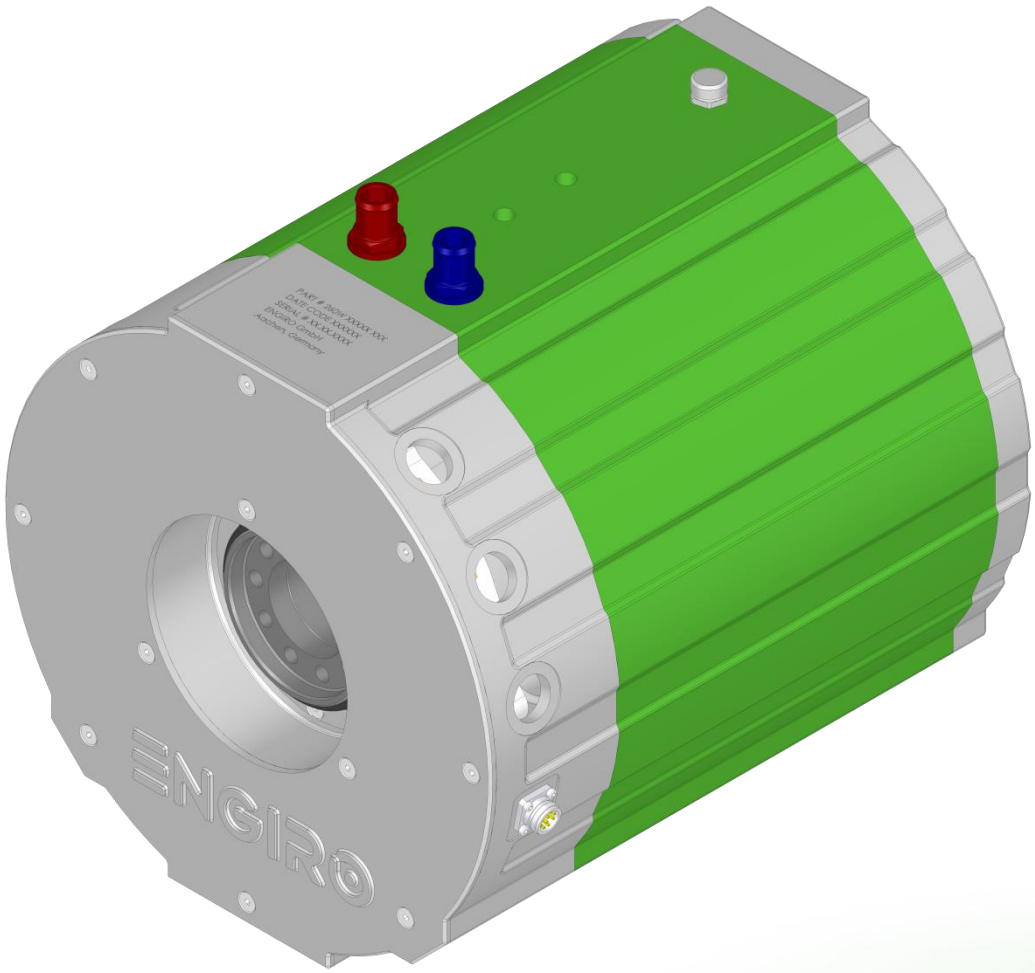
260W-10014-ABC

water-cooled motor / generator with 104 kW power



KEY FEATURES

- permanent magnet synchronous machine
- water-cooled
- high peak power for motor applications
- convincing cost-benefit ratio
- recommended voltage range from 300 V to 500 V
- 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

Version: 14

Table of Content

Section	Page
Operating Range	3
Available Type Variants / Technical Drawings	4
Performance Plots	5

Note:

On September 1st , 2024, **we transferred our ERP systems to SAP**. Due to this change, **we are altering our current part numbers**.

From now on, configurations regarding the rear interface of the motor (e.g., accessible rear shaft end, closed, …) will be specified in a separate part of the motor naming. Therefore, all 260W **D1-flanges will be renamed to S1-flanges** with the according B-side specification.

To see how our article numbers and motor naming scheme has changed, please consider the conversion table below:

Article number conversion					
Part.no.	**Old part.no.**	**Flange**	**Shaft**	**Position sensor**	**B-side interface**
4752425	260W_10014_SFR	S1	F1	R	…S11

To be noted:

The information in this technical data sheet is based on our current knowledge and experience. Due to the wide range of possible influences during application, they do not exempt the processor and user from carrying out their own tests and trials. Although the suitability for a specific application can be estimated from our information, a legally binding assurance is by no means possible. Depending on the individual case, we recommend consultation with us. Any industrial property rights and applicable laws must be observed by the recipient of our products on his own responsibility.

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Operating Range

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Nominal Operation (S2, 30 min, cooling as specified below)						
Torque	T_{nom}				264	Nm
Power	P_{nom}				104	kW
Speed	n_{nom}				3690	rpm
Phase rms-current	I_{nom}				268[1,2)]	A
Battery voltage (DC)	U_{nom}				400	V
Electric frequency	$f_{el,nom}$				307	Hz
Power factor	cos(φ)				0.73	
Maximal Values (S2, 10s, cooling as specified below)						
Torque	T_{max}				543	Nm
Power	P_{max}				194	kW
Phase rms-current	I_{max}				703[2)]	A
Battery voltage (DC)	U_{max}				500	V
Speed	n_{max}				6000	rpm
Electric frequency	$f_{el,\ max}$				500	Hz
Electrical Data						
Number of phases					3	
Number of pole pairs					5	
Maximal efficiency					96	%
T/*I* constant (I<I_{nom})					0.98	Nm/A_{rms}
U/*n* constant (AC) at a temperature of 30°C		rms:	58.8	peak:	91.1	V/(1000rpm)
K_e constant (AC) at a temperature of 30°C		rms:	0.112	peak:	0.174	$V/(rad*s^{-1})$
Additional Data						
Weight (w/o cables)					77	kg
Rotor moment of inertia					0.0899	$kg*m^2$
Protection category					IP6K9K[3)]	
Maximal motor temperature					140	°C
Allowed ambient temperature					-20 … 45[4)]	°C
Cooling (medium, flow rate, inlet temperature, pressure)					water/glycol 50/50, 16 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 ¾" / 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)] 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. / Only applies to variants with closed B-side /
[4)] other range on request

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Available Type Variants

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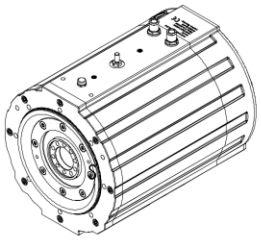
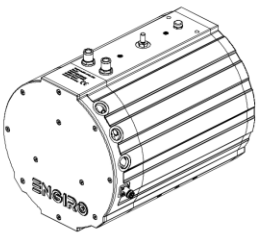
Available Type Variants				
Flange	Shaft	Pos. sensor	B-side interface	Weight (kg)
S1 Flange with mounting threads (Ø230 mm centering, Ø250 PCD 8 x M10)	**F1** Hollow shaft with screw flange (Ø90 and Ø50 mm centering, Ø66 mm PCD 10 x M10)	**R** Resolver	**S11** Closed B-side	≈ 77 kg

Other individual combinations are also possible on request.

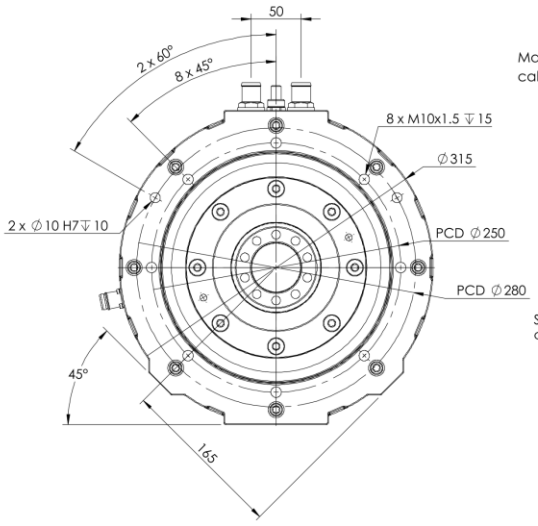
Technical Drawings

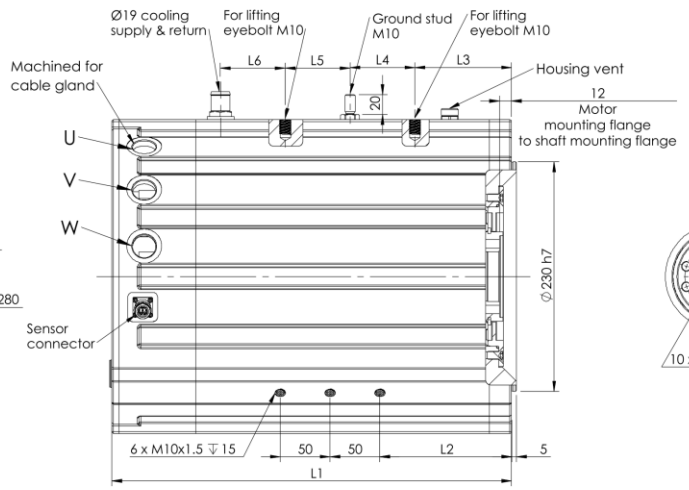


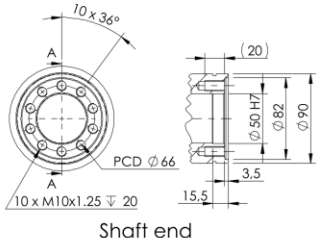
Front view



Rear view







Shaft end

Model	L1	L2	L3	L4	L5	L6	Moment of Inertia [kg.m²]	Cooling channel volume [L]
260W_080xx	331	97	92	40	30	60	0,0671	1,28
260W_100xx	351	107	97	45	35	65	0,0899	1,38
260W_130xx	381	112	107	55	35	75	0,0944	1,53
260W_150xx	401	132	97	65	65	65	0,1006	1,64

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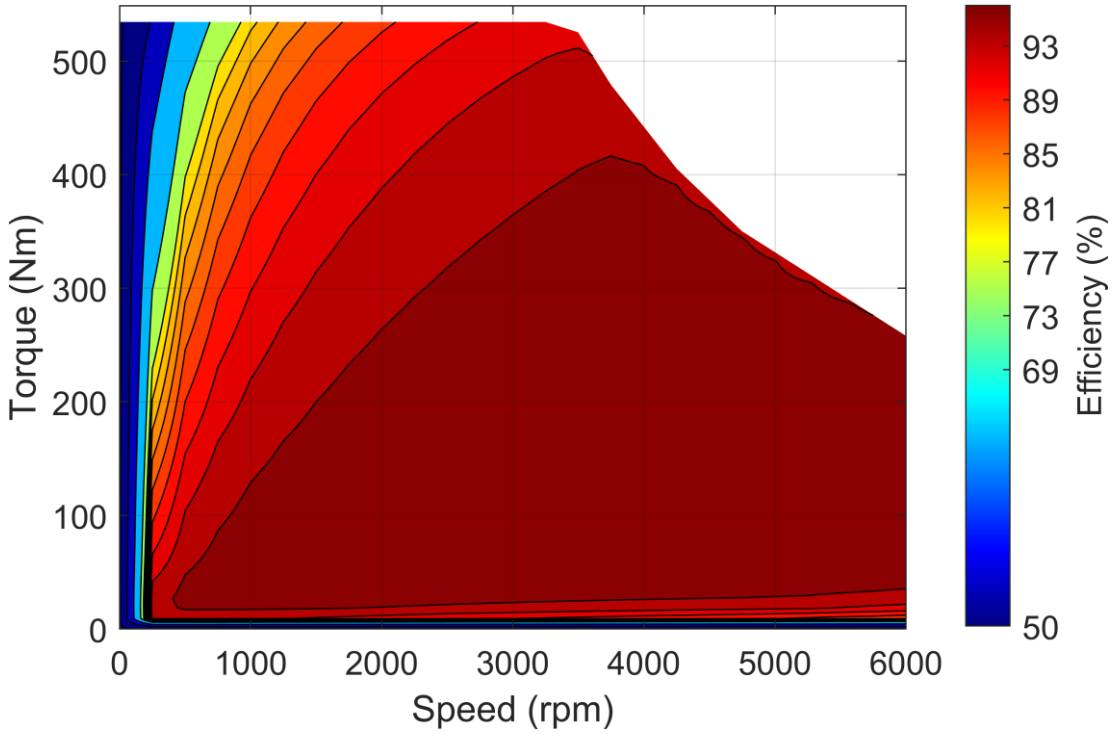
Performance Plots

Simulated Efficiency of Motor Application

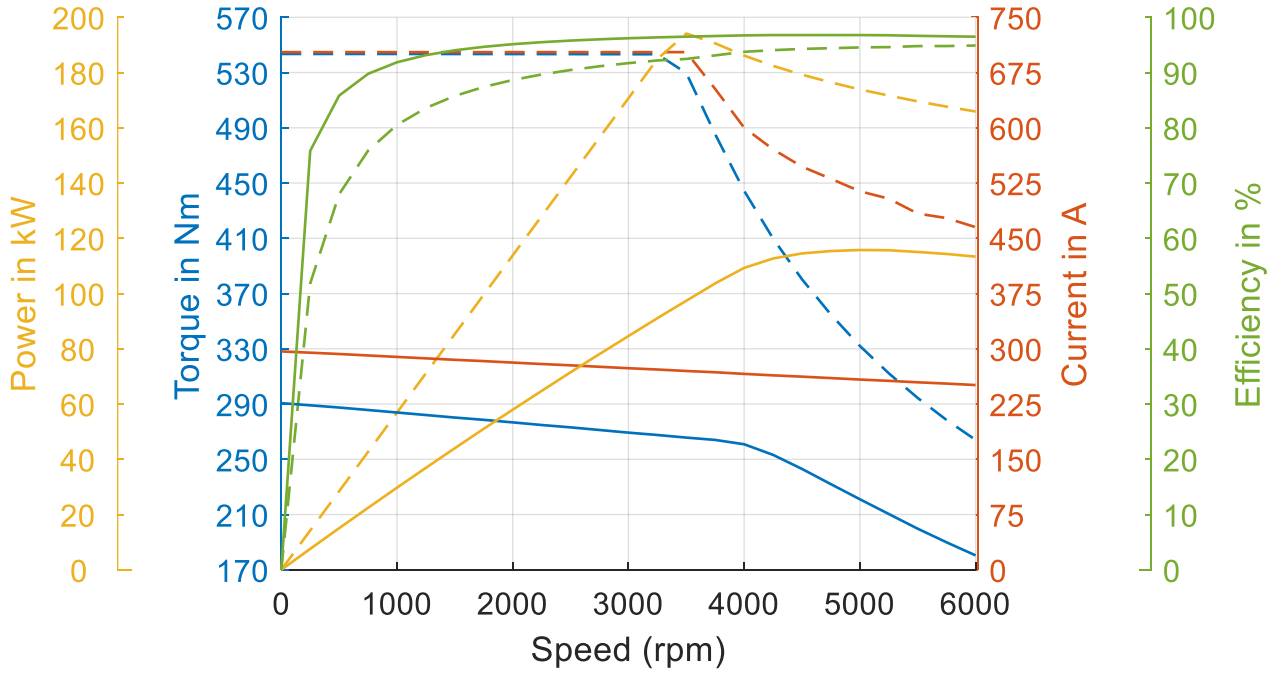
(electric machine only; U_{nom} = 400 V; machine at 140 °C;)



Simulated Characteristic Motor Parameters

U_{nom} = 400 V

solid lines: S2 30min; dashed lines: maximum;



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