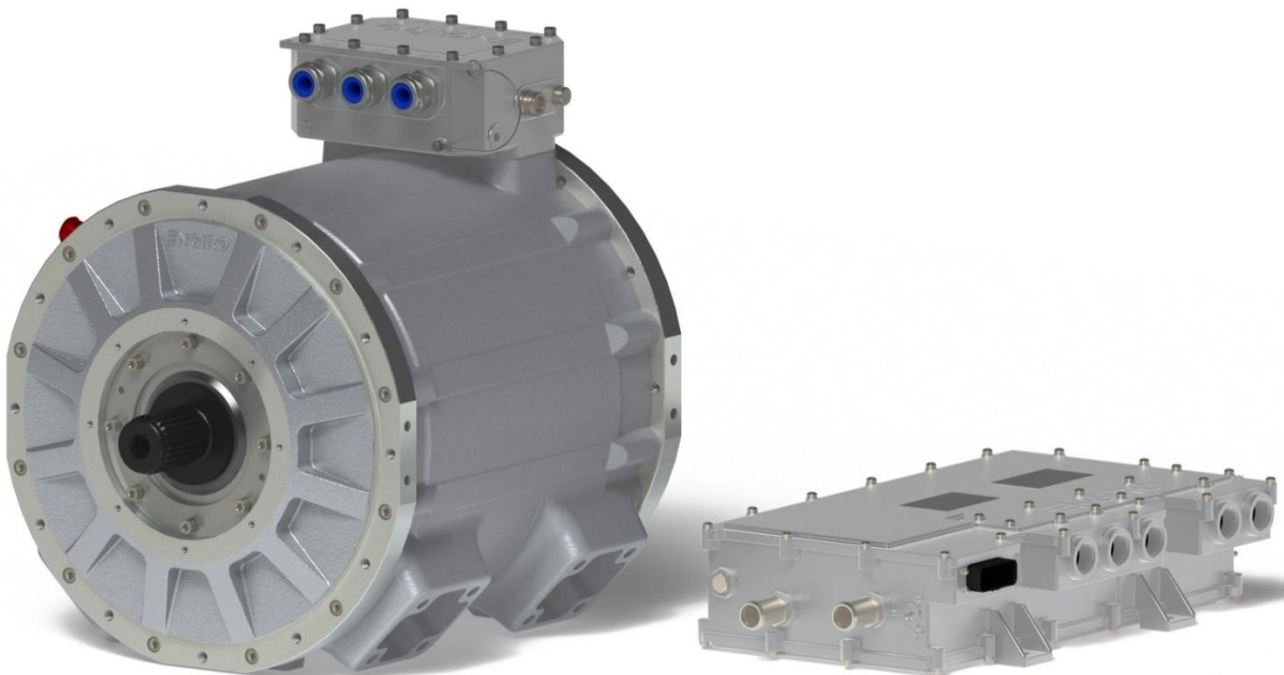


370W-29016-SSR 800V Set

260 kW drive set / over 3600 Nm peak torque



KEY FEATURES

- Interior permanent magnet synchronous machine
- 800V 3-phase motor controller
- Water-cooled
- Full torque at zero speed
- High efficiency over a wide speed range

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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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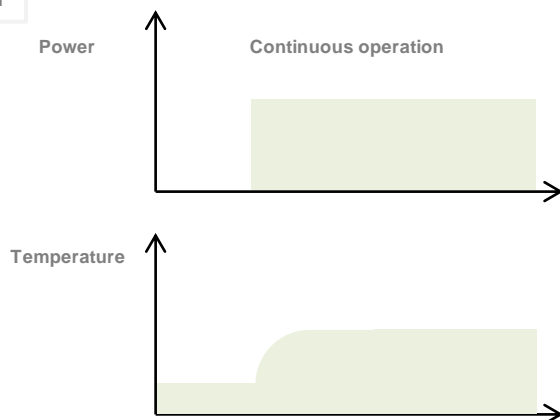
Characteristic Operating Points¹⁾

		S1	S2	S2	
Feasible operation time	t_{on}	continuous	30 min	30 sec	
Torque	T	1986 ²⁾	2130 ²⁾	3720 ²⁾	Nm
Power	P	260	279	387	kW
Recuperation power	P_{recu}	273	296	439	kW
Phase rms-current (AC)	I_{rms}	392 ³⁾	413 ³⁾	897 ³⁾	A
Battery current (DC)	I_{DC}	398 ³⁾	427 ³⁾	667 ³⁾	A
Battery voltage (DC)	U_{DC}	700	700	700	V
Speed	n	1250	1250	994	rpm
Electric frequency	f_{el}	125	125	99	Hz
Set Efficiency	η_{tot}	95	94	87	%
Cooling	specified on page 5				

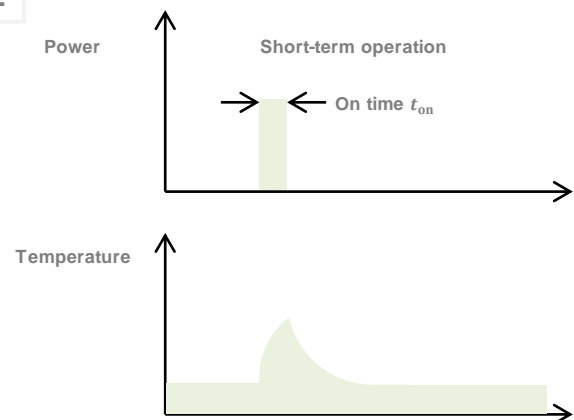
Maximum Operating Range

		Max.	
Torque	T_{max}	3720 @ 994 rpm ²⁾	Nm
Power	P_{max}	387 @ 994 rpm	kW
Recuperation power	$P_{max,Recu}$	439	kW
Phase rms-current	$I_{rms,max}$	897 ⁴⁾	A
Battery current (DC)	$I_{DC,max}$	667 ⁴⁾	A
Battery voltage (DC)	U_{max}	850 ⁵⁾	V
Speed	n_{max}	3000	rpm
Electric frequency	f_{el}	300	Hz
Power density	$\rho_{gravimetric}$	1.27	kW/kg

S1



S2

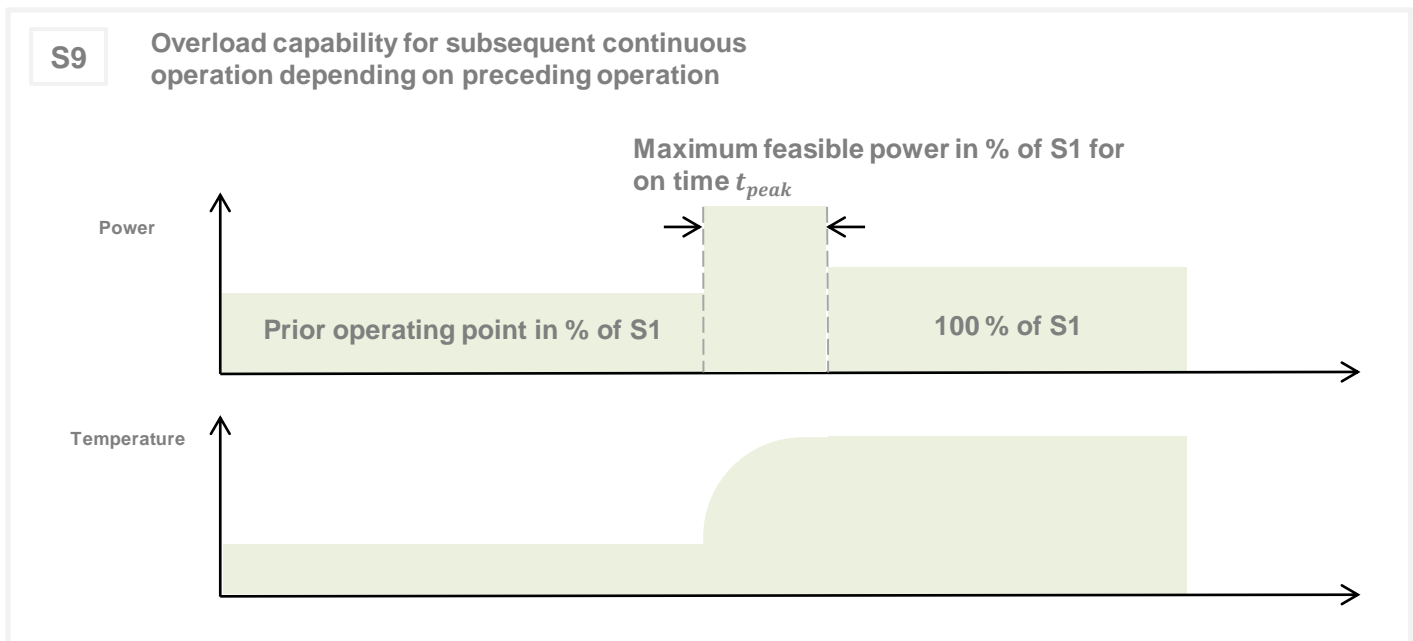


- 1) Defined Range only valid for a power factor of 1 at DC input
- 2) Torque rating is dependent on rotor temperature
- 3) The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition.
- 4) Peak rating for max. 30 seconds on time
- 5) Derating < 520V and > 800V

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S9 Operating Points Maximum Feasible Power in % of S1

$U_{nom} = 700\text{ V}$		Prior operating point in % of S1				
		0 %	25 %	50 %	75 %	100 %
On time t_{peak}	30 s	144 %	144 %	144 %	144 %	100 %
	180 s	127 %	127 %	118 %	118 %	100 %
	420 s	118 %	118 %	109 %	104 %	100 %



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Additional Data			
		Motor	Inverter
Weight (w/o cables)		295	25,5 kg
Rotor moment of inertia		1.07	- kg*m ²
Allowed range of ambient temperature		-20 ... +85	-40 ... +85 °C
Cooling	Advised medium (OAT Coolants)	water/glycol - 50/50 ▪ TL 774-D/F ▪ VIN 878389 ▪ MAN 324 SNF ▪ MTL 5048	
	Flow rate	20 – 30	15 – 25 l/min
	Inlet temperature	≤ 60 ⁶⁾	≤ 65 °C
	Pressure drop	1.1	0.65 – 1.65 bar
	Maximum pressure	2	2,5 bar
	Cooling channel volume	3.8	0.21 l
DC link capacitance		-	900 µF
Temperature monitoring		2 x PT 1000	Internal
Rotation direction		Freely controllable via CAN Bus	
Ports			
Power terminals		1 x 2 Phase DC, 1 x 3-Phase AC	
Signal connectors		AMPSEAL, 35-Pin	
Cooling connectors		Inner Ø 21 mm, outer Ø 25 mm	
Control and Communication			
Type		Slave	
		Speed/Torque Control freely controllable via software	
CAN Bus	Symbol/Baud rate	250/500 kbaud/s	
	Technology	CAN 2.0, J1939 like	
Torque Ramp		Safety limits can be set in inverter by ENGIRO.	
Speed Ramp		Safety limits can be set in inverter by ENGIRO.	

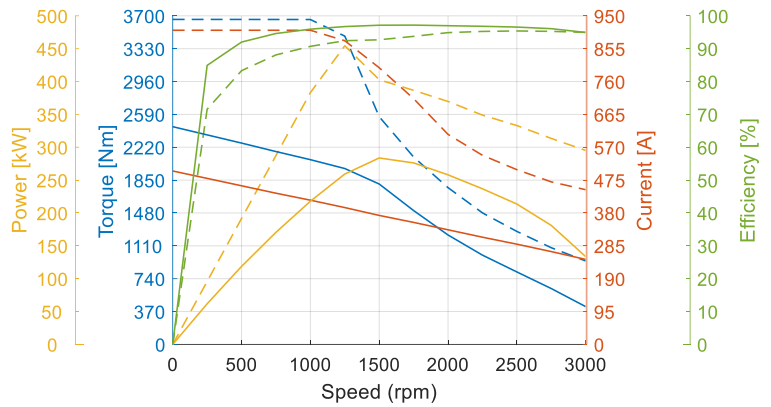
6) Derating for T_{coolant} > 45°C

Certifications		
	Motor	Inverter
Type approval	CE, EN 60034	-
Environmental	ISO 9227 (400h)	-
Protection grade	ISO 20653 IP6K9K ¹⁾	Prepared for ISO 20653 IP6K9K
Vibrations	Prepared for ISO 16750-3	Prepared for ISO 16750-3
EMC	-	Prepared for CISPR25 (2016), ECE R10
Functional safety	-	Prepared for ISO 26262 up to ASIL-C
Customs tariff number	8501 5350	8504 4088

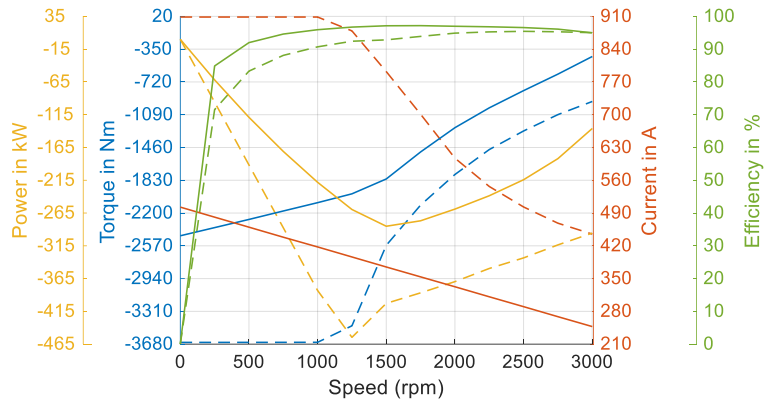
1) Please note that the IP6K9K rating is only valid if the machine is installed with suitable cable glands and an appropriate sealed interface at the drive side of the motor (flange and/or shaft). Please contact ENGIRO for further questions

700V

Simulated Motor Characteristics
solid lines: continuous
dashed lines: maximum

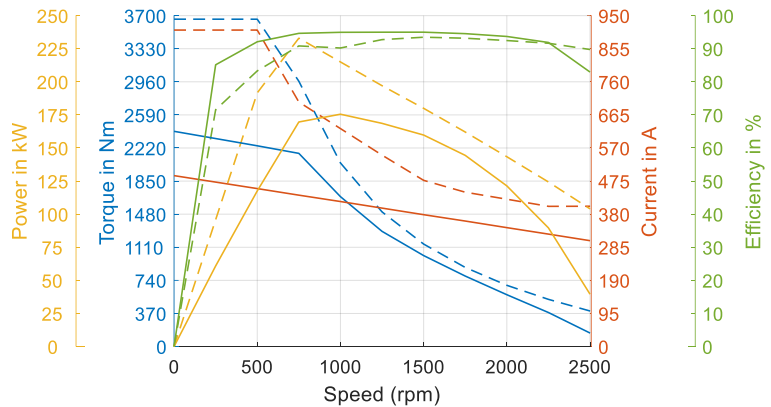


Simulated Generator Characteristics
solid lines: continuous
dashed lines: maximum

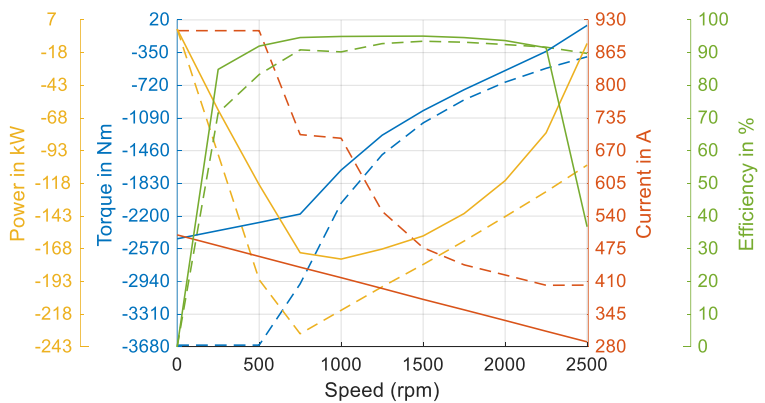


400V

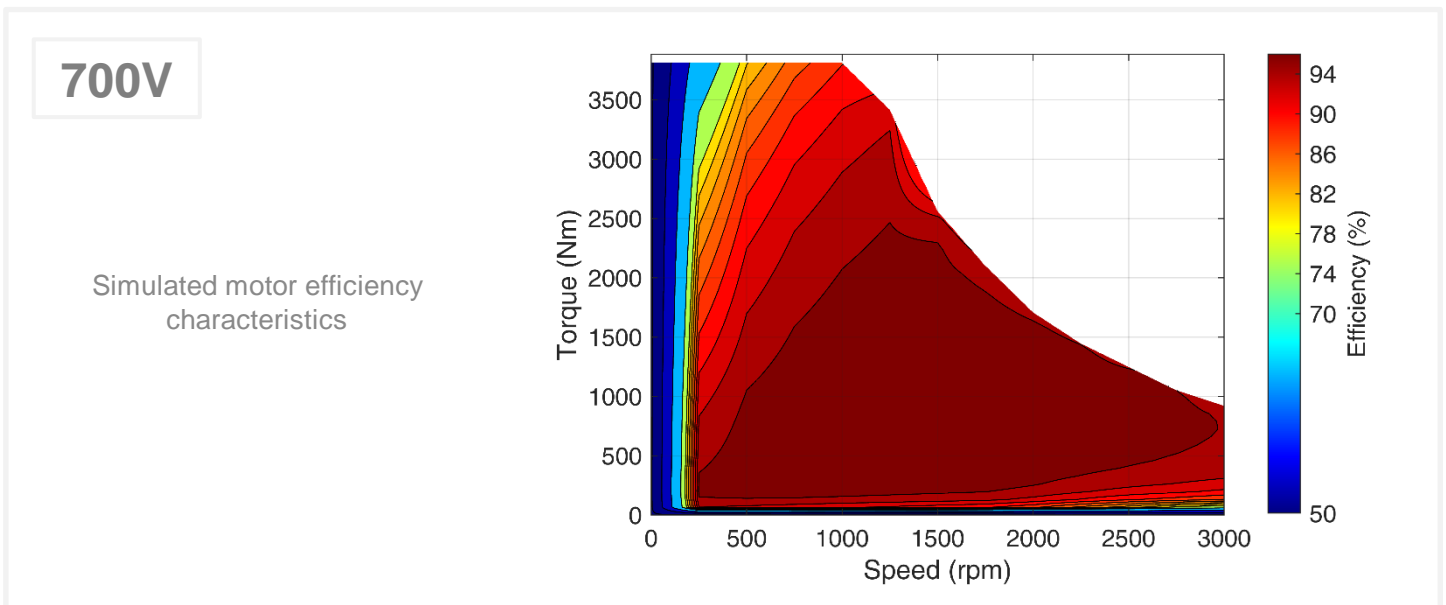
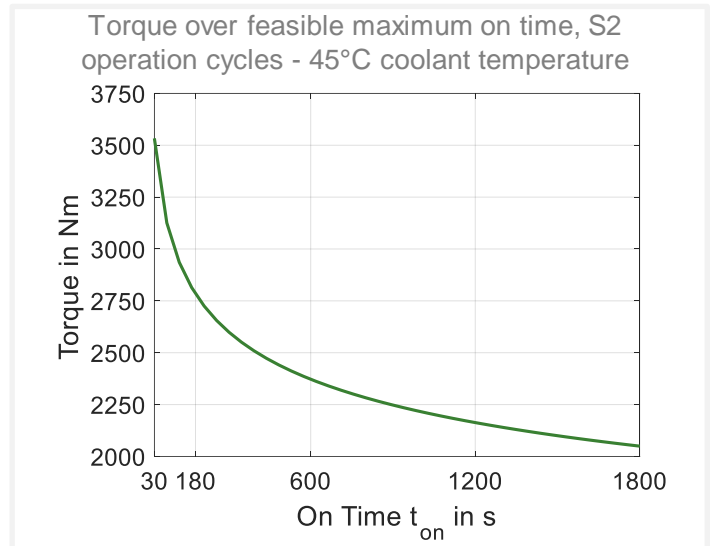
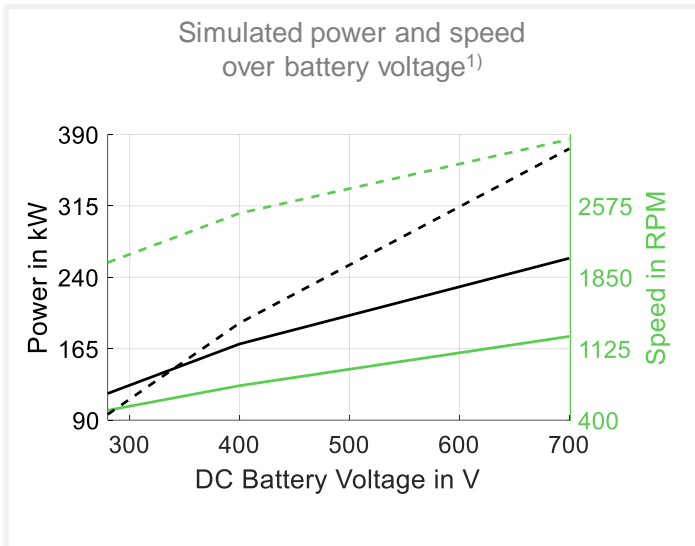
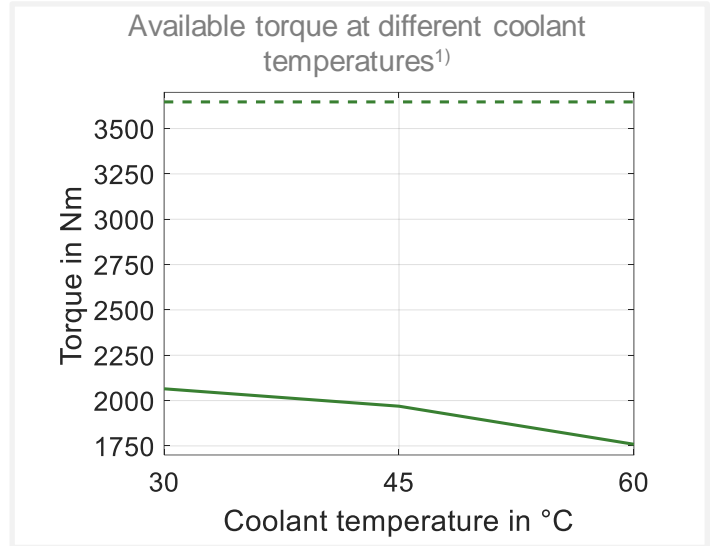
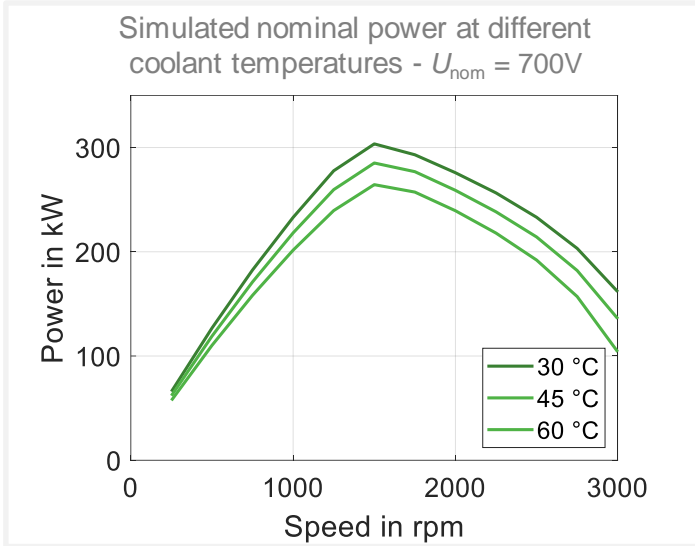
Simulated Motor Characteristics
solid lines: continuous
dashed lines: maximum



Simulated Generator Characteristics
solid lines: continuous
dashed lines: maximum

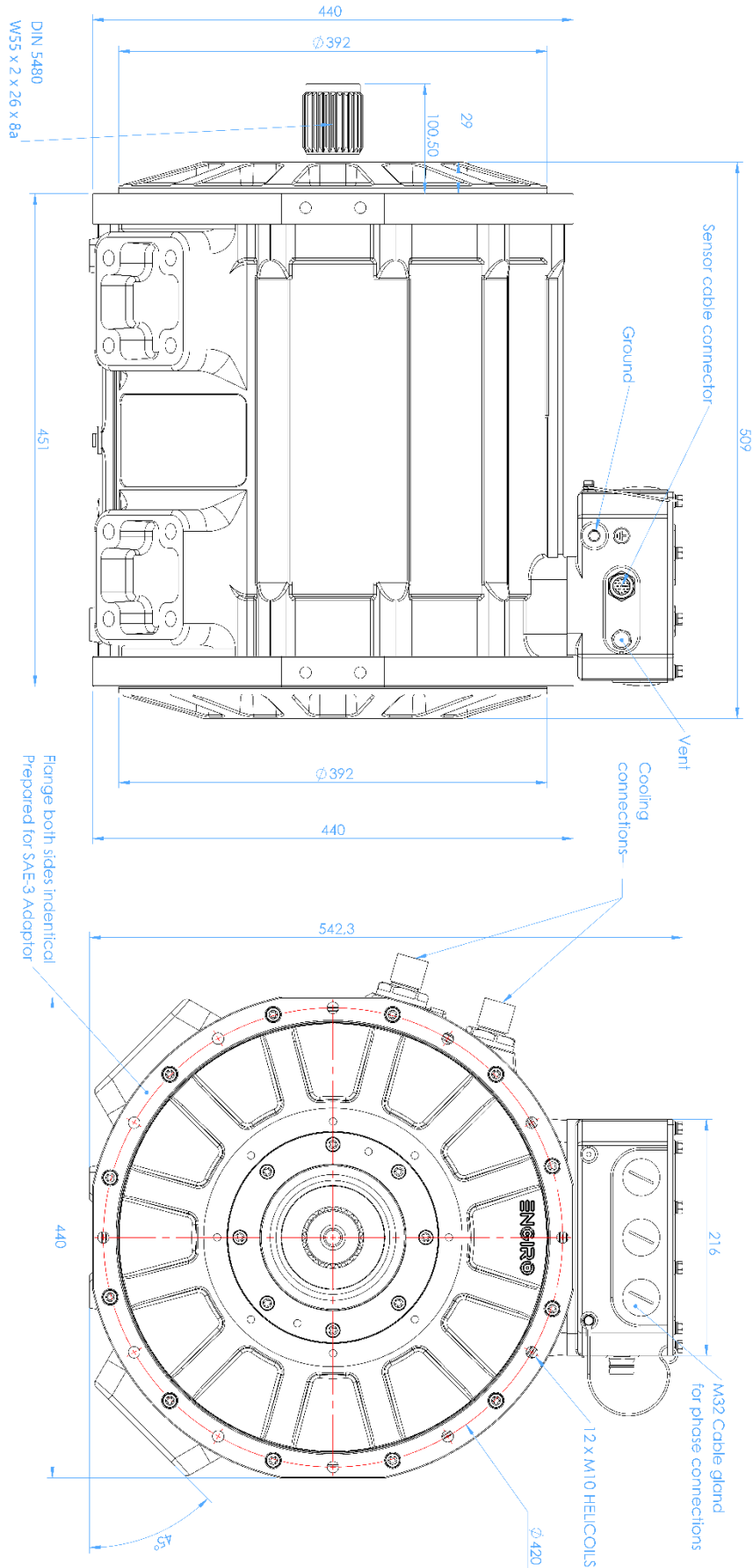


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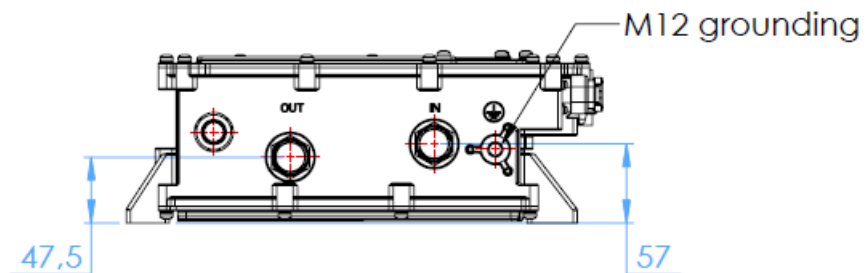
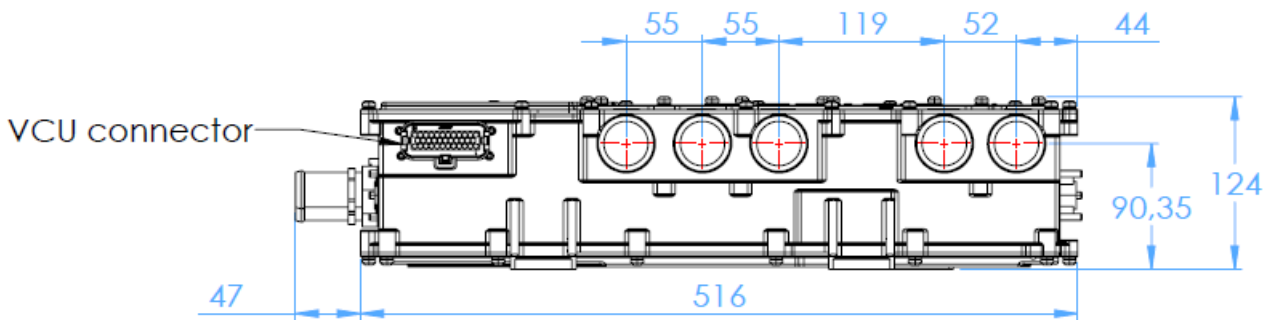
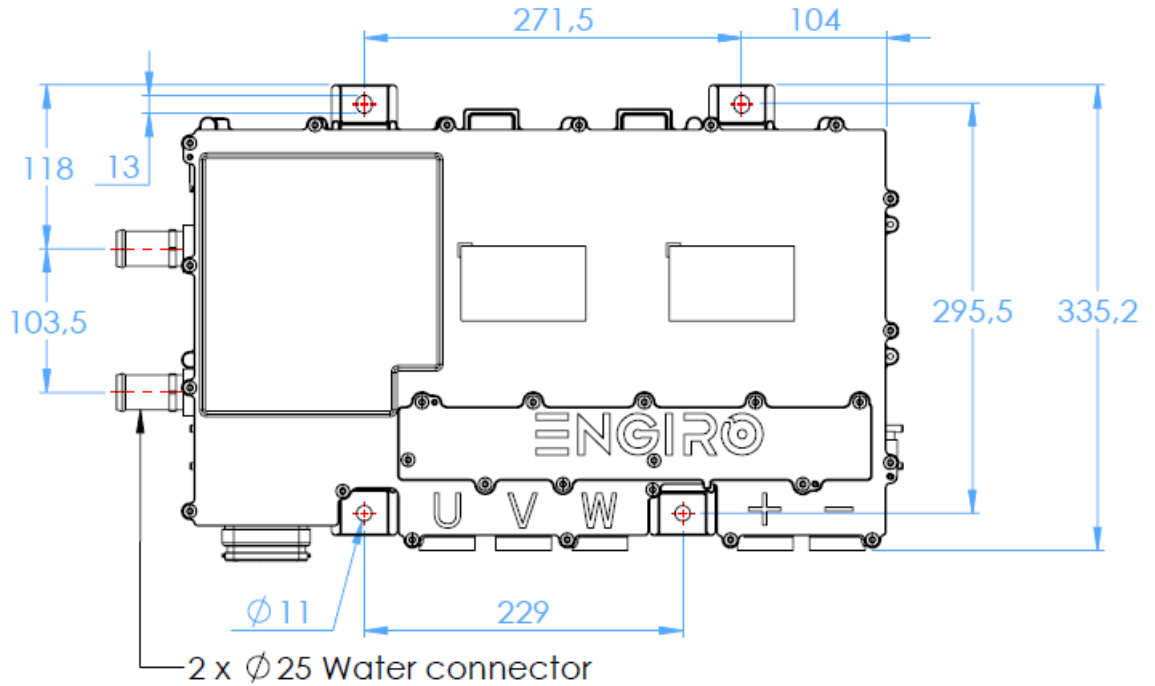


1) solid lines: continuous; dashed lines: maximum;

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370W-29016-SSR 700V Set				
Item description				Article number
Available Motor Variants	A: flange	B: shaft	C: position sensor	
	S: Standard flange with Ø382 centering	S: One-sided toothing	R: Resolver	370W_29016_SSR
ENGIRO High Performance Traction Inverter 600A / 900A 800V 3 phase motor controller				2151
Available Cables	Amphenol AC port 3 x 120mm ² cables with connector; Length: 1000 mm UVW			1880
	Amphenol AC port 3 x 120mm ² cables with connector; Length: 2000 mm UVW			1641
	ENGIRO 900A controller 120 mm ² cable set DC; Length: 4500 mm			1883
	ENGIRO 900A controller 120 mm ² cable set DC; Length: 7000 mm			1884
	Wiring harness for ENGIRO 370W / ENGIRO High Performance Traction Inverter; Length: 2000 mm			1653

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