

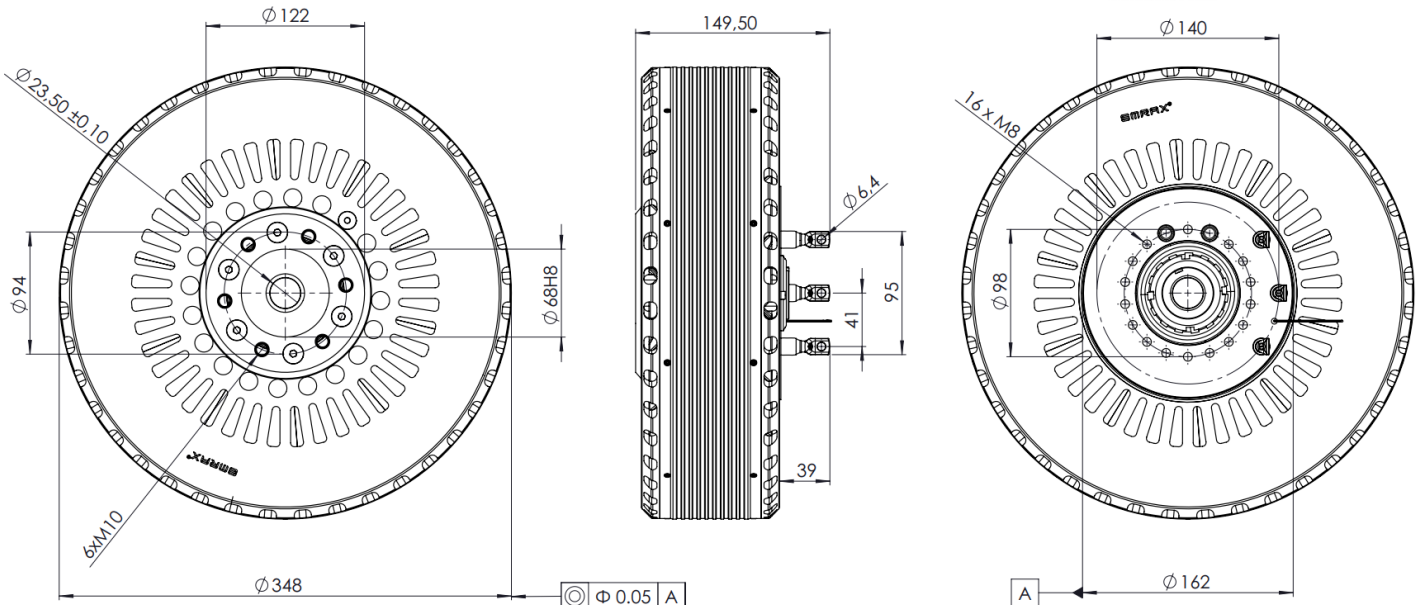
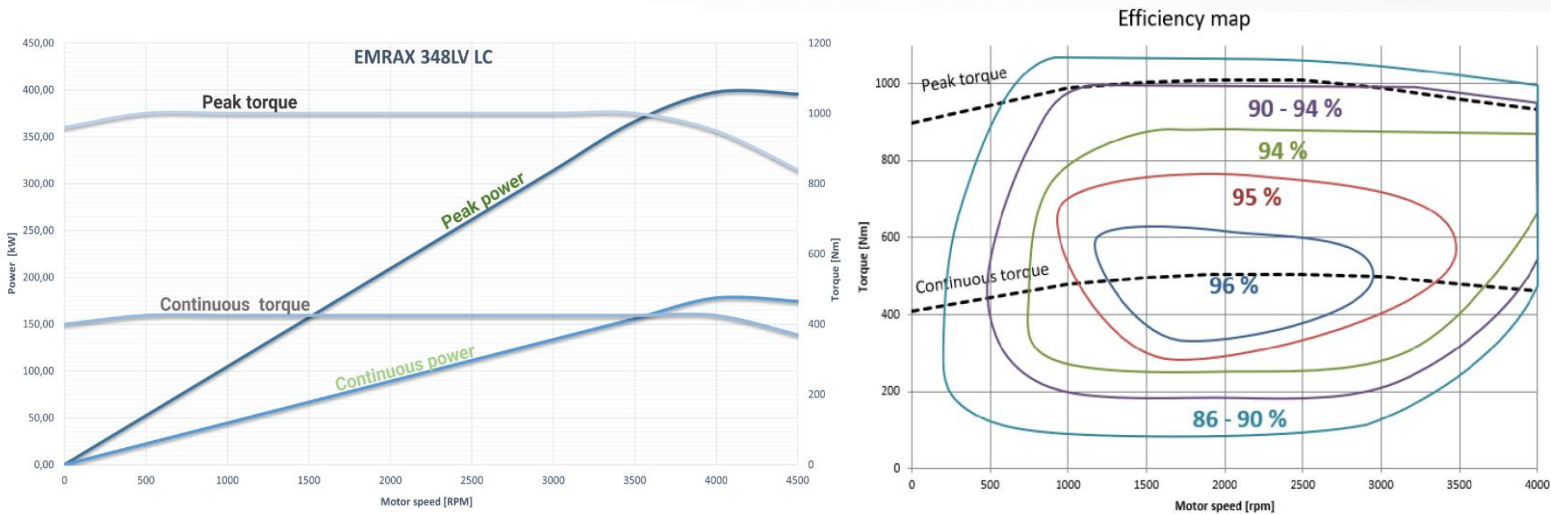
EMRAX 348 is a compact axial flux permanent magnet synchronous electric motor with high power/torque density.

The 348 is the biggest motor in our offering. It can output impressive torque figures directly on the driveshaft. It has found its uses in aviation sector, marine, heavy machinery as well as a traction motor for some impressive vehicles. Contact us to find out more!

EMRAX 348

DIAMETER LENGTH	348 mm 112 mm
WEIGHT	43,1-43,9 kg
COOLING	air / water / combined
PEAK CONTINUOUS POWER	400 kW 210 kW*
PEAK CONTINUOUS TORQUE	1000 Nm 500 Nm*
MAXIMUM SPEED	4000 RPM
OPERATING VOLTAGE	100 - 830 V
EFFICIENCY	up to 96%*
POSITION SENSOR	resolver / encoder

*Subject to motor configuration, drive cycle, thermal conditions, and controller capability.



	EMRAX 348 High Voltage			EMRAX 348 Medium Voltage			EMRAX 348 Low Voltage		
AC = Air cooled LC = Liquid cooled CC = Combined cooled (Air + liquid)	AC	LC	CC	AC	LC	CC	AC	LC	CC
Ingress protection	IP21	IP66	IP21	IP21	IP66	IP21	IP21	IP66	IP21
Cooling specifications	ambient air 20°C 20 m/s	min. 6 l/min, max. 50°C	AC+LC*	ambient air 20°C 20 m/s	min. 6 l/min, max. 50°C	AC+LC*	ambient air 20°C 20 m/s	min. 6 l/min, max. 50°C	AC+LC*
Maximum motor temperature [°C]	120								
Motor connection type	UVW or 2x UVW			UVW or 2x UVW			UVW or 2x UVW		
Voltage required for peak power [V _{DC}]**	830 Vdc			830 Vdc			610 Vdc		
Motor peak efficiency [%]	96%								
Peak power S2 2min [kW]	148 kW at 1300 RPM			230 kW at 2000 RPM			400 kW at 4000 RPM		
Continuous power S1 (kW)	84	90	105	129	138	162	168	178	210
Peak torque [Nm]	1100								
Continuous torque [Nm]	400	425	500	400	425	500	400	425	500
Limiting speed [RPM]	4000								
K _V constant at no load [rpm/V _{DC}]	3,19			4,89			13,11		
K _V constant at nominal load [rpm/V _{DC}]	2,58			3,96			10,58		
K _V constant at peak load [rpm/V _{DC}]	1,62			2,48			6,56		
K _T constant [Nm/A _{RMS}]	2,94			1,92			0,72		
Peak motor current [A _{RMS}]	375			570			1500		
Continuous motor current [A _{RMS}]	150			230			600		
Internal phase resistance at 25 °C [mΩ]***	29,41			13,15			4,2		
L _D induction of 1 phase [μH]	425,2			185,3			28,5		
Induced voltage [V _{RMS} /RPM]	0,22982			0,15024			0,05605		
Magnetic flux – axial [Vs]	0,17918			0,11714			0,04366		
Temperature sensor on the stator windings	KTY 81/210								
Number of pole pairs	10								
Winding configuration	star								
Rotor Inertia [kg*m ²]	0,22042								
Bearing configuration	6210 3208								
Weight [kg]	43,1	43,9	43,5	43,1	43,9	43,5	43,1	43,9	43,5

*Combined cooled motor (CC) requires cooling specifications from air and liquid cooled motors, to reach its specifications. It cannot only be cooled as an air-cooled motor. Every EMRAX motor requires sufficient air circulation. The motors should not be completely enclosed in any condition. Please check EMRAX motor manual to learn more. Performance in your application will depend on your installation details and boundary conditions. Please contact us to learn more.

**All motors are tested for 833V maximum voltage.

***Measured Phase to Phase, then divided by 2.

High and medium voltage options are operating at speeds lower than its limiting, due to 830V voltage limitations.

Values given are for a standard 3 phase UVW version, please consult EMRAX on 2x UVW values.