THE SWITCH
A BEMAC GROUP COMPANY

SOLID ROTOR STANDALONE MACHINE SRS0315

Built for a wide range of high-speed applications

Switch up to rugged drive train technology for high-speed applications. Reach speeds of up to 15,000 rpm with power ranging from 300–1,500 kW. This is now possible with our proprietary solid rotor technology, which is now available also as standardized packages.

With our robust solid rotor motor, you get rid of the gearbox, while allowing the application to reach higher speeds and unmatched energy efficiency.

The structure is more compact and lighter in weight, requiring up to 50% less space than a conventional design. The solid rotor construction provides high mechanical integrity and rigidity. Without the gearbox, you can reach higher system efficiencies.

Our high-speed drive system consists of solid rotor motors together with our variable frequency drive technology. Together with the frequency converter, you get full control and variable speed over the entire operating range.

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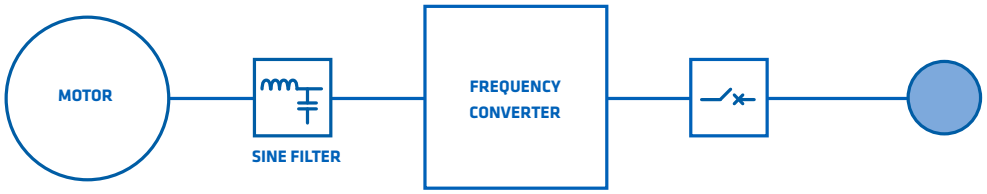
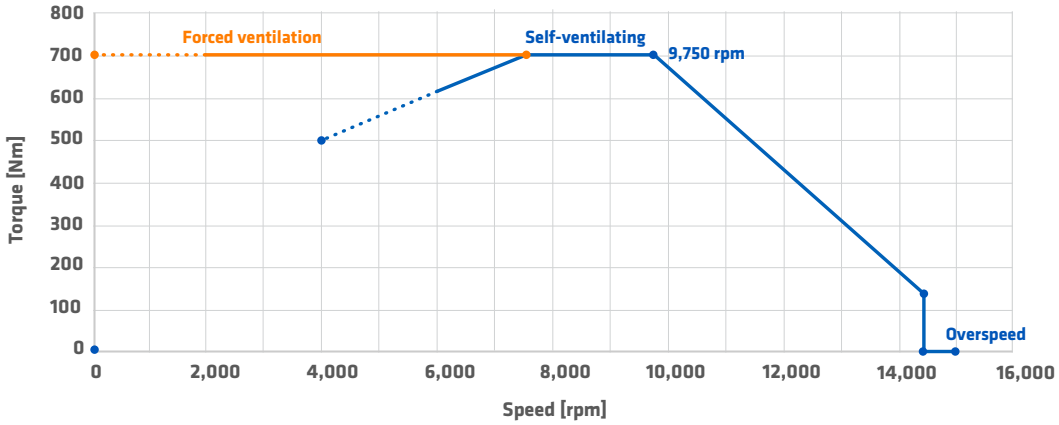
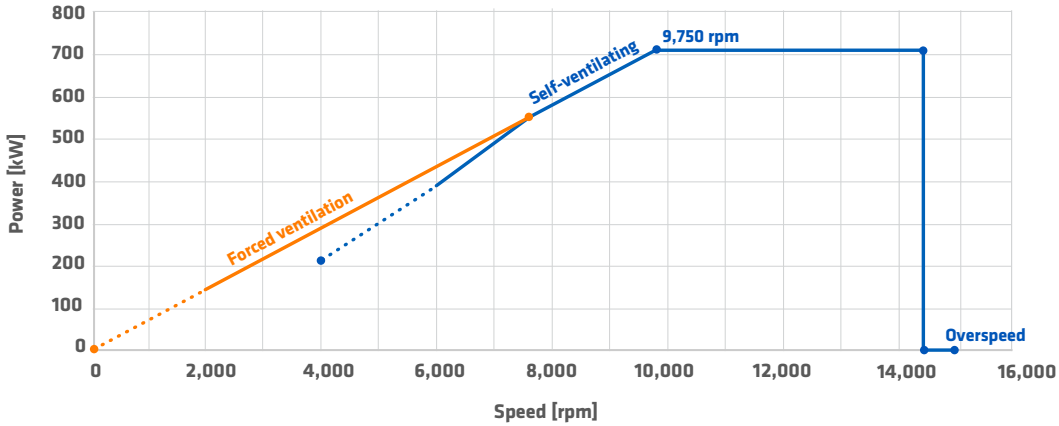


Machine designation	SRS0315			Description
Machine type	Solid rotor standalone machine			
Rated speed [rpm]	9,750 (maximum 14,300)			
Overspeed [rpm]	Maximum 15,000			No load
Number of phases	3			
Winding connection	Delta	Star		External terminals
VFD output requirements	See specification DN0210			Yaskawa specification
Number of poles	2			
Mass [kg]	1,200			
Mounting direction	Horizontal			
Mounting types	IM1001 (B3)	IM2001 (B35)		
Temperature rise class	IEC 155			
Insulation class	IEC 180			
Duty cycle	S1			Continuous duty
Cooling types	IC01A1	IC81W	IC3A7	IEC 60034-6
Rotation direction	CW/CCW	CW/CCW	Bi-direction	
Maximum cooling medium inlet temperature [°C]	Air +40	Liquid +45	Air +25	
Required flow rate [l/s]	N/A	1	450	At P_mech 710 kW
Cooling circuit pressure drop [kPa]	N/A	3	2.1	
IP class	IP23	IP44	IP23	
Dimension drawing	10015636	10013065	10015633	Available in PDF format
Maximum ambient temperature [°C]	+40			
Minimum ambient temperature [°C]	+5			
Maximum humidity [%]	95			
Bearings	Spindle bearings			
Bearing insulation	Ceramic rolling elements			
Lubrication	Oil + air			Pressurized air 80 l/min, min. 3 bar
External vibration [g]	Maximum 0.2			
Maximum external axial forces to shaft [N]	+500 / -250			+ = towards motor
Coupling half mass [kg]	Maximum 20			At the end of the motor shaft
Machine vibration class	Grade A			IEC 60034-14
Bearing lifetime	> 43,800 h (5 years)			L_{10mrh} ISO/TS 16281
Power terminal location	Side terminal box, entry from the top			Blind gland plate
Position of the terminal box	Left	Right		To be specified in the purchase order
Stator thermal protection	2 x 3 PT100			2 sensors / phase
Bearings thermal protection	2 x 1 PT100			1 sensor / bearing
Shaft height [mm]	315			Can be tailored
Shaft end diameter [mm]	d65 h6 as standard			Can be tailored up to d90
Design standard	EN 60034			

Loadability: SRS0315 710 kW / 9,750 rpm





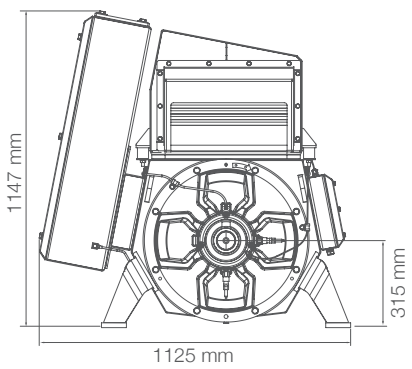
400 V nominal grid voltage

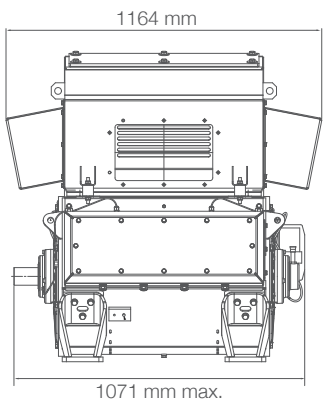
P [kW]	n [rpm]	Connection	T [Nm]	Terminal voltage (V)	I [A]	Cos φ	Efficiency
710	9,750	Delta	695.4	360	1,349	0.80	96.7
630			617.0		1,192	0.79	96.6
560			548.5		1,060	0.78	96.4
500			489.7		950	0.77	96.2
450			440.7		861	0.75	95.9
400			391.8		775	0.73	95.6
355			347.7		698	0.70	95.2

690 V nominal grid voltage

P [kW]	n [rpm]	Connection	T [Nm]	Terminal voltage (V)	I [A]	Cos φ	Efficiency
710	9,750	Star	695.4	624	810	0.80	96.7
630			617.0		716	0.79	96.6
560			548.5		636	0.78	96.4
500			489.7		570	0.77	96.2
450			440.7		517	0.75	95.9
400			391.8		465	0.73	95.6
355			347.7		419	0.70	95.2

Technical drawings – reference dimensions for IC0A1 cooling





Version 1, 2/2024