

3-phase IPM Synchronous Motor



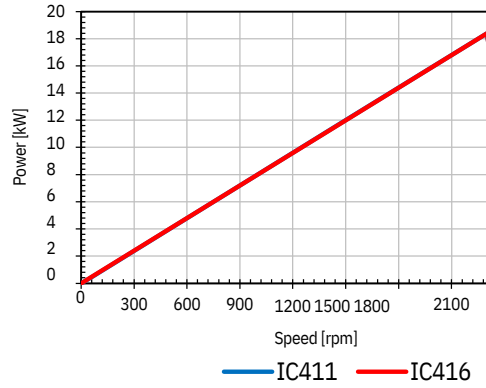
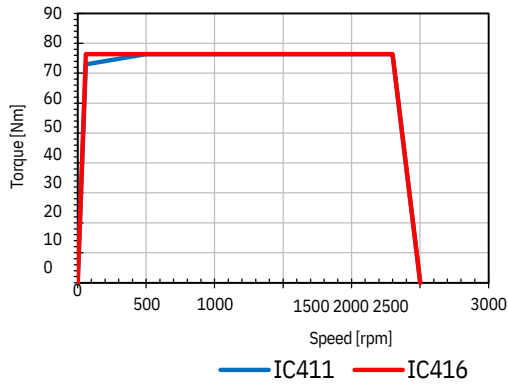
MPM 132M

Inverter Input Voltage 400V			Star Connection	Delta Connection
MOTOR IC411 (self-ventilated)			18,4 kW	32,0 kW
Description	Symbol	Unit of measure	Rated Speed (n_N)	
			2300 rpm	4000 rpm
Frequency	f	[Hz]	115	200
Number Poles			6	6
Maximum Speed (@ no load)	n_{MAX}	[rpm]	2500	4300
Voltage Costant (Connection) $\pm 5\%$	K_e	[Vrms/krpm]	157 (Y)	91 (Δ)
Torque Costant $\pm 5\%$	K_t	[Nm/Arms]	2,60	1,51
Rated Torque	T_N	[Nm]	76,4	76,4
Rated Current	I_N	[Arms]	32,7	58,8
Rated Voltage	U_N	[Veff]	398	387
Efficiency pure sinus	η	[%]	96,1	98,1
Efficiency with inverter	η	[%]	95,5	95,1
Maximum Torque	T_{MAX}	[Nm]	152,8	152,8
Maximum Torque Current	I_{MAX}	[Arms]	65,0	111,3
Switching Frequency		[kHz]	4	4
Phase-Phase Resistance @20°C dc mode	R_{pp}	[Ω]	0,29	0,12
Phase-Phase Induttance @ 1 kHz	$L_{pp/Ld/Lq}$	[mH]	7,18/5,93/8,43	2,21/1,72/2,71
Rotor Inertia	J	[kgm ²]		0,0449
Motor Weight B3/B14/B5/B34/B35		[kg]	55/54,9/56/55/56,1	
Ambient Temperature		[°C]	-15 + +40	
Protection Class			55	
Insulation Class			F	
Overtemperature Class			F/B	F/F
Duty Type			S1	
Standard Thermal Protection			PTC – 130°C	

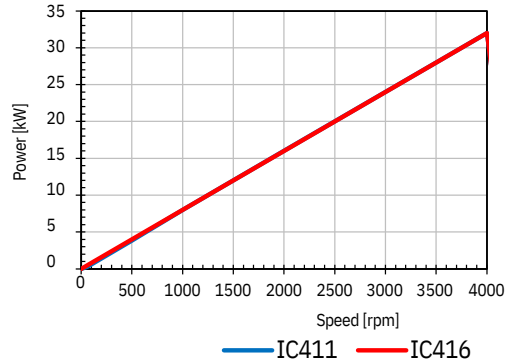
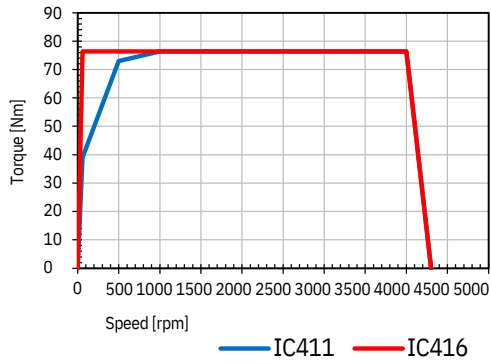
The efficiency values are terminated by line filters on 0,5 kHz and without harmonics components (only fundamental contributes). Switching frequency on test 4 kHz. The efficiency will decrease by 0.25% when an external fan is added.

3-phase IPM Synchronous Motor

18,4 kW
2300
rpm



32 kW
4000
rpm



--- IC411 (selfventilated) - - - IC416 (external fan)