

3-phase IPM Synchronous Motor



MPM 80L

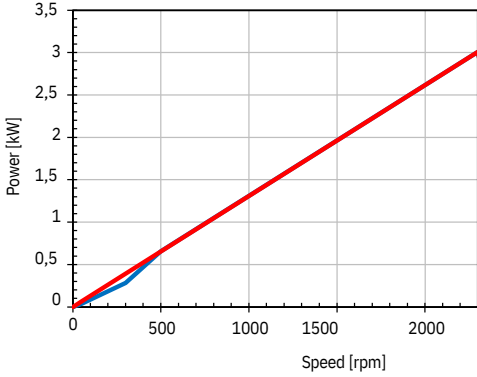
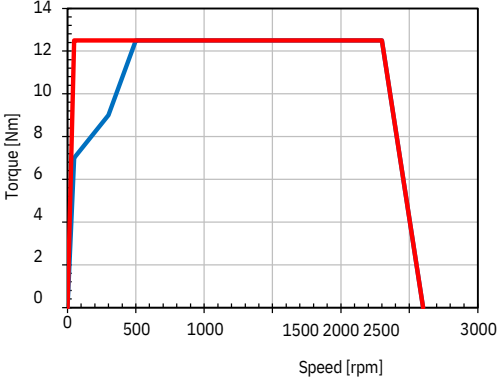
Inverter Input Voltage 400V			Star Connection	Delta Connection
MOTOR IC411 (self-ventilated)			3,0 kW	5,2 kW
Description	Symbol	Unit of measure	Rated Speed (n _N)	Rated Speed (n _N)
			2300 rpm	4000 rpm
Frequency	f	[Hz]	115	200
Number Poles			6	6
Maximum Speed (@ no load)	n _{MAX}	[rpm]	2600	4500
Voltage Costant (Connection) ±5%	K _e	[Vrms/krpm]	147 (Y)	85 (Δ)
Torque Costant ±5%	K _t	[Nm/Arms]	2,44	1,41
Rated Torque	T _N	[Nm]	12,5	12,5
Rated Current	I _N	[Arms]	5,8	9,9
Rated Voltage	U _N	[Veff]	363	360
Efficiency pure sinus	η	[%]	94,5	97,2
Efficiency with inverter	η	[%]	93,5	93,6
Maximum Torque	T _{MAX}	[Nm]	25	25
Maximum Torque Current	I _{MAX}	[Arms]	11,5	19,5
Switching Frequency		[kHz]	4	4
Phase-Phase Resistance @20°C dc mode	R _{pp}	[Ω]	3,3	1,1
Phase-Phase Inductance @ 1 kHz	L _{pp/Ld/Lq}	[mH]	43,5/25,5/61,4	15,0/8,0/21,9
Rotor Inertia	J	[kgm ²]		0.004054
Motor Weight B3/B14/B5/B34/B35		[kg]	12,6/12,4/ 12,7/12,6/13	
Ambient Temperature		[°C]	-15 ÷ +40	
Protection Class				55
Insulation Class				F
Overtemperature Class			F/B	F/B
Duty Type				S1
Thermal Protection				PTC130

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.

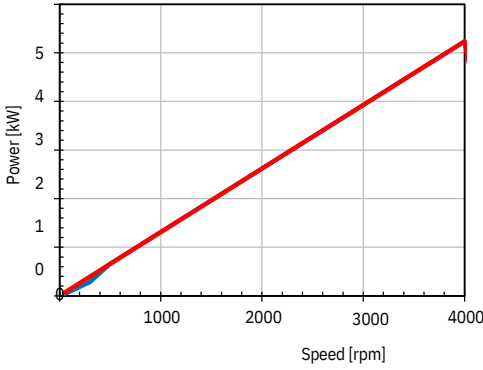
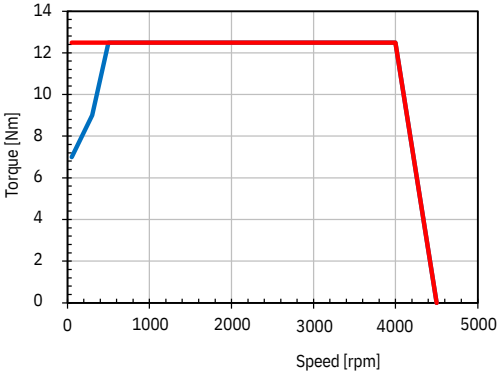
The efficiency will decrease by 0.25% when an external fan is added.

3-phase IPM Synchronous Motor

3,0 kW
2300
rpm



5,2 kW
4000
rpm



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