


ABB Motors and Generators		Technical Data Sheet				
Department/Author		Project	Location		Item name	
Our ref.		Rev/Changed by	Date of issue	Saving ident	Pages	
		A	1/16/2019	untitled.xls	1(3)	
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	3GBA 201 410-BDCIN			Calc. ref.	3GZH021020-1
3	Type/Frame	M2BAX 200MLA 2				
4	Mounting	IM3001, B5(flange)				
5	Rated output P _N	30	kW			
6	Service factor	1				
7	Type of duty	S1 100%				
8	Rated voltage U _N	415	VD	+10, -10 %		
9	Rated frequency f _N	50	Hz	+5, -5 %		
10	Rated speed n _N	2935	r/min			
11	Rated current I _N	51.5	A			
12						
13	Starting current I _s /I _N	7				
14	Nominal torque T _N	98	Nm			
15	Locked rotor torque T _S /T _N	2.2				
16	Maximum torque T _{max} /T _N	3.2				
17						
18						
Load characteristics		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	100	51.5	92.0 / IE2	0.88	
20		75	39.4	92.4	0.86	
21		50	28.9	91.5	0.79	
22						
23	Thermal withstand time hot	13	s			
24	Thermal withstand time cold	21	s			
25	Insulation class / Temperature class	F / B				
26	Ambient temperature	50	°C			
27	Altitude	1000 m.a.s.l.				
28	Degree of protection	IP55				
29	Cooling system	IC411 self ventilated				
30	Bearing DE/NDE	6312-2Z/C3 - 6209-2Z/C3				
31	Sound pressure level (LP dB(A) 1m)	80	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD ²	0.1077	kg·m ²			
33	Position of terminal box	Top				
34	Direction of rotation	Bi-directional				
35	Weight of rotor	46	kg			
36	Total weight of motor	198	kg			
37						
38						
39						
40						
41						
42						
43						
44						
45						
Ex-motors						
46						
47						
48						
Option Variant Codes / Definition						
49						
50						
51						
52						
Remarks:						
Data based on situation 9/19/2015						

All performance values are subject to IS/IEC tolerances


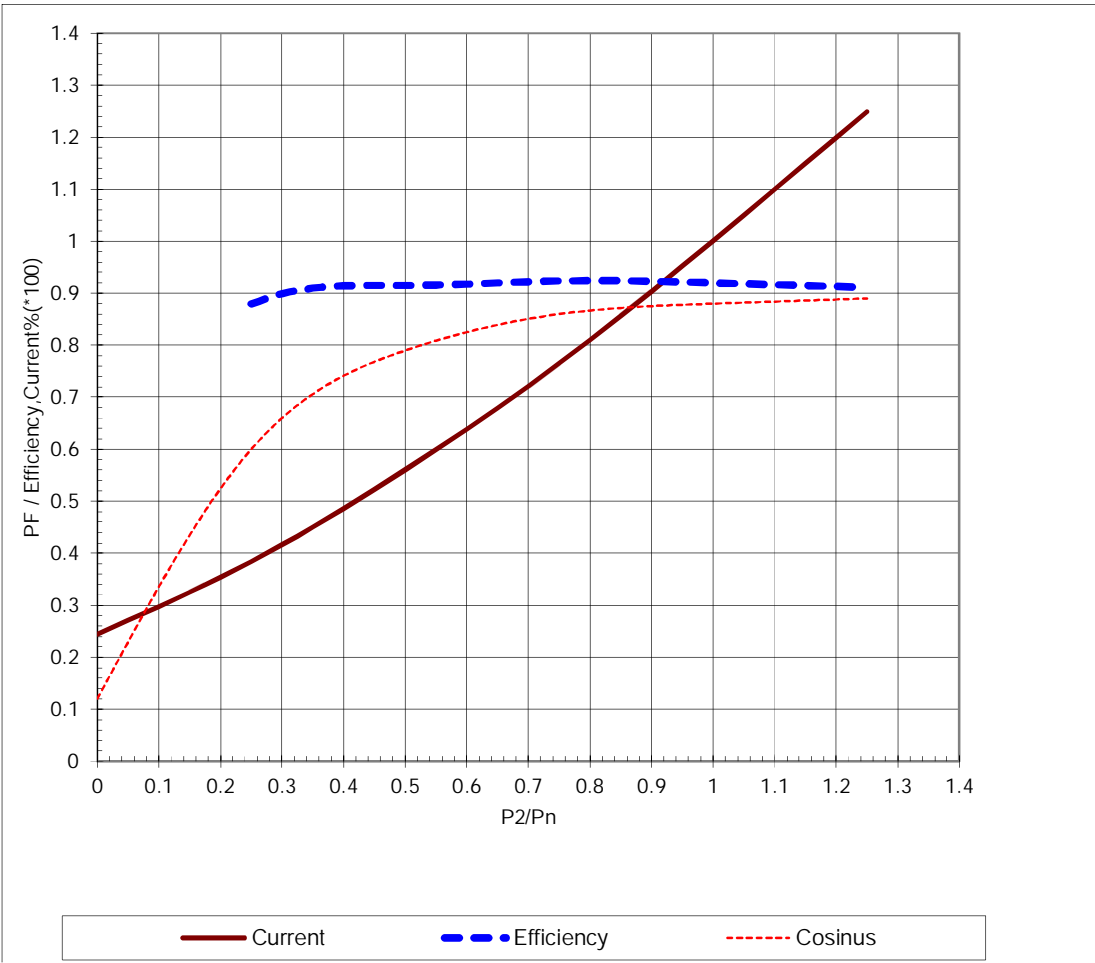


ABB Motors and Generators	Load Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 1/16/2019	Saving ident untitled.xls
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Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 200MLA 2	Calc. ref.	3GZH021020-1
Product code	3GBA 201 410-BDCIN		
Rated output P _N	30	kW	
Type of duty	S1 100%		
Voltage (V)	415	Current I _N (A)	51.5
Frequency (Hz)	50	Speed (r/min)	2935
		Power factor at P _N	0.88
		Efficiency (%) at P _N	92
			
<p>Data based on situation 9/19/2015</p> <p style="text-align: center;">All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004</p>			

ABB Motors and Generators	Starting Curves			
	Project	Location		
Department/Author	Customer name	Customer ref.		Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 1/16/2019	Saving ident untitled.xls	Pages 3(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	M2BAX 200MLA 2	Calc. ref.	3GZH021020-1	
Product code	3GBA 201 410-BDCIN	Frequency (Hz)	50	
Rated output P _N	30 kW	Rated current I _N	51.5	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	0.11	Voltage (V) 100%	415	Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.2	T _{start} /T _N 2.2
Speed (r/min)	2935	Starting time (s)	0.1	Starting time (s)
T _N (Nm)	98	Speed (r/min)		Speed (r/min)
T _{load} (Nm)		I _s /I _N	7	I _s /I _N 7
		T _{max} /T _N	3.2	T _{max} /T _N 3.2

The graph displays the starting characteristics of the motor. The x-axis represents Speed in r/min, ranging from 0 to 3250. The left y-axis represents the torque ratio T_s/T_n (0 to 4.5), and the right y-axis represents the current ratio I_s/I_n (0 to 9). Two sets of curves are shown: one for 415V (solid lines) and one for 415V(100%) (dashed lines). The torque curves (T_{MotorUn} and T_{MotorU2}) show a peak torque around 2500 r/min. The current curves (I_{MotorUn} and I_{MotorU2}) show a peak current around 2500 r/min, reaching a maximum value of 7.0 at the start of the motor (0 r/min).

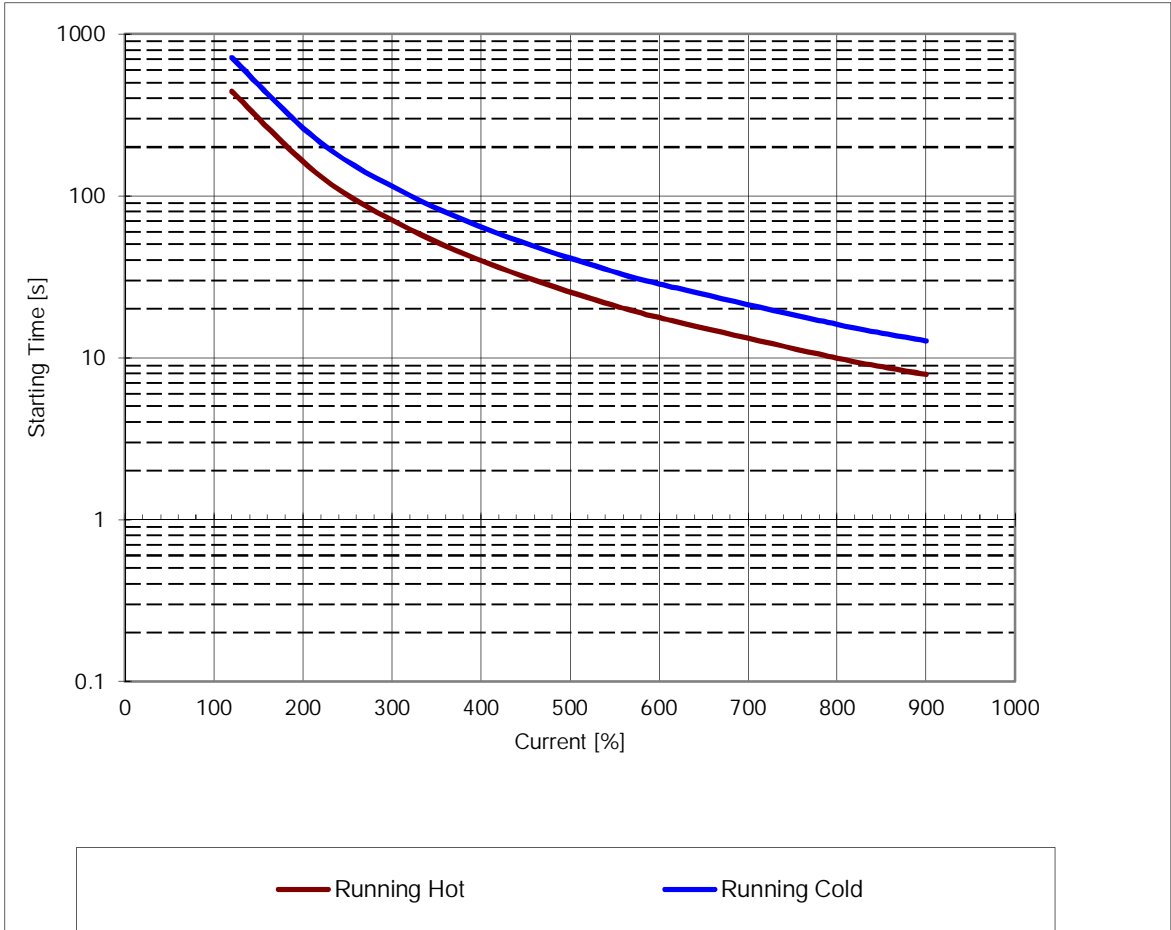
Speed (r/min)	T _{MotorUn} 415V (Ts/Tn)	T _{MotorU2} 415V(100%) (Ts/Tn)	I _{MotorUn} 415V (Is/In)	I _{MotorU2} 415V(100%) (Is/In)
0	2.2	2.2	7.0	7.0
250	2.1	2.1	6.8	6.8
500	2.0	2.0	6.5	6.5
750	2.0	2.0	6.2	6.2
1000	2.1	2.1	5.8	5.8
1500	2.5	2.5	4.5	4.5
2000	3.0	3.0	3.5	3.5
2500	3.2	3.2	2.5	2.5
3000	0.0	0.0	0.0	0.0

Data based on situation 9/19/2015
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004

ABB Motors and Generators	Thermal Withstand Curve		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by A	Date of issue 1/16/2019	Saving ident untitled.xls
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Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 200MLA 2	Calc. ref.	3GZH021020-1
Product code	3GBA 201 410-BDCIN	Frequency (Hz)	50
Rated output P _N	30 kW	Rated current I _N	51.5 A
Type of duty	S1 100%		

J _{motor} (kgm ²)	0.11	Voltage (V) 100%	415	Voltage (V)	415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.2	T _{start} /T _N	2.2
Speed (r/min)	2935	Starting time (s)	0.1	Starting time (s)	
T _N (Nm)	98	Speed (r/min)		Speed (r/min)	
T _{load} (Nm)		I _s /I _N	7	I _s /I _N	7
		T _{max} /T _n	3.2	T _{max} /T _n	3.2



Data based on situation 9/19/2015
 All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004