

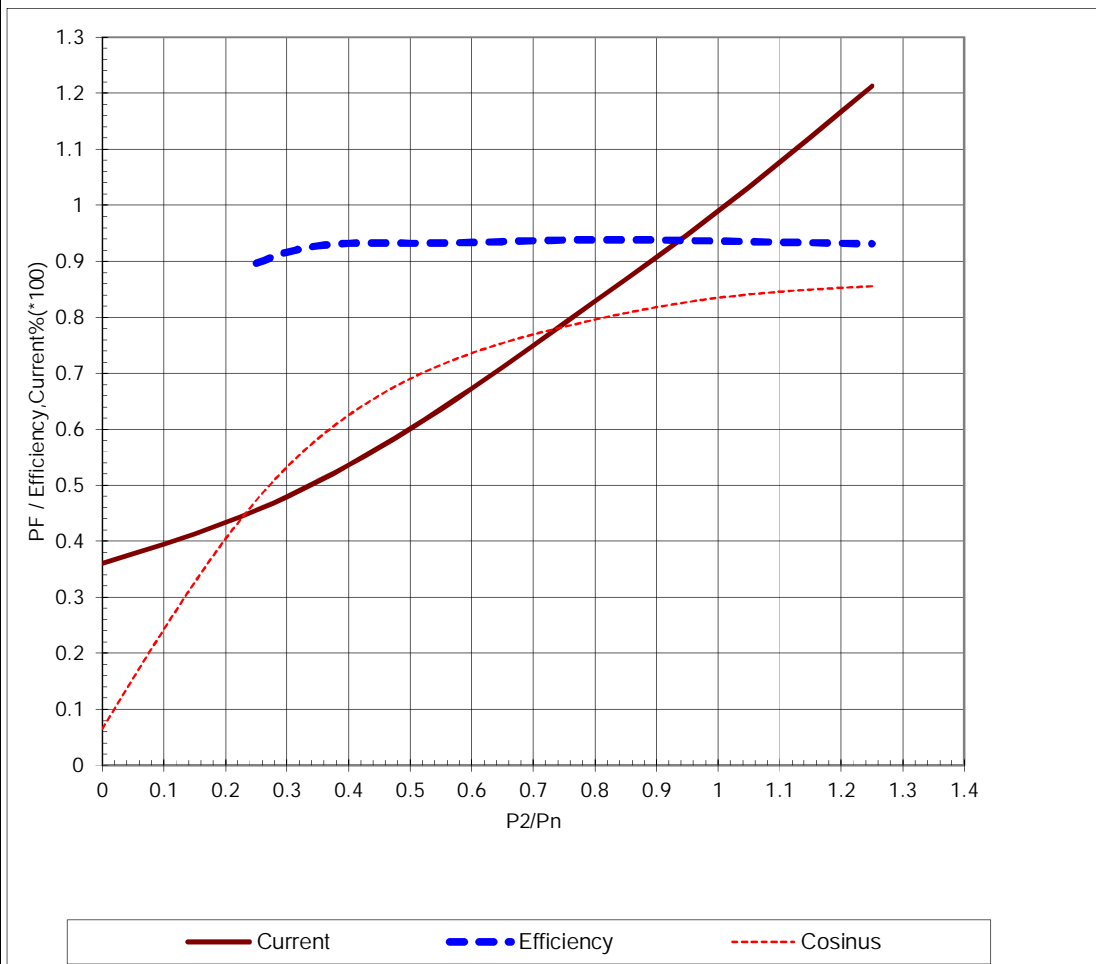


ABB Motors and Generators		Technical Data Sheet				
Project		Location				
Department/Author		Customer name		Customer ref.		
Our ref.		Rev/Changed by A		Date of issue 1/18/2019		
		Saving ident untitled.xls		Item name 1.00001		
				Pages 1(3)		
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	3GBA 202 410-ADDIN		Calc. ref.	3GZH021020-21	
3	Type/Frame	M2BAX 200MLA 4				
4	Mounting	IM1001, B3(foot)				
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	1480	r/min			
11	Rated current I _N	54	A			
12						
13	Starting current I _s /I _N	7.5				
14	Nominal torque T _N	194	Nm			
15	Locked rotor torque T _S /T _N	2.9				
16	Maximum torque T _{max} /T _N	3.3				
17						
18						
Load characteristics		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	100	54	93.6 / IE3	0.83	
20		75	42.6	93.8	0.78	
21		50	32.4	93.2	0.69	
22						
23	Thermal withstand time hot	14	s			
24	Thermal withstand time cold	22	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)	73	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD ²	0.385	kg·m ²			
33	Position of terminal box	Top				
34	Direction of rotation	Bi-directional				
35	Weight of rotor	79	kg			
36	Total weight of motor	259	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 9/18/2015						

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 1/18/2019	Saving ident untitled.xls
Pages	2(3)		
Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 200MLA 4	Calc. ref.	3GZH021020-21
Product code	3GBA 202 410-ADDIN		
Rated output P _N	30	kW	
Type of duty	S1 100%		

Voltage (V)	415	Current I _N (A)	54	Power factor at P _N	0.83
Frequency (Hz)	50	Speed (r/min)	1480	Efficiency (%) at P _N	93.6



Data based on situation 9/18/2015

All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004


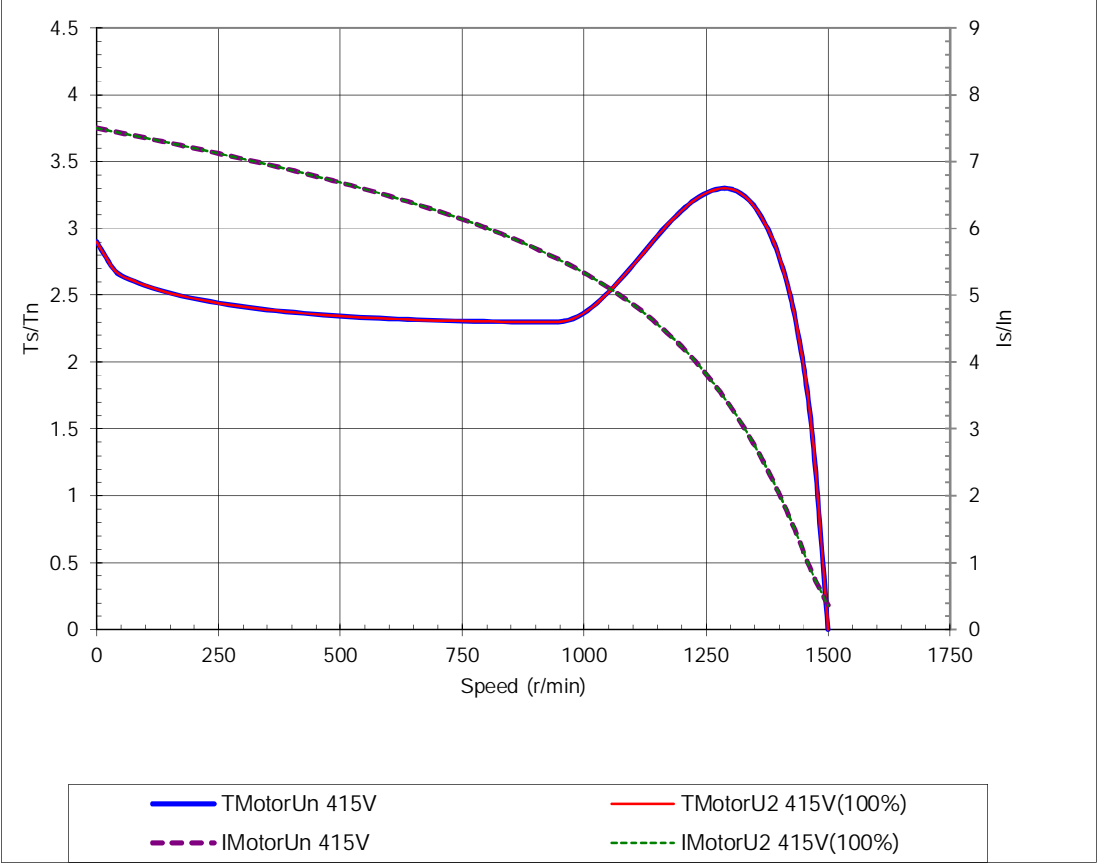
ABB Motors and Generators	Starting Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed b Date of issue A 1/18/2019	Saving ident untitled.xls	Pages 3(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 200MLA 4	Calc. ref.	3GZH021020-21
Product code	3GBA 202 410-ADDIN	Frequency (Hz)	50
Rated output P _N	30 kW	Rated current I _N	54 A
Type of duty	S1 100%		
J _{motor} (kgm ²)	0.38	Voltage (V) 100%	415 Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.9 T _{start} /T _N 2.9
Speed (r/min)	1480	Starting time (s)	0.1 Starting time (s)
T _N (Nm)	194	Speed (r/min)	939 Speed (r/min) 939
T _{load} (Nm)		I _s /I _N	7.5 I _s /I _N 7.5
		T _{max} /T _N	3.3 T _{max} /T _N 3.3
 <p>The graph plots torque (T_s/T_n) and current (I_s/I_n) against speed (r/min). The x-axis ranges from 0 to 1750 r/min. The left y-axis (T_s/T_n) ranges from 0 to 4.5, and the right y-axis (I_s/I_n) ranges from 0 to 9. Four curves are shown: T_{MotorUn} 415V (solid blue), T_{MotorU2} 415V(100%) (solid red), I_{MotorUn} 415V (dashed purple), and I_{MotorU2} 415V(100%) (dashed green). The torque curves show a peak around 1250 r/min, while the current curves show a peak around 1000 r/min.</p>			
Data based on situation 9/18/2015			
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004			


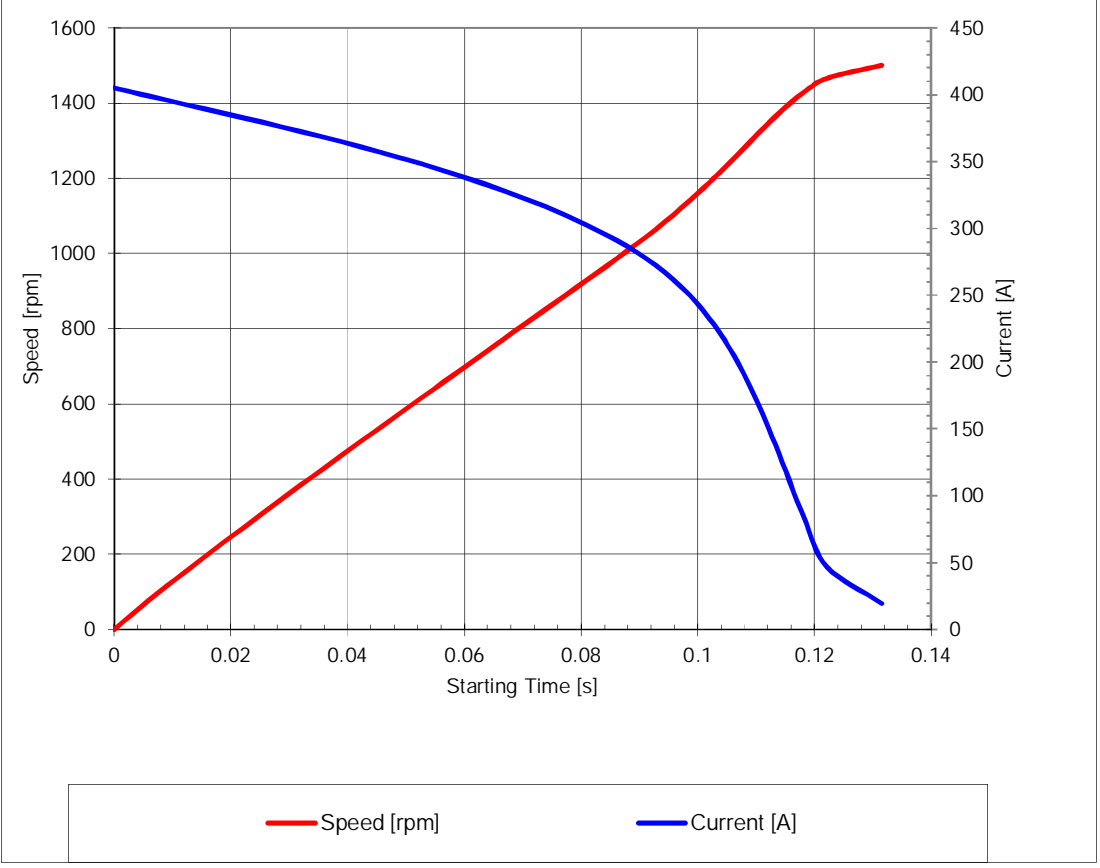

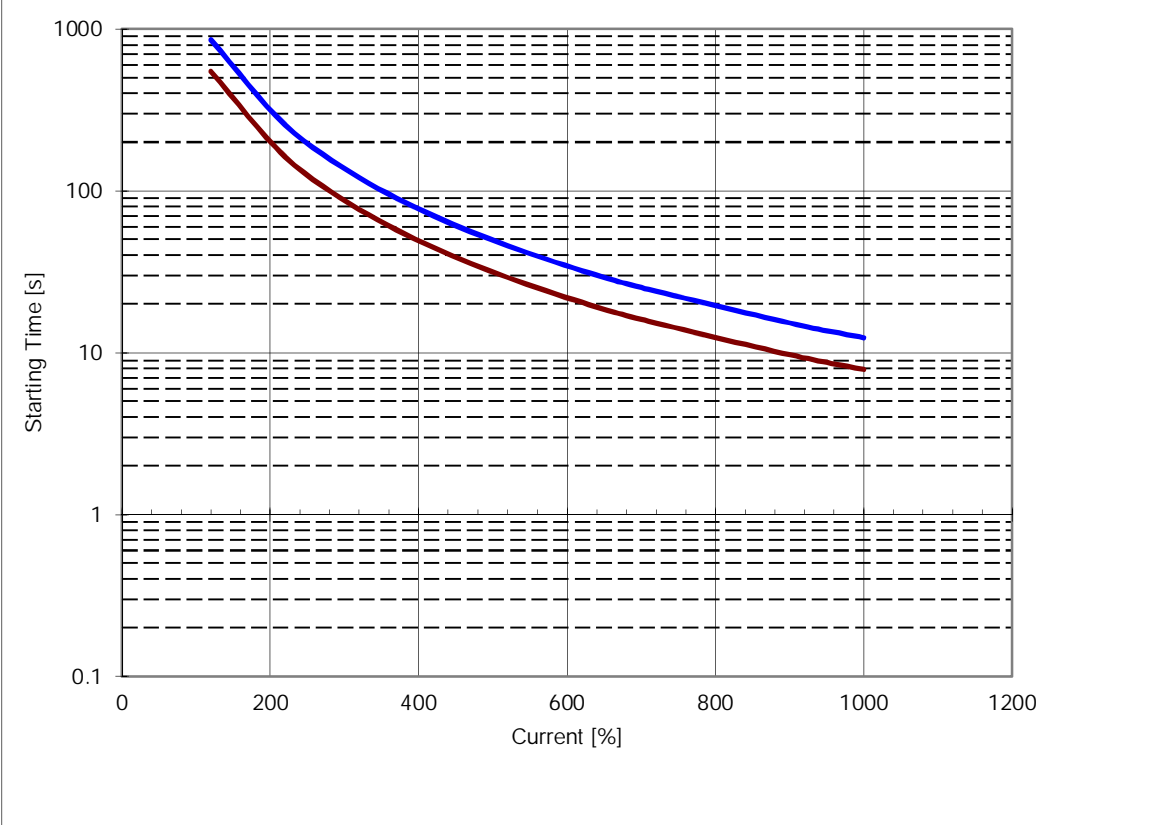
ABB Motors and Generators	Current & Speed Vs Time			
	Project	Location		
Department/Author	Customer name	Customer ref.		Item name 1.00001
Our ref.	Rev/Changed b	Date of issue	Saving ident	Pages 4(3)
	A	1/18/2019	untitled.xls	
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	M2BAX 200MLA 4	Calc. ref.	3GZH021020-21	
Product code	3GBA 202 410-ADDIN	Frequency (Hz)	50	
Rated output P _N	30 kW	Rated current I _N	54	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	0.38	Voltage (V) 100%	415	Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.9	T _{start} /T _N 2.9
Speed (r/min)	1480	Starting time (s)	0.1	Starting time (s)
T _N (Nm)	194	Speed (r/min)		Speed (r/min) 939
T _{load} (Nm)		I _s /I _N	7.5	I _s /I _N 7.5
		T _{max} /T _N	3.3	T _{max} /T _N 3.3
				
<p>Data based on situation 9/18/2015</p> <p>All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004</p>				

ABB Motors and Generators	Thermal Withstand Curve		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed b Date of issue A 1/18/2019	Saving ident untitled.xls	Pages 5(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 200MLA 4	Calc. ref.	3GZH021020-21
Product code	3GBA 202 410-ADDIN	Frequency (Hz)	50
Rated output P _N	30 kW	Rated current I _N	54 A
Type of duty	S1 100%		
J _{motor} (kgm ²)	0.38	Voltage (V) 100%	415 Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.9 T _{start} /T _N 2.9
Speed (r/min)	1480	Starting time (s)	0.1 Starting time (s)
T _N (Nm)	194	Speed (r/min)	939 Speed (r/min) 939
T _{load} (Nm)		I _s /I _N	7.5 I _s /I _N 7.5
		T _{max} /T _N	3.3 T _{max} /T _N 3.3



Current [%]	Starting Time [s] (Running Hot)	Starting Time [s] (Running Cold)
100	~500	~800
200	~150	~250
400	~50	~80
600	~25	~40
800	~15	~25
1000	~10	~15

Data based on situation 9/18/2015
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004