

ABB Motors and Generators		Technical Data Sheet		
		Project	Location	
Department/Author		Customer name	Customer ref.	Item name 1.00001
Our ref.		Rev/Changed by A	Date of issue 2/19/2021	Saving ident untitled.xlsm Pages 1(3)
No.	Definition	Data	Unit	Remarks
1	Product	TEFC, 3-phase, squirrel cage induction motor		
2	Product code	3GBA 161 490-ADCIN	Calc. ref.	3GZH021016-1
3	Type/Frame	M2BAX 160MLJ 2		
4	Mounting	IM1001, B3(foot)		
5	Rated output P _N	9.3	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	2925	r/min	
11	Rated current I _N	16.7	A	
12				
13	Starting current I _s /I _N	7		
14	Nominal torque T _N	30	Nm	
15	Locked rotor torque T _s /T _N	2.1		
16	Maximum torque T _{max} /T _N	3		
17				
18				
	Load characteristics	Load %	Current A	Efficiency % Power factor
19	PLL determined from residual loss	100	16.7	88.8 / IE2 0.87
20		75	13.1	89.1 0.83
21		50	9.8	87.6 0.75
22				
23	Thermal withstand time hot	19	s	
24	Thermal withstand time cold	30	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		
30	Bearing DE/NDE	6209-2Z/C3 - 6209-2Z/C3		
31	Sound pressure level (LP dB(A) 1m)	85	dB(A)	at no-load
32	Moment of inertia J = ¼ GD2	0.038	kg-m2	
33	Position of terminal box	Top		
34	Direction of rotation	Bi-directional		
35	Weight of rotor	21	kg	
36	Total weight of motor	102	kg	
37	Paint shade	Munsell Blue		
38	Cable size			
39	Vibration	As Per IS 12075		
40				
41				
42				
43				
44				
45				
Ex-motors				
46				
47				
48				
Option Variant Codes / Definition				
49				
50				
51				
52				
Remarks:				
Applicable standards: IS 12615:2018, IEC 60034-30-1:2014				

All performance values are subject to IS/IEC tolerances

ABB Motors and Generators

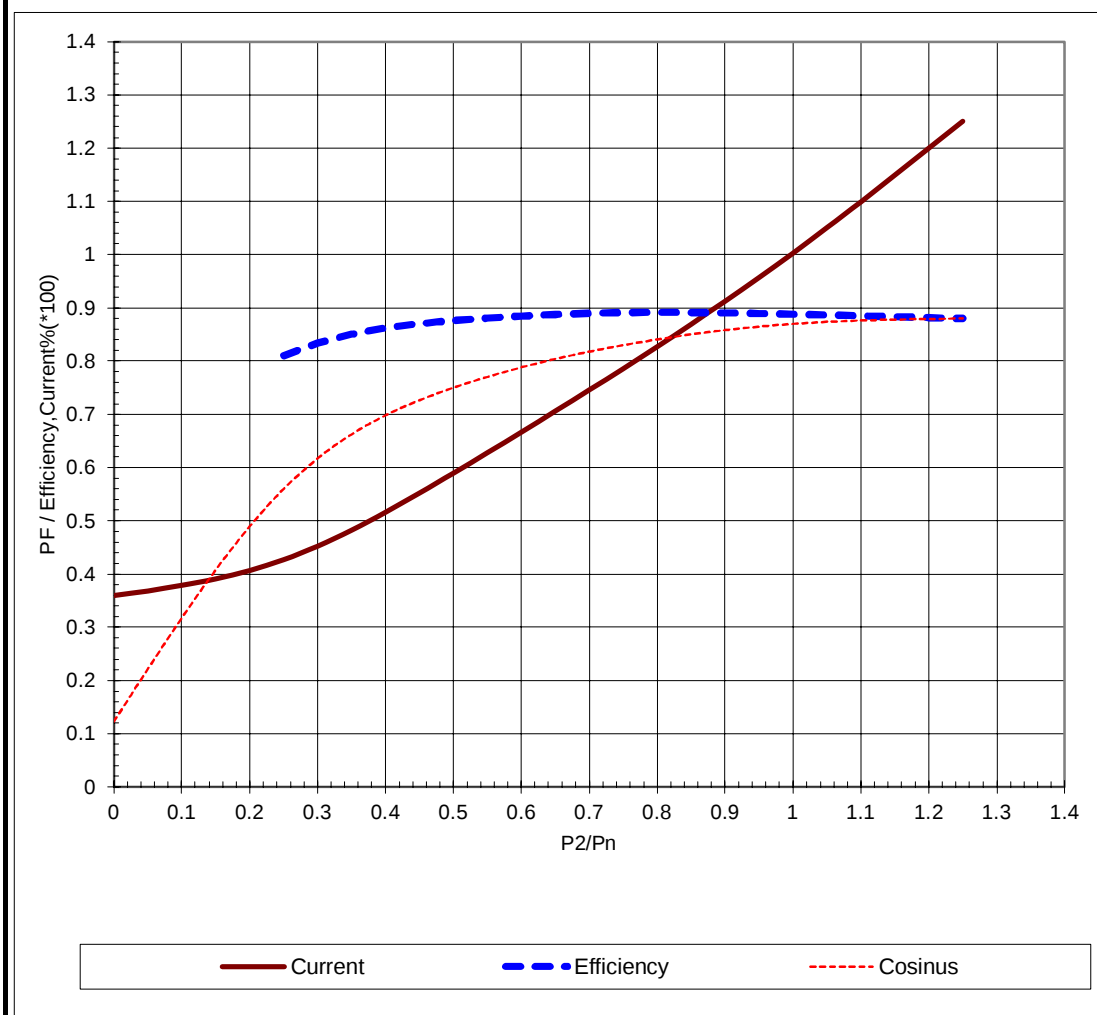
Load Curves



	Project		Location	
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Our ref.	Rev/Changed by	Date of issue	Saving ident	Pages
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Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 160MLJ 2	Calc. ref.	3GZH021016-1
Product code	3GBA 161 490-ADCIN		
Rated output P_N	9.3	kW	
Type of duty	S1 100%		

Voltage (V)	415	Current I_N (A)	16.7	Power factor at P_N	0.87
Frequency (Hz)	50	Speed (r/min)	2925	Efficiency (%) at P_N	88.8



Applicable standards: IS 12615:2018, IEC 60034-30-1:2014

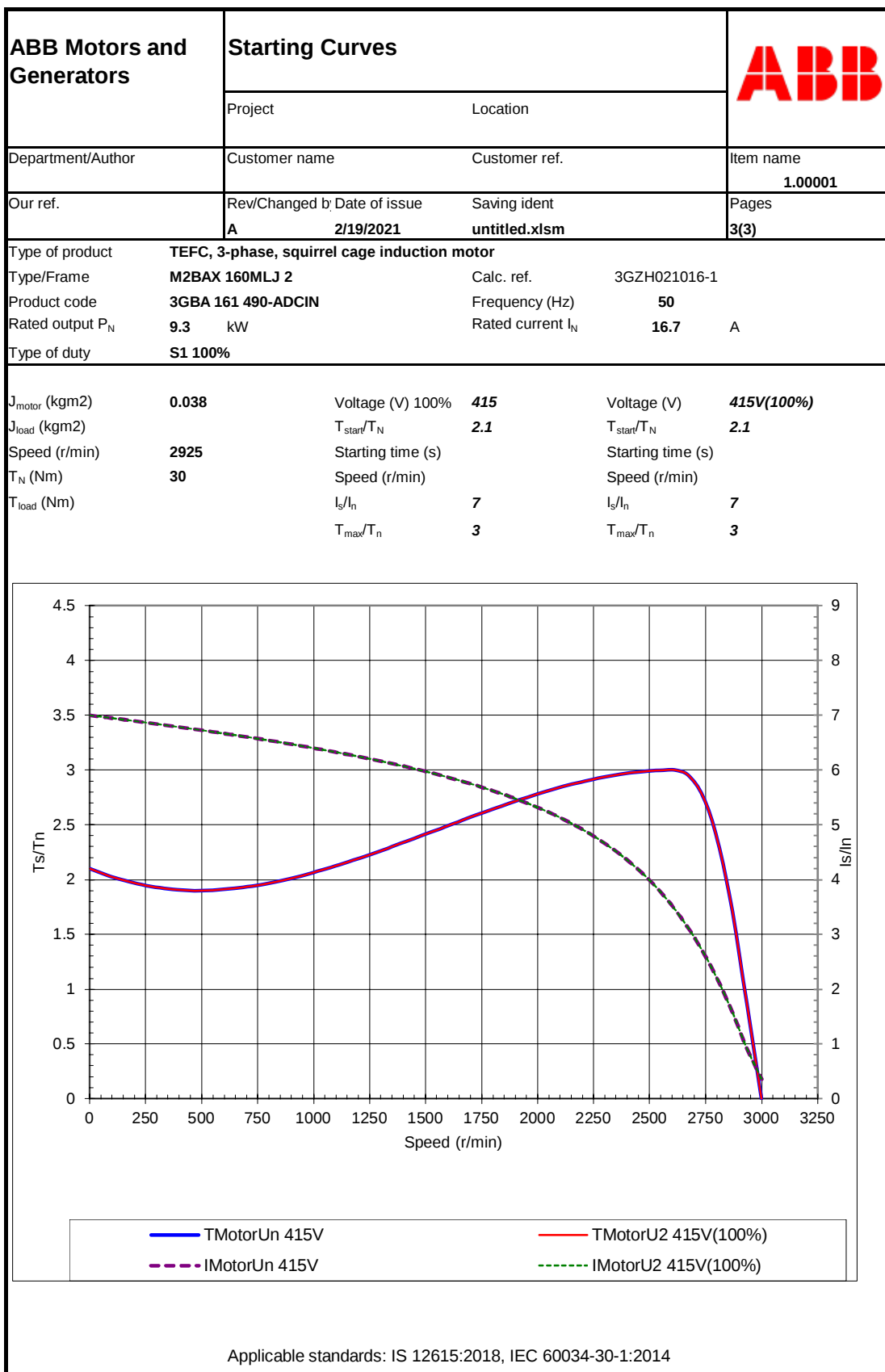
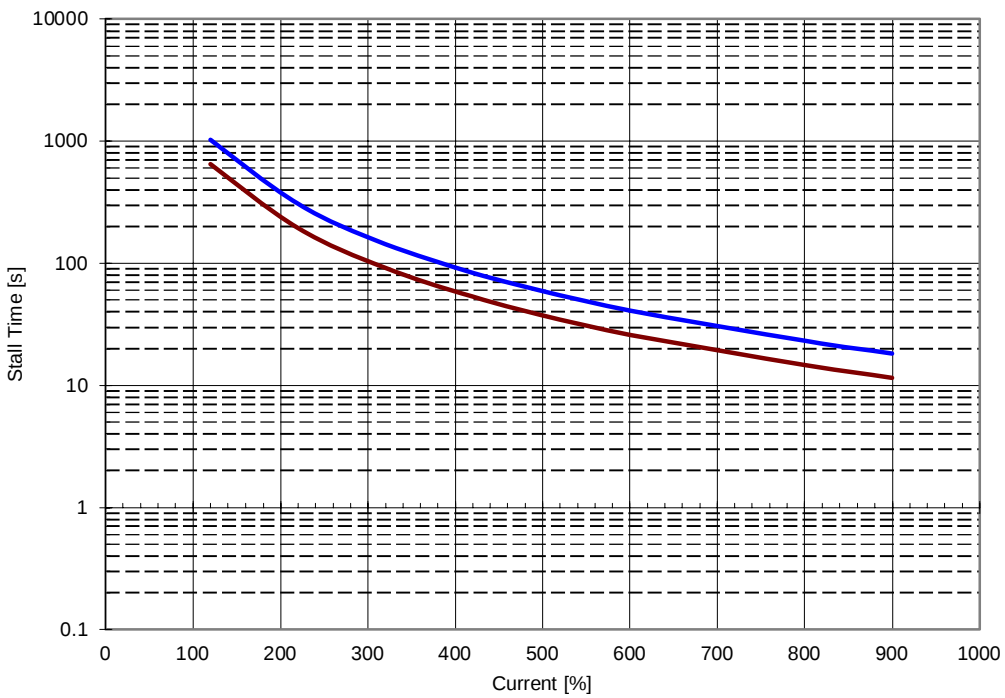


ABB Motors and Generators	Thermal Withstand Curve		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 1.00001
Our ref.	Rev/Changed by: Date of issue A 2/19/2021	Saving ident untitled.xlsm	Pages 5(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 160MLJ 2	Calc. ref.	3GZH021016-1
Product code	3GBA 161 490-ADCIN	Frequency (Hz)	50
Rated output P_N	9.3 kW	Rated current I_N	16.7 A
Type of duty	S1 100%		

J_{motor} (kgm ²)	0.038	Voltage (V) 100%	415	Voltage (V)	415V(100%)
J_{load} (kgm ²)		T_{start}/T_N	2.1	T_{start}/T_N	2.1
Speed (r/min)	2925	Withstand cold(s)	30	Withstand hot (s)	19
T_N (Nm)	30	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_N	7	I_s/I_N	7
		T_{max}/T_N	3	T_{max}/T_N	3



The graph plots Stall Time [s] on a logarithmic y-axis (0.1 to 10000) against Current [%] on a linear x-axis (0 to 1000). Two curves are shown: a red line for 'Running Hot' and a blue line for 'Running Cold'. Both curves show a decrease in stall time as current increases. The 'Running Cold' curve is consistently higher than the 'Running Hot' curve.

Current [%]	Stall Time [s] (Running Hot)	Stall Time [s] (Running Cold)
100	~600	~1000
200	~200	~350
300	~100	~200
400	~60	~130
500	~40	~90
600	~28	~65
700	~20	~48
800	~15	~35
900	~11	~25

Running Hot
Running Cold

Applicable standards: IS 12615:2018, IEC 60034-30-1:2014