


ABB Motors and Generators		Technical Data Sheet			
		Project	Location		
Department/Author	Customer name	Customer ref.		Item name	
Our ref.	Rev/Changed by	Date of issue	Saving ident	Pages	
	A	6/15/2019	m2bax_ie2_2_4_6_8p_foot cum flar	1(3)	
No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	3GBA 282 220-HDCIN			
3	Type/Frame	M2BAX 280SMB 4			
4	Mounting	IM2001, B35(foot-flange)			
5	Rated output P _N	90	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	1483	r/min		
11	Rated current I _N	158	A		
12	Method of Starting	DOL			
13	Starting current I _s /I _N	7			
14	Nominal torque T _N	580	Nm		
15	Locked rotor torque T _s /T _N	2.6			
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	158	94.2 / IE2	0.84
20		75	125	94.2	0.8
21		50	94.6	93.2	0.71
22					
23	Thermal withstand time hot	19	s		
24	Thermal withstand time cold	33	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	6316/C3 - 6316/C3			
31	Sound pressure level (LP dB(A) 1m)	85	dB(A)	at no-load	
32	Moment of inertia J = ¼ GD2	1.5	kg-m2		
33	Position of terminal box	Top			
34	Direction of rotation	Bi-directional			
35	Weight of rotor	152	kg		
36	Total weight of motor	591	kg		
37					
38					
39					
40					
41					
42					
43					
44					
45					
Ex-motors					
46					
47					
48					
Option Variant Codes / Definition					
49	Application check not made in absence of load details.				
50	Efficiency level : IE2 as per IS12615 2018.				
51					
52					
Remarks:					
Applicable standards: IS 12615 2018					

All performance values are subject to IS/IEC tolerances


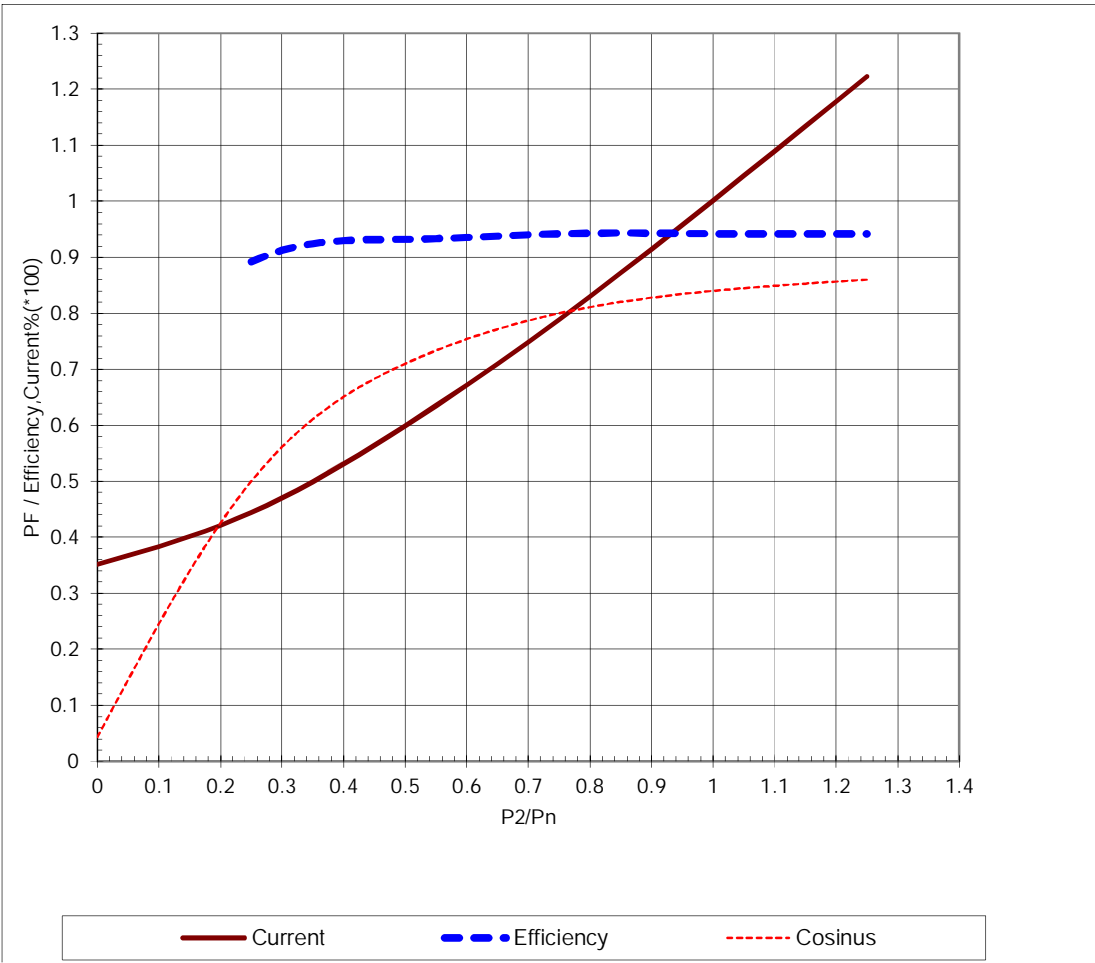
ABB Motors and Generators	Load Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name 2.00002
Our ref.	Rev/Changed by Date of issue A 6/15/2019	Saving ident m2bax_ie2_2_4_6_8p_foot cum flang	Pages 2(3)
Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 280SMB 4		
Product code	3GBA 282 220-HDCIN		
Rated output P _N	90 kW		
Type of duty	S1 100%		
Voltage (V)	415	Current I _N (A)	158 Power factor at P _N 0.84
Frequency (Hz)	50	Speed (r/min)	1483 Efficiency (%) at P _N 94.2
			
Applicable standards: IS 12615 2018 28.7.2015			


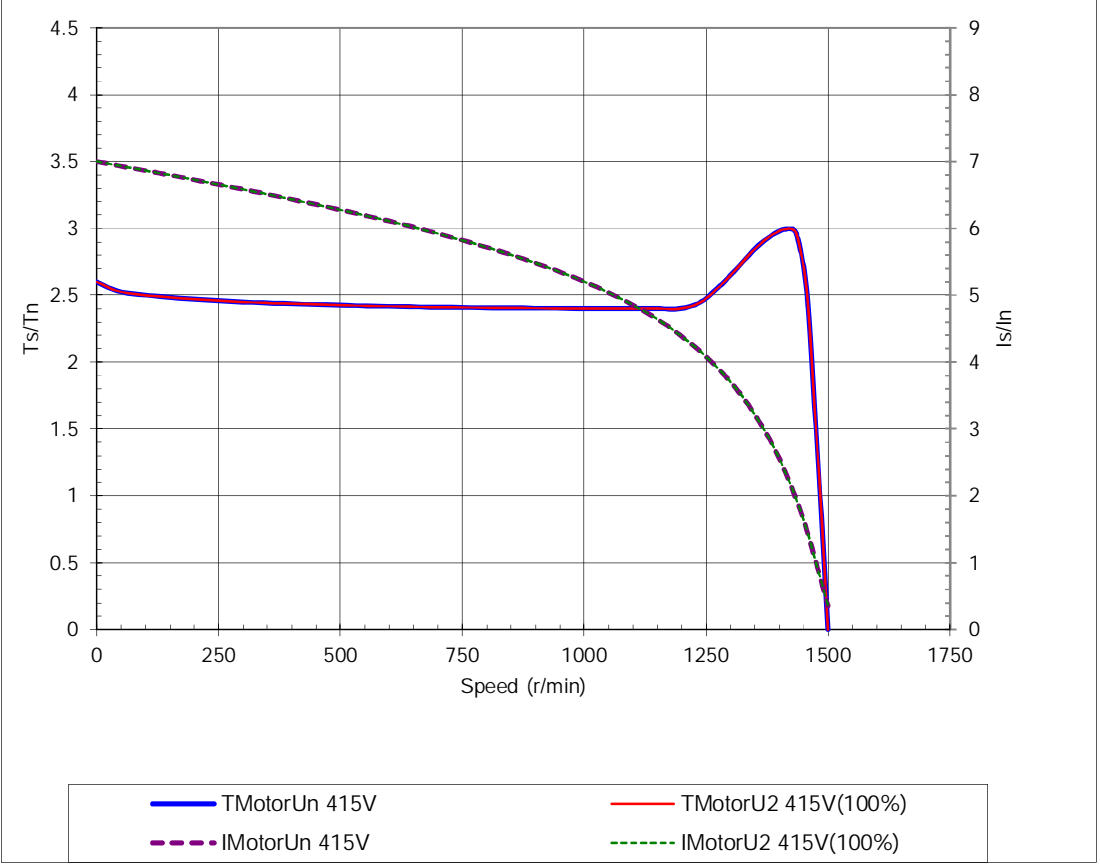

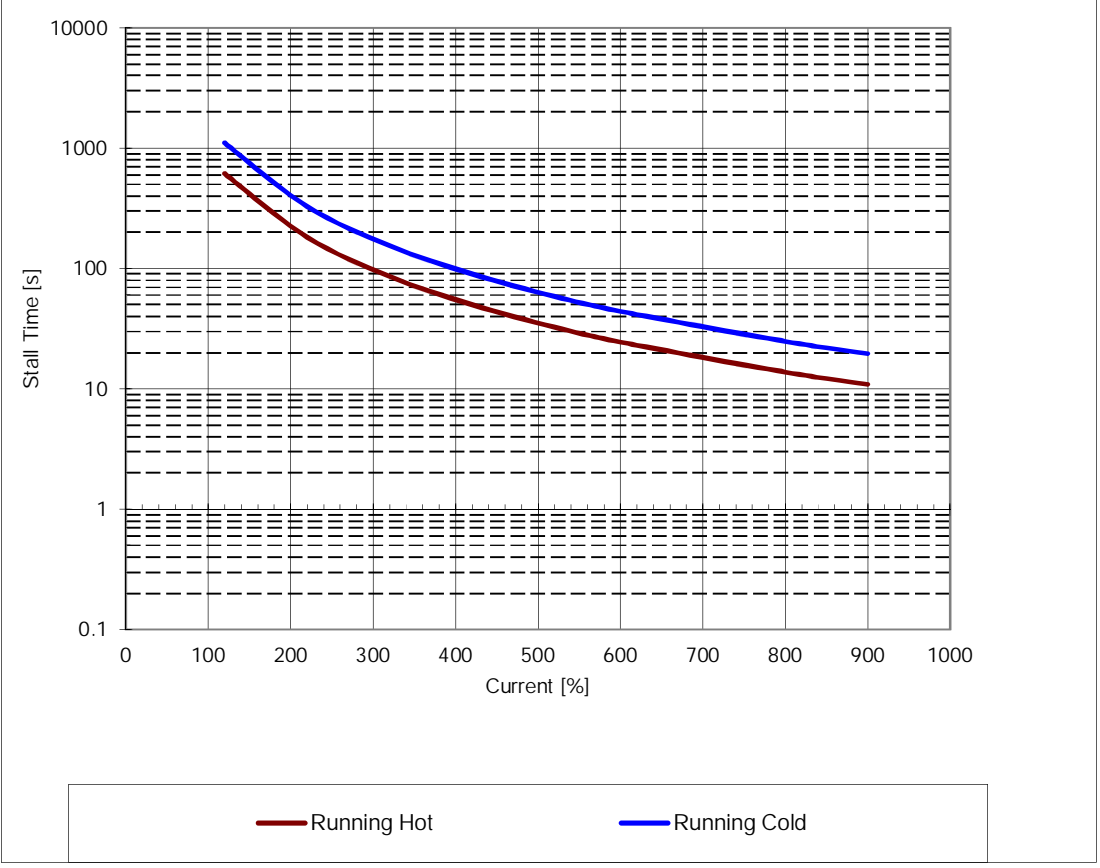
ABB Motors and Generators	Starting Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed b Date of issue	Saving ident	Pages
	A 6/15/2019	m2bax_ie2_2_4_6_8p_foot cum flar	3(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M2BAX 280SMB 4		
Product code	3GBA 282 220-HDCIN	Frequency (Hz)	50
Rated output P _N	90 kW	Rated current I _N	158 A
Type of duty	S1 100%		
J _{motor} (kgm ²)	1.5	Voltage (V) 100%	415 Voltage (V) 415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.6 T _{start} /T _N 2.6
Speed (r/min)	1483	Starting time (s)	
T _N (Nm)	580	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
 <p>The graph plots torque ratios (Ts/Tn) and current ratios (Is/In) against speed (r/min). The x-axis ranges from 0 to 1750 r/min. The left y-axis (Ts/Tn) ranges from 0 to 4.5, and the right y-axis (Is/In) ranges from 0 to 9. Two torque curves are shown: a solid blue line for 415V (T_{MotorUn}) and a solid red line for 415V(100%) (T_{MotorU2}). Two current curves are shown: a dashed purple line for 415V (I_{MotorUn}) and a dashed green line for 415V(100%) (I_{MotorU2}). The 415V(100%) torque curve shows a peak of approximately 3.0 at 1483 r/min. The 415V(100%) current curve shows a peak of approximately 7.0 at 1483 r/min.</p>			
Applicable standards: IS 12615 2018 28.7.2015			

ABB Motors and Generators	Thermal Withstand Curve				
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Department/Author	Customer name	Customer ref.	Item name 2.00002		
Our ref.	Rev/Changed b Date of issue A 6/15/2019	Saving ident m2bax_ie2_2_4_6_8p_foot cum flar	Pages 5(3)		
Type of product	TEFC, 3-phase, squirrel cage induction motor				
Type/Frame	M2BAX 280SMB 4				
Product code	3GBA 282 220-HDCIN	Frequency (Hz)	50		
Rated output P _N	90 kW	Rated current I _N	158 A		
Type of duty	S1 100%				
J _{motor} (kgm ²)	1.5	Voltage (V) 100%	415	Voltage (V)	415V(100%)
J _{load} (kgm ²)		T _{start} /T _N	2.6	T _{start} /T _N	2.6
Speed (r/min)	1483	Speed (r/min)		Speed (r/min)	
T _N (Nm)	580	I _s /I _n	7	I _s /I _n	7
T _{load} (Nm)		T _{max} /T _n	3	T _{max} /T _n	3
					
<p>Applicable standards: IS 12615 2018 28.7.2015</p>					