



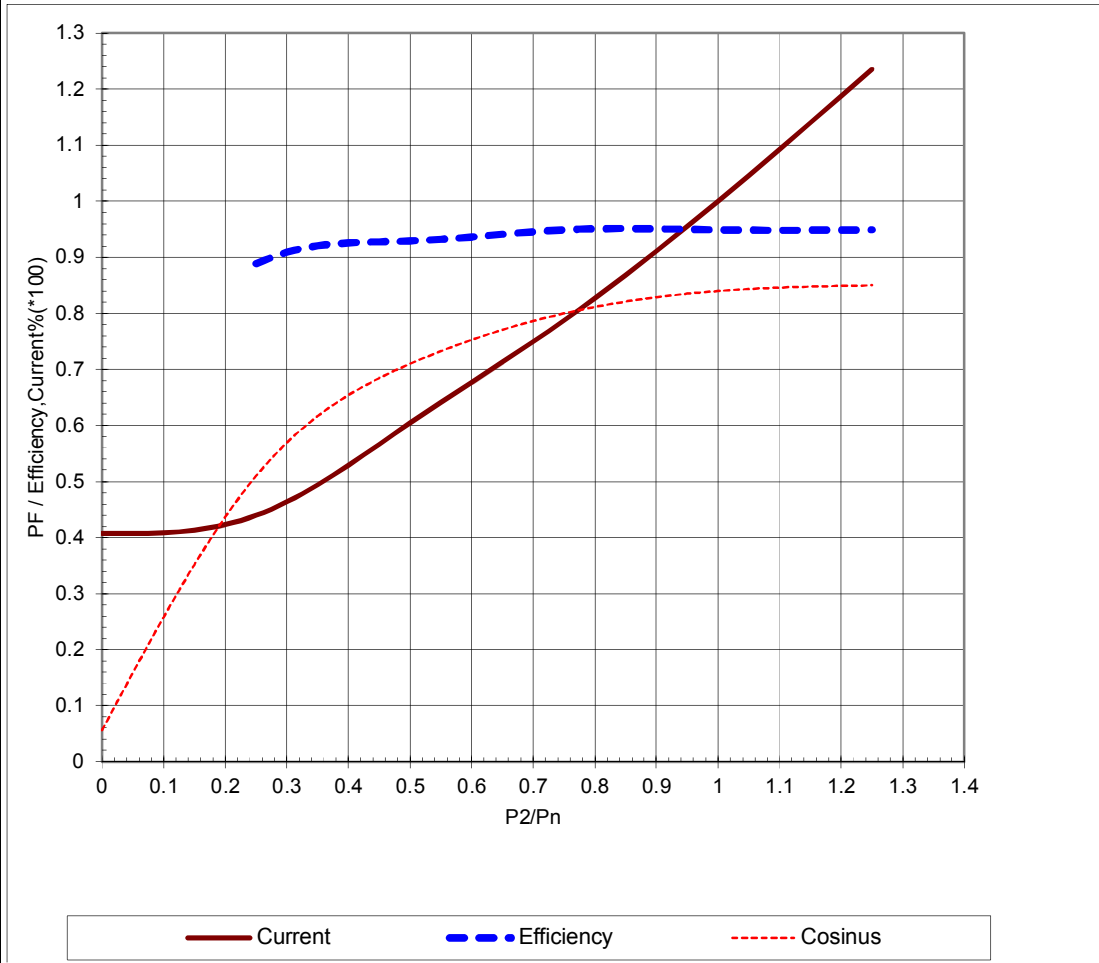
ABB Motors and Generators		Technical Data Sheet				
Department/Author		Project	Location		Item name	
Our ref.		Rev/Changed by	Date of issue	Saving ident	Pages	
		A	12/22/2017	untitled.xls	1.00004 1(3)	
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	E3BA 315 SMB6				
3	Type/Frame	E3BA315SMB6				
4	Mounting	IM1001, B3(foot)				
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	990	r/min			
11	Rated current I _N	157	A			
12	Method of starting	DOL				
13	Starting current I _s /I _N	7.7				
14	Nominal torque T _N	868	Nm			
15	Locked rotor torque T _S /T _N	2.5				
16	Maximum torque T _{max} /T _N	2.8				
17						
18						
Load characteristics		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	100	157	94.9 / IE3	0.84	
20		75	124	94.9	0.8	
21		50	94.9	92.9	0.71	
22						
23	Thermal withstand time hot	22	s			
24	Thermal withstand time cold	50	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	6319/C3 - 6316/C3				
31	Sound pressure level (LP dB(A) 1m)	85	dB(A)	at no-load		
32	Moment of inertia J = ¼ GD2	5.425	kg-m2			
33	Position of terminal box	Top				
34	Direction of rotation	Bi-directional				
35	Total weight of motor	1010	kg			
36						
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 : IE3 as per IS12615 2018.					
51						
52						
Remarks:						
Data based on situation 10/2/2014						

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 1.00004
Our ref.	Rev/Changed by A	Date of issue 12/22/2017	Saving ident untitled.xls
			Pages 2(3)

Product TEFC, 3-phase, squirrel cage induction motor
Type/Frame E3BA315SMB6
Product code E3BA 315 SMB6
Rated output P_N 90 kW
Type of duty S1 100%

Voltage (V) 415 **Current I_N (A)** 157 **Power factor at P_N** 0.84
Frequency (Hz) 50 **Speed (r/min)** 990 **Efficiency (%) at P_N** 94.9



Data based on situation 10/2/2014
 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 1.00004	
Our ref.	Rev/Changed b Date of issue A 12/22/2017	Saving ident untitled.xls	Pages 3(3)	
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	E3BA315SMB6			
Product code	E3BA 315 SMB6	Frequency (Hz)	50	
Rated output P _N	90 kW	Rated current I _N	157	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	5.4	Voltage (V) 100%	415	Voltage (V) 332V(80%)
J _{load} (kgm ²)		T _{start} /T _N	2.5	T _{start} /T _N 1.5
Speed (r/min)	990	Starting time (s)	0.3	Starting time (s) 0.6
T _N (Nm)	868	Speed (r/min)	990	Speed (r/min) 982
T _{load} (Nm)		I _s /I _N	7.7	I _s /I _N 5.9
		T _{max} /T _N	2.8	T _{max} /T _N 1.8

The graph plots normalized torque (Ts/Tn) and normalized current (Is/In) against speed (r/min) from 0 to 1250. The left y-axis represents Ts/Tn (0 to 4.5) and the right y-axis represents Is/In (0 to 9). The x-axis represents Speed (r/min) (0 to 1250). The legend indicates: Torque load (solid red), TMotorUn 415V (solid blue), TMotorU2 332V(80%) (solid orange), IMotorUn 415V (dashed purple), and IMotorU2 332V(80%) (dashed green).

Data based on situation 10/2/2014
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004


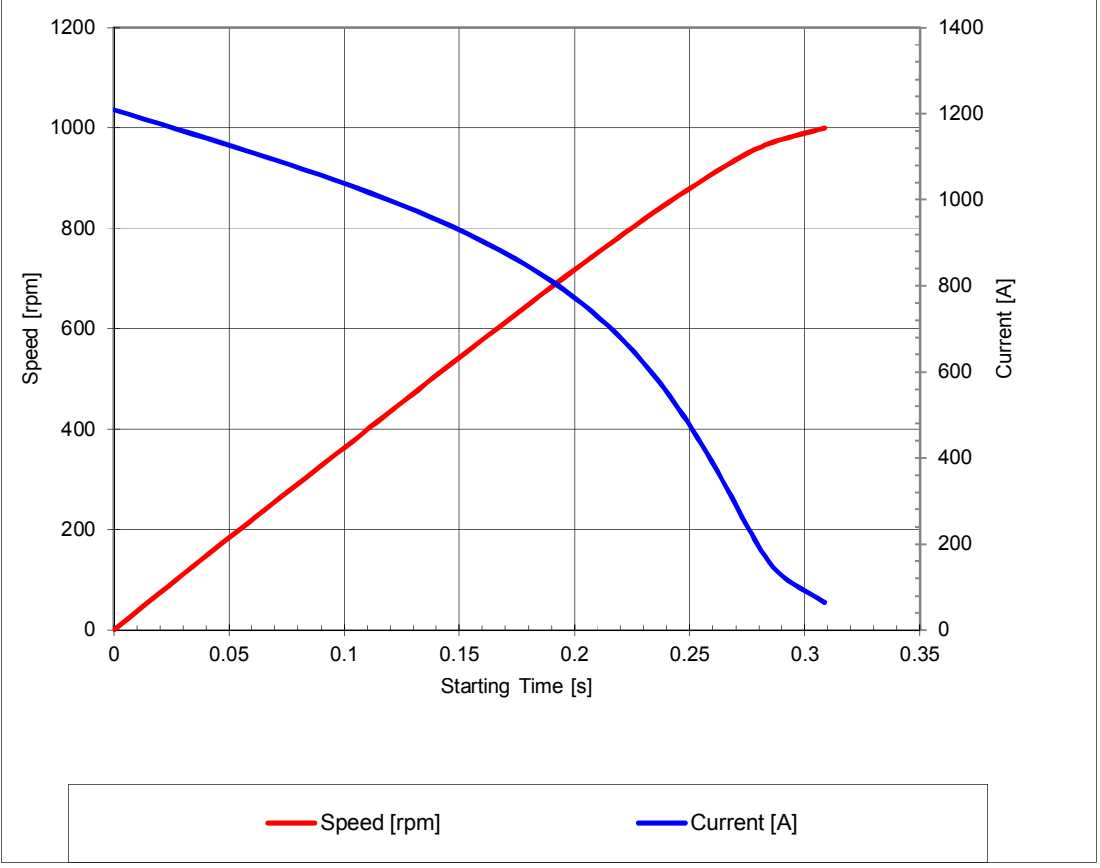

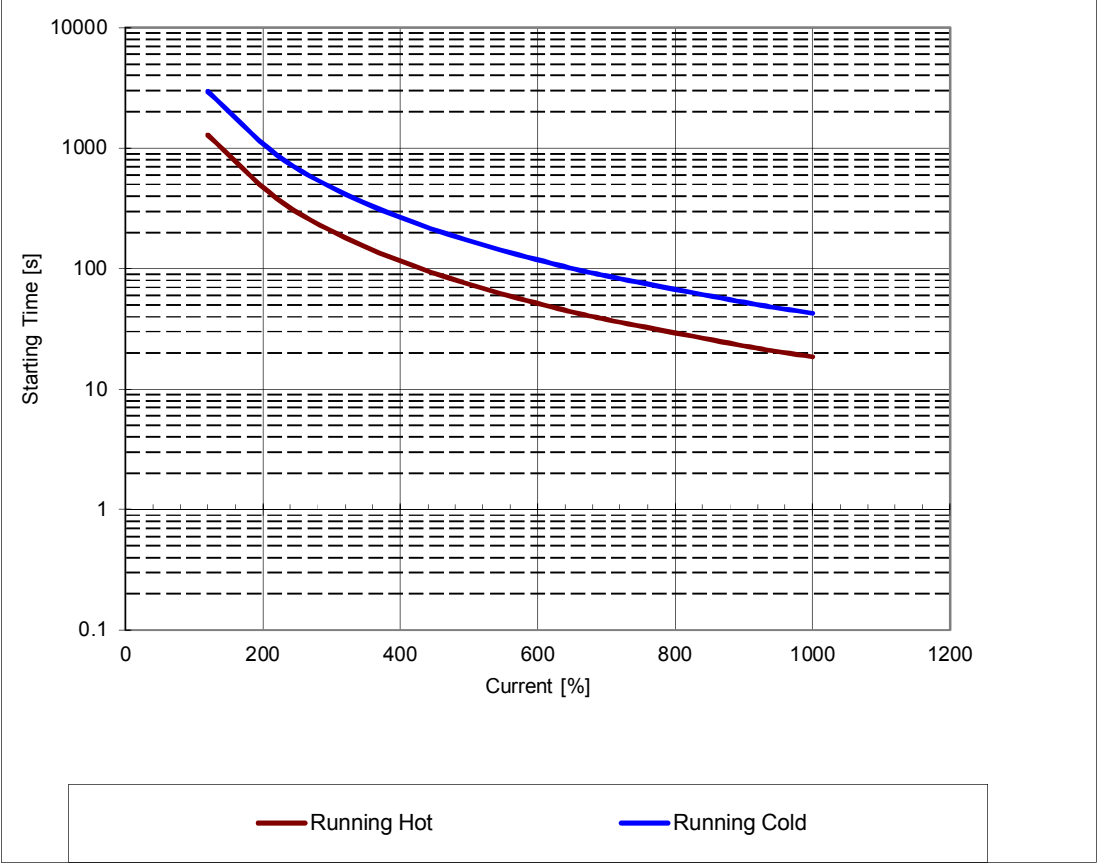
ABB Motors and Generators	Current & Speed Vs Time			
	Project	Location		
Department/Author	Customer name	Customer ref.	Item name 1.00004	
Our ref.	Rev/Changed b	Date of issue	Saving ident	Pages
	A	12/22/2017	untitled.xls	4(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	E3BA315SMB6			
Product code	E3BA 315 SMB6	Frequency (Hz)	50	
Rated output P _N	90 kW	Rated current I _N	157	A
Type of duty	S1 100%			
J _{motor} (kgm ²)	5.4	Voltage (V) 100%	415	Voltage (V) 332V(80%)
J _{load} (kgm ²)		T _{start} /T _N	2.5	T _{start} /T _N 1.5
Speed (r/min)	990	Starting time (s)	0.3	Starting time (s) 0.6
T _N (Nm)	868	Speed (r/min)	990	Speed (r/min) 982
T _{load} (Nm)		I _s /I _N	7.7	I _s /I _N 5.9
		T _{max} /T _N	2.8	T _{max} /T _N 1.8
				
<p>Data based on situation 10/2/2014</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 1.00004
Our ref.	Rev/Changed b Date of issue A 12/22/2017	Saving ident untitled.xls	Pages 5(3)
Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	E3BA315SMB6		
Product code	E3BA 315 SMB6	Frequency (Hz)	50
Rated output P _N	90 kW	Rated current I _N	157 A
Type of duty	S1 100%		
J _{motor} (kgm ²)	5.4	Voltage (V) 100%	415
J _{load} (kgm ²)		Voltage (V)	332V(80%)
Speed (r/min)	990	T _{start} /T _N	2.5
T _N (Nm)	868	T _{start} /T _N	1.5
T _{load} (Nm)		Starting time (s)	0.3
		Starting time (s)	0.6
		Speed (r/min)	990
		Speed (r/min)	982
		I _s /I _N	7.7
		I _s /I _N	5.9
		T _{max} /T _N	2.8
		T _{max} /T _N	1.8



The graph plots Starting Time [s] on a logarithmic y-axis (0.1 to 10000) against Current [%] on a linear x-axis (0 to 1200). Two curves are shown: a red line for 'Running Hot' and a blue line for 'Running Cold'. Both curves show a decrease in starting time as current increases. The 'Running Cold' curve starts at approximately 3000s at 100% current and drops to about 40s at 1000% current. The 'Running Hot' curve starts at approximately 1200s at 100% current and drops to about 20s at 1000% current.

Data based on situation 10/2/2014
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004