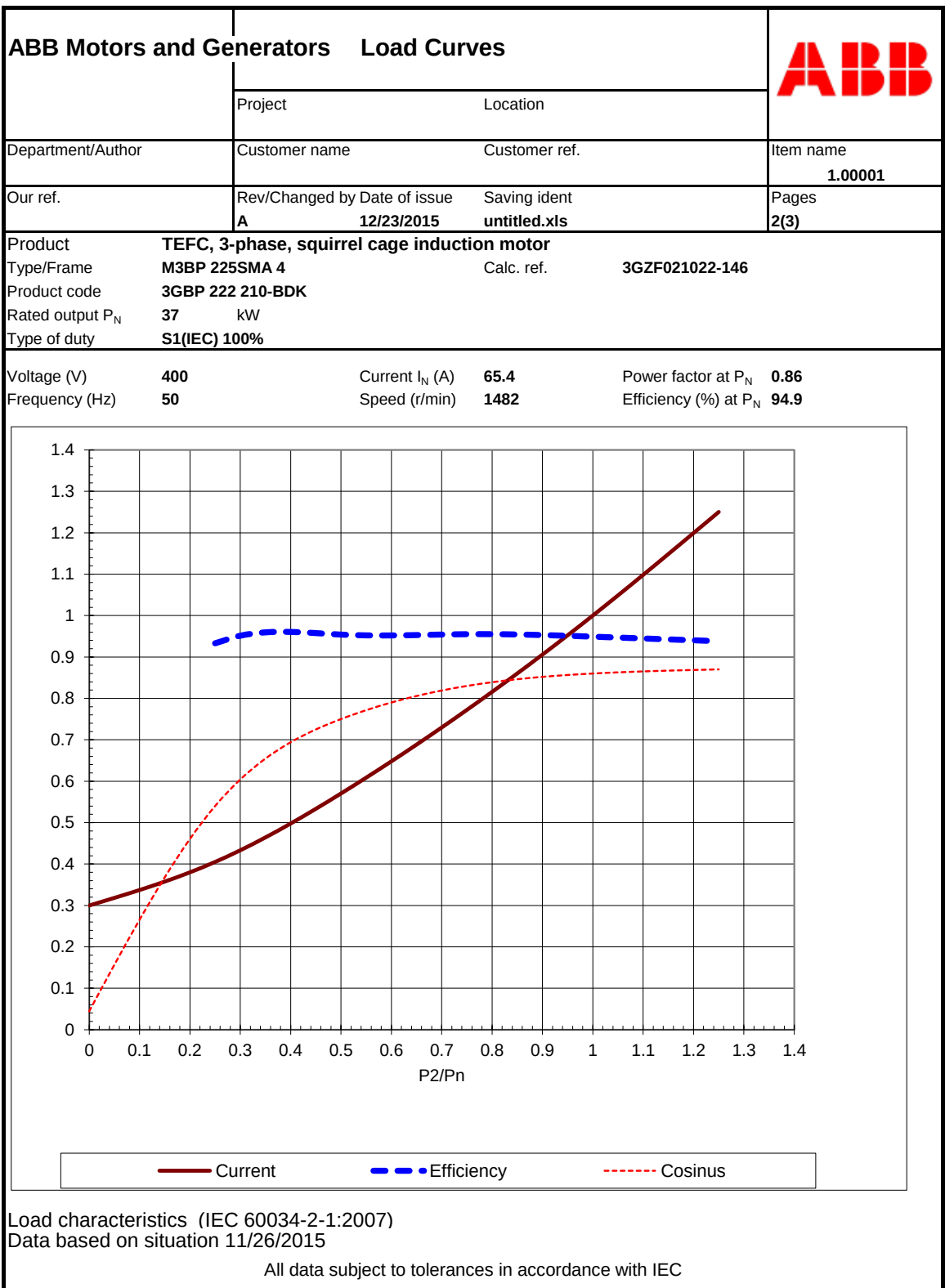


ABB Motors and Generators		Technical Data Sheet - DOL				
Project		Location				
Department/Author	Customer name	Customer ref.			Item name 1.00001	
Our ref.	Rev/Changed by A	Date of issue 12/23/2015	Saving ident untitled.xls		Pages 1(3)	
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	EMVM22374D-PPN (3GBP222210-BDK+011+332+509)			Calc. ref.	3GZF021022-146
3	Type/Frame	M3BP 225SMA 4				
4	Mounting	IM3001, B5(flange)				
5	Rated output P _N	37	kW			
6	Service factor	1				
7	Type of duty	S1(IEC) 100%				
8	Rated voltage U _N	400	VD	± 5 % (IEC 60034-1)		
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)		
10	Rated speed n _N	1482	r/min			
11	Rated current I _N	65.4	A			
12	No-load current	19.6	A			
13	Starting current I _s /I _N	7.7		Fulfilled IEC 60034-12 design N,H		
14	Nominal torque T _N	238	Nm			
15	Locked rotor torque T _s /T _N	2.8				
16	Maximum torque T _{max} /T _N	3.1				
17	Minimum torque T _{min} /T _N	2.3				
18	Speed at minimum torque	975	r/min			
Load characteristics (IEC 60034-2-1:2007)		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	100	65.4	94.9 / IE3	0.86	
20		75	50.5	95.5	0.83	
21		50	37.3	95.4	0.75	
22		Start	504		0.4	
23	Maximum starting time from hot	15	s			
24	Maximum starting time from cold	27	s			
25	Insulation class / Temperature class	F / B				
26	Ambient temperature	40	°C			
27	Altitude	1000	m.a.s.l.			
28	Enclosure	IP55				
29	Cooling system	IC411 self ventilated				
30	Bearing DE/NDE	6313/C3 - 6212/C3				
31	Type of Grease					
32	Sound pressure level (LP dB(A) 1m)	66	dB(A)	at load		
33	Moment of inertia J = ¼ GD2	0.536	kg-m2			
34	Balancing					
35	Vibration class					
36	Position of terminal box	Top				
37	Terminal box entries; no, dimens.					
38	Number of power terminals					
39	Direction of rotation	CW or CCW				
40	Weight of rotor	100	kg			
41	Total weight of motor	376	kg			
42	Dimension drawing no.					
43						
44						
45						
Ex-motors						
46						
47						
48						
Option Variant Codes / Definition						
49	011 = Fulfilling CSA and NRCAN					
50	332 = Baldor Catalog number stamped on rating plate					
51	509 = Fulfilling EISA Subtype I efficiency requirements, CC031A					
52						
Remarks:						
Data based on situation 11/26/2015						
All data subject to tolerances in accordance with IEC						
Guaranteed values on request						



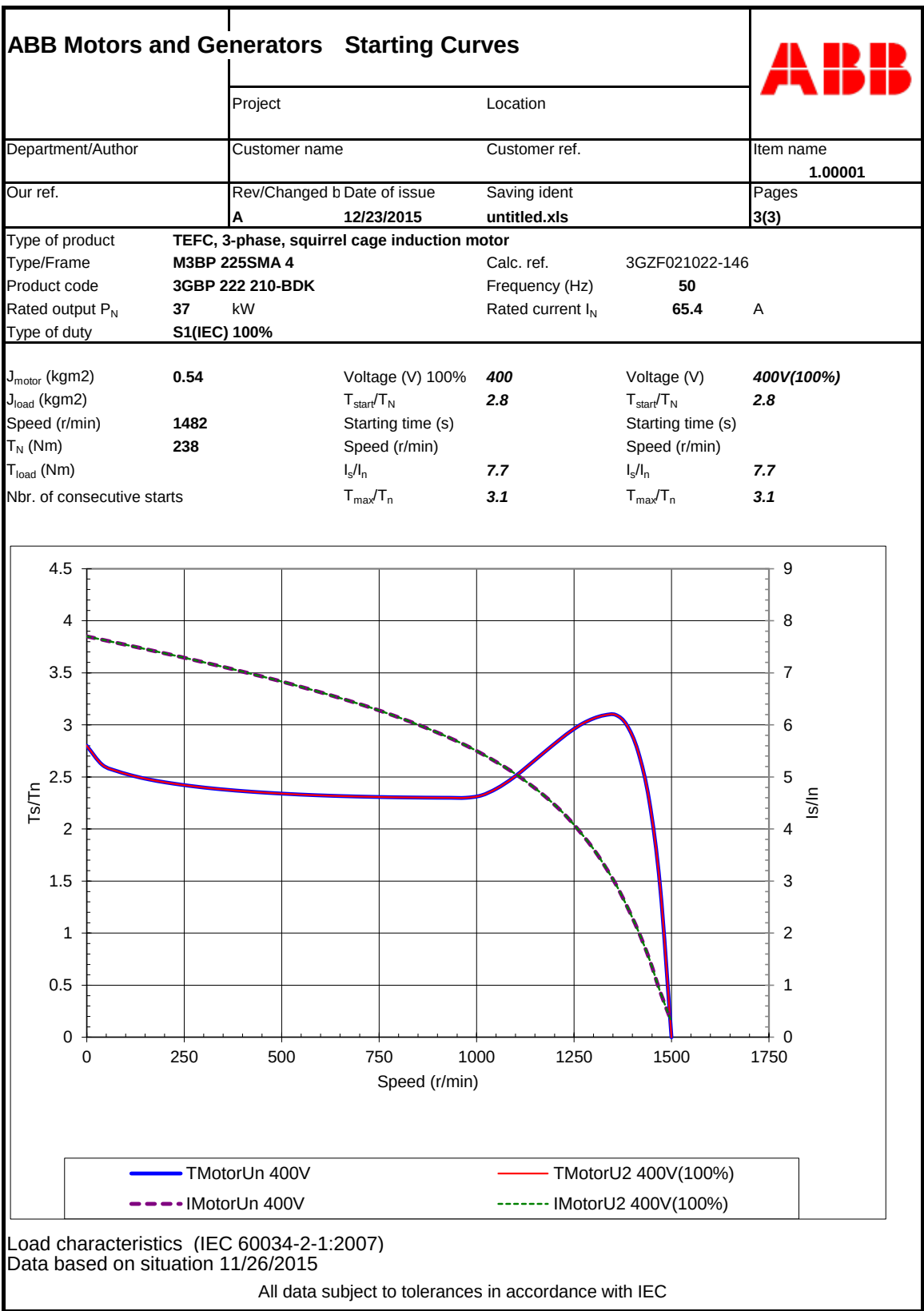


ABB Motors and Generators		Technical Data Sheet - DOL				
Project		Location				
Department/Author		Customer name			Customer ref.	
Our ref.		Rev/Changed by A			Date of issue 12/23/2015	
		Saving ident untitled.xls			Item name 2.00001	
					Pages 1(3)	

No.	Definition	Data	Unit	Remarks
1	Product	TEFC, 3-phase, squirrel cage induction motor		
2	Product code	EMVM22374D-PPN (3GBP222210-BDK+011+332+509)		
3	Type/Frame	M3BP 225SMA 4		
4	Mounting	IM3001, B5(flange)		
5	Rated output P _N	37	kW	
6	Service factor	1		
7	Type of duty	S1(IEC) 100%		
8	Rated voltage U _N	415	VD	± 5 % (IEC 60034-1)
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)
10	Rated speed n _N	1484	r/min	
11	Rated current I _N	63.7	A	
12	No-load current	21	A	
13	Starting current I _s /I _N	8.3		Fulfilled IEC 60034-12 design N,H
14	Nominal torque T _N	238	Nm	
15	Locked rotor torque T _s /T _N	3		
16	Maximum torque T _{max} /T _N	3.3		
17	Minimum torque T _{min} /T _N	2.3		
18	Speed at minimum torque	975	r/min	
Load characteristics (IEC 60034-2-1:2007)		Load %	Current A	Efficiency %
19	PLL determined from residual loss	100	63.7	95.1 / IE3
20		75	49.9	95.5
21		50	37.5	95.3
22		Start	529	0.41
23	Maximum starting time from hot	15	s	
24	Maximum starting time from cold	27	s	
25	Insulation class / Temperature class	F / B		
26	Ambient temperature	40	°C	
27	Altitude	1000	m.a.s.l.	
28	Enclosure	IP55		
29	Cooling system	IC411 self ventilated		
30	Bearing DE/NDE	6313/C3 - 6212/C3		
31	Type of Grease			
32	Sound pressure level (LP dB(A) 1m)	66	dB(A)	at load
33	Moment of inertia J = ¼ GD2	0.536	kg-m2	
34	Balancing			
35	Vibration class			
36	Position of terminal box	Top		
37	Terminal box entries; no, dimens.			
38	Number of power terminals			
39	Direction of rotation	CW or CCW		
40	Weight of rotor	100	kg	
41	Total weight of motor	376	kg	
42	Dimension drawing no.			
43				
44				
45				
Ex-motors				
46				
47				
48				

Option Variant Codes / Definition

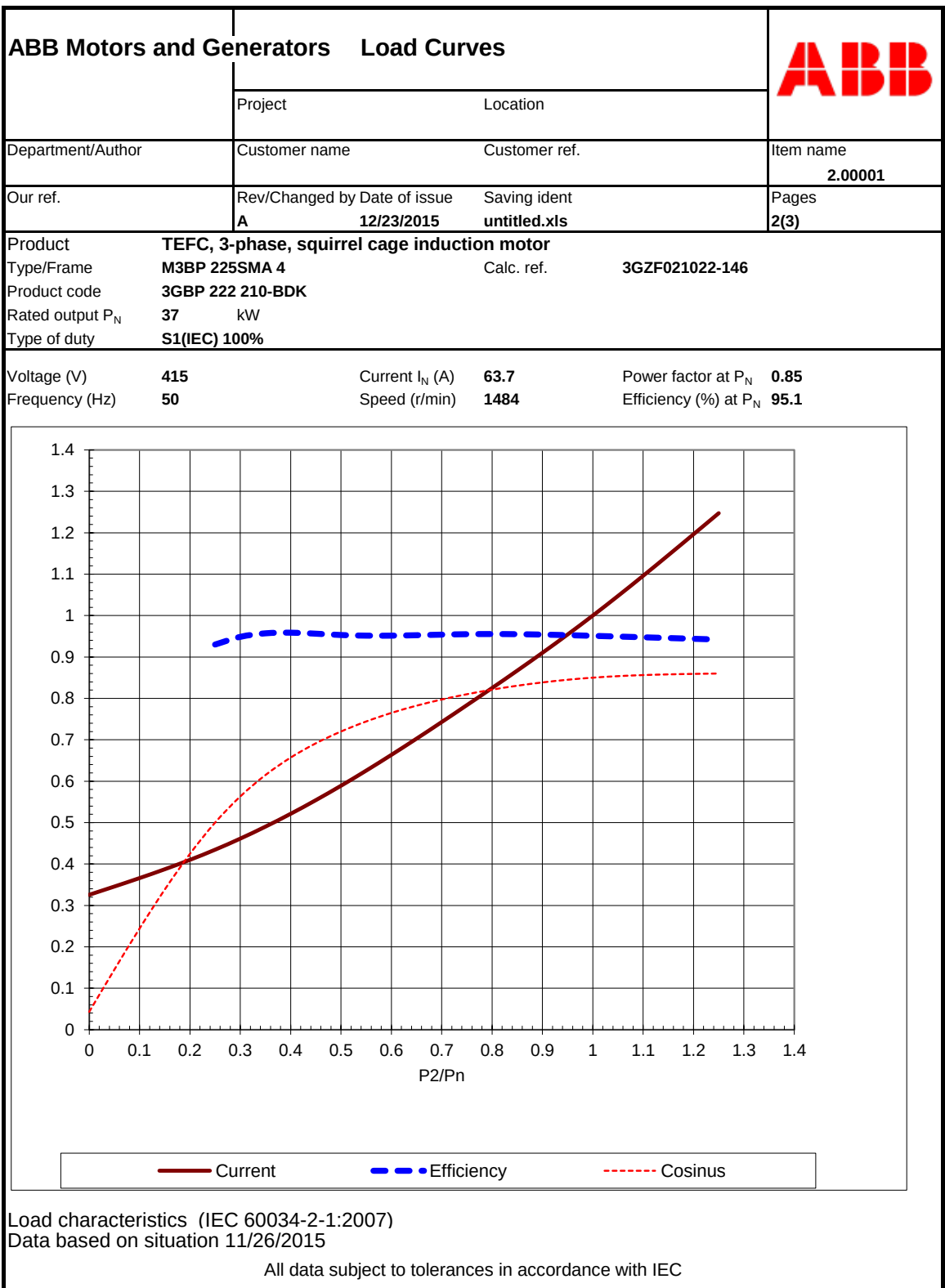
49 011 = Fulfilling CSA and NRCAN
50 332 = Baldor Catalog number stamped on rating plate
51 509 = Fulfilling EISA Subtype I efficiency requirements, CC031A
52

Remarks:

Data based on situation 11/26/2015

All data subject to tolerances in accordance with IEC

Guaranteed values on request



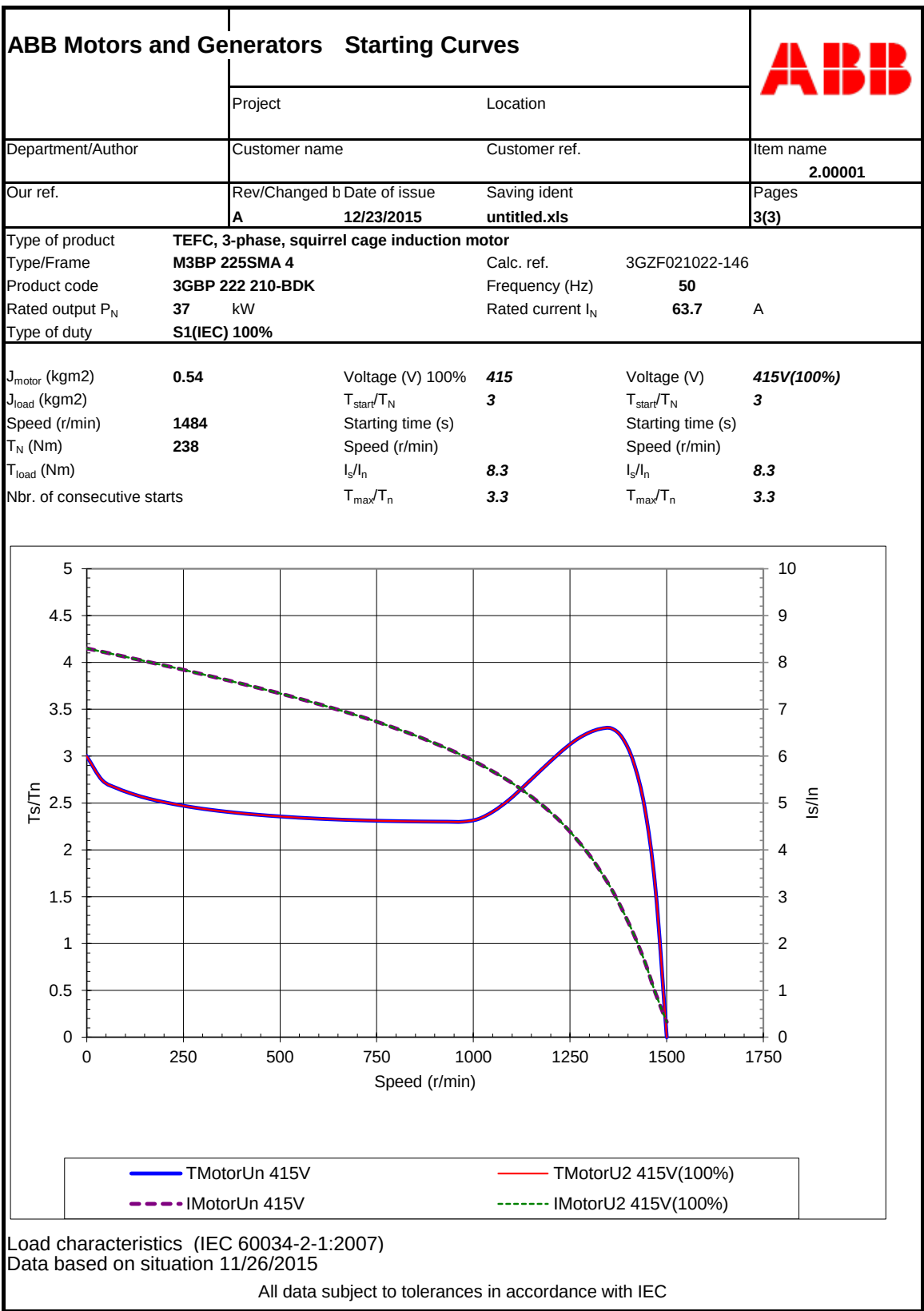
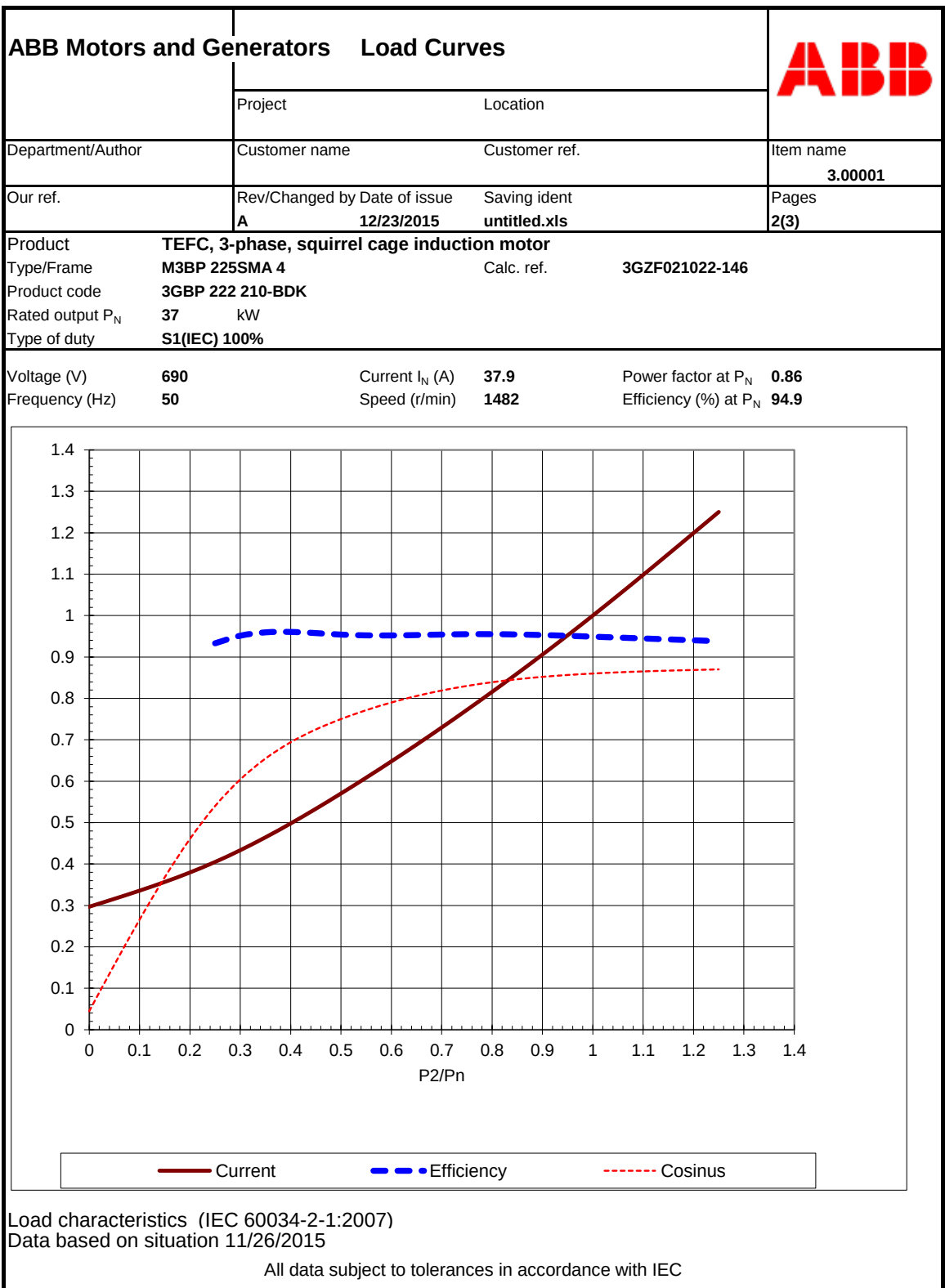


ABB Motors and Generators		Technical Data Sheet - DOL				
Project		Location				
Department/Author	Customer name	Customer ref.			Item name 3.00001	
Our ref.	Rev/Changed by A	Date of issue 12/23/2015	Saving ident untitled.xls		Pages 1(3)	
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	EMVM22374D-PPN (3GBP222210-BDK+011+332+509)			Calc. ref.	3GZF021022-146
3	Type/Frame	M3BP 225SMA 4				
4	Mounting	IM3001, B5(flange)				
5	Rated output P _N	37	kW			
6	Service factor	1				
7	Type of duty	S1(IEC) 100%				
8	Rated voltage U _N	690	VY	± 5 % (IEC 60034-1)		
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)		
10	Rated speed n _N	1482	r/min			
11	Rated current I _N	37.9	A			
12	No-load current	11.3	A			
13	Starting current I _s /I _N	7.7		Fulfilled IEC 60034-12 design N,H		
14	Nominal torque T _N	238	Nm			
15	Locked rotor torque T _s /T _N	2.8				
16	Maximum torque T _{max} /T _N	3.1				
17	Minimum torque T _{min} /T _N	2.3				
18	Speed at minimum torque	975	r/min			
Load characteristics (IEC 60034-2-1:2007)		Load %	Current A	Efficiency %	Power factor	
19	PLL determined from residual loss	100	37.9	94.9 / IE3	0.86	
20		75	29.3	95.5	0.83	
21		50	21.6	95.4	0.75	
22		Start	292		0.4	
23	Maximum starting time from hot	15	s			
24	Maximum starting time from cold	27	s			
25	Insulation class / Temperature class	F / B				
26	Ambient temperature	40	°C			
27	Altitude	1000	m.a.s.l.			
28	Enclosure	IP55				
29	Cooling system	IC411 self ventilated				
30	Bearing DE/NDE	6313/C3 - 6212/C3				
31	Type of Grease					
32	Sound pressure level (LP dB(A) 1m)	66	dB(A)	at load		
33	Moment of inertia J = ¼ GD2	0.536	kg-m2			
34	Balancing					
35	Vibration class					
36	Position of terminal box	Top				
37	Terminal box entries; no, dimens.					
38	Number of power terminals					
39	Direction of rotation	CW or CCW				
40	Weight of rotor	100	kg			
41	Total weight of motor	376	kg			
42	Dimension drawing no.					
43						
44						
45						
Ex-motors						
46						
47						
48						
Option Variant Codes / Definition						
49	011 = Fulfilling CSA and NRCAN					
50	332 = Baldor Catalog number stamped on rating plate					
51	509 = Fulfilling EISA Subtype I efficiency requirements, CC031A					
52						
Remarks:						
Data based on situation 11/26/2015						
All data subject to tolerances in accordance with IEC						
Guaranteed values on request						



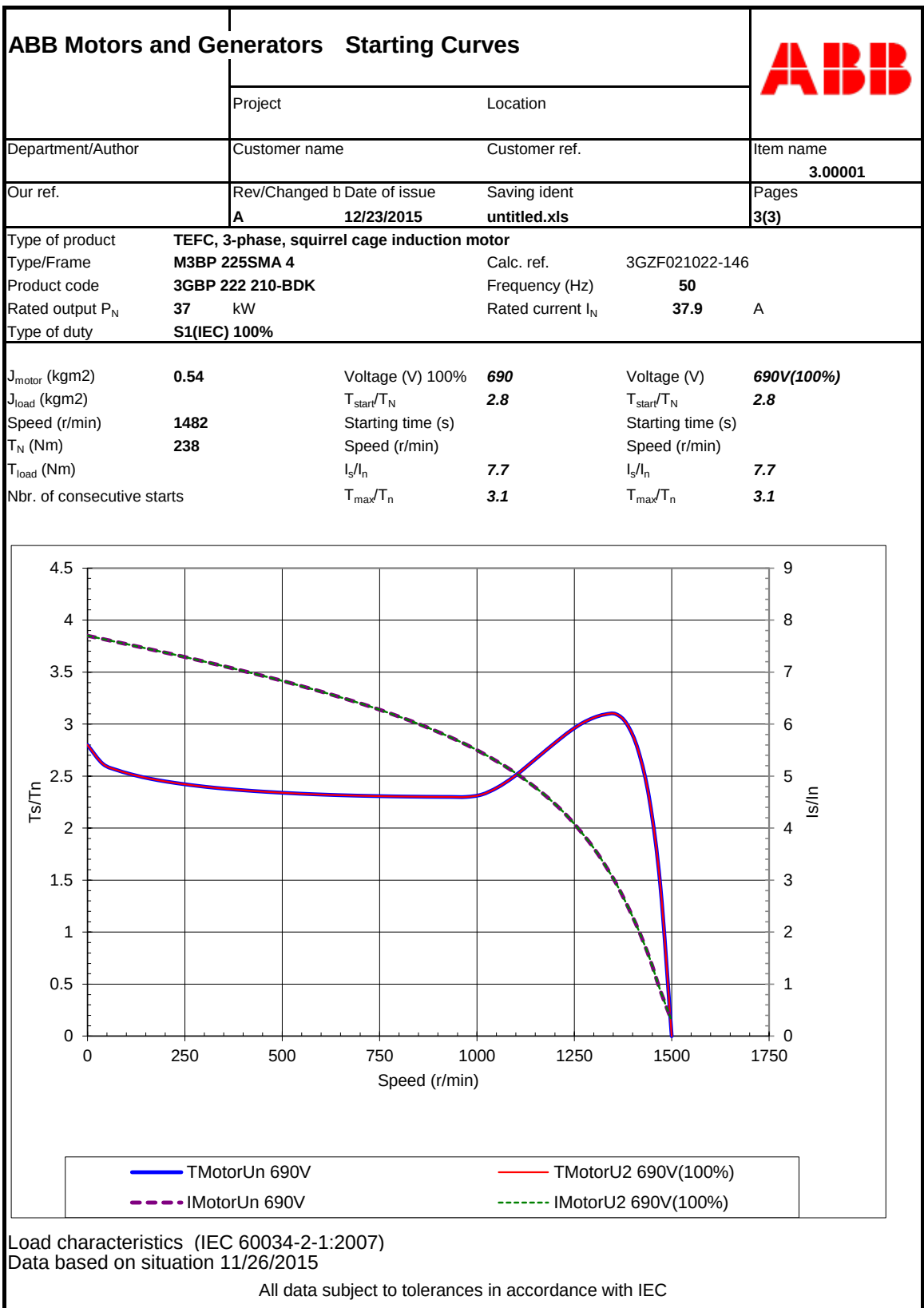


ABB Motors and Generators		Technical Data Sheet - DOL				
Project		Location				
Department/Author	Customer name	Customer ref.			Item name 4.00001	
Our ref.	Rev/Changed by A	Date of issue 12/23/2015	Saving ident untitled.xls		Pages 1(3)	
No.	Definition	Data	Unit	Remarks		
1	Product	TEFC, 3-phase, squirrel cage induction motor				
2	Product code	EMVM22374D-PPN (3GBP222210-BDK+011+332+509)			Calc. ref.	3GZF021022-146
3	Type/Frame	M3BP 225SMA 4				
4	Mounting	IM3001, B5(flange)				
5	Rated output P _N	37	kW			
6	Service factor	1				
7	Type of duty	S1(IEC) 100%				
8	Rated voltage U _N	460	VD	± 5 % (IEC 60034-1)		
9	Rated frequency f _N	60	Hz	± 2 % (IEC 60034-1)		
10	Rated speed n _N	1784	r/min			
11	Rated current I _N	57.8	A			
12	No-load current	19.6	A			
13	Starting current I _s /I _N	8.8		Fulfilled IEC 60034-12 design N,H		
14	Nominal torque T _N	198	Nm			
15	Locked rotor torque T _s /T _N	2.9				
16	Maximum torque T _{max} /T _N	3.4				
17	Minimum torque T _{min} /T _N	2.5				
18	Speed at minimum torque	1170	r/min			
Load characteristics (IEEE 112 B: 2004)		Load %	Current A	Efficiency %	Power factor	
19	NEMA nominal efficiency (*)	100	57.8	94.5 / IE3 / 93.0	0.85	
20		75	45.4	94.7	0.81	
21		50	33.8	94.1	0.73	
22		Start	509		0.37	
23	Maximum starting time from hot	15	s			
24	Maximum starting time from cold	27	s			
25	Insulation class / Temperature class	F / B				
26	Ambient temperature	40	°C			
27	Altitude	1000	m.a.s.l.			
28	Enclosure	IP55				
29	Cooling system	IC411 self ventilated				
30	Bearing DE/NDE	6313/C3 - 6212/C3				
31	Type of Grease					
32	Sound pressure level (LP dB(A) 1m)	74	dB(A)	at load		
33	Moment of inertia J = ¼ GD2	0.536	kg-m2			
34	Balancing					
35	Vibration class					
36	Position of terminal box	Top				
37	Terminal box entries; no, dimens.					
38	Number of power terminals					
39	Direction of rotation	CW or CCW				
40	Weight of rotor	100	kg			
41	Total weight of motor	376	kg			
42	Dimension drawing no.					
43						
44						
45						
Ex-motors						
46						
47						
48						
Option Variant Codes / Definition						
49	011 = Fulfilling CSA and NRCAN					
50	332 = Baldor Catalog number stamped on rating plate					
51	509 = Fulfilling EISA Subtype I efficiency requirements, CC031A					
52						
Remarks:						
Data based on situation 11/26/2015						
All data subject to tolerances in accordance with IEC						
Guaranteed values on request						

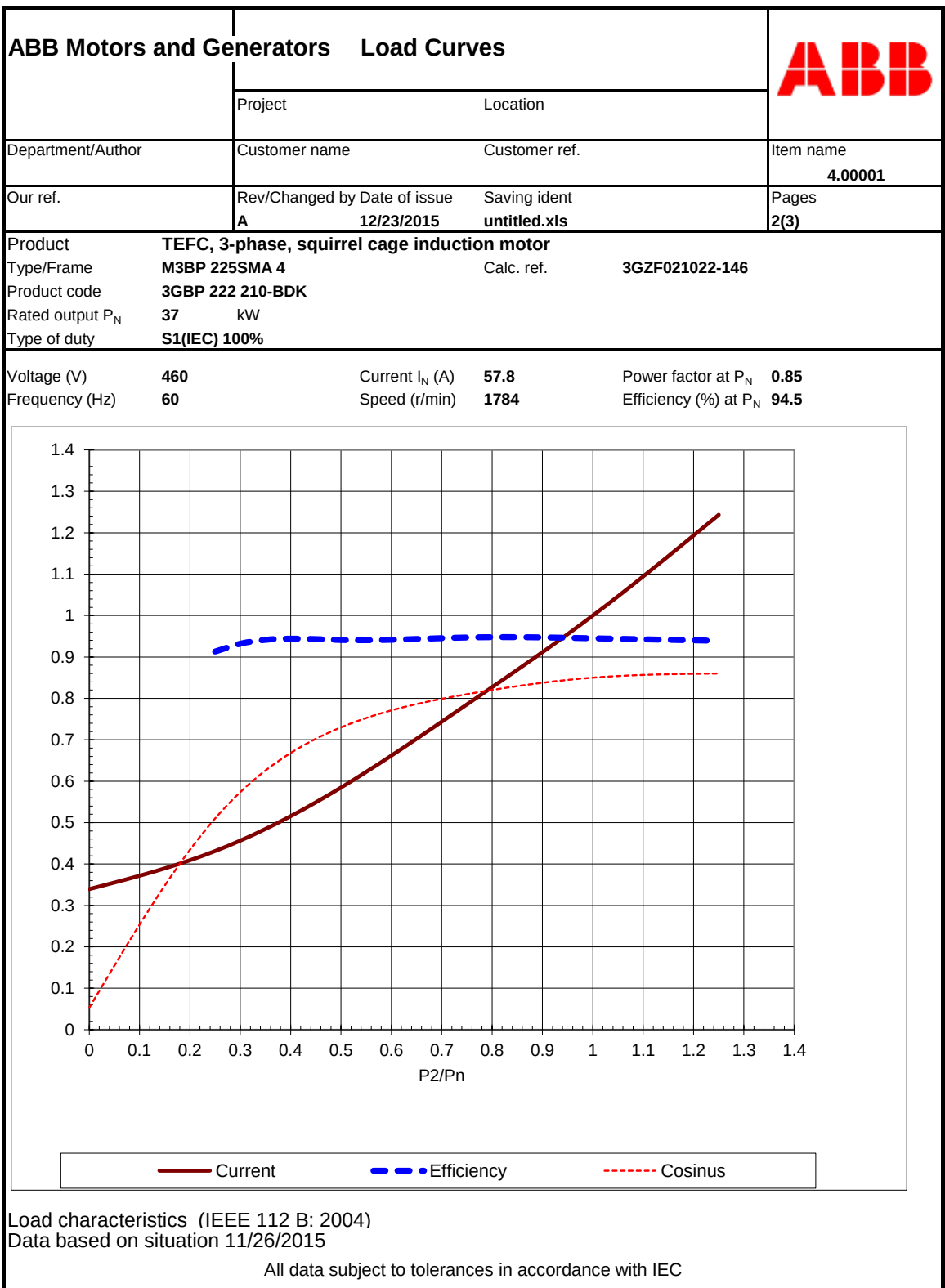


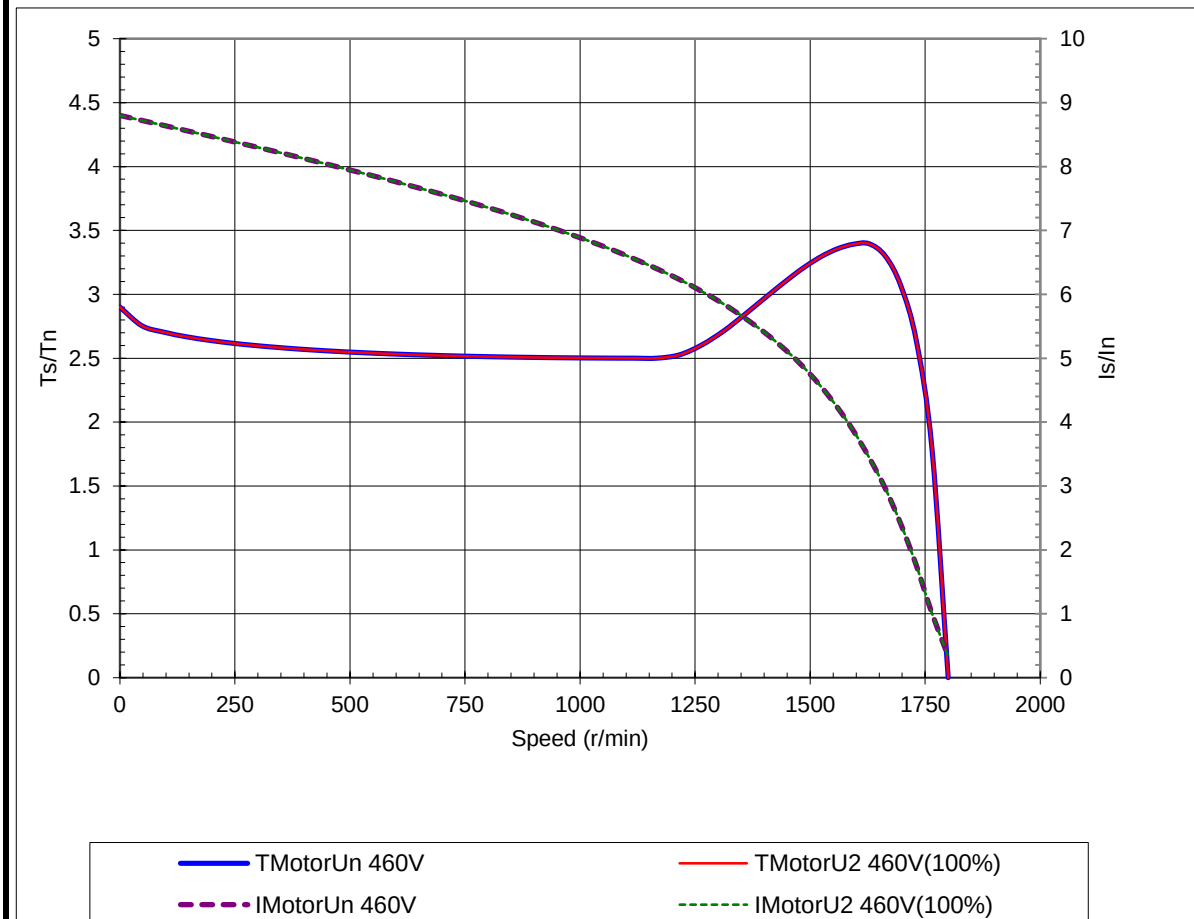
ABB Motors and Generators Starting Curves



	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
			4.00001
Our ref.	Rev/Changed b Date of issue	Saving ident	Pages
	A 12/23/2015	untitled.xls	3(3)

Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 225SMA 4	Calc. ref.	3GZF021022-146
Product code	3GBP 222 210-BDK	Frequency (Hz)	60
Rated output P_N	37 kW	Rated current I_N	57.8 A
Type of duty	S1(IEC) 100%		

J_{motor} (kgm ²)	0.54	Voltage (V) 100%	460	Voltage (V)	460V(100%)
J_{load} (kgm ²)		T_{start}/T_N	2.9	T_{start}/T_N	2.9
Speed (r/min)	1784	Starting time (s)		Starting time (s)	
T_N (Nm)	198	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_N	8.8	I_s/I_N	8.8
Nbr. of consecutive starts		T_{max}/T_N	3.4	T_{max}/T_N	3.4



Load characteristics (IEEE 112 B: 2004)
Data based on situation 11/26/2015

All data subject to tolerances in accordance with IEC