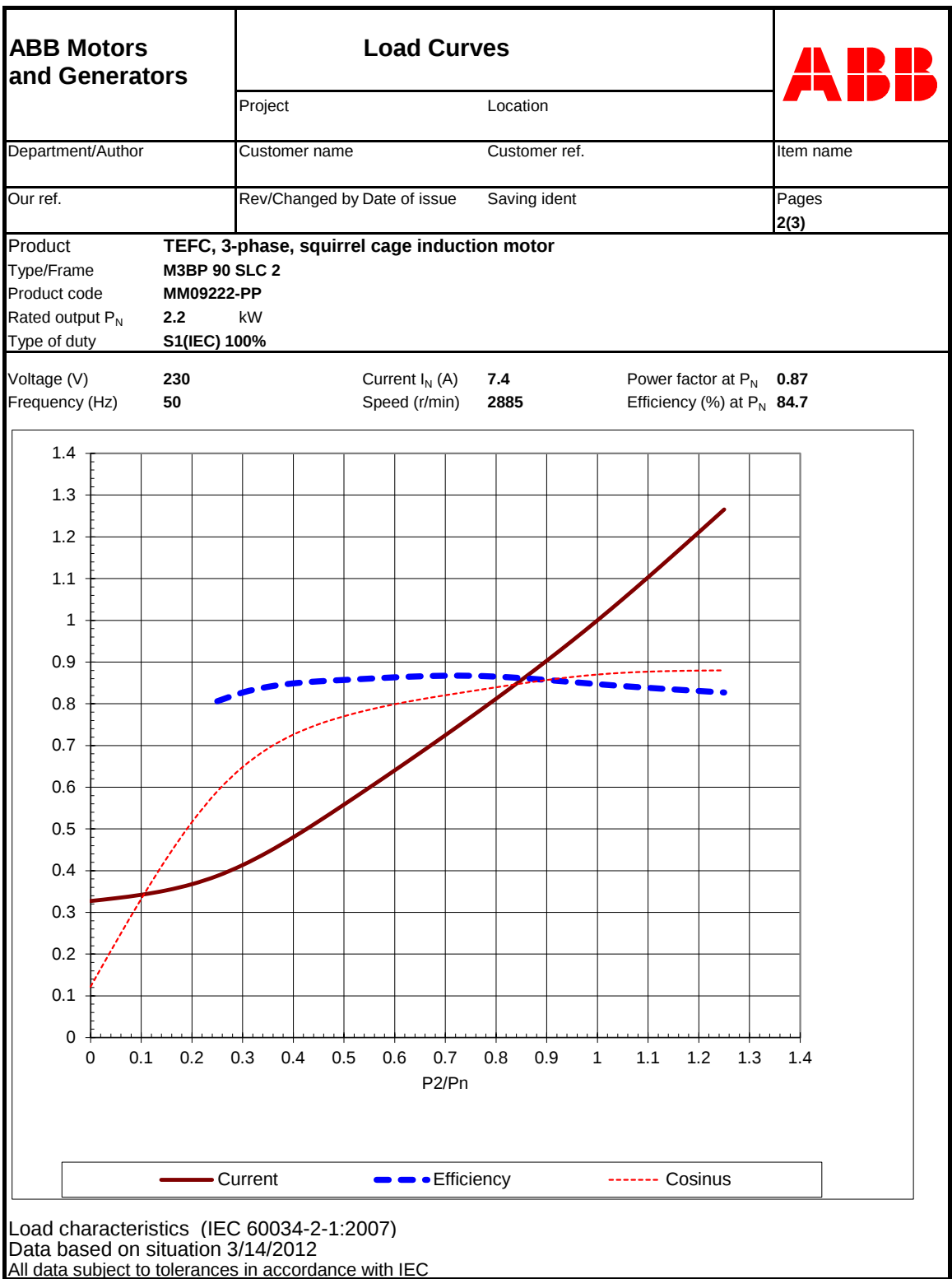


ABB Motors and Generators		Technical Data Sheet - DOL				
		Project		Location		
Department/Author		Customer name		Customer ref.		Item name
Our ref.		Rev/Changed by	Date of issue	Saving ident		Pages 1(3)

No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	MM09222-PP (3GAA091313-ASE+332+333)			
3	Type/Frame	M3BP 90 SLC 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	2.2	kW		
6	Service factor	1			
7	Type of duty	S1(IEC) 100%			
8	Rated voltage U _N	230	VD	± 5 % (IEC 60034-1)	
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)	
10	Rated speed n _N	2885	r/min		
11	Rated current I _N	7.4	A		
12	No-load current	2.5	A		
13	Starting current I _s /I _N	6.8		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	7.3	Nm		
15	Locked rotor torque T _S /T _N	1.9			
16	Maximum torque T _{max} /T _N	2.5			
17	Minimum torque T _{min} /T _N	1.8			
18	Speed at minimum torque	570	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	100	7.4	84.7 / IE2	0.87
21		75	5.7	86.7	0.83
22		50	4.1	85.7	0.77
23		Start	50		0.62
24	Maximum starting time from hot	10	s		
25	Maximum starting time from cold	18	s		
26	Insulation class / Temperature class	F / B			
27	Ambient temperature	40	°C		
28	Altitude	1000	m.a.s.l.		
29	Enclosure	IP55			
30	Cooling system	IC411 self ventilated			
31	Bearing DE/NDE	6205-2Z/C3 - 6204-2Z/C3			
32	Type of Grease	Greased for life			
33	Sound pressure level (LP dB(A) 1m)	64	dB(A)	at load	
34	Moment of inertia J = ¼ GD ²	0.0028	kg-m ²		
35	Balancing	Half Key			
36	Vibration class	Grade A			
37	Position of terminal box	Top			
38	Terminal box entries; no, dimens.	2xM32x1.5			
39	Number of power terminals	6			
40	Direction of rotation	CW or CCW			
41	Weight of rotor	3	kg		
42	Total weight of motor	25	kg		
43					

Variant Codes / Definition
332 = Baldor catalog number
333 = Not for use in the USA

Remarks:
Data based on situation 3/14/2012
All data subject to tolerances in accordance with IEC
Guaranteed values on request



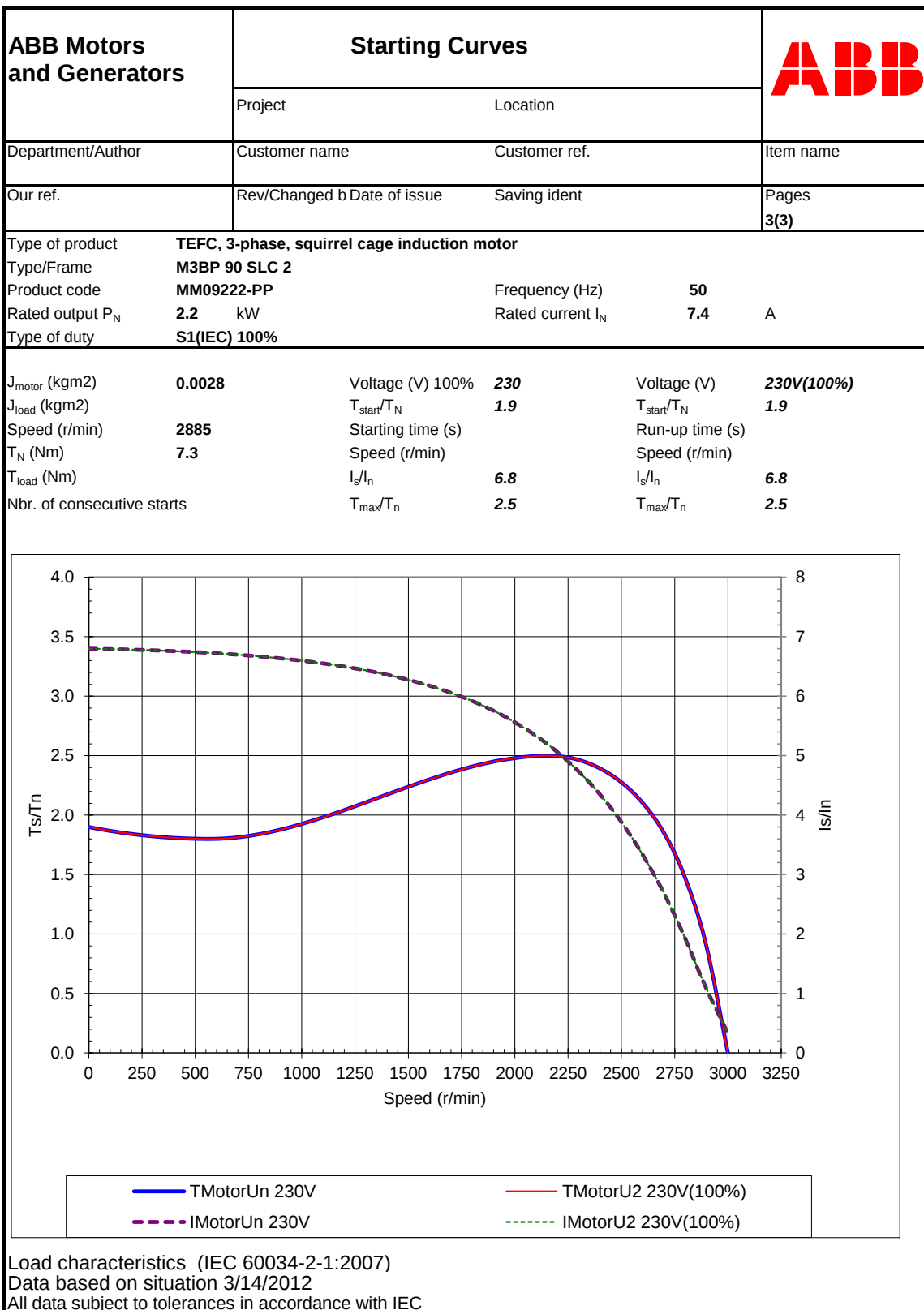
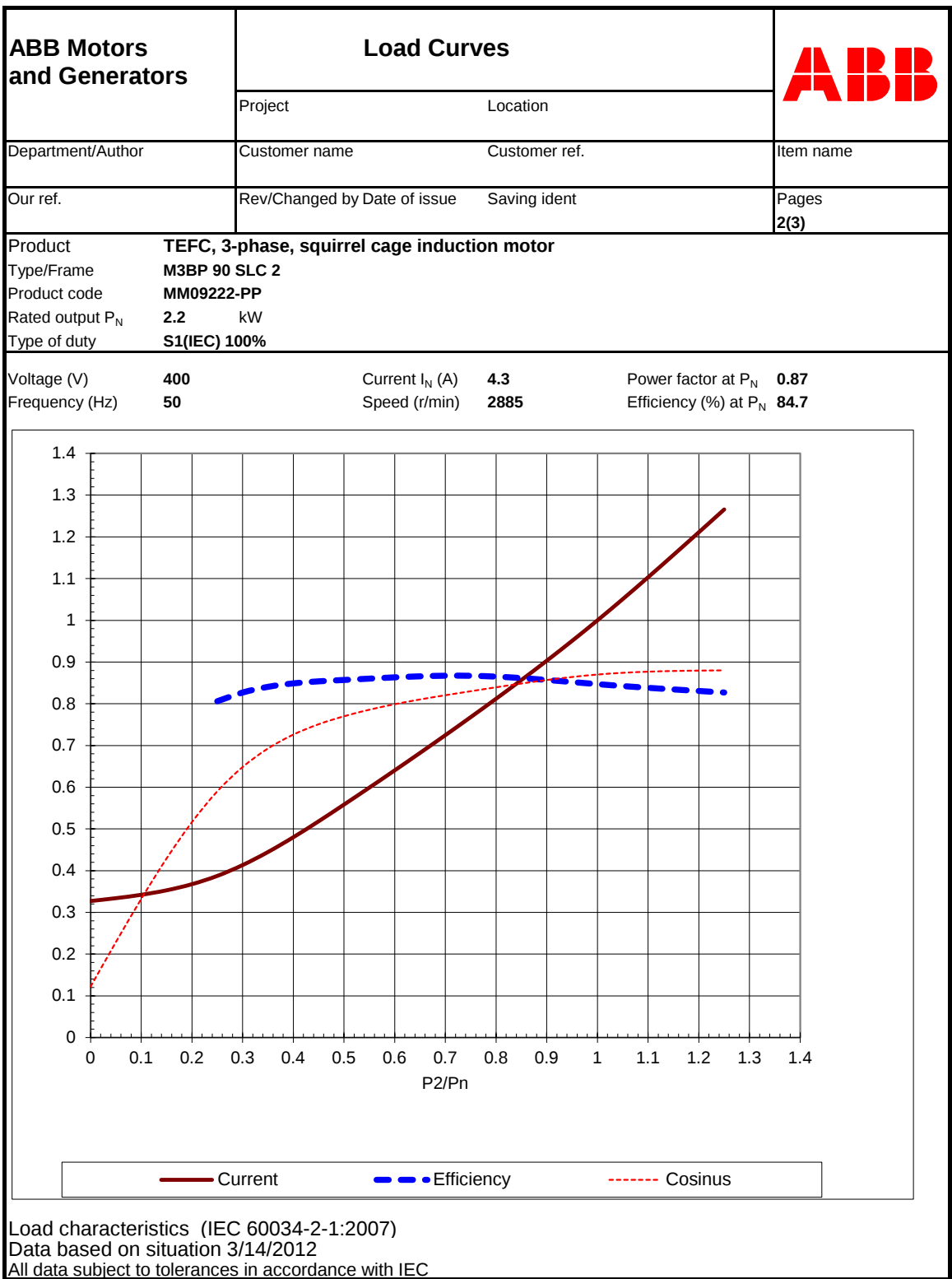


ABB Motors and Generators		Technical Data Sheet - DOL				
		Project		Location		
Department/Author		Customer name		Customer ref.		Item name
Our ref.		Rev/Changed by	Date of issue	Saving ident		Pages 1(3)

No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	MM09222-PP (3GAA091313-ASE+332+333)			
3	Type/Frame	M3BP 90 SLC 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	2.2	kW		
6	Service factor	1			
7	Type of duty	S1(IEC) 100%			
8	Rated voltage U _N	400	VY	± 5 % (IEC 60034-1)	
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)	
10	Rated speed n _N	2885	r/min		
11	Rated current I _N	4.3	A		
12	No-load current	1.41	A		
13	Starting current I _s /I _N	6.8		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	7.3	Nm		
15	Locked rotor torque T _S /T _N	1.9			
16	Maximum torque T _{max} /T _N	2.5			
17	Minimum torque T _{min} /T _N	1.8			
18	Speed at minimum torque	570	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	100	4.3	84.7 / IE2	0.87
21		75	3.3	86.7	0.83
22		50	2.4	85.7	0.77
23		Start	29.3		0.62
24	Maximum starting time from hot	10	s		
25	Maximum starting time from cold	18	s		
26	Insulation class / Temperature class	F / B			
27	Ambient temperature	40	°C		
28	Altitude	1000	m.a.s.l.		
29	Enclosure	IP55			
30	Cooling system	IC411 self ventilated			
31	Bearing DE/NDE	6205-2Z/C3 - 6204-2Z/C3			
32	Type of Grease	Greased for life			
33	Sound pressure level (LP dB(A) 1m)	64	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	0.0028	kg-m2		
35	Balancing	Half Key			
36	Vibration class	Grade A			
37	Position of terminal box	Top			
38	Terminal box entries; no, dimens.	2xM32x1.5			
39	Number of power terminals	6			
40	Direction of rotation	CW or CCW			
41	Weight of rotor	3	kg		
42	Total weight of motor	25	kg		
43					

Variant Codes / Definition
332 = Baldor catalog number
333 = Not for use in the USA

Remarks:
Data based on situation 3/14/2012
All data subject to tolerances in accordance with IEC
Guaranteed values on request



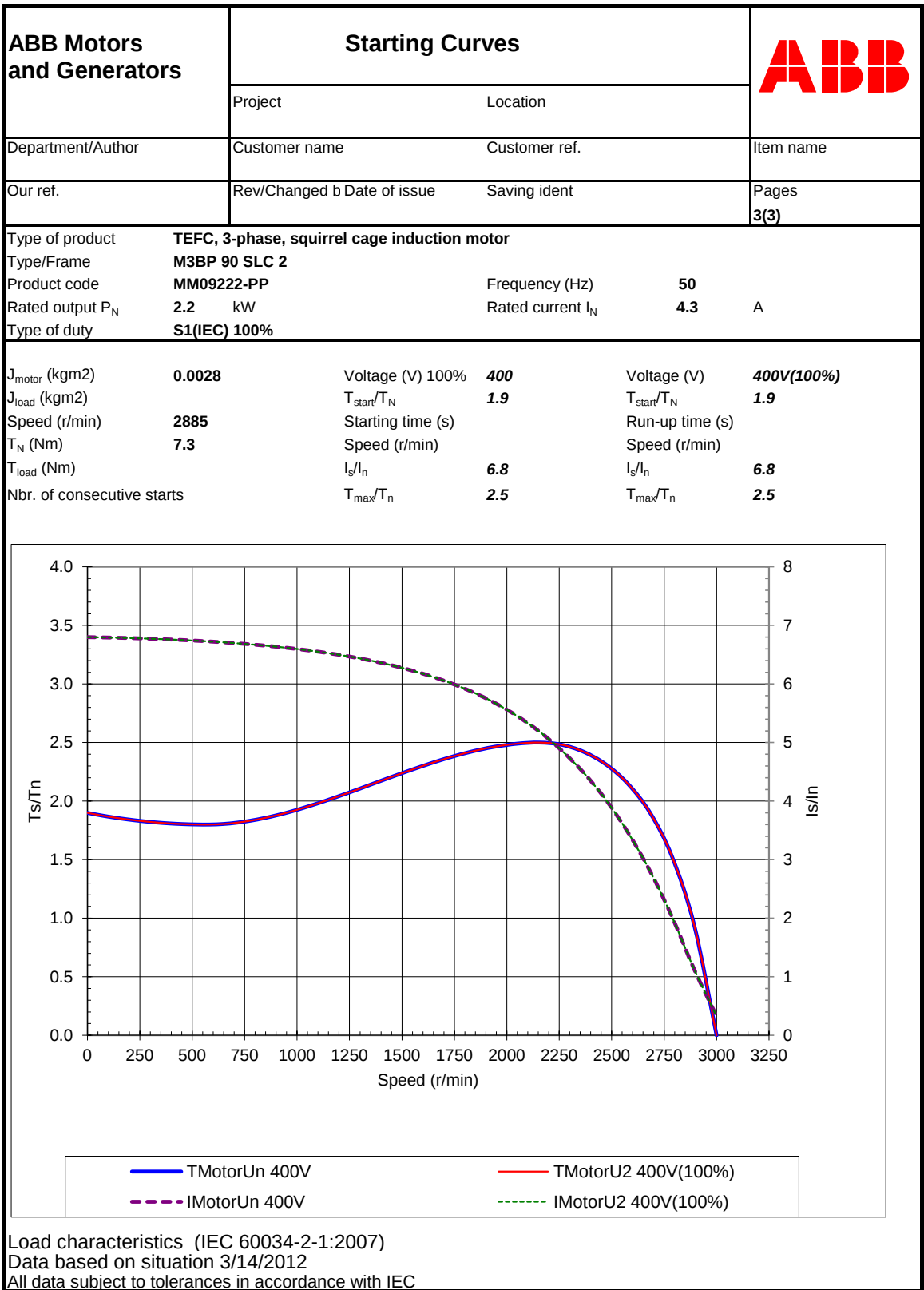


ABB Motors and Generators		Technical Data Sheet - DOL			
Project		Location			
Department/Author		Customer name		Customer ref.	Item name
Our ref.		Rev/Changed by	Date of issue	Saving ident	Pages 1(3)
No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	MM09222-PP (3GAA091313-ASE+332+333)			
3	Type/Frame	M3BP 90 SLC 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	2.2	kW		
6	Service factor	1			
7	Type of duty	S1(IEC) 100%			
8	Rated voltage U _N	460	VY	± 5 % (IEC 60034-1)	
9	Rated frequency f _N	60	Hz	± 2 % (IEC 60034-1)	
10	Rated speed n _N	3500	r/min		
11	Rated current I _N	3.6	A		
12	No-load current	1.28	A		
13	Starting current I _s /I _N	7.9		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	6	Nm		
15	Locked rotor torque T _S /T _N	1.9			
16	Maximum torque T _{max} /T _N	2.9			
17	Minimum torque T _{min} /T _N	1.8			
18	Speed at minimum torque	684	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	100	3.6	86.4 / IE2	0.88
21		75	2.8	87.1	0.84
22		50	2.1	85.9	0.76
23		Start	28.6		0.6
24	Maximum starting time from hot	10	s		
25	Maximum starting time from cold	18	s		
26	Insulation class / Temperature class	F / B			
27	Ambient temperature	40	°C		
28	Altitude	1000	m.a.s.l.		
29	Enclosure	IP55			
30	Cooling system	IC411 self ventilated			
31	Bearing DE/NDE	6205-2Z/C3 - 6204-2Z/C3			
32	Type of Grease	Greased for life			
33	Sound pressure level (LP dB(A) 1m)	71	dB(A)	at load	
34	Moment of inertia J = ¼ GD ²	0.0028	kg-m ²		
35	Balancing	Half Key			
36	Vibration class	Grade A			
37	Position of terminal box	Top			
38	Terminal box entries; no, dimens.	2xM32x1.5			
39	Number of power terminals	6			
40	Direction of rotation	CW or CCW			
41	Weight of rotor	3	kg		
42	Total weight of motor	25	kg		
43					
Variant Codes / Definition 332 = Baldor catalog number 333 = Not for use in the USA					
Remarks:					
Data based on situation 3/14/2012					
All data subject to tolerances in accordance with IEC					
Guaranteed values on request					

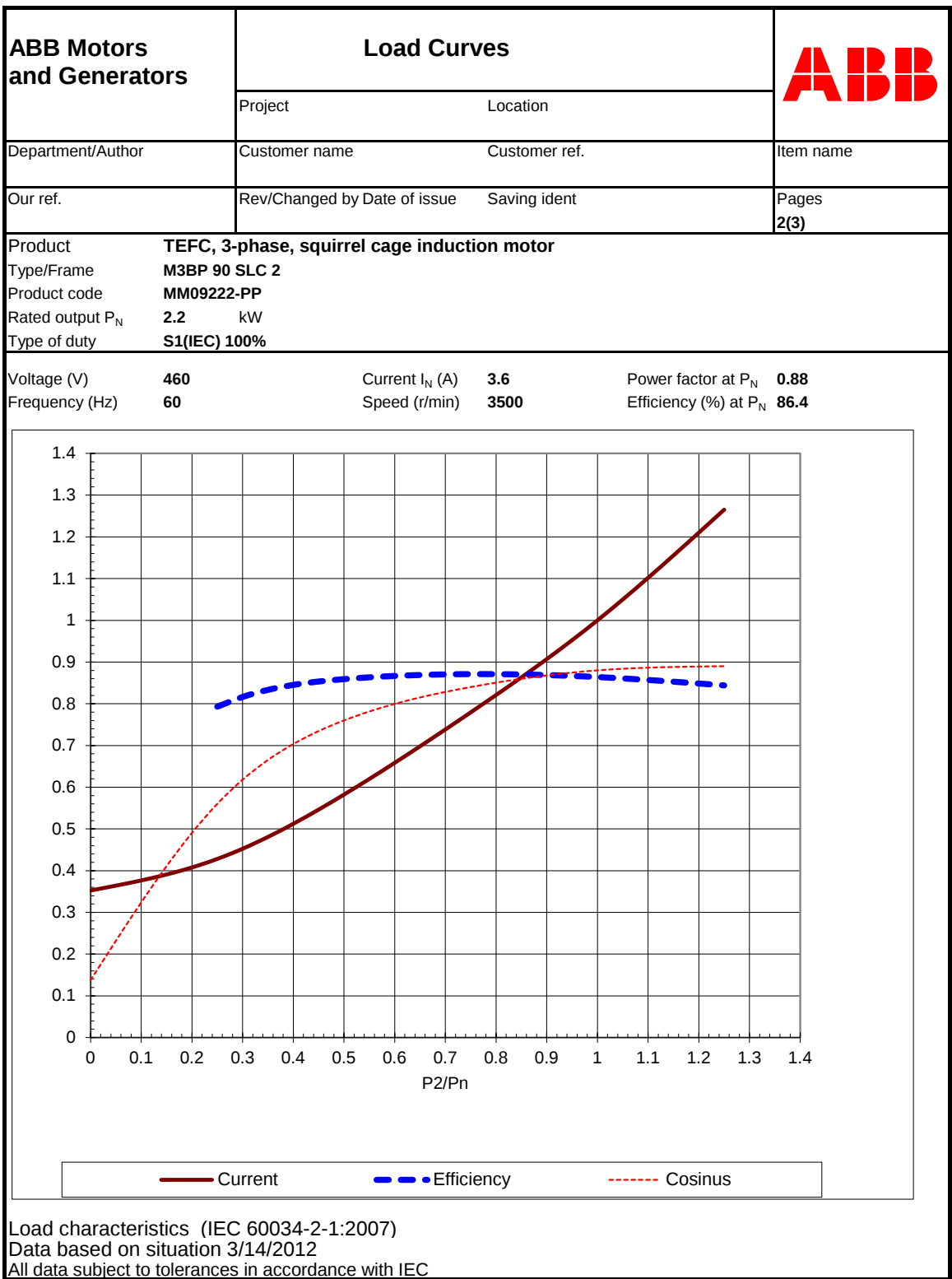
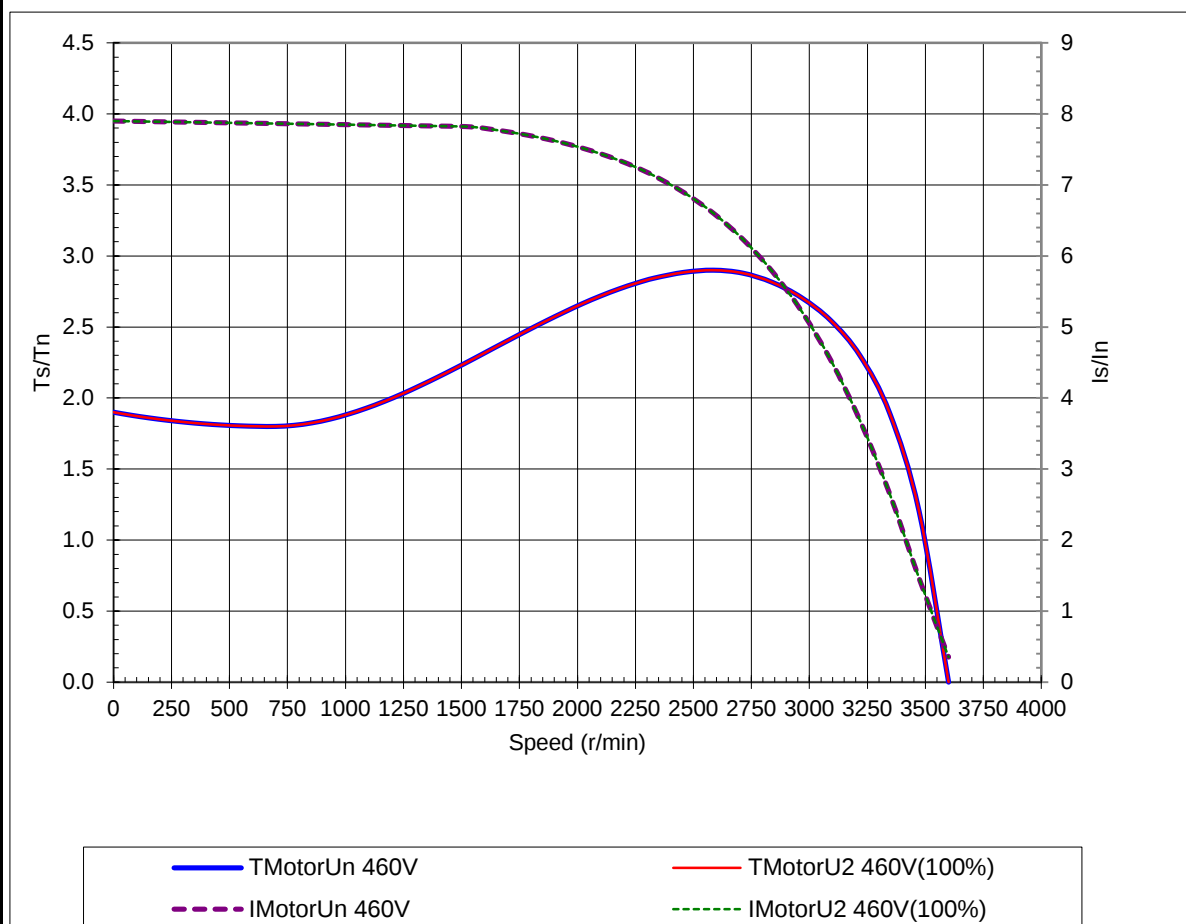


ABB Motors and Generators	Starting Curves		ABB
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed b Date of issue	Saving ident	Pages 3(3)

Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 90 SLC 2		
Product code	MM09222-PP	Frequency (Hz)	60
Rated output P_N	2.2 kW	Rated current I_N	3.6 A
Type of duty	S1(IEC) 100%		

J_{motor} (kgm ²)	0.0028	Voltage (V) 100%	460	Voltage (V)	460V(100%)
J_{load} (kgm ²)		T_{start}/T_N	1.9	T_{start}/T_N	1.9
Speed (r/min)	3500	Starting time (s)		Run-up time (s)	
T_N (Nm)	6	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_N	7.9	I_s/I_N	7.9
Nbr. of consecutive starts		T_{max}/T_N	2.9	T_{max}/T_N	2.9



Load characteristics (IEC 60034-2-1:2007)
Data based on situation 3/14/2012
All data subject to tolerances in accordance with IEC