

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)	

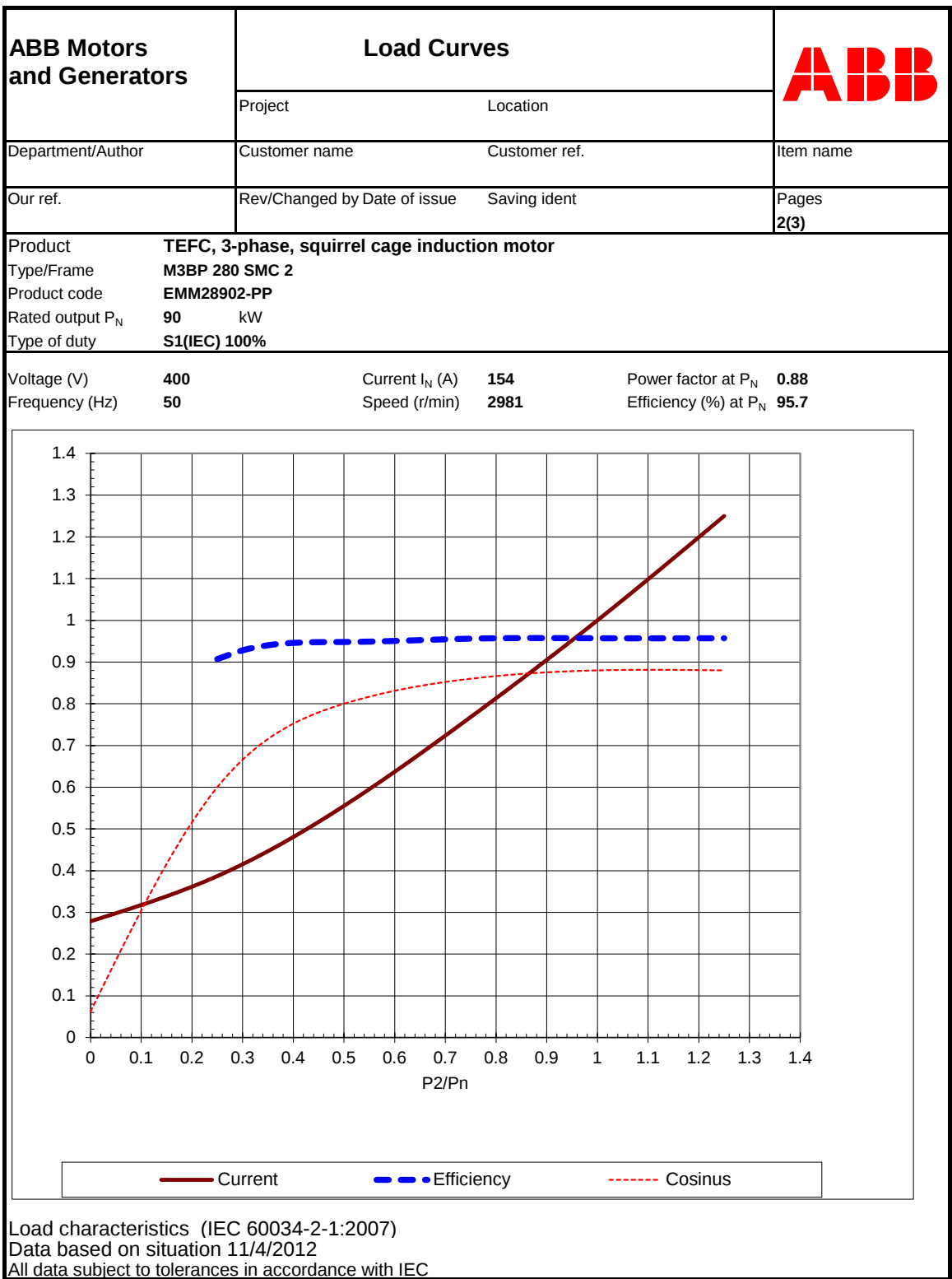
No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	EMM28902-PP (3GBP281230-ADK+332+509+531)			
3	Type/Frame	M3BP 280 SMC 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	90	kW		
6	Service factor	1			
7	Type of duty	S1(IEC) 100%			
8	Rated 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	2981	r/min		
11	Rated current I _N	154	A		
12	No-load current	43	A		
13	Starting current I _s /I _N	8		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	288	Nm		
15	Locked rotor torque T _S /T _N	2.5			
16	Maximum torque T _{max} /T _N	3.1			
17	Minimum torque T _{min} /T _N	2.3			
18	Speed at minimum torque	2400	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	100	154	95.7 / IE3	0.88
21		75	118	95.6	0.86
22		50	85.6	94.8	0.8
23		Start	1234		0.35
24	Maximum starting time from hot	15	s		
25	Maximum starting time from cold	27	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	6316/C3 - 6316/C3			
32	Type of Grease	Lithium based			
33	Sound pressure level (LP dB(A) 1m)	77	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	1.15	kg-m2		
35	Balancing	Half Key			
36	Vibration class	Grade A			
37	Position of terminal box	Top			
38	Terminal box entries; no, dimens.	2xM63x1.5 + 2xM63x1.5			
39	Number of power terminals	6			
40	Direction of rotation	CW or CCW			
41	Total weight of motor	725	kg		
42					

Variant Codes / Definition

332 = Baldor catalog number
509 = Fulfilling EISA Subtype I efficiency requirements, CC031A
531 = Sea freight packaging

Remarks:

Data based on situation 11/4/2012
All data subject to tolerances in accordance with IEC
Guaranteed values on request



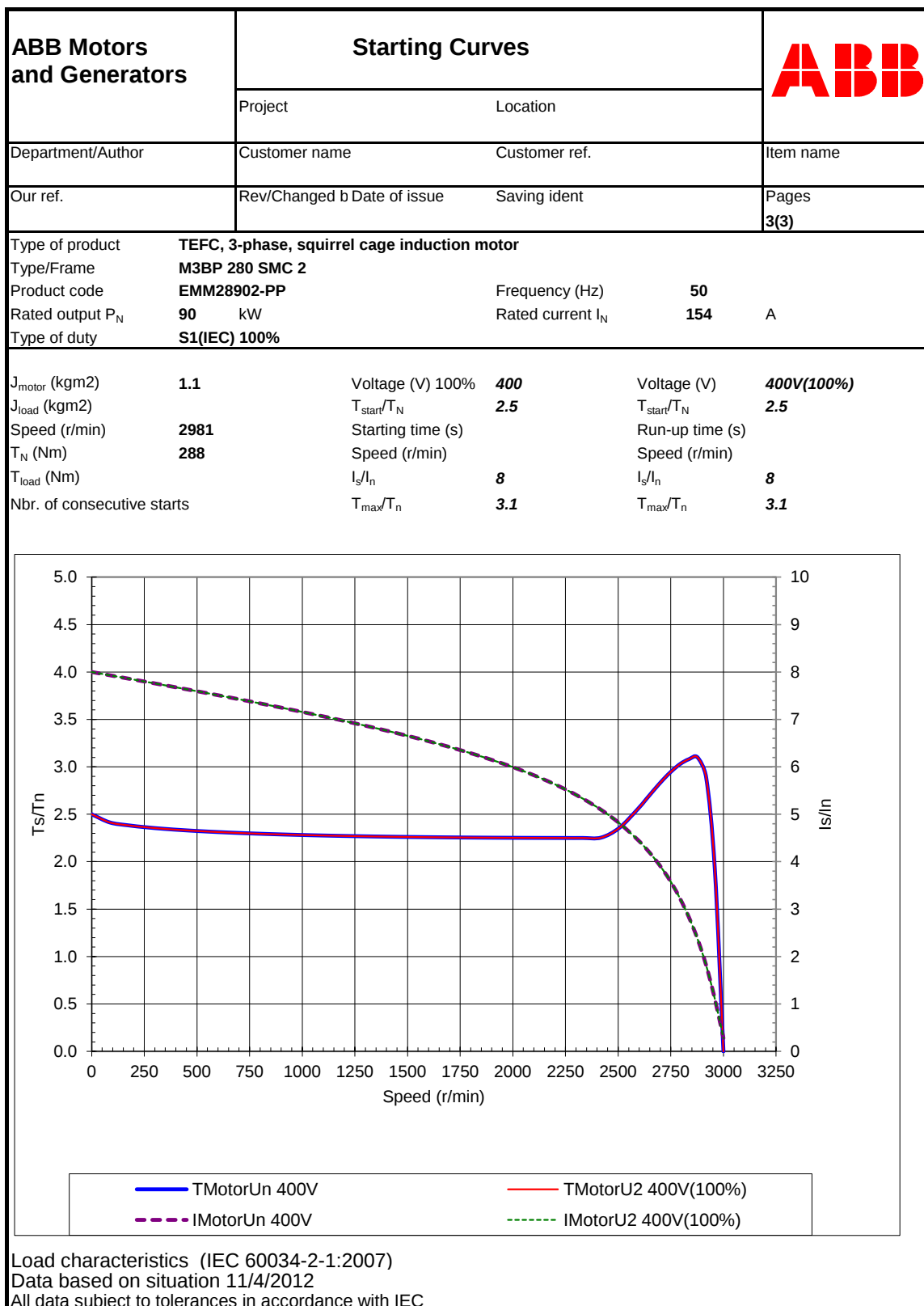


ABB Motors and Generators		Technical Data Sheet - DOL			
		Project _____		Location _____	
Department/Author _____		Customer name _____		Customer ref. _____	
Our ref. _____		Rev/Changed by _____		Date of issue _____	
				Saving ident _____	
				Pages 1(3)	

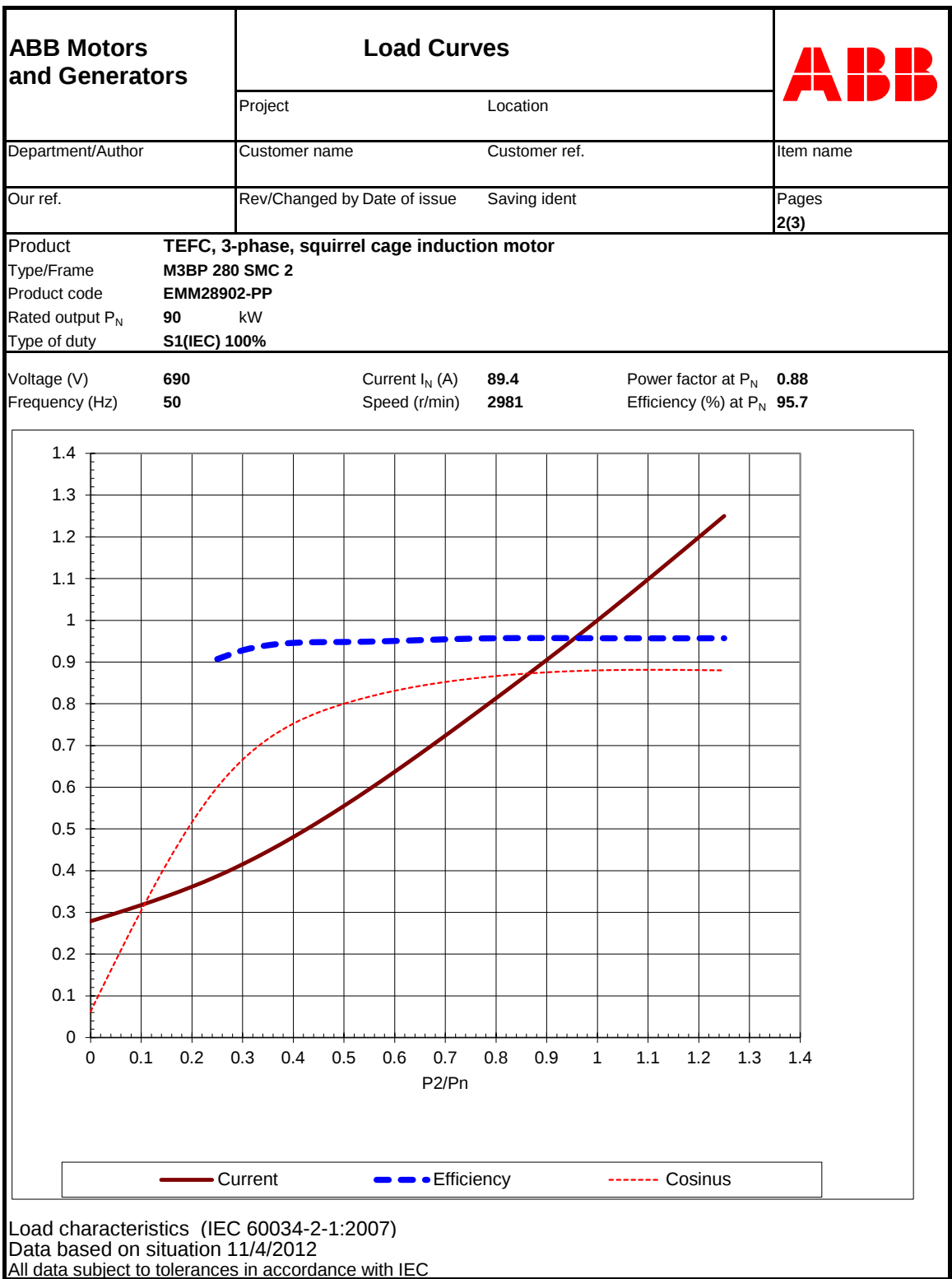
No.	Definition	Data	Unit	Remarks
1	Product	TEFC, 3-phase, squirrel cage induction motor		
2	Product code	EMM28902-PP (3GBP281230-ADK+332+509+531)		
3	Type/Frame	M3BP 280 SMC 2		
4	Mounting	IM1001, B3(foot)		
5	Rated output P _N	90	kW	
6	Service factor	1		
7	Type of duty	S1(IEC) 100%		
8	Rated voltage U _N	690	VY	± 5 % (IEC 60034-1)
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)
10	Rated speed n _N	2981	r/min	
11	Rated current I _N	89.4	A	
12	No-load current	25	A	
13	Starting current I _s /I _N	8		Fullfilled IEC 60034-12 design N,H
14	Nominal torque T _N	288	Nm	
15	Locked rotor torque T _S /T _N	2.5		
16	Maximum torque T _{max} /T _N	3.1		
17	Minimum torque T _{min} /T _N	2.3		
18	Speed at minimum torque	2400	r/min	
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %
20	PLL determined from residual loss	100	89.4	95.7 / IE3
21		75	68.6	95.6
22		50	49.6	94.8
23		Start	715	0.8
24	Maximum starting time from hot	15	s	
25	Maximum starting time from cold	27	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	6316/C3 - 6316/C3		
32	Type of Grease	Lithium based		
33	Sound pressure level (LP dB(A) 1m)	77	dB(A)	at load
34	Moment of inertia J = ¼ GD2	1.15	kg-m2	
35	Balancing	Half Key		
36	Vibration class	Grade A		
37	Position of terminal box	Top		
38	Terminal box entries; no, dimens.	2xM63x1.5 + 2xM63x1.5		
39	Number of power terminals	6		
40	Direction of rotation	CW or CCW		
41	Total weight of motor	725	kg	
42				

Variant Codes / Definition

332 = Baldor catalog number
509 = Fulfilling EISA Subtype I efficiency requirements, CC031A
531 = Sea freight packaging

Remarks:

Data based on situation 11/4/2012
 All data subject to tolerances in accordance with IEC
 Guaranteed values on request



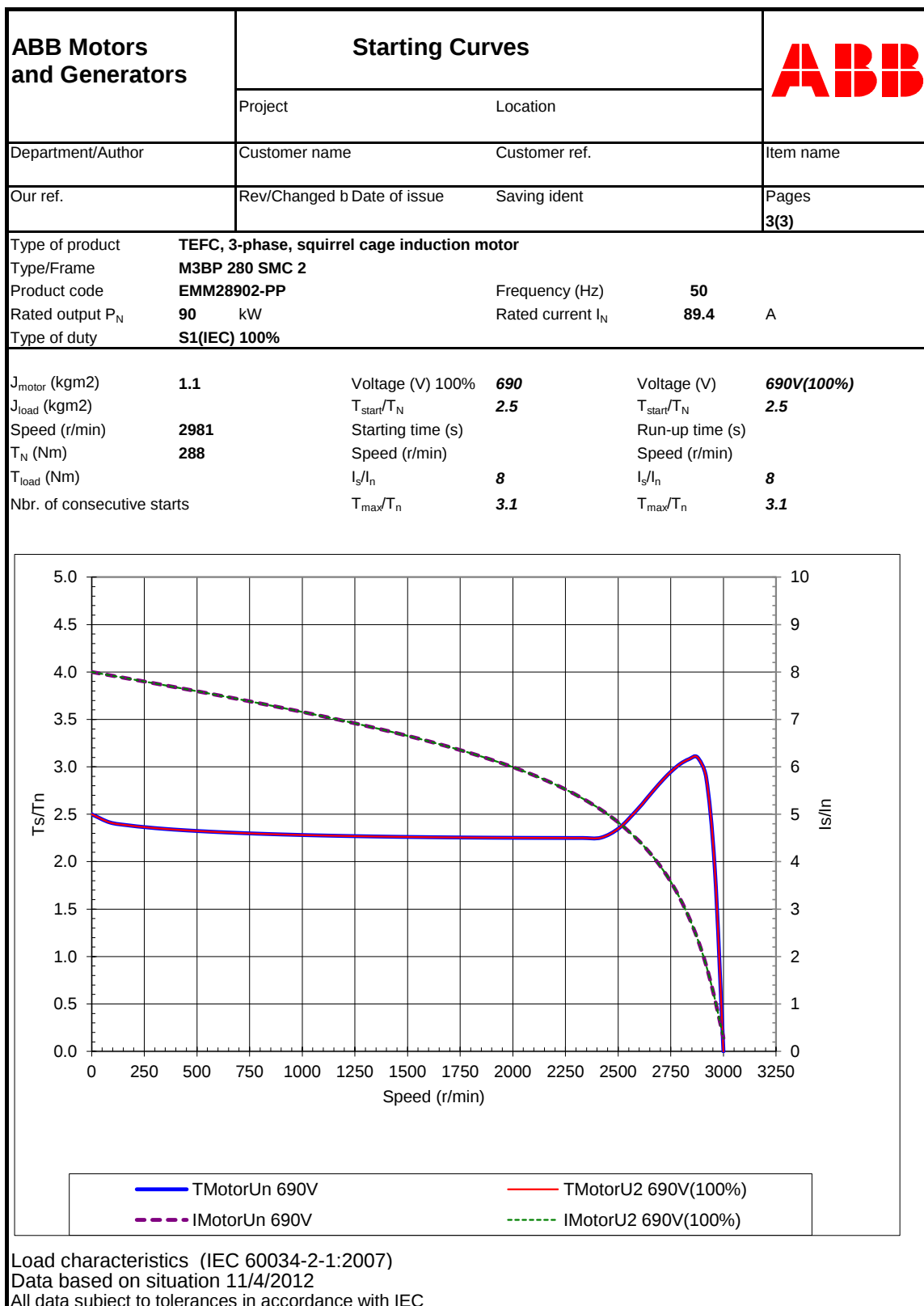


ABB Motors and Generators		Technical Data Sheet - DOL			
		Project		Location	
Department/Author		Customer name		Customer ref.	Item name
Our ref.		Rev/Changed by	Date of issue	Saving ident	Pages 1(3)

No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	EMM28902-PP (3GBP281230-ADK+332+509+531)			
3	Type/Frame	M3BP 280 SMC 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	90	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	3584	r/min		
11	Rated current I _N	135	A		
12	No-load current	42	A		
13	Starting current I _s /I _N	9		Not within IEC 60034-12 design N,H	
14	Nominal torque T _N	240	Nm		
15	Locked rotor torque T _S /T _N	2.6			
16	Maximum torque T _{max} /T _N	3.4			
17	Minimum torque T _{min} /T _N	2.4			
18	Speed at minimum torque	2880	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	100	135	94.7 / IE2	0.88
21		75	105	94.1	0.86
22		50	76.6	92.2	0.8
23		Start	1215		0.26
24	Maximum starting time from hot	15	s		
25	Maximum starting time from cold	30	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	6316/C3 - 6316/C3			
32	Type of Grease	Lithium based			
33	Sound pressure level (LP dB(A) 1m)	86	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	1.15	kg-m2		
35	Balancing	Half Key			
36	Vibration class	Grade A			
37	Position of terminal box	Top			
38	Terminal box entries; no, dimens.	2xM63x1.5 + 2xM63x1.5			
39	Number of power terminals	6			
40	Direction of rotation	CW or CCW			
41	Total weight of motor	725	kg		
42					

Variant Codes / Definition

332 = Baldor catalog number
509 = Fulfilling EISA Subtype I efficiency requirements, CC031A
531 = Sea freight packaging

Remarks:

Data based on situation 11/4/2012
All data subject to tolerances in accordance with IEC
Guaranteed values on request

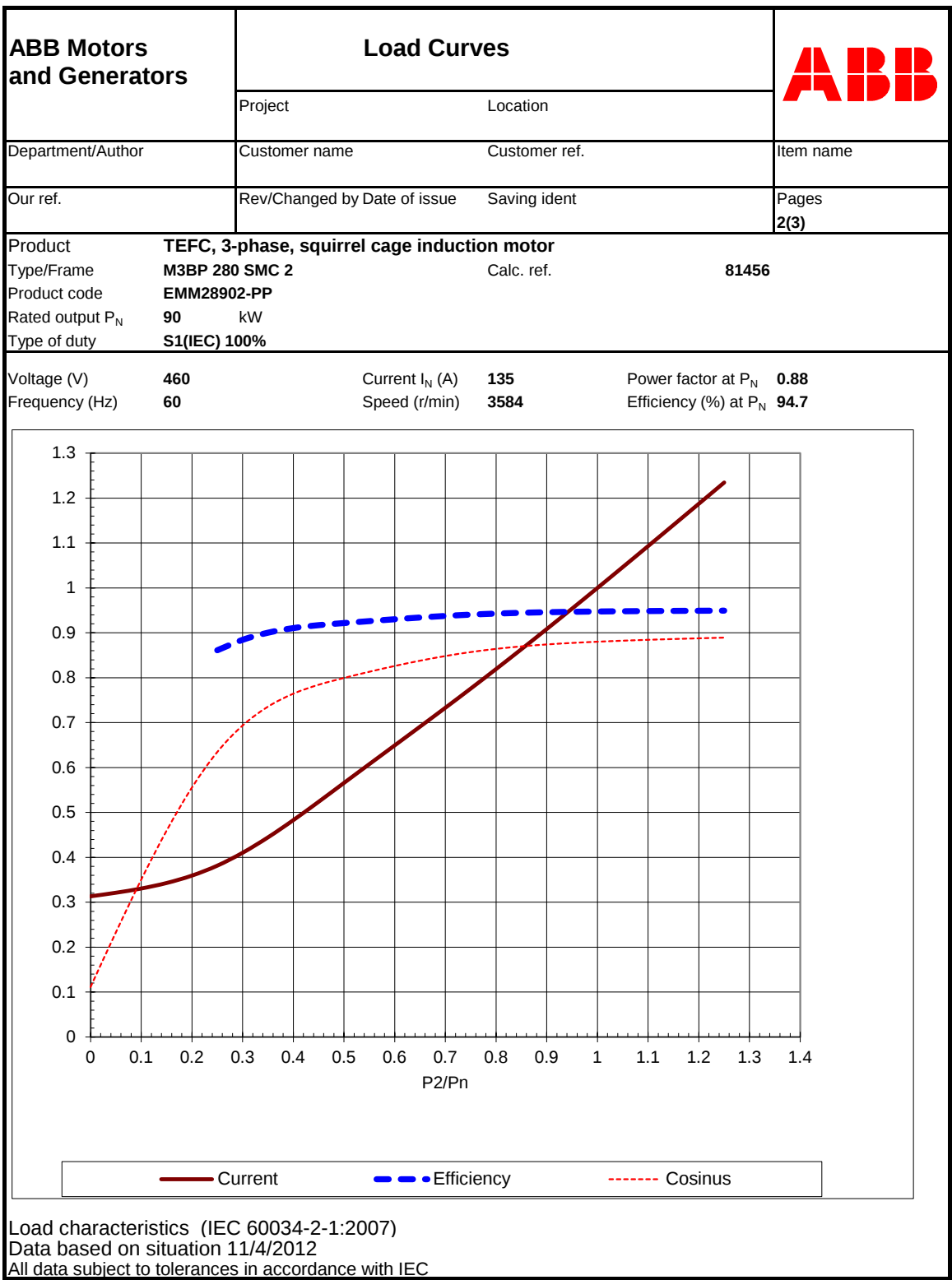
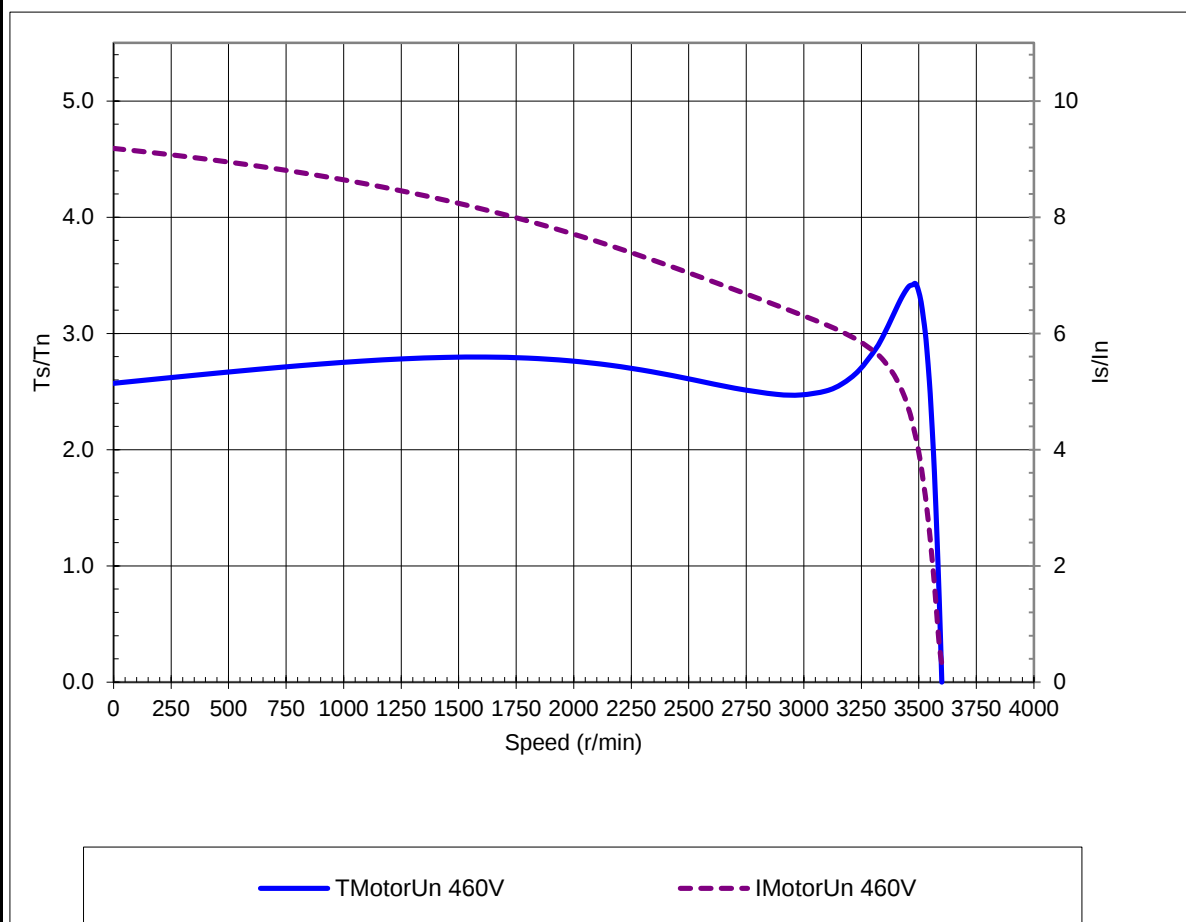


ABB Motors and Generators	Starting Curves		ABB
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed b	Date of issue	Saving ident
			Pages 3(3)

Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 280 SMC 2	Calc. ref.	81456
Product code	EMM28902-PP	Frequency (Hz)	60
Rated output P_N	90 kW	Rated current I_N	135 A
Type of duty	S1(IEC) 100%		

J_{motor} (kgm ²)	1.1	Voltage (V) 100%	460	Voltage (V)	460V(100%)
J_{load} (kgm ²)		T_{start}/T_N	2.6	T_{start}/T_N	
Speed (r/min)	3584	Starting time (s)		Run-up time (s)	
T_N (Nm)	240	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_N	9	I_s/I_N	
Nbr. of consecutive starts		T_{max}/T_N	3.4	T_{max}/T_N	



Load characteristics (IEC 60034-2-1:2007)
 Data based on situation 11/4/2012
 All data subject to tolerances in accordance with IEC