

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)	

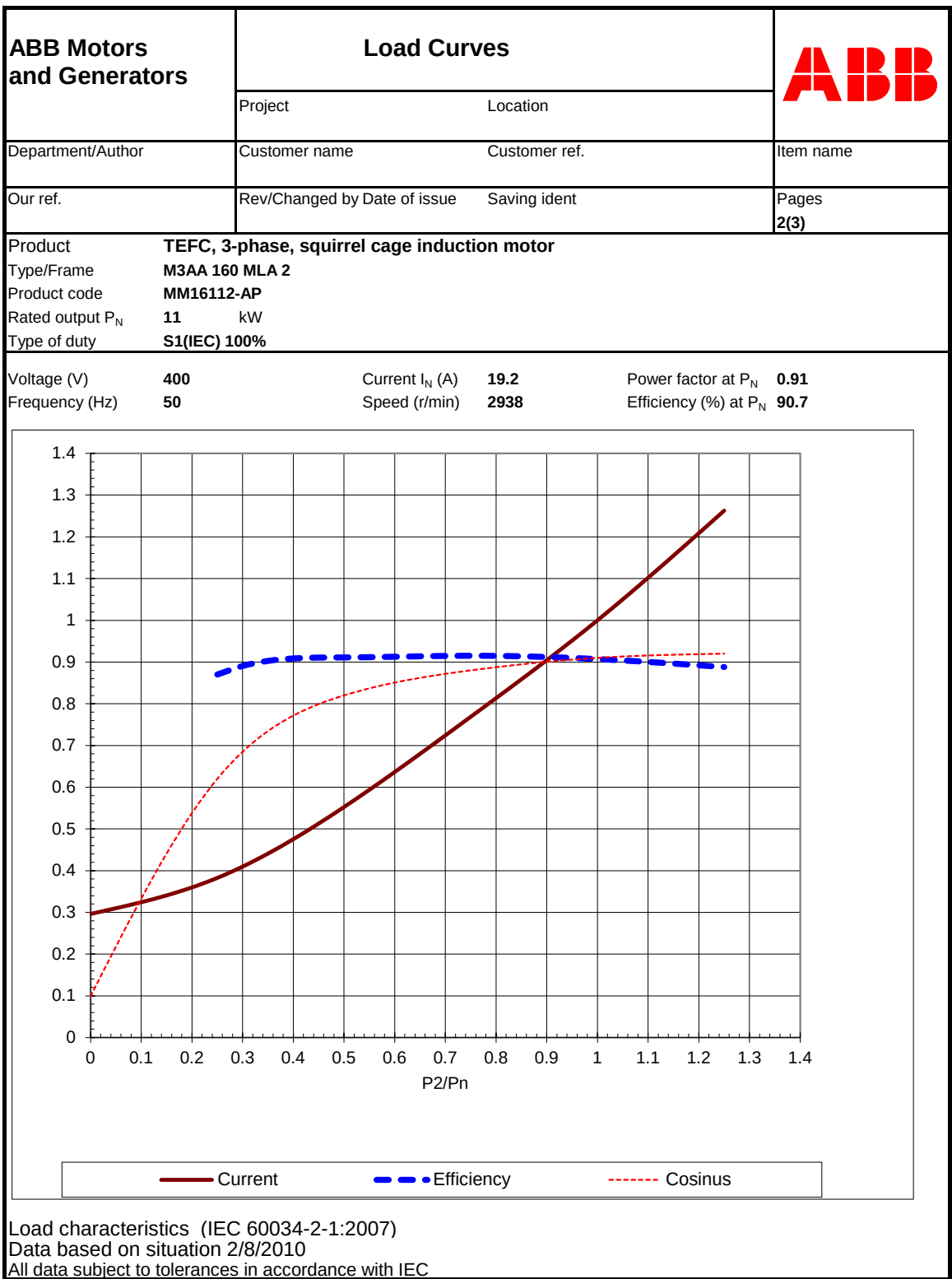
No.	Definition	Data	Unit	Remarks
1	Product	TEFC, 3-phase, squirrel cage induction motor		
2	Product code	MM16112-AP (3GAA161031-ADG+332+333)		
3	Type/Frame	M3AA 160 MLA 2		
4	Mounting	IM1001, B3(foot)		
5	Rated output P _N	11	kW	
6	Service factor	1		
7	Type of duty	S1(IEC) 100%		
8	Rated voltage U _N	400	VD	± 5 % (IEC 60034-1)
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)
10	Rated speed n _N	2938	r/min	
11	Rated current I _N	19.2	A	
12	No-load current	5.7	A	
13	Starting current I _s /I _N	7.5		Fullfilled IEC 60034-12 design N,H
14	Nominal torque T _N	36	Nm	
15	Locked rotor torque T _S /T _N	2.4		
16	Maximum torque T _{max} /T _N	3.1		
17	Minimum torque T _{min} /T _N	1.8		
18	Speed at minimum torque	540	r/min	
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %
20	PLL determined from residual loss	100	19.2	90.7 / IE2
21		75	14.7	91.5
22		50	10.6	91.1
23		Start	144	0.45
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	6309-2Z/C3 - 6209-2Z/C3		
32	Type of Grease	Greased for life		
33	Sound pressure level (LP dB(A) 1m)	69	dB(A)	at load
34	Moment of inertia J = ¼ GD2	0.044	kg-m2	
35	Balancing	Half Key		
36	Vibration class	Grade A		
37	Position of terminal box	Top		
38	Terminal box entries; no, dimens.	2xM40 + M16		
39	Number of power terminals	6		
40	Direction of rotation	CW or CCW		
41	Total weight of motor	91	kg	
42				

Variant Codes / Definition

332 = Baldor catalog number
333 = Not for use in the USA

Remarks:

Data based on situation 2/8/2010
 All data subject to tolerances in accordance with IEC
 Guaranteed values on request



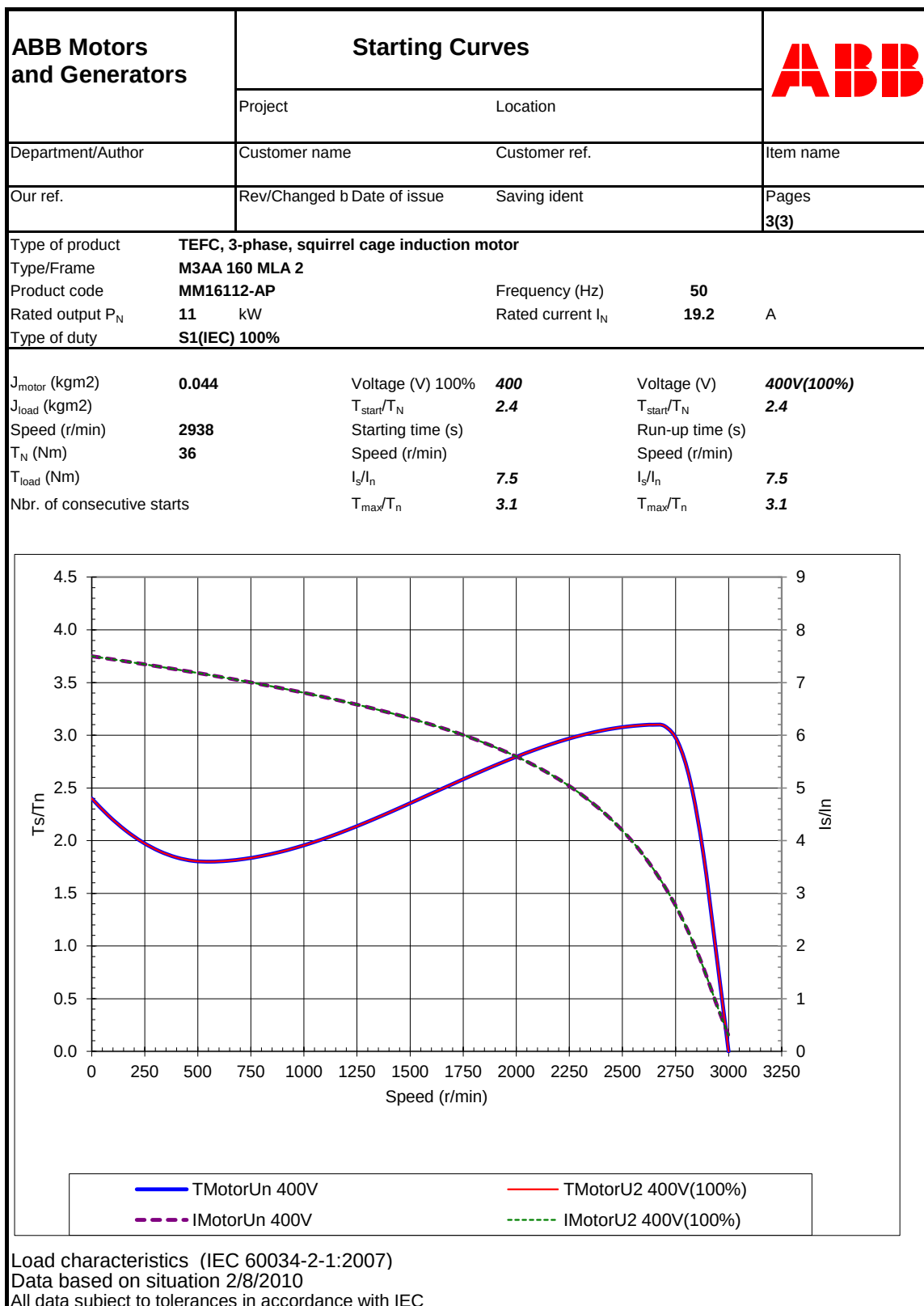


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Our ref.		Rev/Changed by	Date of issue	Saving ident	Pages 1(3)	

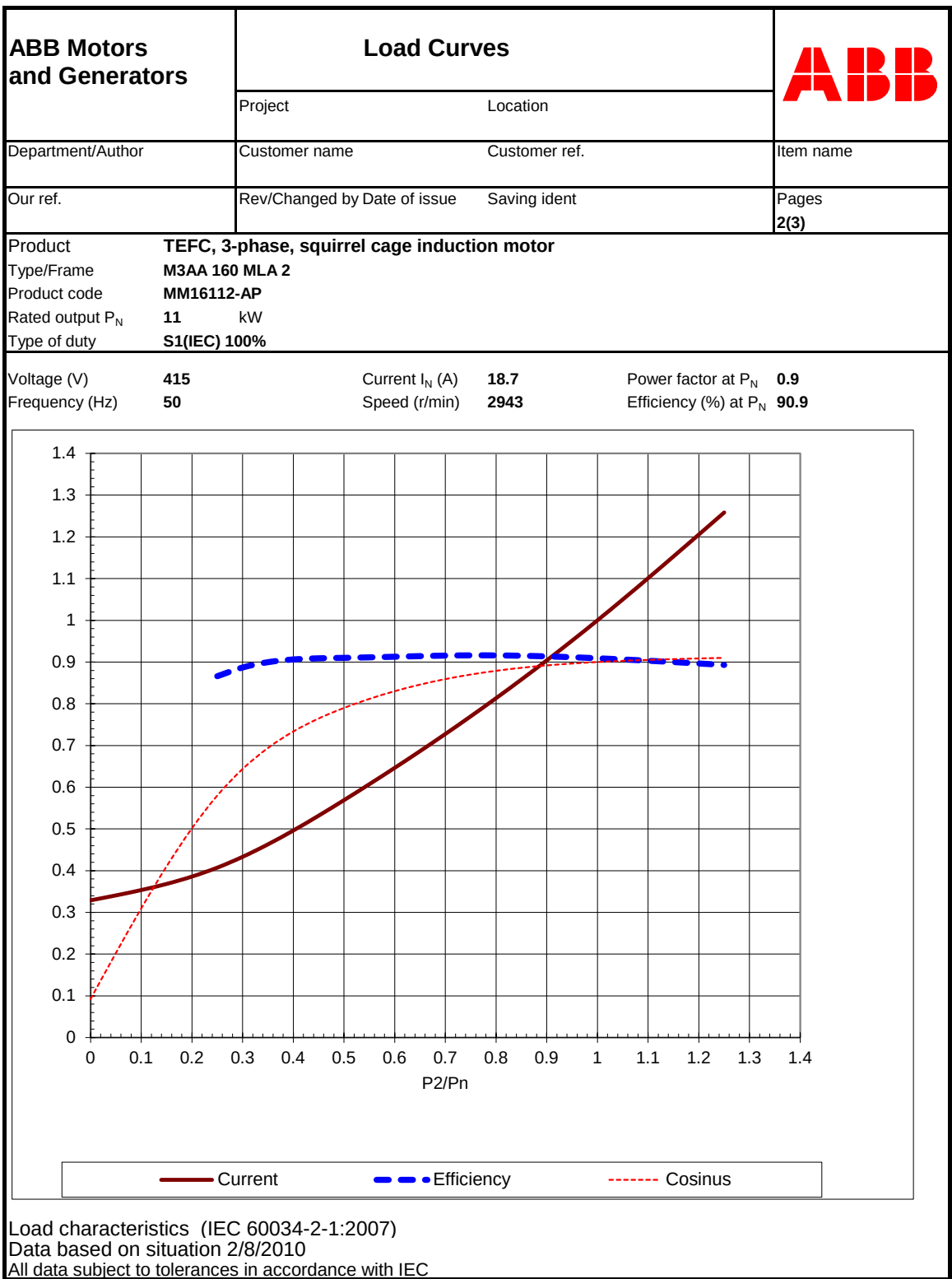
No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	MM16112-AP (3GAA161031-ADG+332+333)			
3	Type/Frame	M3AA 160 MLA 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	11	kW		
6	Service factor	1			
7	Type of duty	S1(IEC) 100%			
8	Rated voltage U _N	415	VD	± 5 % (IEC 60034-1)	
9	Rated frequency f _N	50	Hz	± 2 % (IEC 60034-1)	
10	Rated speed n _N	2943	r/min		
11	Rated current I _N	18.7	A		
12	No-load current	6.2	A		
13	Starting current I _s /I _N	8		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	36	Nm		
15	Locked rotor torque T _S /T _N	2.6			
16	Maximum torque T _{max} /T _N	3.3			
17	Minimum torque T _{min} /T _N	1.9			
18	Speed at minimum torque	540	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	100	18.7	90.9 / IE2	0.9
21		75	14.4	91.6	0.87
22		50	10.6	91	0.79
23		Start	149		0.45
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	6309-2Z/C3 - 6209-2Z/C3			
32	Type of Grease	Greased for life			
33	Sound pressure level (LP dB(A) 1m)	69	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	0.044	kg-m2		
35	Balancing	Half Key			
36	Vibration class	Grade A			
37	Position of terminal box	Top			
38	Terminal box entries; no, dimens.	2xM40 + M16			
39	Number of power terminals	6			
40	Direction of rotation	CW or CCW			
41	Total weight of motor	91	kg		
42					

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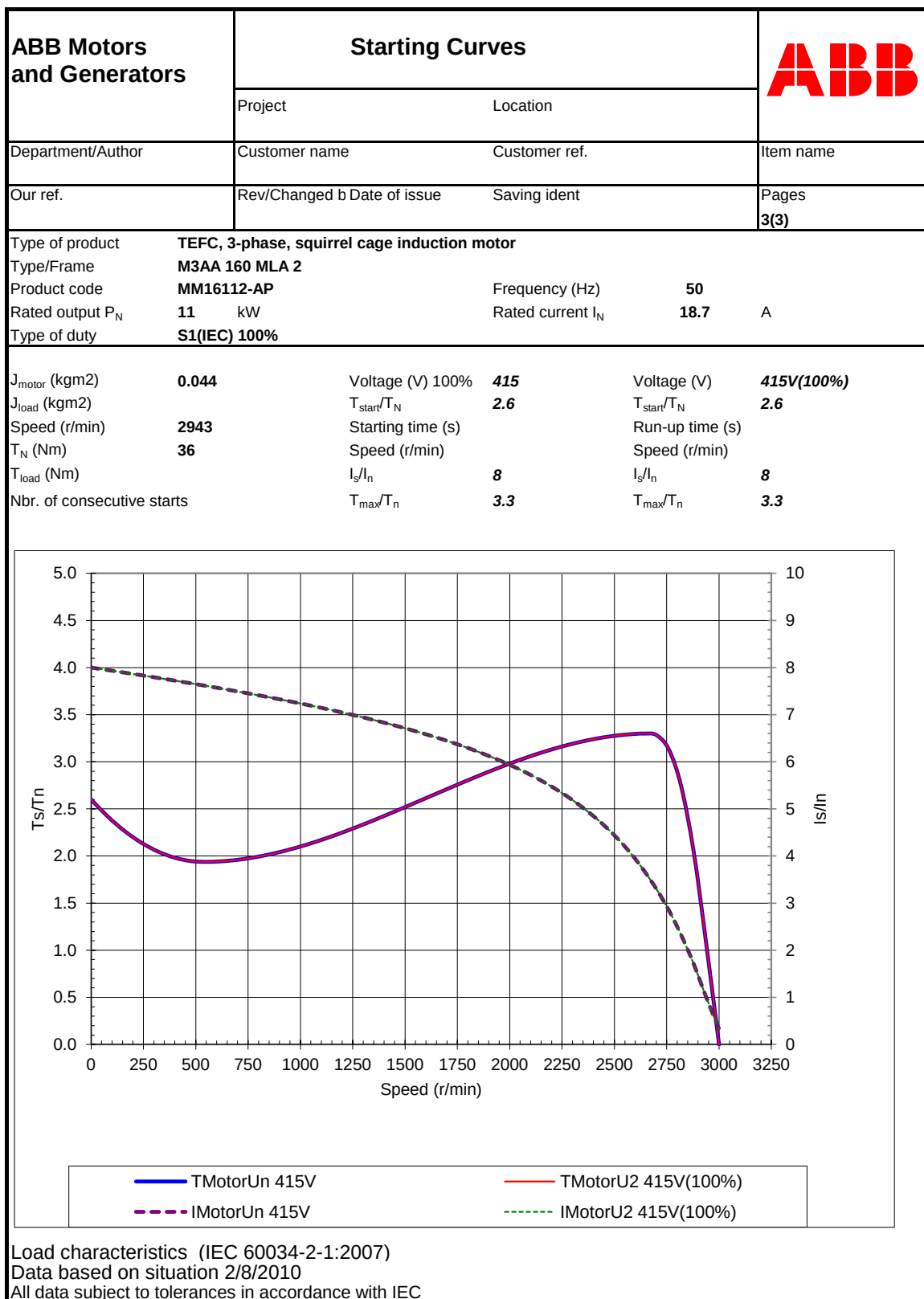


ABB Motors and Generators		Technical Data Sheet - DOL				
		Project		Location		
Department/Author		Customer name		Customer ref.		Item name
Our ref.		Rev/Changed by	Date of issue	Saving ident		Pages 1(3)

No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	MM16112-AP (3GAA161031-ADG+332+333)			
3	Type/Frame	M3AA 160 MLA 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	11	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	2938	r/min		
11	Rated current I _N	11.1	A		
12	No-load current	3.3	A		
13	Starting current I _s /I _N	7.5		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	36	Nm		
15	Locked rotor torque T _S /T _N	2.4			
16	Maximum torque T _{max} /T _N	3.1			
17	Minimum torque T _{min} /T _N	1.8			
18	Speed at minimum torque	540	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	100	11.1	90.7 / IE2	0.91
21		75	8.5	91.5	0.88
22		50	6.1	91.1	0.82
23		Start	83		0.45
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	6309-2Z/C3 - 6209-2Z/C3			
32	Type of Grease	Greased for life			
33	Sound pressure level (LP dB(A) 1m)	69	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	0.044	kg-m2		
35	Balancing	Half Key			
36	Vibration class	Grade A			
37	Position of terminal box	Top			
38	Terminal box entries; no, dimens.	2xM40 + M16			
39	Number of power terminals	6			
40	Direction of rotation	CW or CCW			
41	Total weight of motor	91	kg		
42					

Variant Codes / Definition

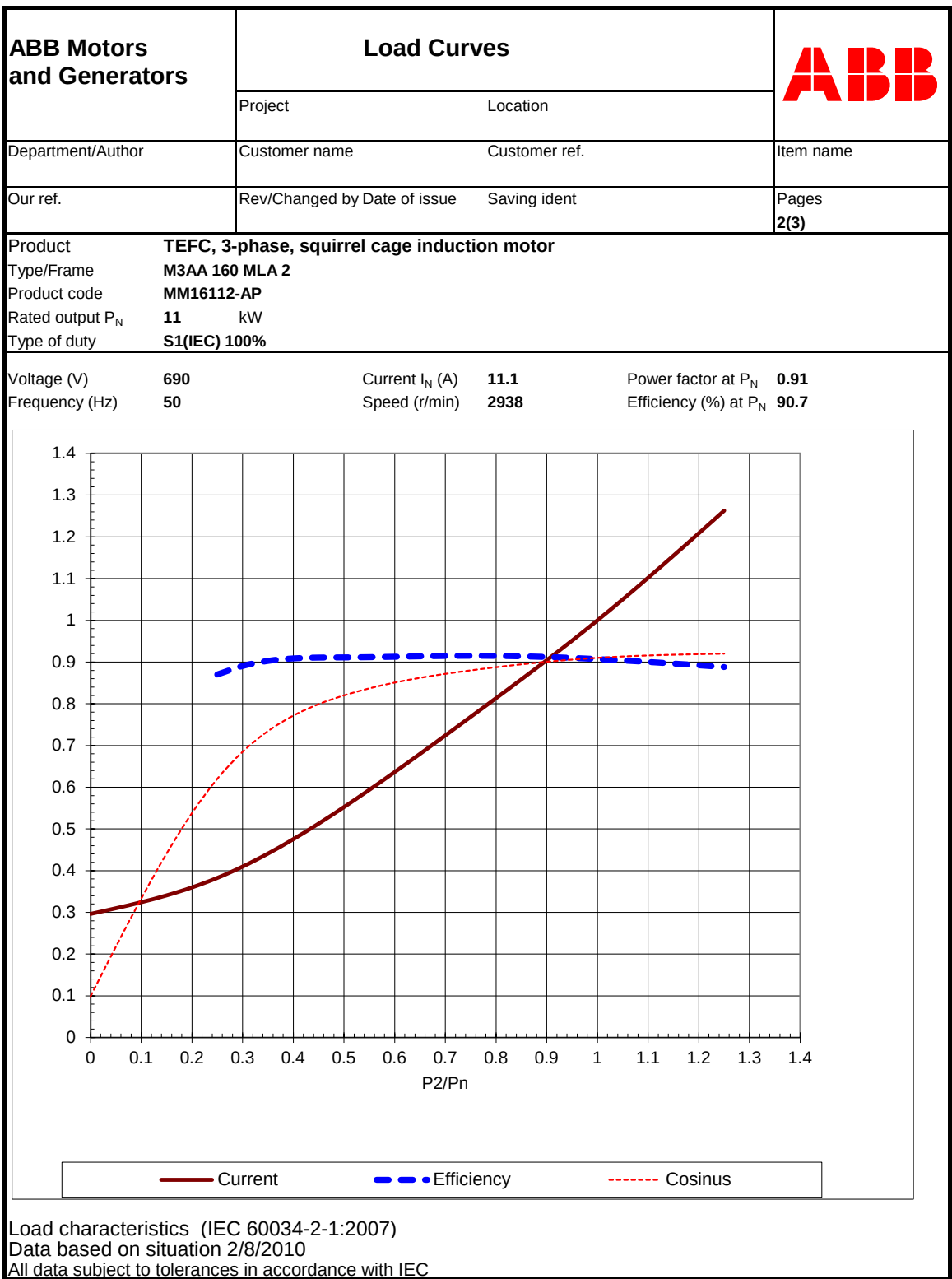
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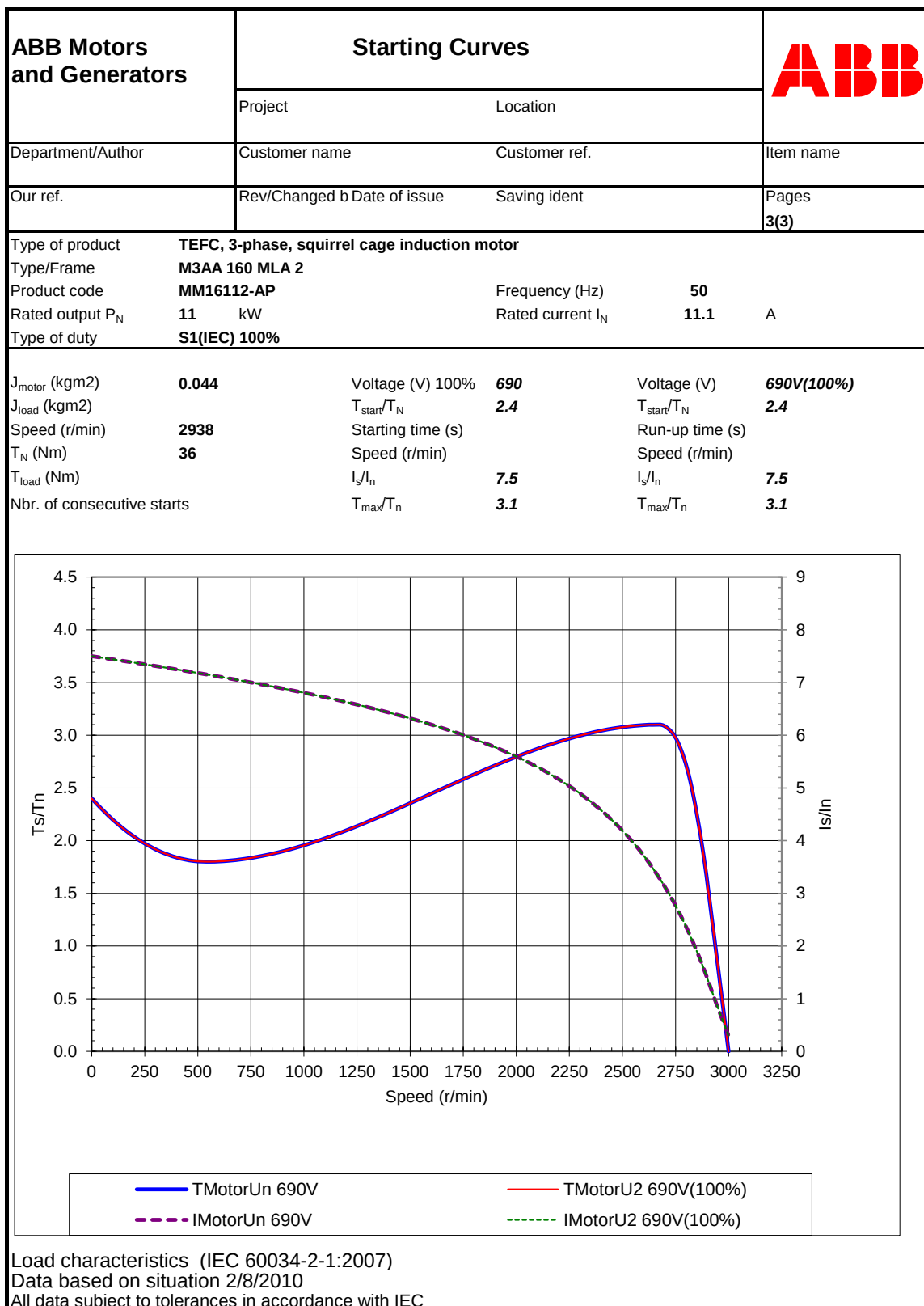


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		Project		Location		
Department/Author		Customer name		Customer ref.		Item name
Our ref.		Rev/Changed by	Date of issue	Saving ident	Pages 1(3)	

No.	Definition	Data	Unit	Remarks	
1	Product	TEFC, 3-phase, squirrel cage induction motor			
2	Product code	MM16112-AP (3GAA161031-ADG+332+333)			
3	Type/Frame	M3AA 160 MLA 2			
4	Mounting	IM1001, B3(foot)			
5	Rated output P _N	11	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	3547	r/min		
11	Rated current I _N	16.7	A		
12	No-load current	5.4	A		
13	Starting current I _s /I _N	8.6		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T _N	29.6	Nm		
15	Locked rotor torque T _S /T _N	2.6			
16	Maximum torque T _{max} /T _N	3.5			
17	Minimum torque T _{min} /T _N	1.9			
18	Speed at minimum torque	648	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	100	16.7	91.4 / IE3	0.9
21		75	13	91.5	0.87
22		50	9.5	90.4	0.8
23		Start	144		0.42
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	6309-2Z/C3 - 6209-2Z/C3			
32	Type of Grease	Greased for life			
33	Sound pressure level (LP dB(A) 1m)	69	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	0.044	kg-m2		
35	Balancing	Half Key			
36	Vibration class	Grade A			
37	Position of terminal box	Top			
38	Terminal box entries; no, dimens.	2xM40 + M16			
39	Number of power terminals	6			
40	Direction of rotation	CW or CCW			
41	Total weight of motor	91	kg		
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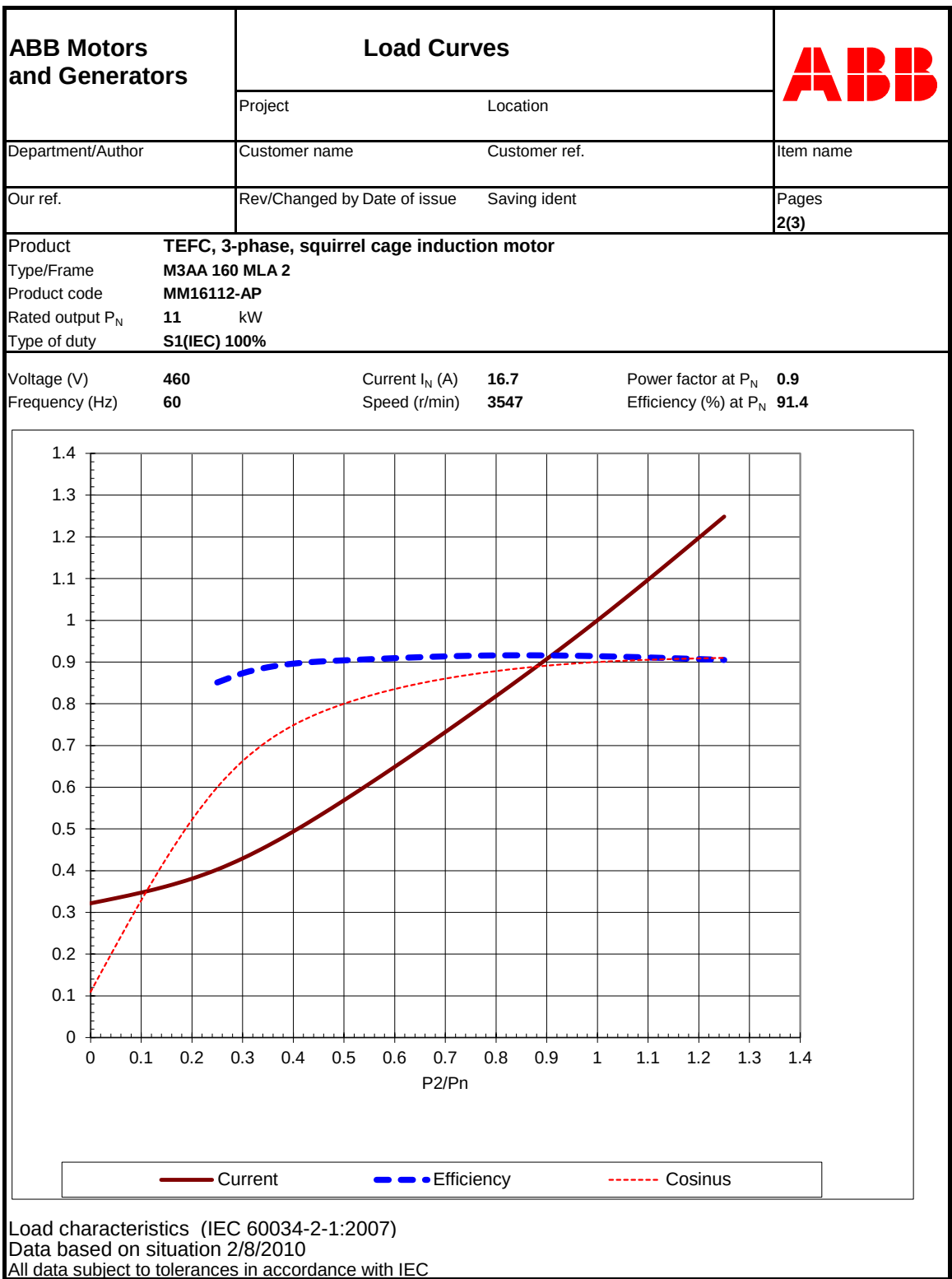
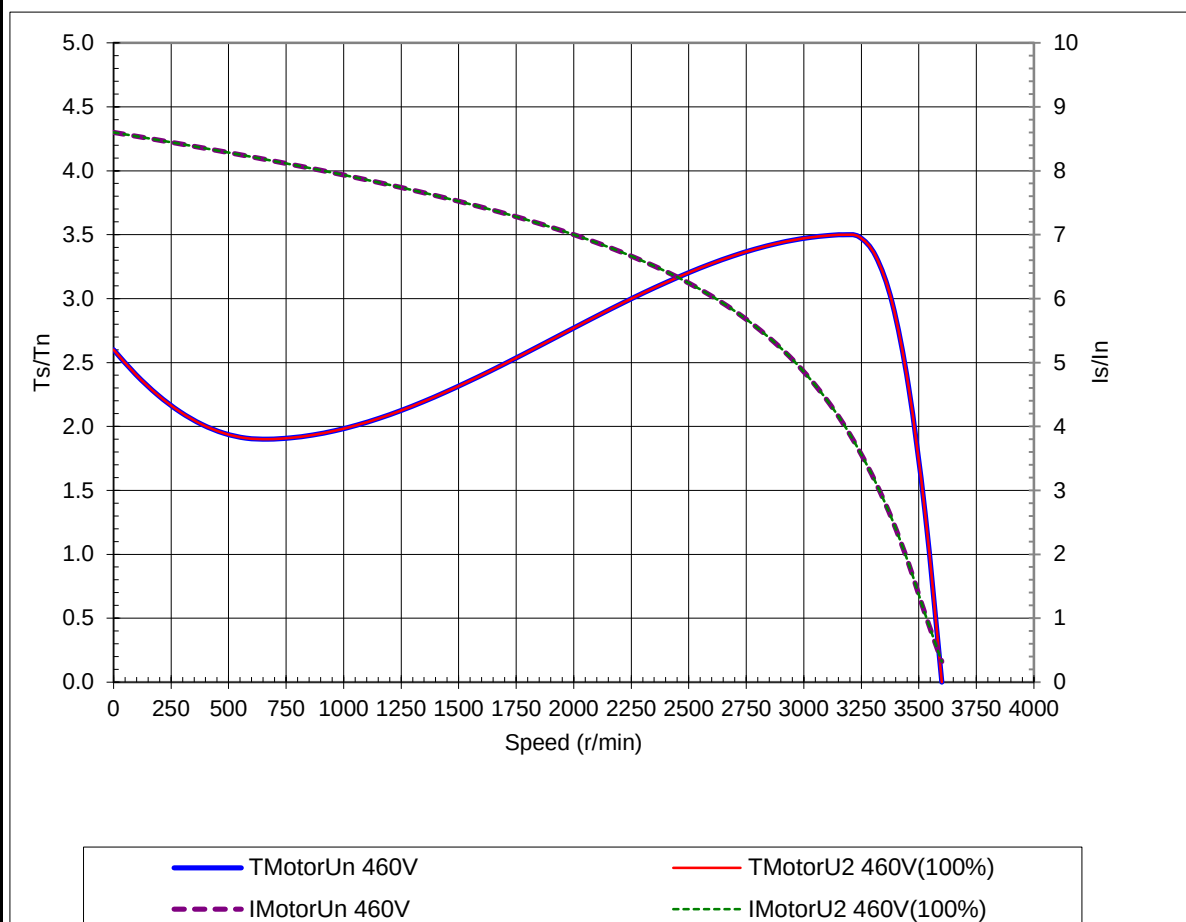


ABB Motors and Generators	Starting Curves		ABB
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed b	Date of issue	Saving ident
			Pages 3(3)

Type of product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3AA 160 MLA 2		
Product code	MM16112-AP	Frequency (Hz)	60
Rated output P_N	11 kW	Rated current I_N	16.7 A
Type of duty	S1(IEC) 100%		

J_{motor} (kgm ²)	0.044	Voltage (V) 100%	460	Voltage (V)	460V(100%)
J_{load} (kgm ²)		T_{start}/T_N	2.6	T_{start}/T_N	2.6
Speed (r/min)	3547	Starting time (s)		Run-up time (s)	
T_N (Nm)	29.6	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_n	8.6	I_s/I_n	8.6
Nbr. of consecutive starts		T_{max}/T_n	3.5	T_{max}/T_n	3.5



Load characteristics (IEC 60034-2-1:2007)
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