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	***MM20304-AP (3GAA202031-ADG+332+333)***			
3	Type/Frame	***M3AA 200 MLA 4***			
4	Mounting	***IM1001, B3(foot)***			
5	Rated output P_N	***30***	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	***1480***	r/min		
11	Rated current I_N	***55.3***	A		
12	No-load current	***19.7***	A		
13	Starting current I_s/I_N	***7.4***		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T_N	***194***	Nm		
15	Locked rotor torque T_S/T_N	***2.8***			
16	Maximum torque T_{max}/T_N	***3***			
17	Minimum torque T_{min}/T_N	***2.2***			
18	Speed at minimum torque	***1050***	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	*100*	**55.3**	**93.2 / IE2**	**0.84**
21		*75*	**43.1**	**94**	**0.8**
22		*50*	**32**	**93.7**	**0.72**
23		*Start*	**409**		**0.47**
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	***6312-2Z/C3 - 6210-2Z/C3***			
32	Type of Grease	***Greased for life***			
33	Sound pressure level (LP dB(A) 1m)	***63***	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	***0.309***	kg-m2		
35	Balancing	***Half Key***			
36	Vibration class	***Grade A***			
37	Position of terminal box	***Top***			
38	Terminal box entries; no, dimens.	***2xM40 + 1xM16***			
39	Number of power terminals	***6***			
40	Direction of rotation	***CW or CCW***			
41	Total weight of motor	***218***	kg		
42					

Variant Codes / Definition

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

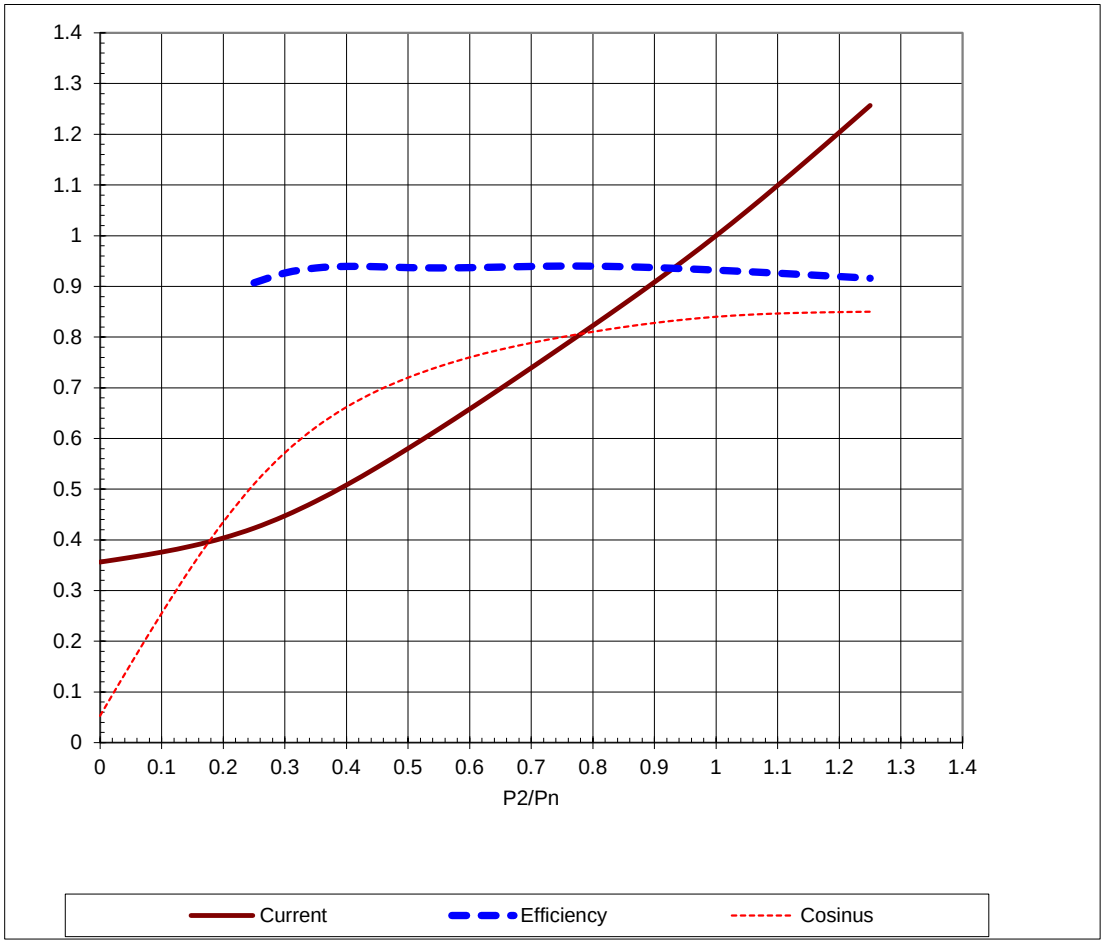
Remarks:

Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC
Guaranteed values on request

ABB Motors and Generators	Load Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed by Date of issue	Saving ident	Pages **2(3)**

Product	**TEFC, 3-phase, squirrel cage induction motor**
Type/Frame	**M3AA 200 MLA 4**
Product code	**MM20304-AP**
Rated output P_N	**30** kW
Type of duty	**S1(IEC) 100%**

Voltage (V)	**400**	Current I_N (A)	**55.3**	Power factor at P_N	**0.84**
Frequency (Hz)	**50**	Speed (r/min)	**1480**	Efficiency (%) at P_N	**93.2**

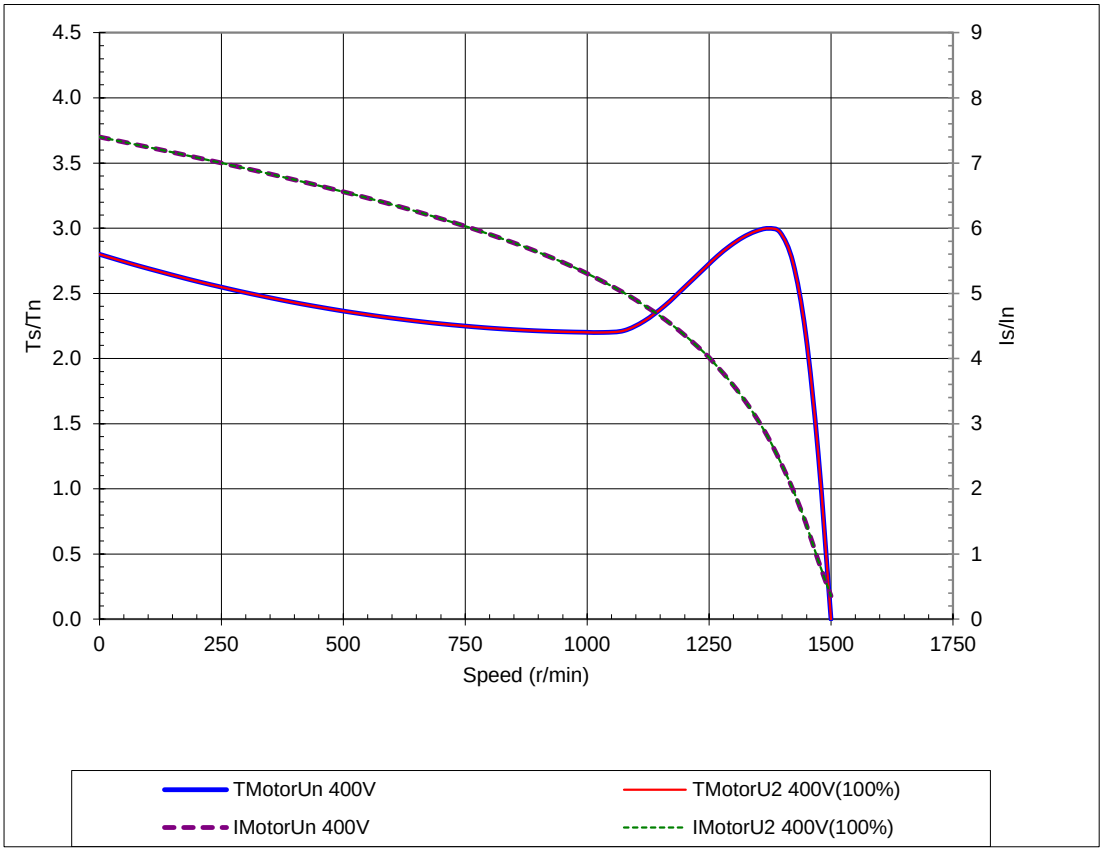


Load characteristics (IEC 60034-2-1:2007)
Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC

ABB Motors and Generators	Starting Curves		
	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 200 MLA 4**			
Product code	**MM20304-AP**	Frequency (Hz)	**50**	
Rated output P_N	**30** kW	Rated current I_N	**55.3**	A
Type of duty	**S1(IEC) 100%**			

J_{motor} (kgm2)	**0.31**	Voltage (V) 100%	***400***	Voltage (V)	***400V(100%)***
J_{load} (kgm2)		T_{start}/T_N	***2.8***	T_{start}/T_N	***2.8***
Speed (r/min)	**1480**	Starting time (s)		Run-up time (s)	
T_N (Nm)	**194**	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_n	***7.4***	I_s/I_n	***7.4***
Nbr. of consecutive starts		T_{max}/T_n	***3***	T_{max}/T_n	***3***



Load characteristics (IEC 60034-2-1:2007)
Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC

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	***MM20304-AP (3GAA202031-ADG+332+333)***			
3	Type/Frame	***M3AA 200 MLA 4***			
4	Mounting	***IM1001, B3(foot)***			
5	Rated output P_N	***30***	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	***1482***	r/min		
11	Rated current I_N	***53.8***	A		
12	No-load current	***21***	A		
13	Starting current I_s/I_N	***7.9***		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T_N	***193***	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	***2.4***			
18	Speed at minimum torque	***1050***	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	*100*	**53.8**	**93.4 / IE2**	**0.83**
21		*75*	**42.1**	**94**	**0.79**
22		*50*	**31.8**	**93.5**	**0.7**
23		*Start*	**425**		**0.48**
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	***6312-2Z/C3 - 6210-2Z/C3***			
32	Type of Grease	***Greased for life***			
33	Sound pressure level (LP dB(A) 1m)	***63***	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	***0.309***	kg-m2		
35	Balancing	***Half Key***			
36	Vibration class	***Grade A***			
37	Position of terminal box	***Top***			
38	Terminal box entries; no, dimens.	***2xM40 + 1xM16***			
39	Number of power terminals	***6***			
40	Direction of rotation	***CW or CCW***			
41	Total weight of motor	***218***	kg		
42					

Variant Codes / Definition

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

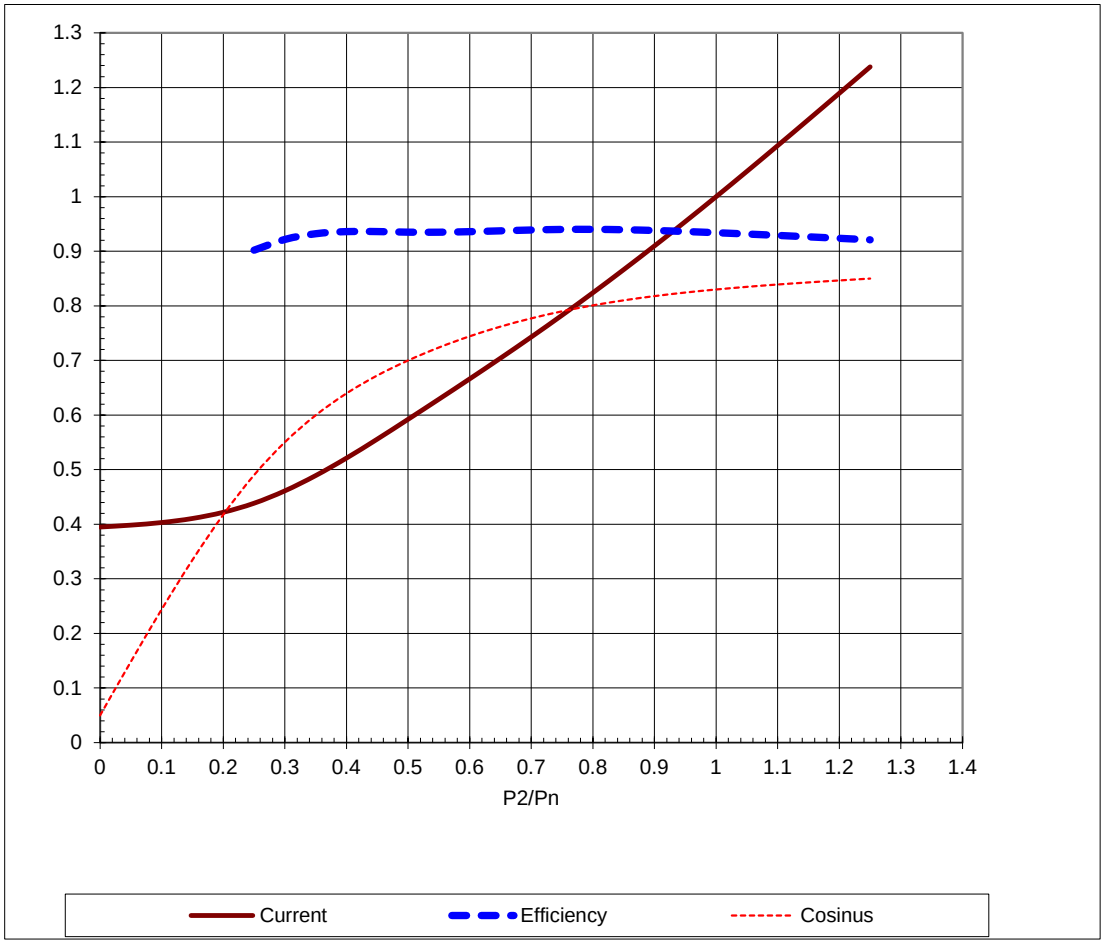
Remarks:

Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC
Guaranteed values on request

ABB Motors and Generators	Load Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed by Date of issue	Saving ident	Pages **2(3)**

Product	**TEFC, 3-phase, squirrel cage induction motor**
Type/Frame	**M3AA 200 MLA 4**
Product code	**MM20304-AP**
Rated output P_N	**30** kW
Type of duty	**S1(IEC) 100%**

Voltage (V)	**415**	Current I_N (A)	**53.8**	Power factor at P_N	**0.83**
Frequency (Hz)	**50**	Speed (r/min)	**1482**	Efficiency (%) at P_N	**93.4**

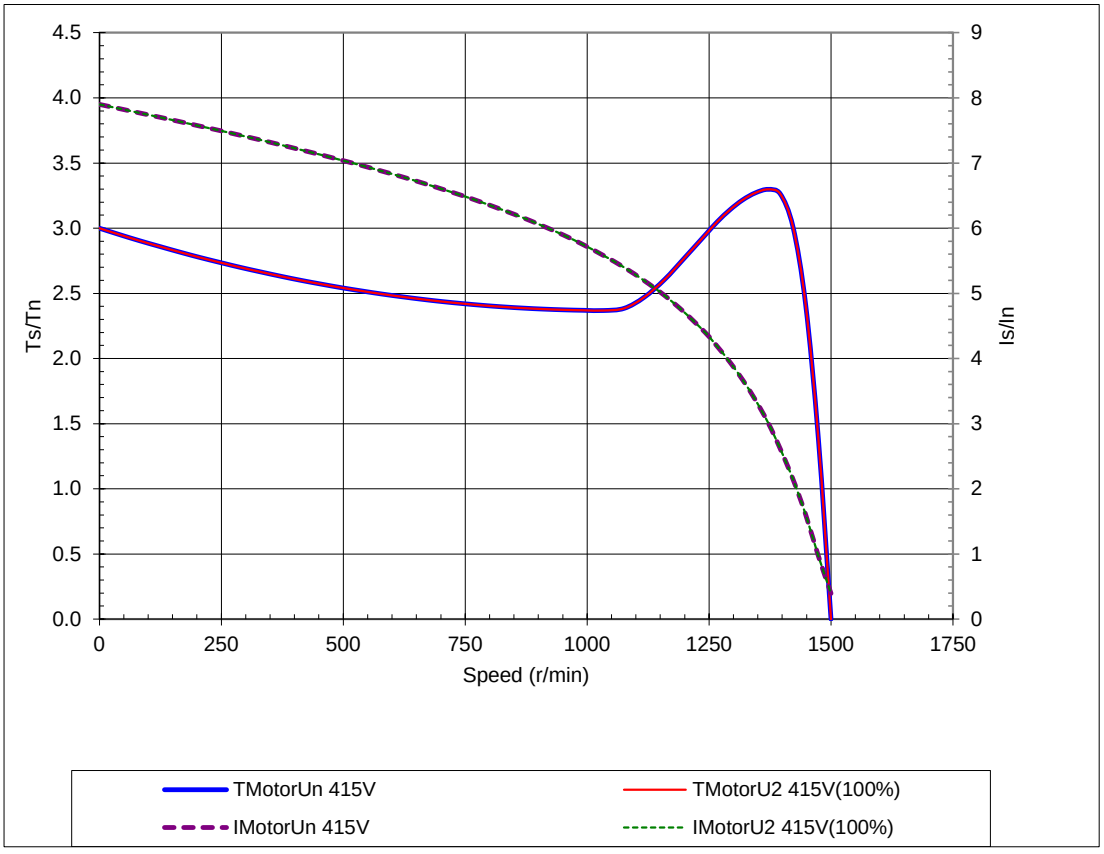


Load characteristics (IEC 60034-2-1:2007)
Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC

ABB Motors and Generators	Starting Curves		
	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 200 MLA 4**			
Product code	**MM20304-AP**		Frequency (Hz)	**50**
Rated output P_N	**30** kW		Rated current I_N	**53.8** A
Type of duty	**S1(IEC) 100%**			

J_{motor} (kgm2)	**0.31**	Voltage (V) 100%	***415***	Voltage (V)	***415V(100%)***
J_{load} (kgm2)		T_{start}/T_N	***3***	T_{start}/T_N	***3***
Speed (r/min)	**1482**	Starting time (s)		Run-up time (s)	
T_N (Nm)	**193**	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	***3.3***	T_{max}/T_n	***3.3***



Load characteristics (IEC 60034-2-1:2007)
Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC

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	***MM20304-AP (3GAA202031-ADG+332+333)***			
3	Type/Frame	***M3AA 200 MLA 4***			
4	Mounting	***IM1001, B3(foot)***			
5	Rated output P_N	***30***	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	***1480***	r/min		
11	Rated current I_N	***32***	A		
12	No-load current	***11.4***	A		
13	Starting current I_s/I_N	***7.4***		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T_N	***194***	Nm		
15	Locked rotor torque T_S/T_N	***2.8***			
16	Maximum torque T_{max}/T_N	***3***			
17	Minimum torque T_{min}/T_N	***2.2***			
18	Speed at minimum torque	***1050***	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	*100*	**32**	**93.2 / IE2**	**0.84**
21		*75*	**25**	**94**	**0.8**
22		*50*	**18.6**	**93.7**	**0.72**
23		*Start*	**237**		**0.47**
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	***6312-2Z/C3 - 6210-2Z/C3***			
32	Type of Grease	***Greased for life***			
33	Sound pressure level (LP dB(A) 1m)	***63***	dB(A)	at load	
34	Moment of inertia J = ¼ GD2	***0.309***	kg-m2		
35	Balancing	***Half Key***			
36	Vibration class	***Grade A***			
37	Position of terminal box	***Top***			
38	Terminal box entries; no, dimens.	***2xM40 + 1xM16***			
39	Number of power terminals	***6***			
40	Direction of rotation	***CW or CCW***			
41	Total weight of motor	***218***	kg		
42					

Variant Codes / Definition

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

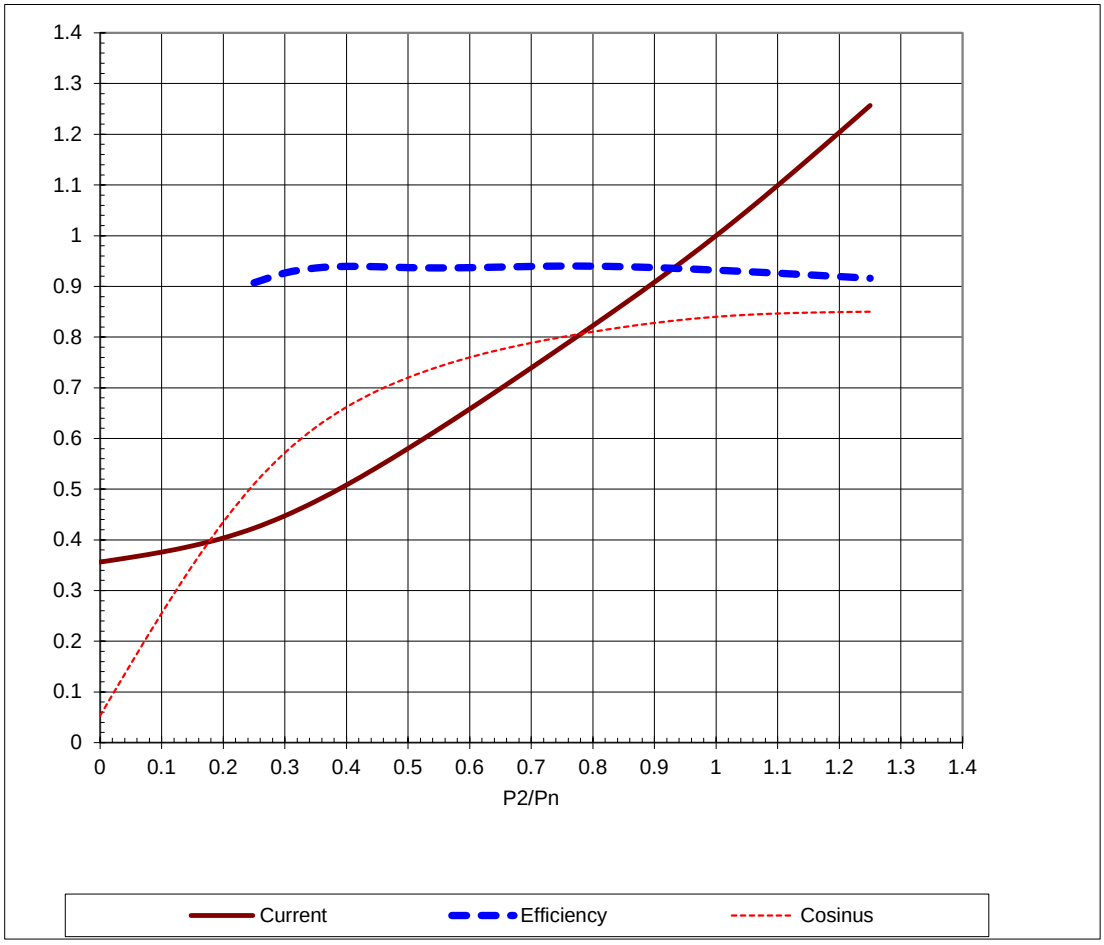
Remarks:

Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC
Guaranteed values on request

ABB Motors and Generators	Load Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed by Date of issue	Saving ident	Pages **2(3)**

Product	**TEFC, 3-phase, squirrel cage induction motor**
Type/Frame	**M3AA 200 MLA 4**
Product code	**MM20304-AP**
Rated output P_N	**30** kW
Type of duty	**S1(IEC) 100%**

Voltage (V)	**690**	Current I_N (A)	**32**	Power factor at P_N	**0.84**
Frequency (Hz)	**50**	Speed (r/min)	**1480**	Efficiency (%) at P_N	**93.2**

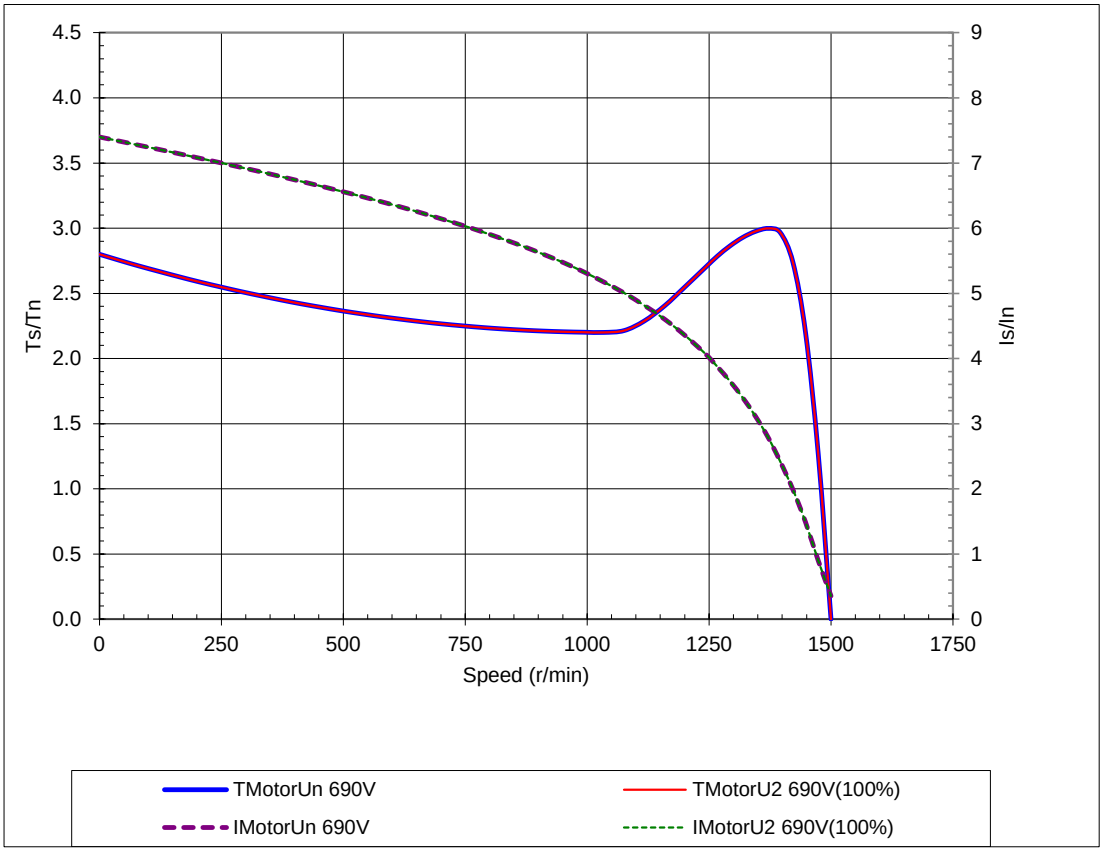


Load characteristics (IEC 60034-2-1:2007)
Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC

ABB Motors and Generators	Starting Curves		
	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 200 MLA 4**			
Product code	**MM20304-AP**	Frequency (Hz)	**50**	
Rated output P_N	**30** kW	Rated current I_N	**32**	A
Type of duty	**S1(IEC) 100%**			

J_{motor} (kgm2)	**0.31**	Voltage (V) 100%	***690***	Voltage (V)	***690V(100%)***
J_{load} (kgm2)		T_{start}/T_N	***2.8***	T_{start}/T_N	***2.8***
Speed (r/min)	**1480**	Starting time (s)		Run-up time (s)	
T_N (Nm)	**194**	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_n	***7.4***	I_s/I_n	***7.4***
Nbr. of consecutive starts		T_{max}/T_n	***3***	T_{max}/T_n	***3***



Load characteristics (IEC 60034-2-1:2007)
Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC

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	***MM20304-AP (3GAA202031-ADG+332+333)***			
3	Type/Frame	***M3AA 200 MLA 4***			
4	Mounting	***IM1001, B3(foot)***			
5	Rated output P_N	***30***	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	***1783***	r/min		
11	Rated current I_N	***48.3***	A		
12	No-load current	***18.4***	A		
13	Starting current I_s/I_N	***8.4***		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T_N	***161***	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	***2.4***			
18	Speed at minimum torque	***1260***	r/min		
19	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
20	PLL determined from residual loss	*100*	**48.3**	**93.8 / IE2**	**0.83**
21		*75*	**38**	**94**	**0.79**
22		*50*	**28.8**	**93.1**	**0.7**
23		*Start*	**406**		**0.44**
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	***6312-2Z/C3 - 6210-2Z/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 GD2	***0.309***	kg-m2		
35	Balancing	***Half Key***			
36	Vibration class	***Grade A***			
37	Position of terminal box	***Top***			
38	Terminal box entries; no, dimens.	***2xM40 + 1xM16***			
39	Number of power terminals	***6***			
40	Direction of rotation	***CW or CCW***			
41	Total weight of motor	***218***	kg		
42					

Variant Codes / Definition

332 = Baldor catalog number

333 = Not for use in the USA

Remarks:

Data based on situation 5/7/2012

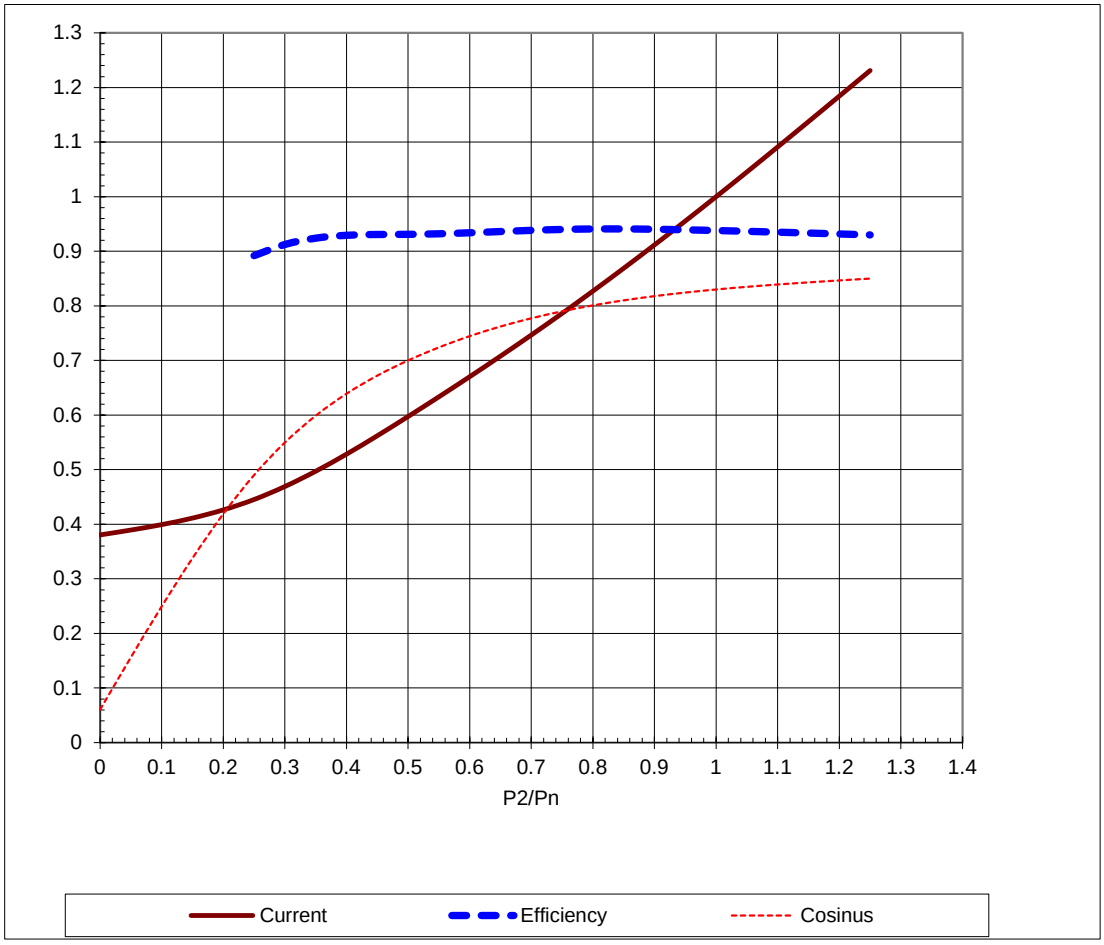
All data subject to tolerances in accordance with IEC

Guaranteed values on request

ABB Motors and Generators	Load Curves		
	Project	Location	
Department/Author	Customer name	Customer ref.	Item name
Our ref.	Rev/Changed by Date of issue	Saving ident	Pages **2(3)**

Product	**TEFC, 3-phase, squirrel cage induction motor**
Type/Frame	**M3AA 200 MLA 4**
Product code	**MM20304-AP**
Rated output P_N	**30** kW
Type of duty	**S1(IEC) 100%**

Voltage (V)	**460**	Current I_N (A)	**48.3**	Power factor at P_N	**0.83**
Frequency (Hz)	**60**	Speed (r/min)	**1783**	Efficiency (%) at P_N	**93.8**

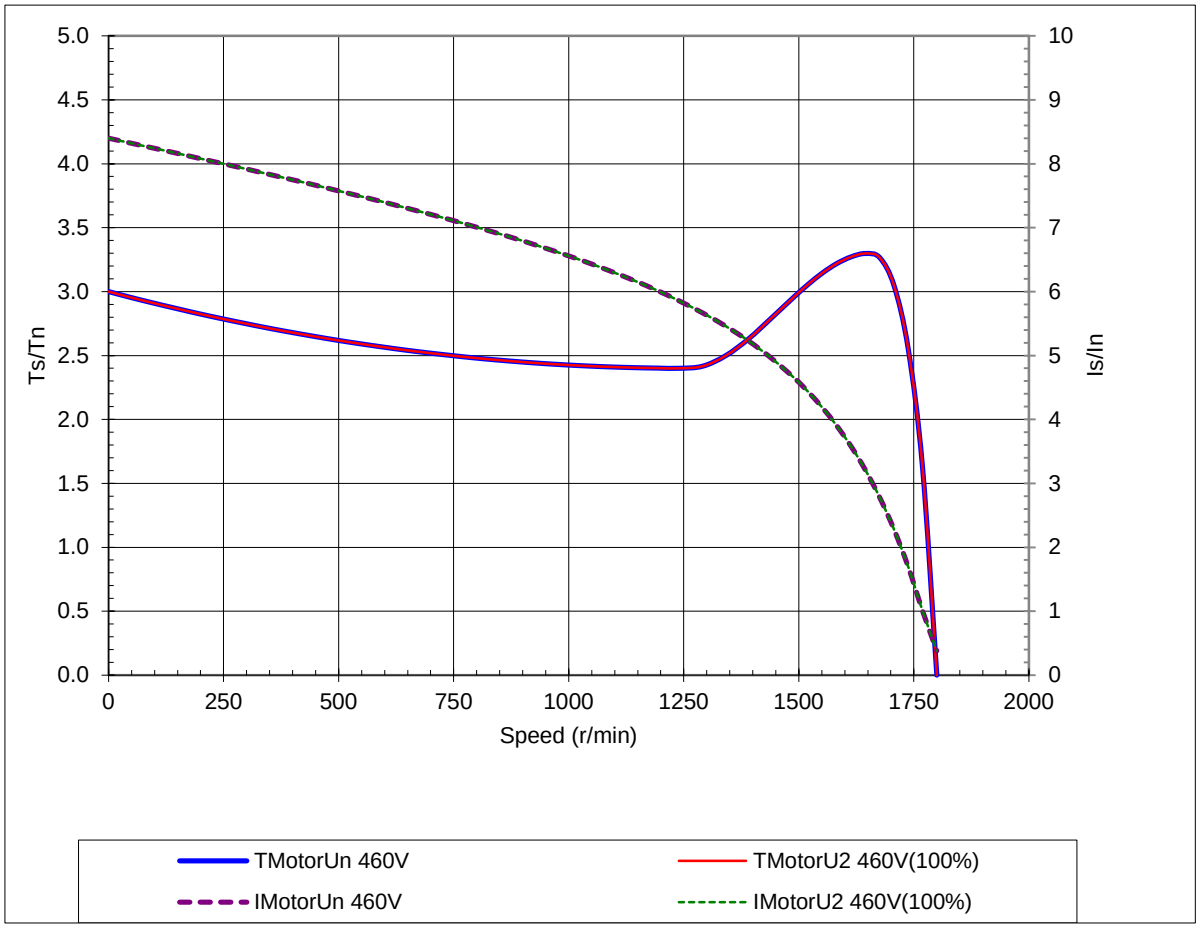


Load characteristics (IEC 60034-2-1:2007)
Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC

ABB Motors and Generators	Starting Curves		
	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 200 MLA 4**				
Product code	**MM20304-AP**		Frequency (Hz)	**60**	
Rated output P_N	**30**	kW	Rated current I_N	**48.3**	A
Type of duty	**S1(IEC) 100%**				

J_{motor} (kgm2)	**0.31**	Voltage (V) 100%	***460***	Voltage (V)	***460V(100%)***
J_{load} (kgm2)		T_{start}/T_N	***3***	T_{start}/T_N	***3***
Speed (r/min)	**1783**	Starting time (s)		Run-up time (s)	
T_N (Nm)	**161**	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_n	***8.4***	I_s/I_n	***8.4***
Nbr. of consecutive starts		T_{max}/T_n	***3.3***	T_{max}/T_n	***3.3***



Load characteristics (IEC 60034-2-1:2007)
Data based on situation 5/7/2012
All data subject to tolerances in accordance with IEC