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 **1/19/2016**	Saving ident **untitled.xls**	Pages **1(3)**

No.	Definition	Data	Unit	Remarks
1	Product	***TEFC, 3-phase, squirrel cage induction motor***		
2	Product code	***EMM16152-PPN (3GBP161420-ADK+332+509)***		Calc. ref. 3GZF021016-200
3	Type/Frame	***M3BP 160MLB 2***		
4	Mounting	***IM1001, B3(foot)***		
5	Rated output P_N	***15***	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	***2943***	r/min	
11	Rated current I_N	***25.3***	A	
12	No-load current	***6.8***	A	
13	Starting current I_s/I_N	***8.4***		Fullfilled IEC 60034-12 design N,H
14	Nominal torque T_N	***49***	Nm	
15	Locked rotor torque T_S/T_N	***3.1***		
16	Maximum torque T_{max}/T_N	***3.4***		
17	Minimum torque T_{min}/T_N	***2.6***		
18	Speed at minimum torque	***510***	r/min	
	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency % / Power factor
19	PLL determined from residual loss	*100*	**25.3**	**92.5 / IE3** / **0.92**
20		*75*	**19.4**	**93.4** / **0.9**
21		*50*	**13.9**	**93.2** / **0.84**
22		*Start*	**213**	**0.45**
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	***6309/C3 - 6209/C3***		
31	Type of Grease			
32	Sound pressure level (LP dB(A) 1m)	***69***	dB(A)	at load
33	Moment of inertia J = ¼ GD2	***0.062***	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	***32***	kg	
41	Total weight of motor	***163***	kg	
42	Dimension drawing no.			
43				
44				
45				
Ex-motors				
46				
47				
48				

Option Variant Codes / Definition

49	332 = Baldor Catalog number stamped on rating plate
50	509 = Fulfilling EISA Subtype I efficiency requirements, CC031A
51	
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Remarks:

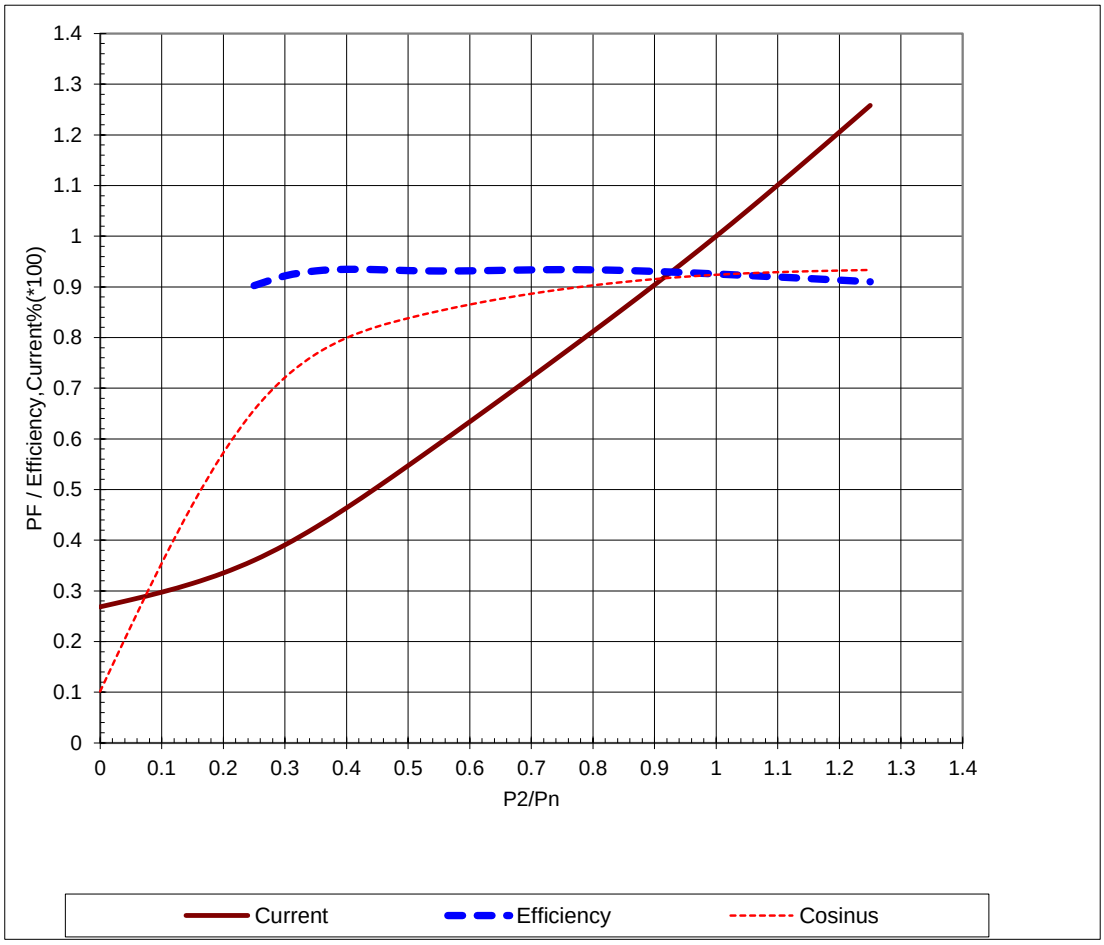
Data based on situation 9/8/2015
All data subject to tolerances in accordance with IEC
Guaranteed values on request

ABB Motors and Generators Load Curves

	Project	Location	
Department/Author	Customer name	Customer ref.	Item name **1.00001**
Our ref.	Rev/Changed by Date of issue **A** **1/19/2016**	Saving ident **untitled.xls**	Pages **2(3)**

Product	**TEFC, 3-phase, squirrel cage induction motor**		
Type/Frame	**M3BP 160MLB 2**	Calc. ref.	**3GZF021016-200**
Product code	**3GBP 161 420-ADK**		
Rated output P_N	**15** kW		
Type of duty	**S1(IEC) 100%**		

Voltage (V)	**400**	Current I_N (A)	**25.3**	Power factor at P_N	**0.92**
Frequency (Hz)	**50**	Speed (r/min)	**2943**	Efficiency (%) at P_N	**92.5**



Load characteristics (IEC 60034-2-1:2007)
Data based on situation 9/8/2015

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ABB Motors and Generators Starting Curves

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Our ref.	Rev/Changed b Date of issue	Saving ident	Pages
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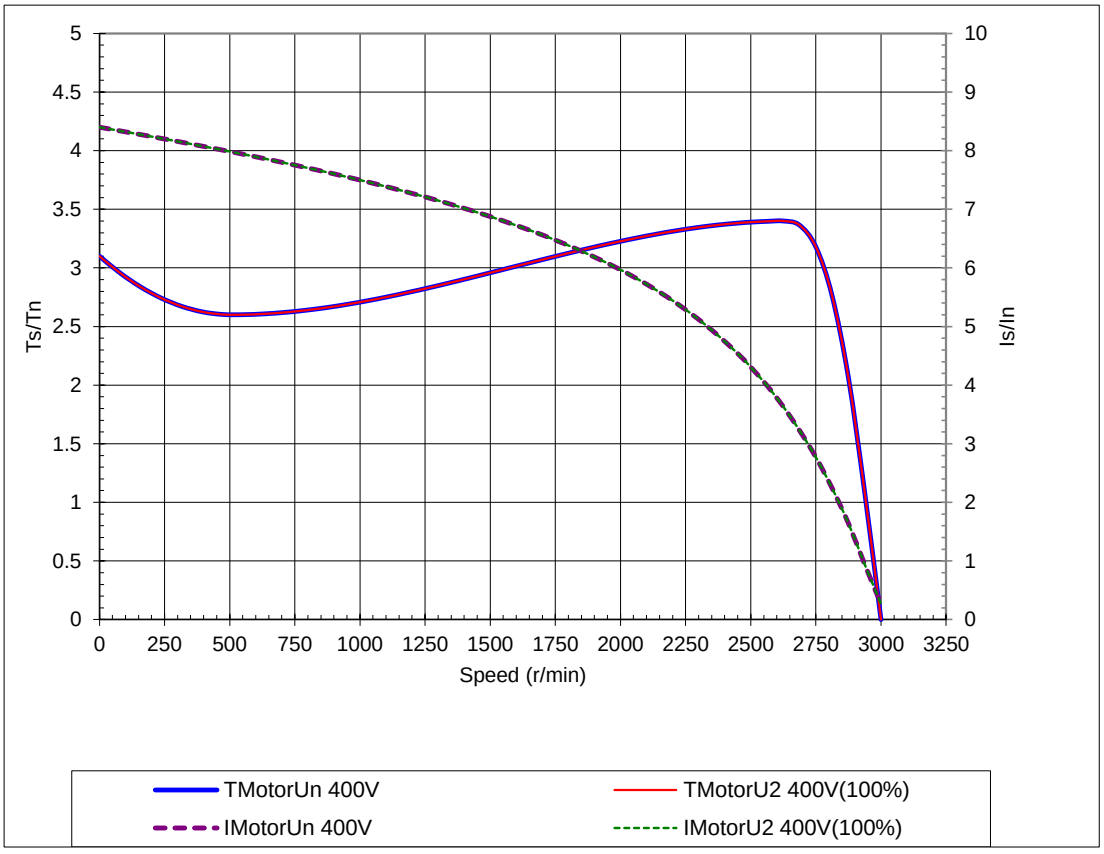
Type of product	**TEFC, 3-phase, squirrel cage induction motor**				
Type/Frame	**M3BP 160MLB 2**		Calc. ref.	3GZF021016-200	
Product code	**3GBP 161 420-ADK**		Frequency (Hz)	**50**	
Rated output P_N	**15**	kW	Rated current I_N	**25.3**	A
Type of duty	**S1(IEC) 100%**				

J_{motor} (kgm2)	**0.062**	Voltage (V) 100%	***400***	Voltage (V)	***400V(100%)***
J_{load} (kgm2)		T_{start}/T_N	***3.1***	T_{start}/T_N	***3.1***
Speed (r/min)	**2943**	Starting time (s)		Starting time (s)	
T_N (Nm)	**49**	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 at UN		T_{max}/T_n	***3.4***	T_{max}/T_n	***3.4***



Load characteristics (IEC 60034-2-1:2007)
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No.	Definition	Data	Unit	Remarks	
1	Product	***TEFC, 3-phase, squirrel cage induction motor***			
2	Product code	***EMM16152-PPN (3GBP161420-ADK+332+509)***		Calc. ref.	3GZF021016-200
3	Type/Frame	***M3BP 160MLB 2***			
4	Mounting	***IM1001, B3(foot)***			
5	Rated output P_N	***15***	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	***2948***	r/min		
11	Rated current I_N	***24.6***	A		
12	No-load current	***6.4***	A		
13	Starting current I_s/I_N	***9***		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T_N	***49***	Nm		
15	Locked rotor torque T_S/T_N	***3.3***			
16	Maximum torque T_{max}/T_N	***3.7***			
17	Minimum torque T_{min}/T_N	***2.6***			
18	Speed at minimum torque	***510***	r/min		
	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
19	PLL determined from residual loss	*100*	**24.6**	**92.7 / IE3**	**0.91**
20		*75*	**19.1**	**93.4**	**0.88**
21		*50*	**13.7**	**93.1**	**0.82**
22		*Start*	**222**		**0.45**
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	***6309/C3 - 6209/C3***			
31	Type of Grease				
32	Sound pressure level (LP dB(A) 1m)	***69***	dB(A)	at load	
33	Moment of inertia J = ¼ GD2	***0.062***	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	***32***	kg		
41	Total weight of motor	***163***	kg		
42	Dimension drawing no.				
43					
44					
45					
Ex-motors					
46					
47					
48					

Option Variant Codes / Definition

49	332 = Baldor Catalog number stamped on rating plate
50	509 = Fulfilling EISA Subtype I efficiency requirements, CC031A
51	
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Remarks:

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ABB Motors and Generators Load Curves

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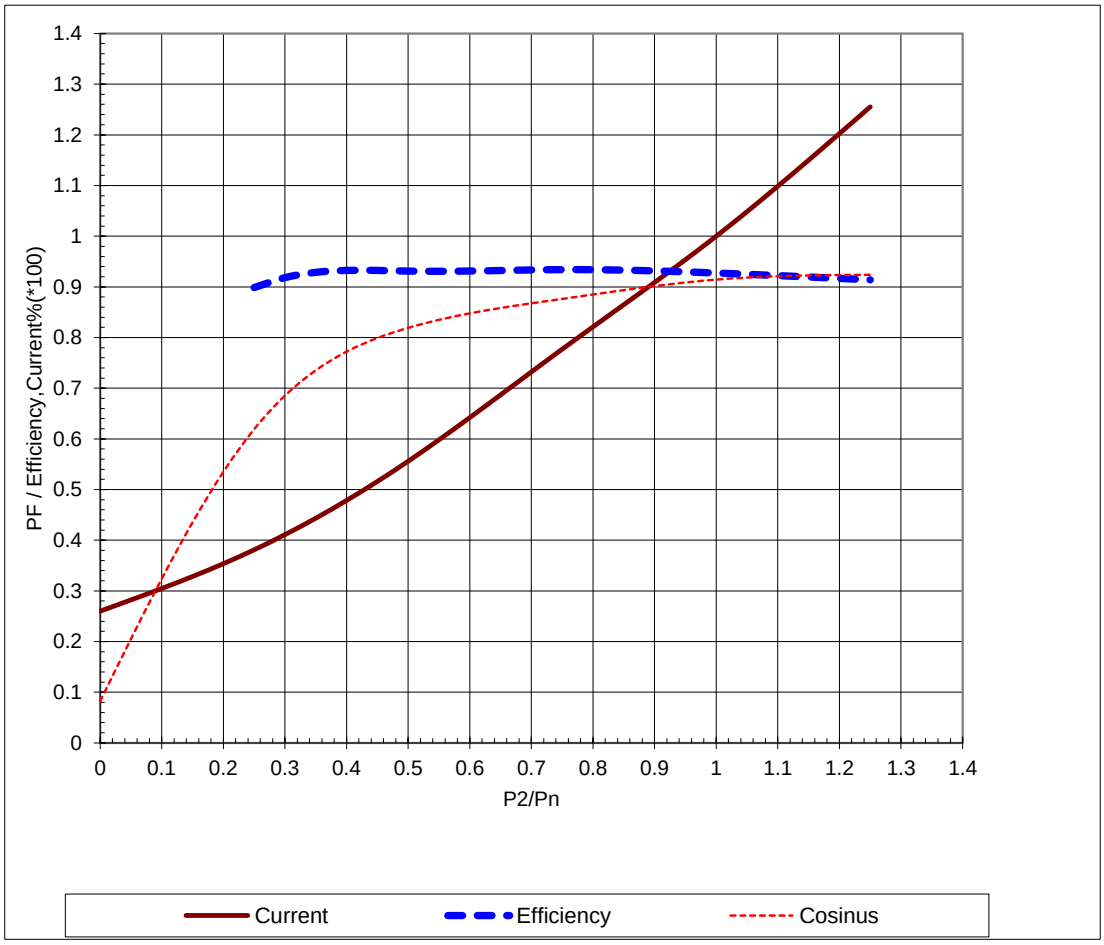
Department/Author	Customer name	Customer ref.	Item name **1.00001**
Our ref.	Rev/Changed by Date of issue **A** **1/19/2016**	Saving ident **untitled.xls**	Pages **2(3)**

Product	**TEFC, 3-phase, squirrel cage induction motor**		
Type/Frame	**M3BP 160MLB 2**	Calc. ref.	**3GZF021016-200**
Product code	**3GBP 161 420-ADK**		
Rated output P_N	**15** kW		
Type of duty	**S1(IEC) 100%**		

Voltage (V)	**415**	Current I_N (A)	**24.6**	Power factor at P_N	**0.91**
Frequency (Hz)	**50**	Speed (r/min)	**2948**	Efficiency (%) at P_N	**92.7**



Load characteristics (IEC 60034-2-1:2007)
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ABB Motors and Generators Starting Curves

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Our ref.	Rev/Changed b Date of issue	Saving ident	Pages
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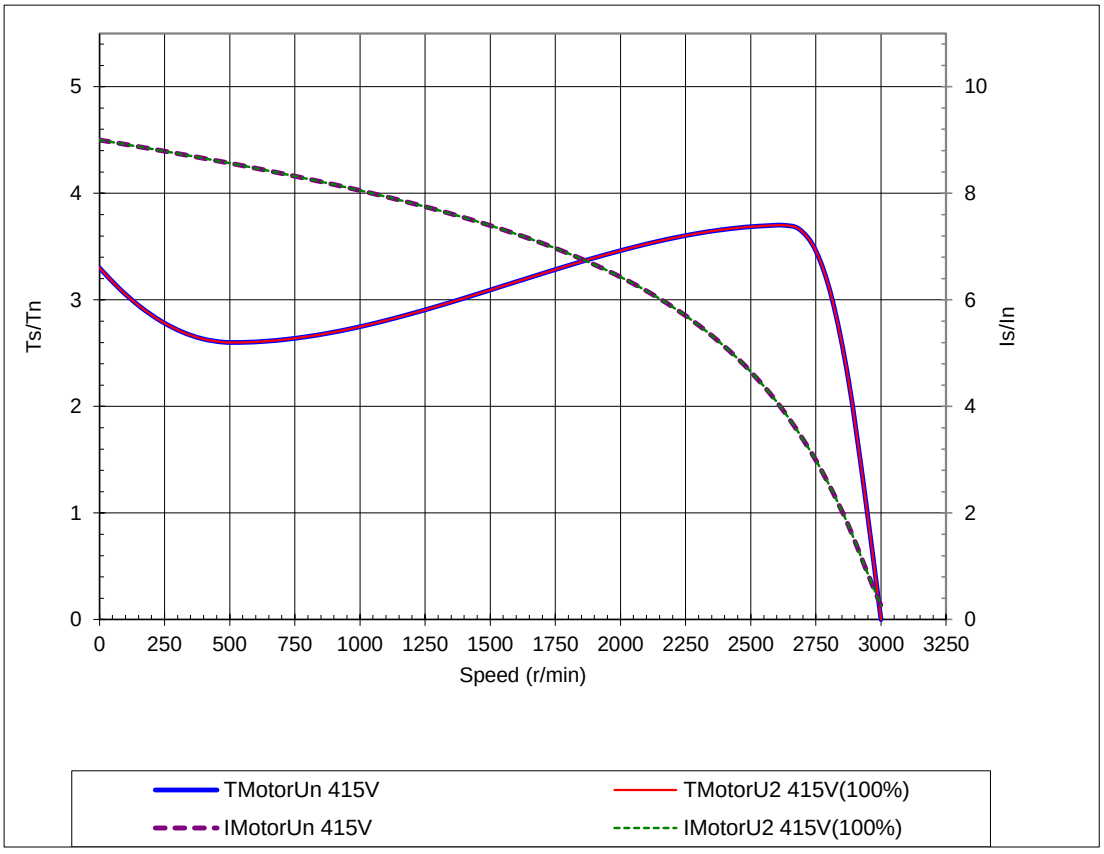
Type of product	**TEFC, 3-phase, squirrel cage induction motor**			
Type/Frame	**M3BP 160MLB 2**	Calc. ref.	3GZF021016-200	
Product code	**3GBP 161 420-ADK**	Frequency (Hz)	**50**	
Rated output P_N	**15** kW	Rated current I_N	**24.6**	A
Type of duty	**S1(IEC) 100%**			

J_{motor} (kgm2)	**0.062**	Voltage (V) 100%	***415***	Voltage (V)	***415V(100%)***
J_{load} (kgm2)		T_{start}/T_N	***3.3***	T_{start}/T_N	***3.3***
Speed (r/min)	**2948**	Starting time (s)		Starting time (s)	
T_N (Nm)	**49**	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_n	***9***	I_s/I_n	***9***
Nbr. of Consecutive Starts at UN		T_{max}/T_n	***3.7***	T_{max}/T_n	***3.7***



Load characteristics (IEC 60034-2-1:2007)
Data based on situation 9/8/2015

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ABB Motors and Generators — Technical Data Sheet - DOL

	Project		Location	
Department/Author	Customer name		Customer ref.	Item name **1.00001**
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No.	Definition	Data	Unit	Remarks	
1	Product	***TEFC, 3-phase, squirrel cage induction motor***			
2	Product code	***EMM16152-PPN (3GBP161420-ADK+332+509)***		Calc. ref.	3GZF021016-200
3	Type/Frame	***M3BP 160MLB 2***			
4	Mounting	***IM1001, B3(foot)***			
5	Rated output P_N	***15***	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	***2943***	r/min		
11	Rated current I_N	***14.7***	A		
12	No-load current	***3.4***	A		
13	Starting current I_s/I_N	***8.4***		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T_N	***49***	Nm		
15	Locked rotor torque T_S/T_N	***3.1***			
16	Maximum torque T_{max}/T_N	***3.4***			
17	Minimum torque T_{min}/T_N	***2.6***			
18	Speed at minimum torque	***510***	r/min		
	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
19	PLL determined from residual loss	*100*	**14.7**	**92.5 / IE3**	**0.92**
20		*75*	**11.3**	**93.4**	**0.9**
21		*50*	**8**	**93.2**	**0.84**
22		*Start*	**123**		**0.45**
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	***6309/C3 - 6209/C3***			
31	Type of Grease				
32	Sound pressure level (LP dB(A) 1m)	***69***	dB(A)	at load	
33	Moment of inertia J = ¼ GD2	***0.062***	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	***32***	kg		
41	Total weight of motor	***163***	kg		
42	Dimension drawing no.				
43					
44					
45					
Ex-motors					
46					
47					
48					

Option Variant Codes / Definition

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

Remarks:

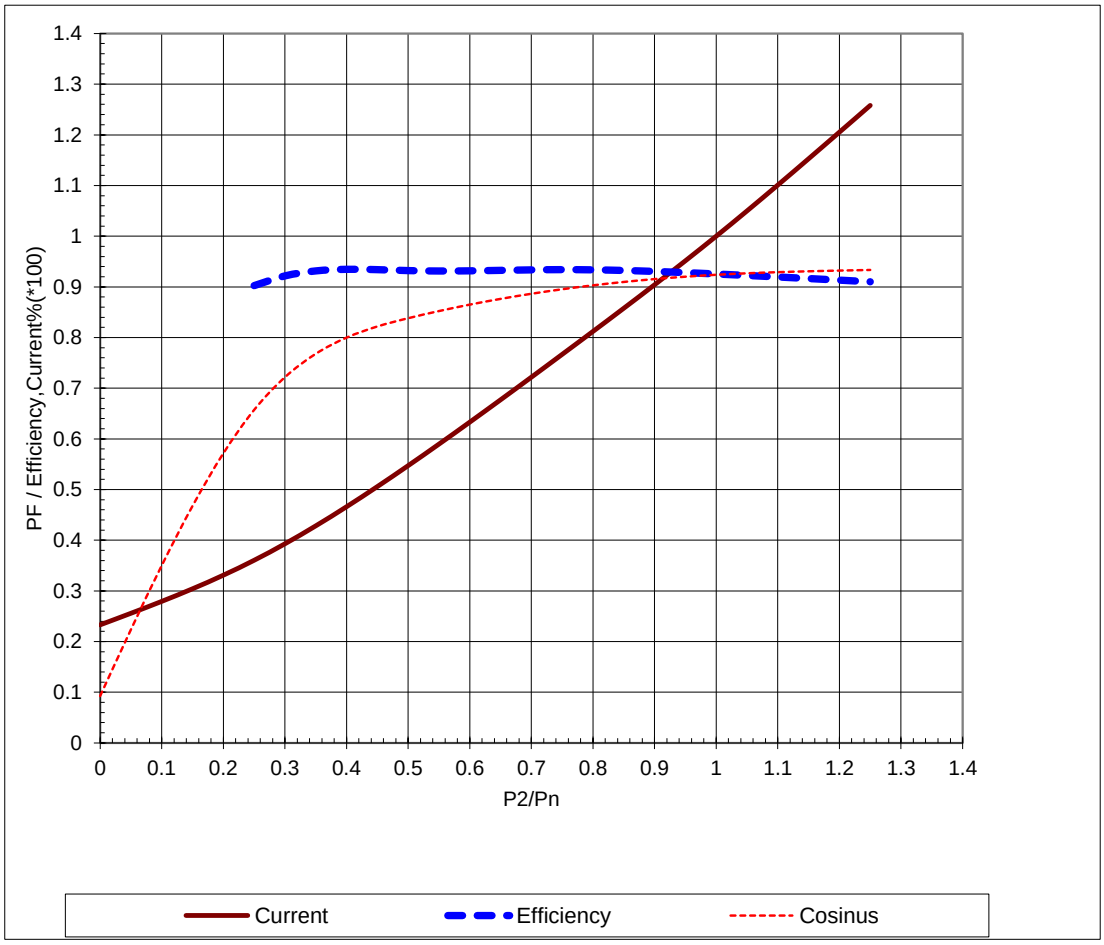
Data based on situation 9/8/2015
All data subject to tolerances in accordance with IEC
Guaranteed values on request

ABB Motors and Generators Load Curves

	Project	Location	
Department/Author	Customer name	Customer ref.	Item name **1.00001**
Our ref.	Rev/Changed by Date of issue **A** **1/19/2016**	Saving ident **untitled.xls**	Pages **2(3)**

Product	**TEFC, 3-phase, squirrel cage induction motor**		
Type/Frame	**M3BP 160MLB 2**	Calc. ref.	**3GZF021016-200**
Product code	**3GBP 161 420-ADK**		
Rated output P_N	**15** kW		
Type of duty	**S1(IEC) 100%**		

Voltage (V)	**690**	Current I_N (A)	**14.7**	Power factor at P_N	**0.92**
Frequency (Hz)	**50**	Speed (r/min)	**2943**	Efficiency (%) at P_N	**92.5**



Load characteristics (IEC 60034-2-1:2007)
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ABB Motors and Generators Starting Curves

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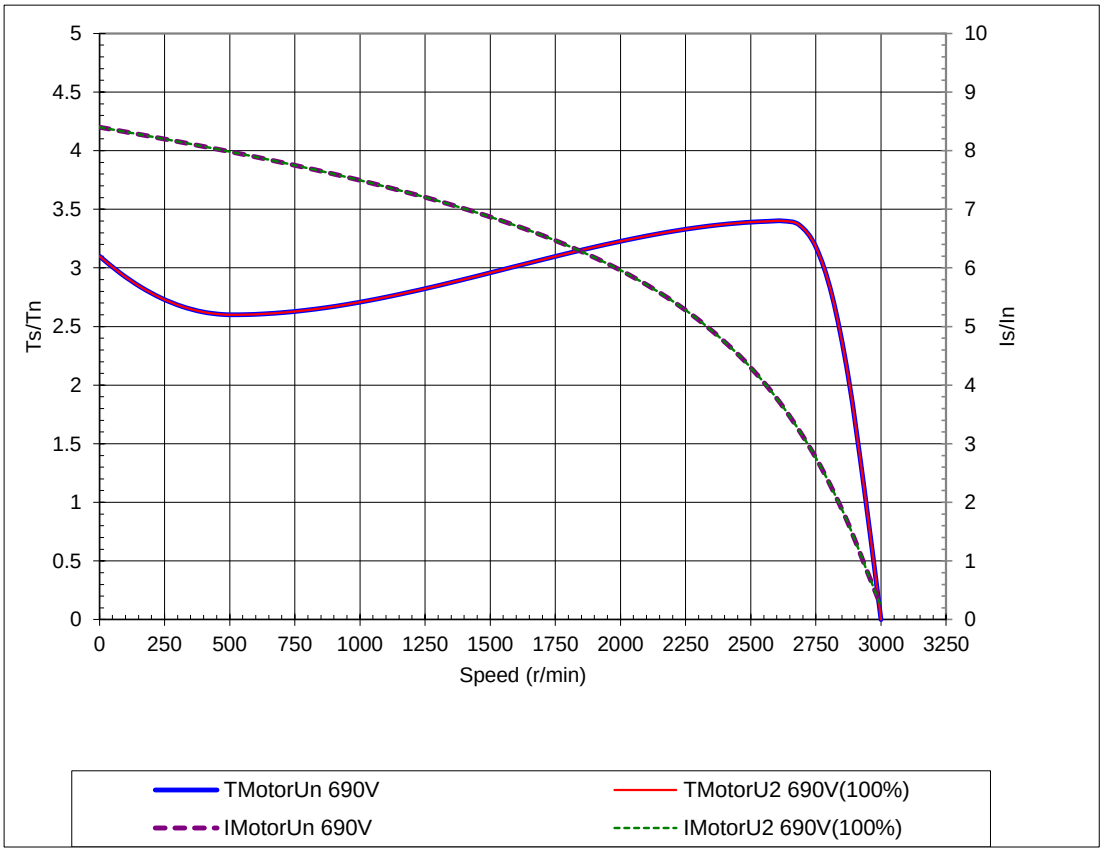
Type of product	**TEFC, 3-phase, squirrel cage induction motor**				
Type/Frame	**M3BP 160MLB 2**		Calc. ref.	3GZF021016-200	
Product code	**3GBP 161 420-ADK**		Frequency (Hz)	**50**	
Rated output P_N	**15**	kW	Rated current I_N	**14.7**	A
Type of duty	**S1(IEC) 100%**				

J_{motor} (kgm2)	**0.062**	Voltage (V) 100%	***690***	Voltage (V)	***690V(100%)***
J_{load} (kgm2)		T_{start}/T_N	***3.1***	T_{start}/T_N	***3.1***
Speed (r/min)	**2943**	Starting time (s)		Starting time (s)	
T_N (Nm)	**49**	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 at UN		T_{max}/T_n	***3.4***	T_{max}/T_n	***3.4***



Load characteristics (IEC 60034-2-1:2007)
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No.	Definition	Data	Unit	Remarks	
1	Product	***TEFC, 3-phase, squirrel cage induction motor***			
2	Product code	***EMM16152-PPN (3GBP161420-ADK+332+509)***		Calc. ref.	3GZF021016-200
3	Type/Frame	***M3BP 160MLB 2***			
4	Mounting	***IM1001, B3(foot)***			
5	Rated output P_N	***15***	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	***3552***	r/min		
11	Rated current I_N	***22.2***	A		
12	No-load current	***5.6***	A		
13	Starting current I_s/I_N	***9.6***		Fullfilled IEC 60034-12 design N,H	
14	Nominal torque T_N	***40***	Nm		
15	Locked rotor torque T_S/T_N	***3.3***			
16	Maximum torque T_{max}/T_N	***3.8***			
17	Minimum torque T_{min}/T_N	***2.8***			
18	Speed at minimum torque	***612***	r/min		
	Load characteristics (IEC 60034-2-1:2007)	Load %	Current A	Efficiency %	Power factor
19	PLL determined from residual loss	*100*	**22.2**	**92.3 / IE3**	**0.92**
20		*75*	**17**	**92.5**	**0.9**
21		*50*	**12.4**	**91.5**	**0.83**
22		*Start*	**213**		**0.42**
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	***6309/C3 - 6209/C3***			
31	Type of Grease				
32	Sound pressure level (LP dB(A) 1m)	***77***	dB(A)	at load	
33	Moment of inertia J = ¼ GD2	***0.062***	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	***32***	kg		
41	Total weight of motor	***163***	kg		
42	Dimension drawing no.				
43					
44					
45					
Ex-motors					
46					
47					
48					

Option Variant Codes / Definition

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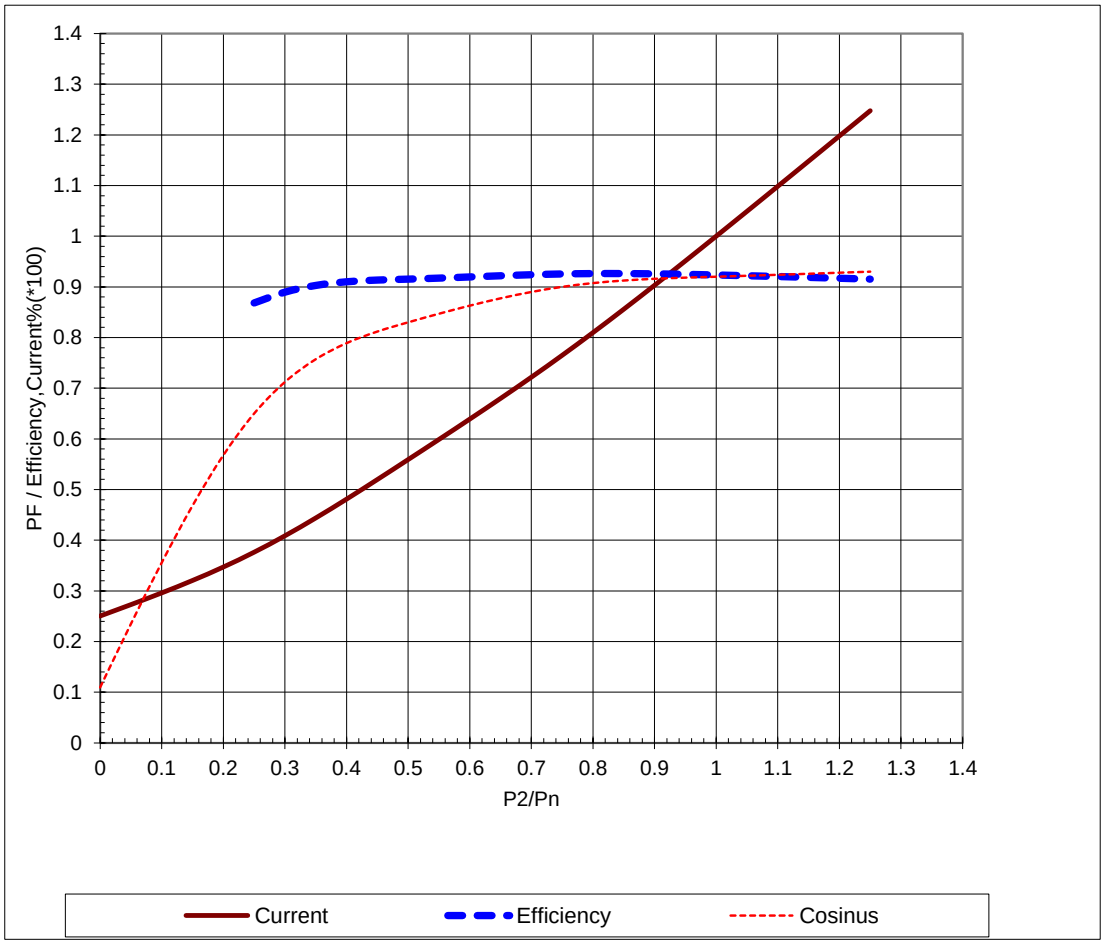
Product	**TEFC, 3-phase, squirrel cage induction motor**		
Type/Frame	**M3BP 160MLB 2**	Calc. ref.	**3GZF021016-200**
Product code	**3GBP 161 420-ADK**		
Rated output P_N	**15** kW		
Type of duty	**S1(IEC) 100%**		

Voltage (V)	**460**	Current I_N (A)	**22.2**	Power factor at P_N	**0.92**
Frequency (Hz)	**60**	Speed (r/min)	**3552**	Efficiency (%) at P_N	**92.3**



Load characteristics (IEC 60034-2-1:2007)
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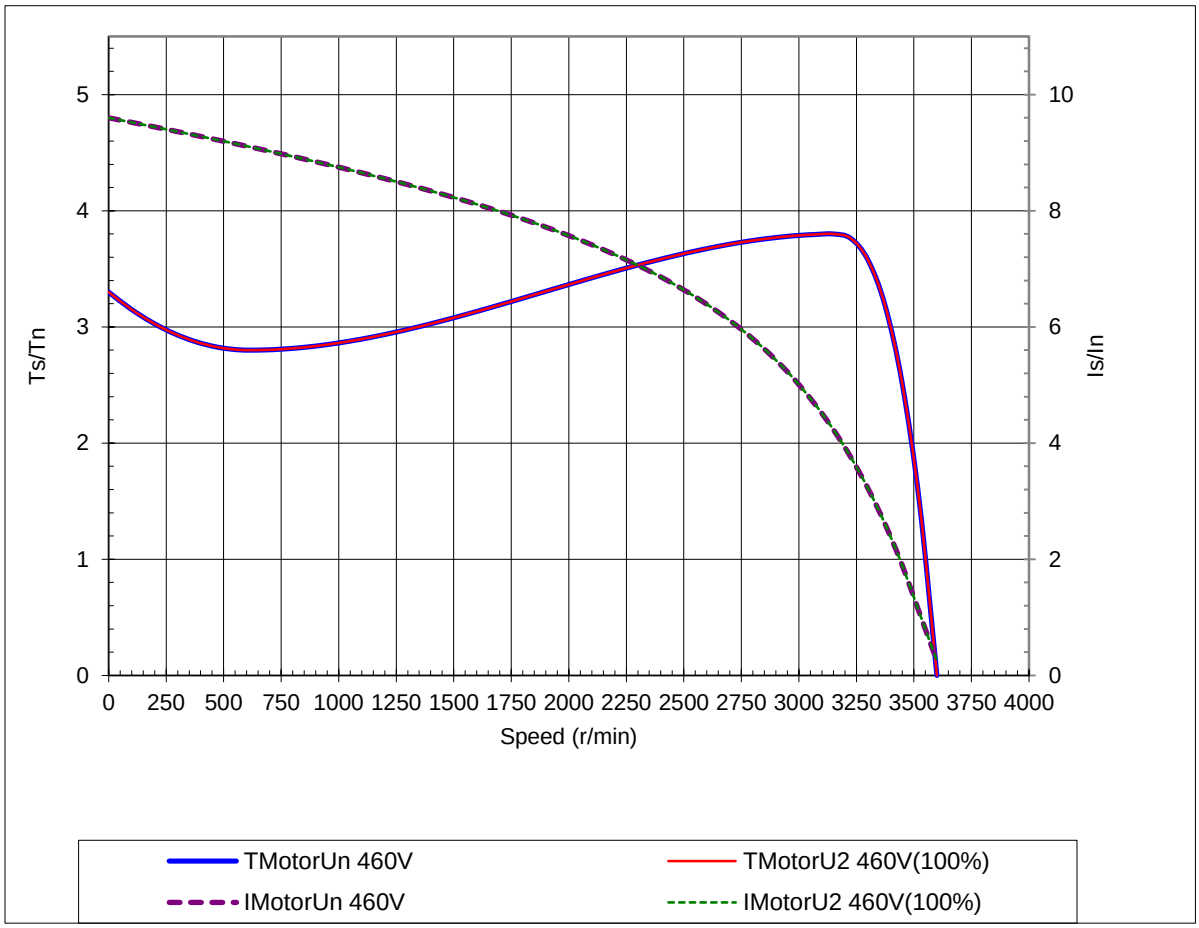
Type of product	**TEFC, 3-phase, squirrel cage induction motor**			
Type/Frame	**M3BP 160MLB 2**	Calc. ref.	3GZF021016-200	
Product code	**3GBP 161 420-ADK**	Frequency (Hz)	**60**	
Rated output P_N	**15** kW	Rated current I_N	**22.2**	A
Type of duty	**S1(IEC) 100%**			

J_{motor} (kgm2)	**0.062**	Voltage (V) 100%	***460***	Voltage (V)	***460V(100%)***
J_{load} (kgm2)		T_{start}/T_N	***3.3***	T_{start}/T_N	***3.3***
Speed (r/min)	**3552**	Starting time (s)		Starting time (s)	
T_N (Nm)	**40**	Speed (r/min)		Speed (r/min)	
T_{load} (Nm)		I_s/I_n	***9.6***	I_s/I_n	***9.6***
Nbr. of Consecutive Starts at UN		T_{max}/T_n	***3.8***	T_{max}/T_n	***3.8***



Load characteristics (IEC 60034-2-1:2007)
Data based on situation 9/8/2015

All data subject to tolerances in accordance with IEC