

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA7P53A3111GAAD01

Catalog No: SCA7P53A3111GAAD01

7.5kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B3, 50Hz, 87.2%, 160M Frame, TEFC
Cast Iron IE2 Efficiency Motors



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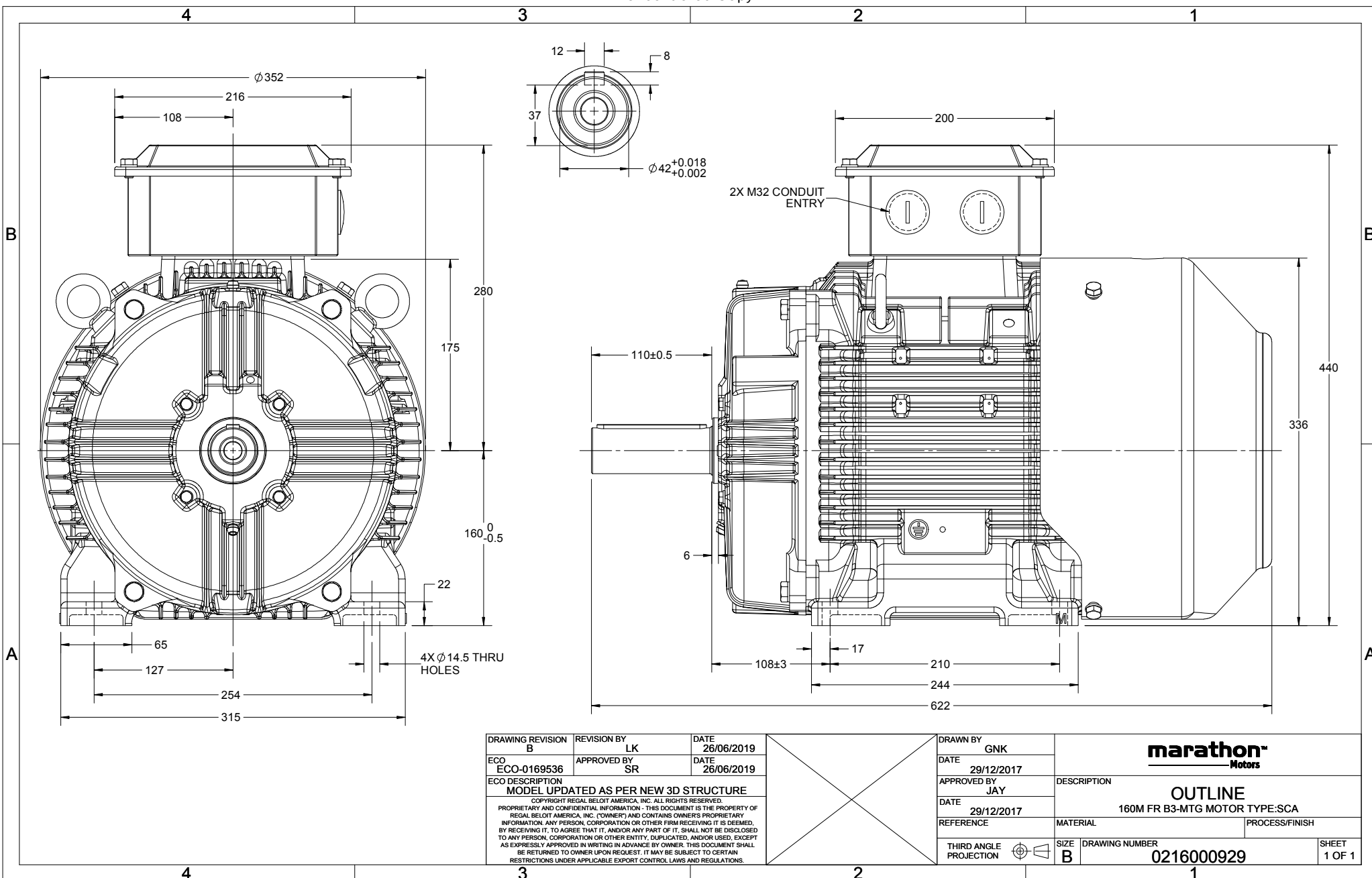
Nameplate Specifications

Output HP	10 Hp	Output KW	7.5 kW
Frequency	50 Hz	Voltage	415 V
Current	16.8 A	Speed	975 rpm
Service Factor	1	Phase	3
Efficiency	87.2 %	Power Factor	0.71
Duty	S1	Insulation Class	F
Frame	160M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6309
Opp Drive End Bearing Size	6209	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	622 mm	Frame Length	254 mm
Shaft Diameter	42 mm	Shaft Extension	110 mm
Assembly/Box Mounting	TOP		
Outline Drawing	0216000929	Connection Drawing	8442000085

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DRAWING REVISION B	REVISION BY LK	DATE 26/06/2019
ECO-0169536	APPROVED BY SR	DATE 26/06/2019
ECO DESCRIPTION MODEL UPDATED AS PER NEW 3D STRUCTURE		
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DRAWN BY GNK		
DATE 29/12/2017		
APPROVED BY JAY	DESCRIPTION OUTLINE 160M FR B3-MTG MOTOR TYPE:SCA	
DATE 29/12/2017		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0216000929
		SHEET 1 OF 1

Model No. SCA7P53A3111GAAD01

U [V]	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I _a /I _N [pu]	T _k /T _N [pu]	T _k /T _N [pu]
415	Δ	50	7.5	10	16.8	975	74.18	IE2	S/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.4	1.6	2.4

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	160M	Motor weight - approx.	134 kg
Duty	S1	Gross weight - approx.	154 kg
Voltage variation *	± 10%	Motor inertia	0.0750 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.2 mm/s
Design	N	Noise level (1meter distance from motor)	65 dB(A)
Service factor	1.0	No. of starts hot/cold/Equally spread	2/3/4
Insulation class	F	Starting method	DOL
Ambient temperature	-20 to +50 °C	Type of coupling	Direct
Temperature rise (by resistance)	70 [Class B] K	LR withstand time (hot/cold)	12/25 s
Altitude above sea level	1000 meter	Direction of rotation	Bi-directional
Hazardous area classification	NA	Standard rotation	Clockwise form DE
Zone classification	NA	Paint shade	RAL 5014
Gas group	NA	Accessories	
Temperature class	NA	Accessory - 1	-
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6309-2Z / 6209-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 35mm ² /2 X M32 x 1.5
Type of grease	NA	Auxiliary terminal box	NA

I_a/I_N - Locked Rotor Current / Rated CurrentT_k/T_N - Breakdown Torque / Rated TorqueT_k/T_N - Locked Rotor Torque / Rated Torque
NOTE

All performance values at rated voltage and frequency.

All performance parameters are subjected to standard tolerance as per IEC 60034-1

* Voltage, Frequency and combine variation are as per IEC60034-1

Technical data are subject to change. There may be discrepancies between calculated and name plate values.

Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-



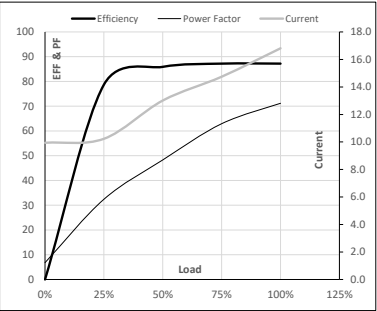
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Enclosure	U [V]	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	7.5	10	16.8	975	7.56	74.18	IE2	50	S1	1000	0.0750	134

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	9.9	10.2	13.0	14.7	16.8	
Torque	Nm	0.0	18.0	36.1	54.5	74.2	
Speed	r/min	1000	994	988	982	975	
Efficiency	%	0.0	78.7	85.9	87.2	87.2	
Power Factor	%	6.8	32.4	48.3	62.9	71.2	

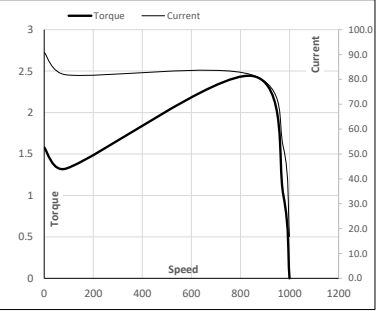
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	91	846	975	1000
Current	A	90.9	81.8	52.6	16.8	9.9
Torque	pu	1.6	1.3	2.4	1	0

Starting Characteristics Chart



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

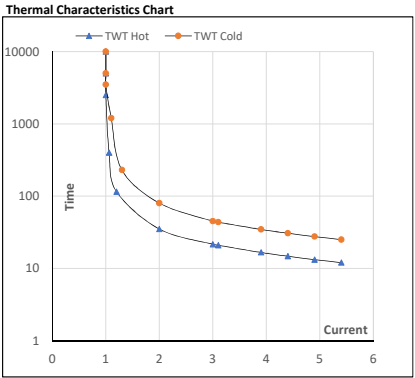
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Enclosure	U (V)	Δ / Y Conn	f (Hz)	P (kW)	P (hp)	I (A)	n (rpm)	T (kgm)	T (Nm)	IE Class	Amb (°C)	Duty	Elevation (m)	Inertia (kg·m ²)	Weight (kg)
TEFC	415	Δ	50	7.5	10	16.8	975	7.56	74.18	IE2	50	S1	1000	0.0750	134

Motor Speed Torque Data								
Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	35	22	16	14	13	12	
TWT Cold	s 10000	80	45	34	30	26	25	
Current	pu	1	2	3	4	4.5	5	5.4



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

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