

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA2P23A3121GAAD01

Catalog No: SCA2P23A3121GAAD01

2.2kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B3, 50Hz, 81.8%, 112M Frame, TEFC
Cast Iron IE2 Efficiency Motors



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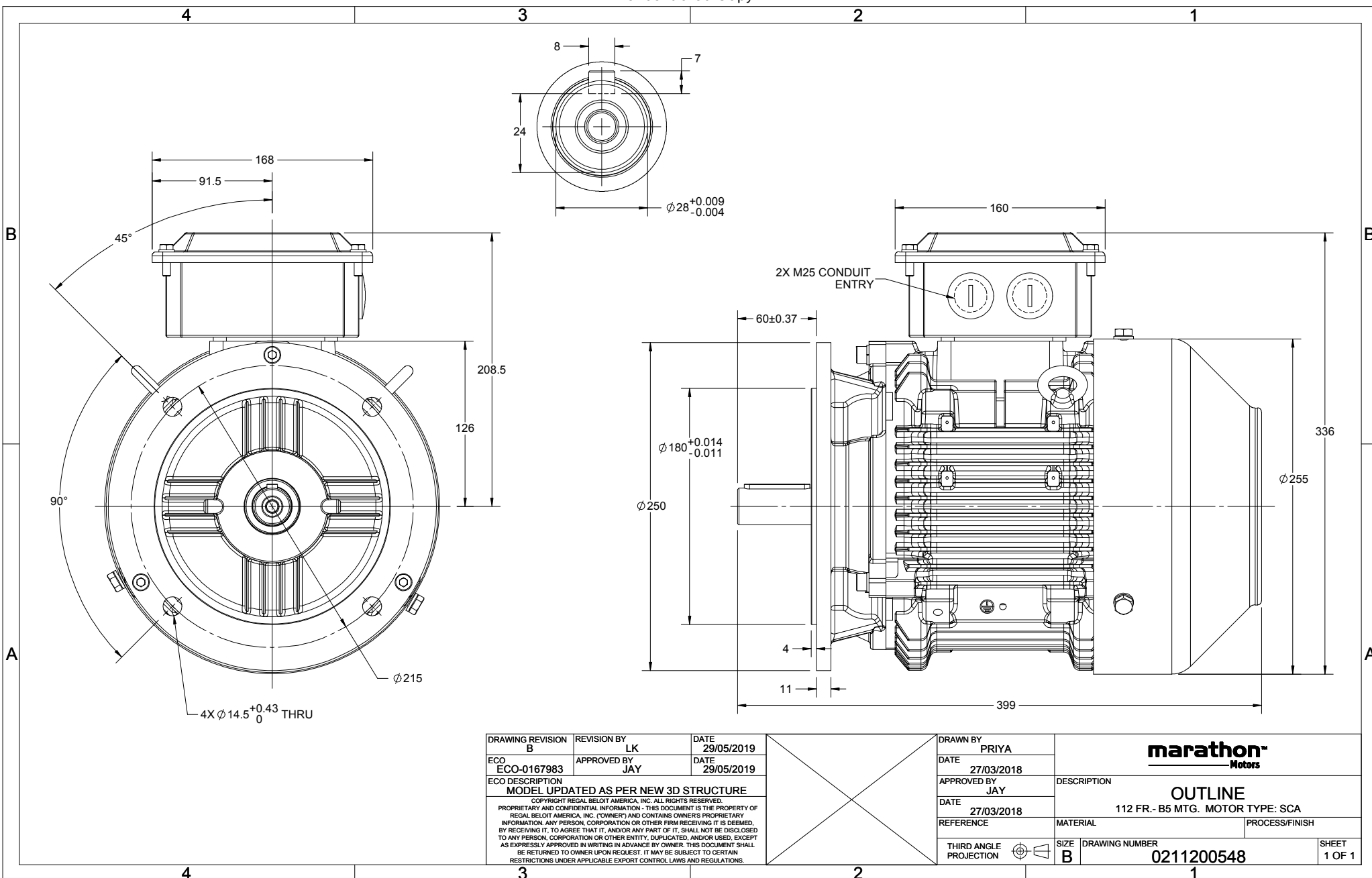
Nameplate Specifications

Output HP	3 Hp	Output KW	2.2 kW
Frequency	50 Hz	Voltage	415 V
Current	4.8 A	Speed	963 rpm
Service Factor	1	Phase	3
Efficiency	81.8 %	Power Factor	0.77
Duty	S1	Insulation Class	F
Frame	112M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6306
Opp Drive End Bearing Size	6206	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	B5	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	399 mm	Frame Length	174 mm
Shaft Diameter	28 mm	Shaft Extension	60 mm
Assembly/Box Mounting	TOP		
Connection Drawing	8442000085	Outline Drawing	0211200548

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DRAWING REVISION B	REVISION BY LK	DATE 29/05/2019
ECO-0167983	APPROVED BY JAY	DATE 29/05/2019
ECO DESCRIPTION MODEL UPDATED AS PER NEW 3D STRUCTURE		
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DRAWN BY PRIYA	marathon[™] Motors	
DATE 27/03/2018		
APPROVED BY JAY	DESCRIPTION OUTLINE 112 FR.- B5 MTG. MOTOR TYPE: SCA	
DATE 27/03/2018		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0211200548
		SHEET 1 OF 1

DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
ECO-0116390	APPROVED BY SBD	DATE 13/01/2017
ECO DESCRIPTION NEW DRAWING RELEASE		

GEOMETRIC TOLERANCE		
LINEAR DIM		
>0-6	±0.1	
>6-30	±0.2	
>30-120	±0.3	



NOTES:

1. PRESSURE-SENSITIVE ADHESIVE COATED PAPER ON THE BACK OF SELF-ADHESIVE.
2. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
3. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.

		DRAWN BY	SN
		DATE	16/12/2016
		APPROVED BY	SBD
		DATE	16/12/2016
REFERENCE		MATERIAL	
THIRD ANGLE PROJECTION		SIZE	
DRAWING NUMBER		PROCESS/FINISH	
8442000085		SHEET	
1 OF 1			

8WD.442.2017

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DESCRIPTION
 CONN DIAGRAM-NAMEPLATE

Model No. SCA2P23A3121GAAD01

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	Y	50	2.2	3.0	4.8	963	22.19	IE2	S/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.7	2.3	2.6
									-	81.8	81.8	81.8	0.77	0.70	0.55			

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	112M	Motor weight - approx.	47 kg
Duty	S1	Gross weight - approx.	50 kg
Voltage variation *	± 10%	Motor inertia	0.0195 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	1.6 mm/s
Design	N	Noise level (1meter distance from motor)	62 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)	15/30 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	6306-2Z / 6206-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 16mm ² /2 x M25 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	-	-	-



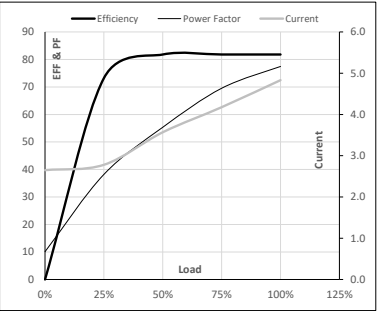
Model No. SCA2P23A3121GAAD01

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	Y	50	2.2	3.0	4.8	963	2.26	22.19	IE2	50	S1	1000	0.0195	47

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	2.7	2.8	3.6	4.2	4.8	
Torque	Nm	0.0	5.4	10.9	16.5	22.2	
Speed	r/min	1000	991	983	973	963	
Efficiency	%	0.0	73.2	81.8	81.8	81.8	
Power Factor	%	10.1	38.2	55.3	69.5	77.5	

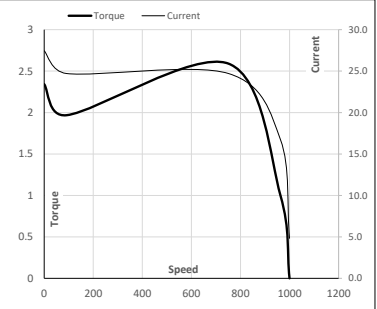
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	91	751	963	1000
Current	A	27.5	24.7	16.7	4.8	2.7
Torque	pu	2.3	2.0	2.6	1	0

Starting Characteristics Chart



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

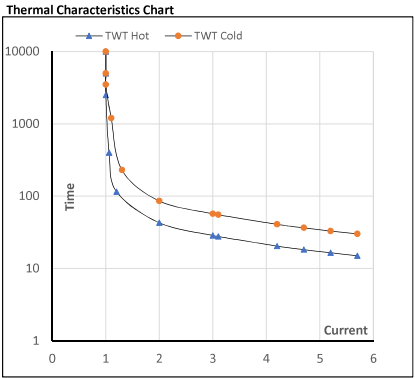
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TEFC	415	Y	50	2.2	3.0	4.8	963	2.26	22.19	IE2	50	S1	1000	0.0195	47

Motor Speed Torque Data								
Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	43	29	22	17	16	15	
TWT Cold	s 10000	86	57	45	34	31	30	
Current	pu	1	2	3	4	5	5.5	5.7



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

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