

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA18P1A3121GAAD01

Catalog No: SCA18P1A3121GAAD01

18.5kW, General Purpose Low Voltage IEC Motor, 3 phase, 2 Pole, 415V, B5, 50Hz, 90.9%, 160L Frame, TEFC
Cast Iron IE2 Efficiency Motors



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REGAL

Nameplate Specifications

Output HP	25 Hp	Output KW	18.5 kW
Frequency	50 Hz	Voltage	415 V
Current	30.6 A	Speed	2936 rpm
Service Factor	1	Phase	3
Efficiency	90.9 %	Power Factor	0.92
Duty	S1	Insulation Class	F
Frame	160L	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	2	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	686 mm	Frame Length	298 mm
Shaft Diameter	42 mm	Shaft Extension	110 mm
Assembly/Box Mounting	TOP		
Outline Drawing	0216001001	Connection Drawing	8442000085

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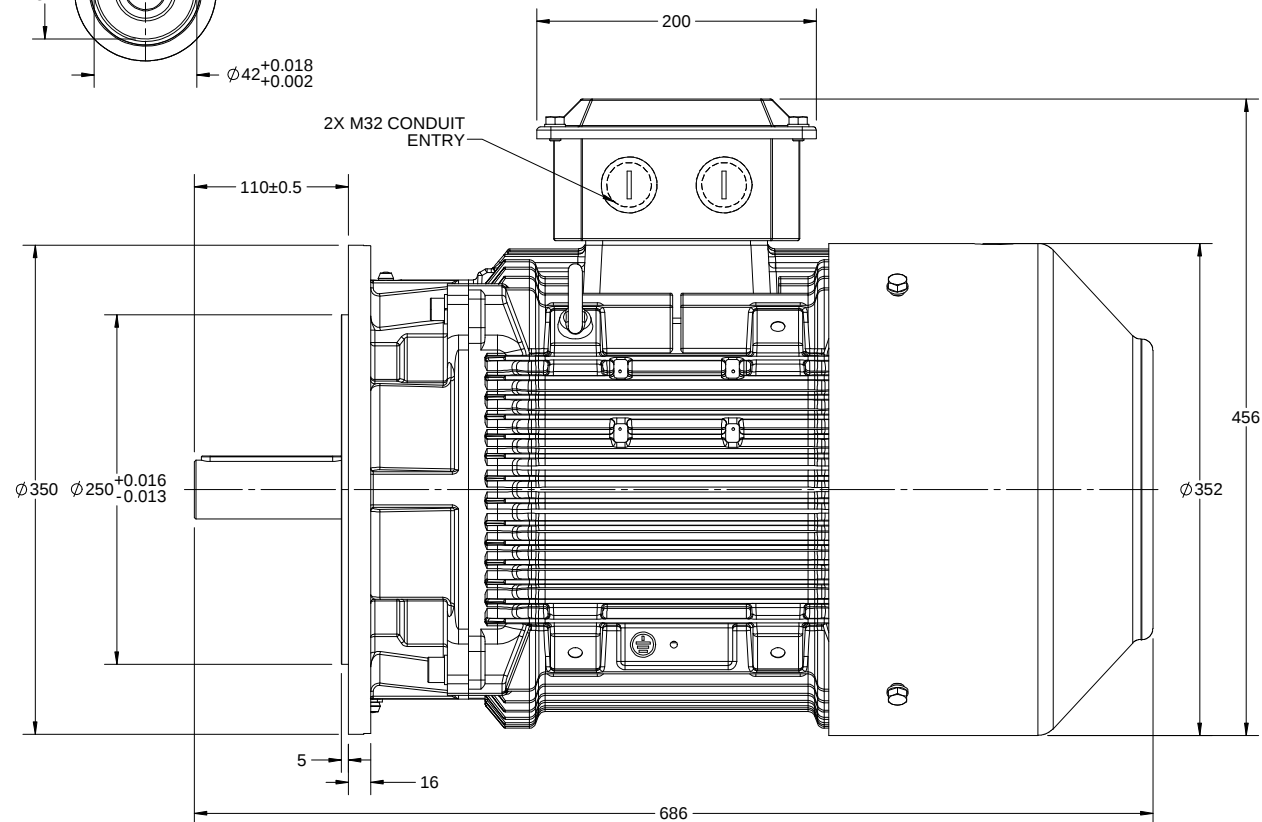
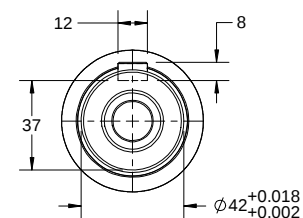
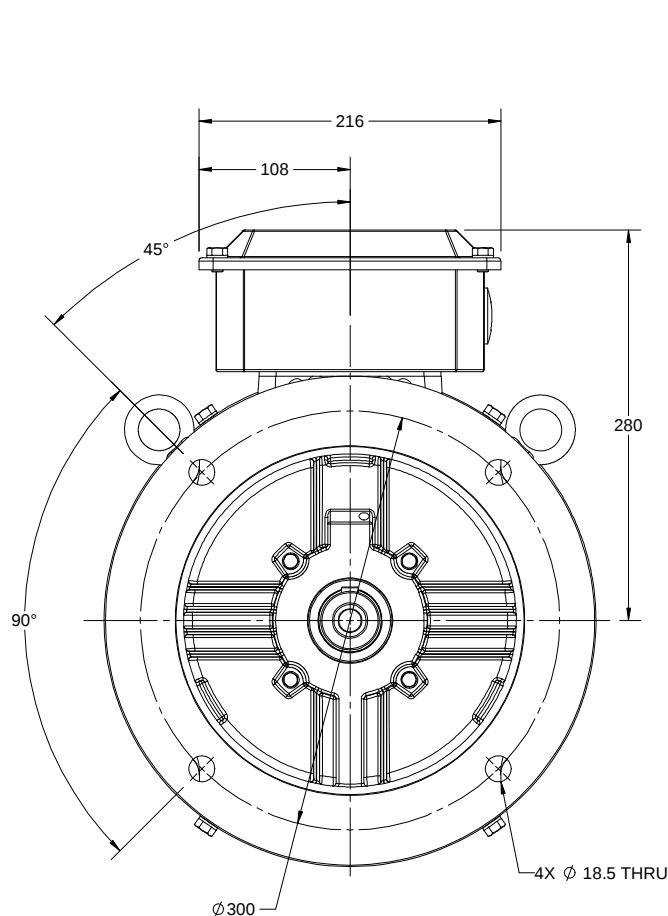
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A

DRAWING REVISION A	REVISION BY A. KEETHA	DATE 08/11/2018
ECO ECO-0153779	APPROVED BY JAY	DATE 08/11/2018
ECO DESCRIPTION NEW DRAWING RELEASE		
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DRAWN BY A. KEETHA		
DATE 08/11/2018		
APPROVED BY JAY	DESCRIPTION OUTLINE 160L FRAME B5 MTG. MOTOR TYPE:SCA	
DATE 08/11/2018		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0216001001
		SHEET 1 OF 1

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DRAWING REVISION A	REVISION BY SN	DATE 13/01/2017
ECO 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			
				DESCRIPTION			
				CONN DIAGRAM-NAMEPLATE			
MATERIAL				PROCESS/FINISH			
THIRD ANGLE PROJECTION				SIZE	DRAWING NUMBER		SHEET
				A	8442000085		1 OF 1

8WD.442.2017

Model No. SCA18P1A3121GAAD01

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	18.5	25	30.6	2936	60.27	IE2	S/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	6.9	2.4	3.1

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	160L	Motor weight - approx.	171 kg
Duty	S1	Gross weight - approx.	191 kg
Voltage variation *	± 10%	Motor inertia	0.0563 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)	79 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)	10/20 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

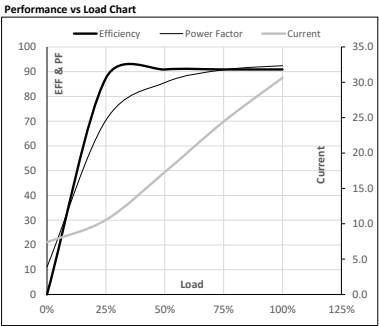
* Voltage, Frequency and combine variation are as per IEC60034-1

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

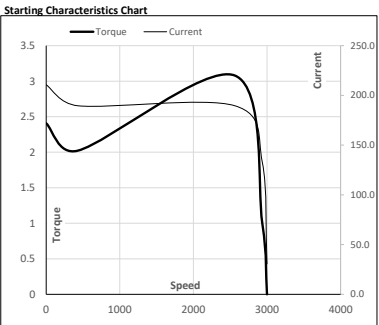
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-

Model No. SCA18P1A3121GAAD01															
Enclosure	U	Δ / Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
	(V)	Conn	[Hz]	[kW]	[hp]	[A]	(RPM)	[kgm]	[Nm]	Class	[°C]		[m]	[kg·m ²]	[kg]
TEFC	415	Δ	50	18.5	25	30.6	2936	6.15	60.27	IE2	50	S1	1000	0.0563	171

Motor Load Data							
Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	7.4	10.5	17.3	24.4	30.6	
Torque	Nm	0.0	14.9	30.0	45.2	60.3	
Speed	r/min	3000	2985	2970	2953	2936	
Efficiency	%	0.0	87.4	90.9	90.9	90.9	
Power Factor	%	11.1	70.4	85.6	90.8	92.4	



Motor Speed Torque Data						
Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	429	2563	2936	3000
Current	A	210.7	189.6	132.9	30.6	7.4
Torque	pu	2.4	2.0	3.1	1	0



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

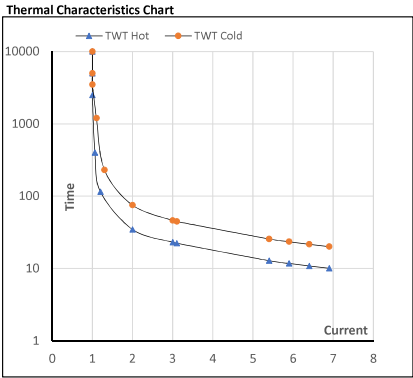
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Model No. SCA18P1A3121GAAD01

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·m²]	Weight [kg]
TEFC	415	Δ	50	18.5	25	30.6	2936	6.15	60.27	IE2	50	S1	1000	0.0563	171

Motor Speed Torque Data								
Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	35	23	20	15	12	10	
TWT Cold	s 10000	75	46	40	30	24	20	
Current	pu	1	2	3	4	5	5.5 6.9	



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

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