

# PRODUCT INFORMATION PACKET

**marathon**<sup>®</sup>  
Motors

Model No: SCA5P52A3131GAAD01

Catalog No: SCA5P52A3131GAAD01

5.5kW, General Purpose Low Voltage IEC Motor, 3 phase, 4 Pole, 415V, B5, 50Hz, 87.7%, 132S Frame, TEFC  
Cast Iron IE2 Efficiency Motors



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**REGAL**



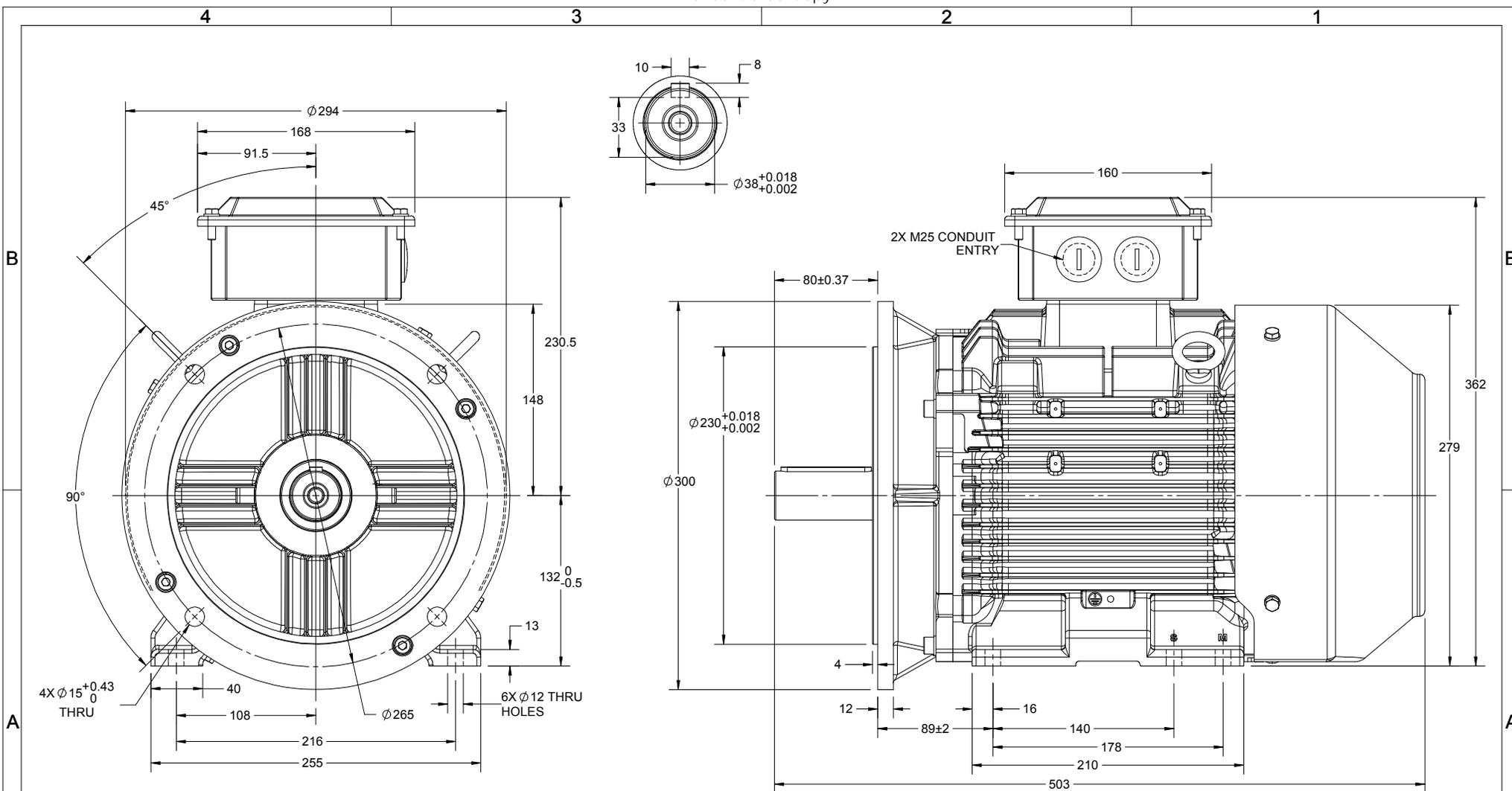
### Nameplate Specifications

Output HP	<b>7.50 Hp</b>	Output KW	<b>5.5 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>415 V</b>
Current	<b>10.6 A</b>	Speed	<b>1456 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>87.7 %</b>	Power Factor	<b>0.83</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>132S</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Ambient Temperature	<b>50 °C</b>	Drive End Bearing Size	<b>6308</b>
Opp Drive End Bearing Size	<b>6208</b>	UL	<b>No</b>
CSA	<b>No</b>	CE	<b>Yes</b>
IP Code	<b>55</b>		

### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B35</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>2z-C3</b>	Opp Drive End Bearing	<b>2z-C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>503 mm</b>	Frame Length	<b>240 mm</b>
Shaft Diameter	<b>38 mm</b>	Shaft Extension	<b>80 mm</b>
Assembly/Box Mounting	<b>TOP</b>		
Outline Drawing	<b>0213201111</b>	Connection Drawing	<b>8442000085</b>

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DRAWING REVISION B	REVISION BY LK	DATE 30/05/2019
ECO ECO-0167983	APPROVED BY SR	DATE 30/05/2019
ECO DESCRIPTION MODEL UPDATED AS PER NEW 3D STRUCTURE		
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DRAWN BY GSR
DATE 29/03/2018
APPROVED BY JAY
DATE 29/03/2018
REFERENCE

<b>marathon</b> Motors	
DESCRIPTION <b>OUTLINE</b> 132M FR.- B35 MTG. MOTOR TYPE SCA	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0213201111
THIRD ANGLE PROJECTION	SHEET 1 OF 1

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

8WD.442.2017

DRAWN BY SN		 Regal Beloit America, Inc.	
DATE 16/12/2016			
APPROVED BY SBD		DESCRIPTION CONN DIAGRAM-NAMEPLATE	
DATE 16/12/2016		MATERIAL	
REFERENCE		PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1



Model No. SCA5P52A3131GAAD01

U (V)	Δ / Y Conn	f (Hz)	P		I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>w</sub> /I <sub>N</sub> [pu]	T <sub>k</sub> /T <sub>N</sub> [pu]	T <sub>k</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]					S/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Δ	50	5.5	7.5	10.6	1456	36.84	IE2	-	87.7	87.7	87.5	0.83	0.76	0.62	7.6	3.3	3.5

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	132S	Motor weight - approx.	83 kg
Duty	S1	Gross weight - approx.	86 kg
Voltage variation *	± 10%	Motor inertia	0.0228 kgm <sup>2</sup>
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)	67 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)	6/10 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	6308-2Z / 6208-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 16mm <sup>2</sup> /2 x M25 x 1.5
Type of grease	NA	Auxiliary terminal box	NA

I<sub>w</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>k</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>k</sub>/T<sub>N</sub> - 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 Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	-	IS 12615 : 2018	-	-	-



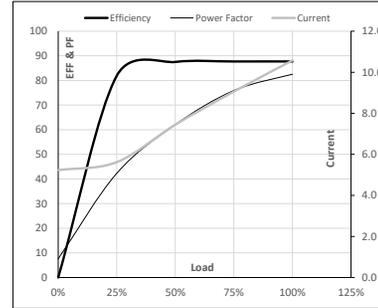
Model No. SCA5P52A3131GAAD01

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 <sup>2</sup> ]	Weight [kg]
TEFC	415	Δ	50	5.5	7.5	10.6	1456	3.76	36.84	IE2	50	S1	1000	0.0228	83

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	5.2	5.6	7.4	9.1	10.6	
Torque	Nm	0.0	9.0	18.1	27.3	36.8	
Speed	r/min	1500	1489	1479	1468	1456	
Efficiency	%	0.0	81.9	87.5	87.7	87.7	
Power Factor	%	7.6	42.3	62.1	75.9	82.5	

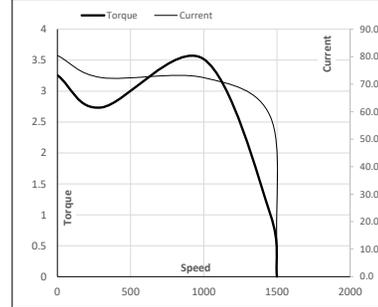
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	300	997	1456	1500
Current	A	80.5	72.4	58.1	10.6	5.2
Torque	pu	3.3	2.7	3.5	1	0

**Starting Characteristics Chart**



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

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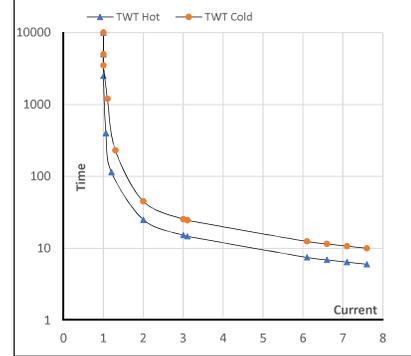
Model No. SCA5P52A3131GAAD01

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 <sup>2</sup> )	Weight (kg)
TEFC	415	Δ	50	5.5	7.5	10.6	1456	3.76	36.84	IE2	50	S1	1000	0.0228	83

**Motor Speed Torque Data**

Load	FL	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub>	I <sub>5</sub>	LR	
TWT Hot	s 10000	25	15	11	10	8	6	
TWT Cold	s 10000	45	25	20	17	15	10	
Current	pu	1	2	3	4	5	5.5	7.6

**Thermal Characteristics Chart**



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

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