

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: SCA2002A3131GAAD01

Catalog No: SCA2002A3131GAAD01

TerraMAX® Cast Iron Motor, 270 HP, 3 Ph, 50 Hz, 415 V, 1500 RPM, 315L Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

Output HP	270 Hp	Output KW	200.0 kW
Frequency	50 Hz	Voltage	415 V
Current	327.1 A	Speed	1487 rpm
Service Factor	1	Phase	3
Efficiency	95.1 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	315L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	50 °C
Drive End Bearing Size	6319	Opp Drive End Bearing Size	6319
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE2

### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	Rotation	Bi-Directional
Mounting	B35	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1317 mm	Frame Length	840 mm
Shaft Diameter	80 mm	Shaft Extension	170 mm
Assembly/Box Mounting	TOP		
Connection Drawing	8442000085	Outline Drawing	0231500896

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4

3

2

1

# OUTLINE

B

B

A

A



DRAWING REVISION B	REVISION BY NIV	DATE 14/05/2019
ECO ECO-0165600	APPROVED BY SR	DATE 14/05/2019
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY JOY	<b>marathon™</b> Motors		
DATE 18/07/2014			
APPROVED BY SBD	DESCRIPTION OUTLINE		
DATE 18/07/2014	FR-315L-B35 MTG. MOTOR TYPE: TCA		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0231500896	SHEET 1 OF 1

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

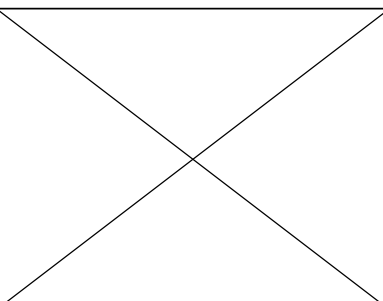
GEOMETRIC TOLERANCE		
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



# 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.

8WD.442.2017

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

**Model No.** SCA2002A3131GAAD01

U	Δ / Y	f	P	P	I	n	T	IE	% EFF at ___ load				PF at ___ load			I <sub>A</sub> /I <sub>N</sub>	T <sub>A</sub> /T <sub>N</sub>	T <sub>K</sub> /T <sub>N</sub>
(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[Nm]	Class	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	[pu]	[pu]	[pu]
415	Δ	50	200	270	328.7	1487	1293.99	IE2	-	95.1	95.1	95.9	0.89	0.87	0.81	5.4	2.0	2.7

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315L	Motor weight - approx.	1269 kg
Duty	S1	Gross weight - approx.	1314 kg
Voltage variation *	± 10%	Motor inertia	5.0623 kgm <sup>2</sup>
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level ( 1meter distance from motor)	69 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)	20/40 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	6319 C3 / 6319 C3	Terminal box position	TOP
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 240mm <sup>2</sup> /2 x M63 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	Available on Request

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

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

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

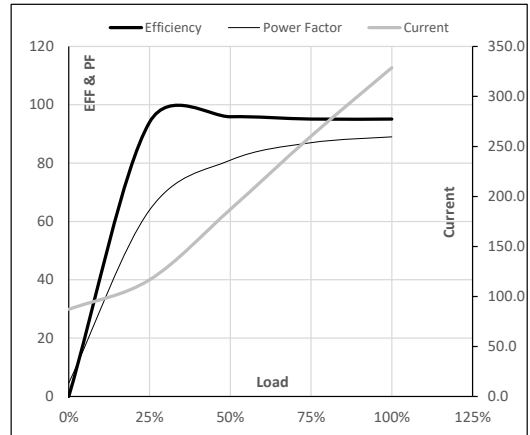
Model No. SCA2002A3131GAAD01

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	200	270	328.7	1487	131.95	1293.99	IE2	50	S1	1000	5.0623	1269

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	87.1	116.6	187.0	260.3	328.7	
Torque	Nm	0.0	321.1	643.6	967.6	1294.0	
Speed	r/min	1500	1497	1494	1490	1487	
Efficiency	%	0.0	94.0	95.9	95.1	95.1	
Power Factor	%	4.6	63.9	81.0	87.0	89.0	

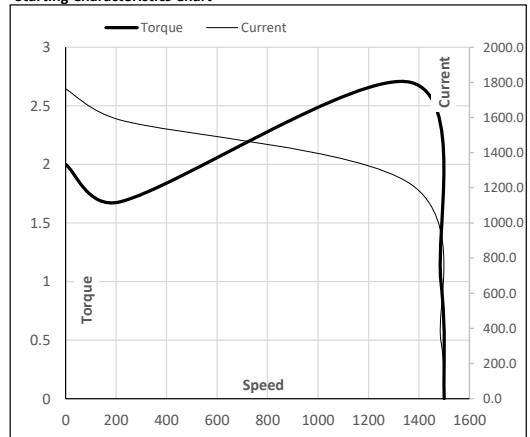
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1368	1487	1500
Current	A	1763.2	1586.9	1220.5	328.7	87.1
Torque	pu	2.0	1.7	2.7	1	0

**Starting Characteristics Chart**



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

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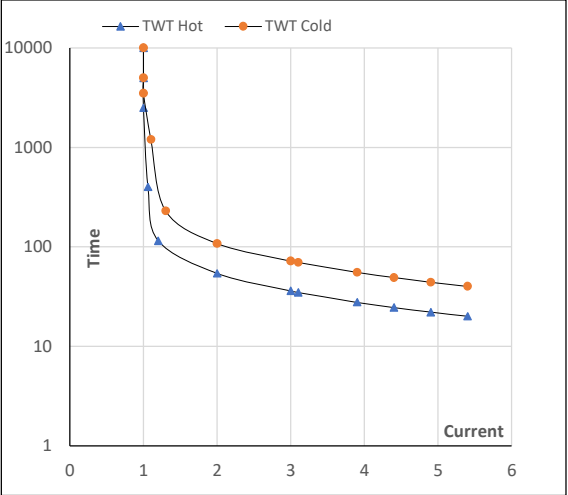
Model No. SCA2002A3131GAAD01

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	200	270	328.7	1487	131.95	1293.99	IE2	50	S1	1000	5.0623	1269

Motor Speed Torque Data

Load	FL	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	LR	
TWT Hot	s 10000	54	36	27	24	21	20	
TWT Cold	s 10000	108	72	54	48	43	40	
Current	pu	1	2	3	4	4.5	5	5.4

Thermal Characteristics Chart



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

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