

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA0904A3131GAAD01

Catalog No: SCA0904A3131GAAD01

TerraMAX® Cast Iron Motor, 120 HP, 3 Ph, 50 Hz, 415 V, 750 RPM, 315L Frame, TEFC



Regal and Marathon are trademarks of Regal Rexnord Corporation or one of its affiliated companies.
©2022 Regal Rexnord Corporation, All Rights Reserved. MC017097E

RegalRexnord

Nameplate Specifications

Output HP	120 Hp	Output KW	90.0 kW
Frequency	50 Hz	Voltage	415 V
Current	187.9 A	Speed	743 rpm
Service Factor	1	Phase	3
Efficiency	91.9 %	Power Factor	0.725
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	8	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

This is an uncontrolled document once printed or downloaded and is subject to change without notice. Date Created:12/02/2022

4

3

2

1

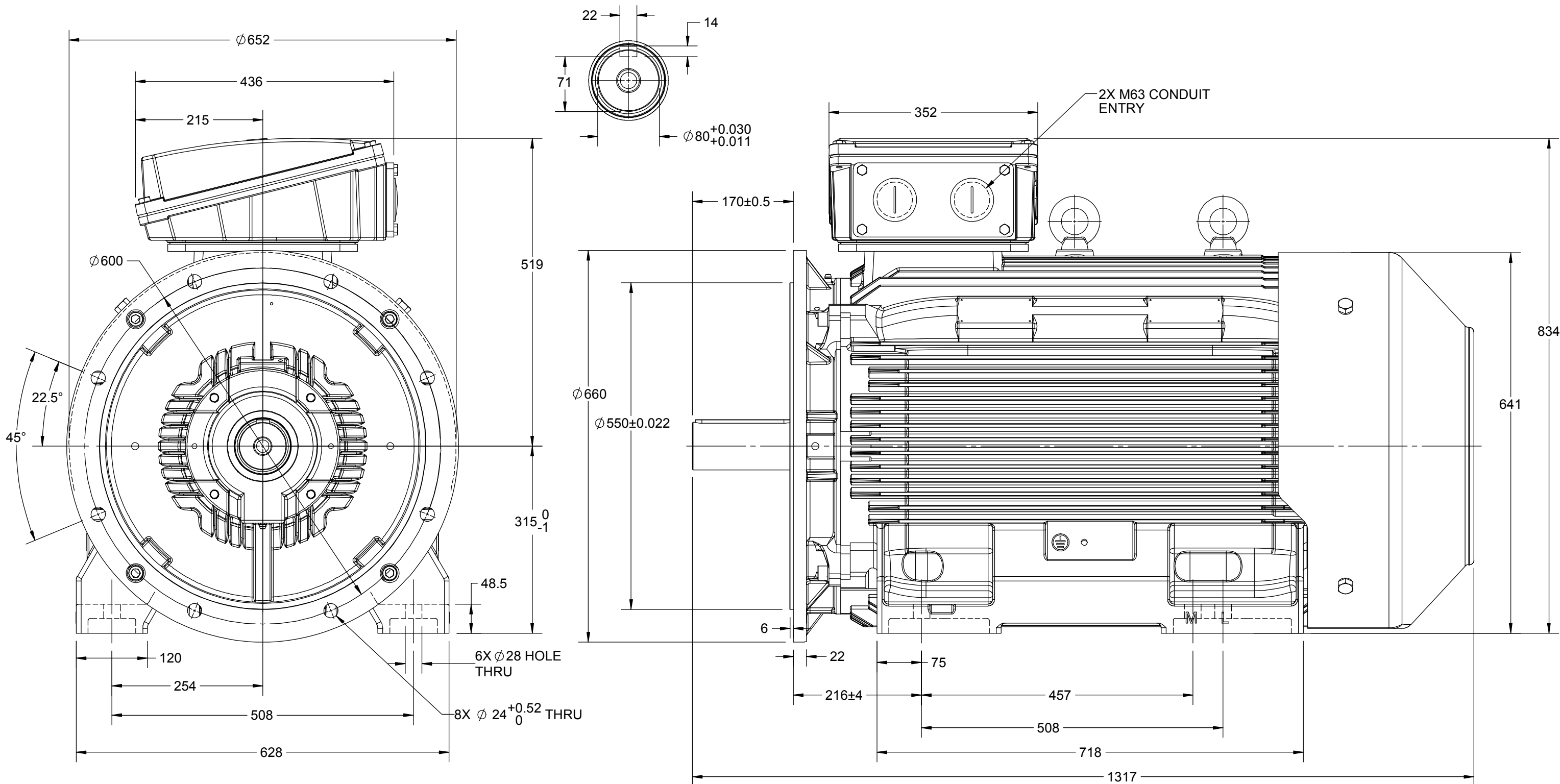
OUTLINE

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		
COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.		

DRAWN BY JOY	marathon™ 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

COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. UNCONTROLLED COPY
 PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF
 REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY
 INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED,
 BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED
 TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT
 AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL
 BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN
 RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.

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.

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						
	REFERENCE		MATERIAL		PROCESS/FINISH		
	THIRD ANGLE PROJECTION		SIZE A		DRAWING NUMBER 8442000085		SHEET 1 OF 1

Model No. SCA0904A3131GAAD01

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 _A /T _N [pu]	T _K /T _N [pu]
									5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Δ	50	90	120	186.9	743	1151.267	IE2	-	91.9	91.9	92.3	0.73	0.67	0.54	4.5	2.0	2.1

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.	1068 kg
Duty	S1	Gross weight - approx.	1113 kg
Voltage variation *	± 10%	Motor inertia	5.6618 kgm ²
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)	64 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	6319 C3 / 6319 C3	Terminal box position	TOP
Lubrication method	Regreaseable	Maximum cable size/conduit size	1R x 3C x 240mm ² /2 x M63 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	Available on Request

I_A/I_N - Locked Rotor Current / Rated CurrentT_K/T_N - Breakdown Torque / Rated TorqueT_A/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 combined variation are as per IEC60034-1

Technical data are subject to change. There may be slight variations between calculated values in this datasheet and the motor nameplate figures.

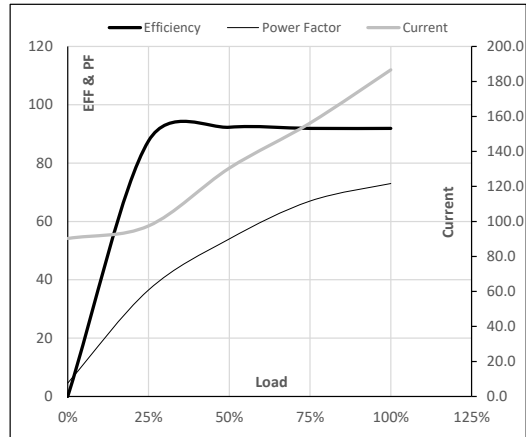
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-

Model No. SCA0904A3131GAAD01

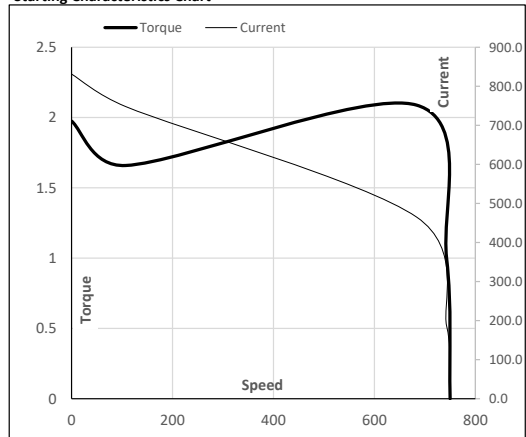
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	415	Δ	50	90	120	186.6	743	117.40	1151.27	IE2	50	S1	1000	5.6618	1068

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	90.3	97.5	130.5	156.2	186.6	
Torque	Nm	0.0	285.8	572.8	861.2	1151.3	
Speed	r/min	750	748	747	745	743	
Efficiency	%	0.0	87.6	92.3	91.9	91.9	
Power Factor	%	4.6	36.5	54.0	67.0	73.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	107	684	743	750
Current	A	831.4	748.2	465.2	186.6	90.3
Torque	pu	2.0	1.7	2.1	1	0

Starting Characteristics Chart

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

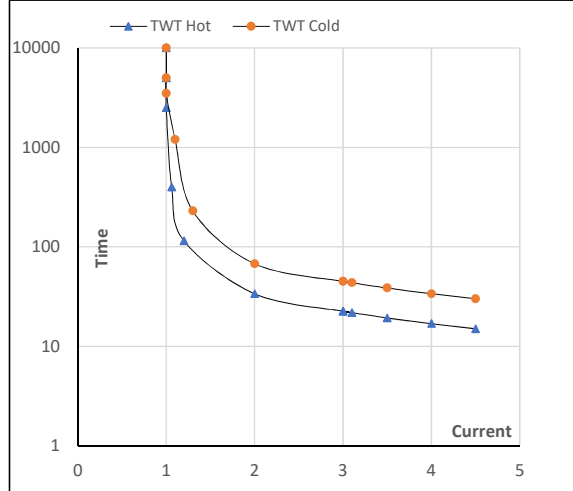
Issued By
Issued Date

Model No. SCA0904A3131GAAD01

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	90	120	186.6	743	117.40	1151.27	IE2	50	S1	1000	5.6618	1068

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s 10000	34	25	23	19	17	15
TWT Cold	s 10000	68	55	45	39	34	30
Current	pu	1	2	3	3.5	4	4.5

Thermal Characteristics Chart

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

 Issued By
Issued Date