

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA0154A3131GAAD01

Catalog No: SCA0154A3131GAAD01

TerraMAX® Cast Iron Motor, 20 HP, 3 Ph, 50 Hz, 415 V, 750 RPM, 200L Frame, TEFC



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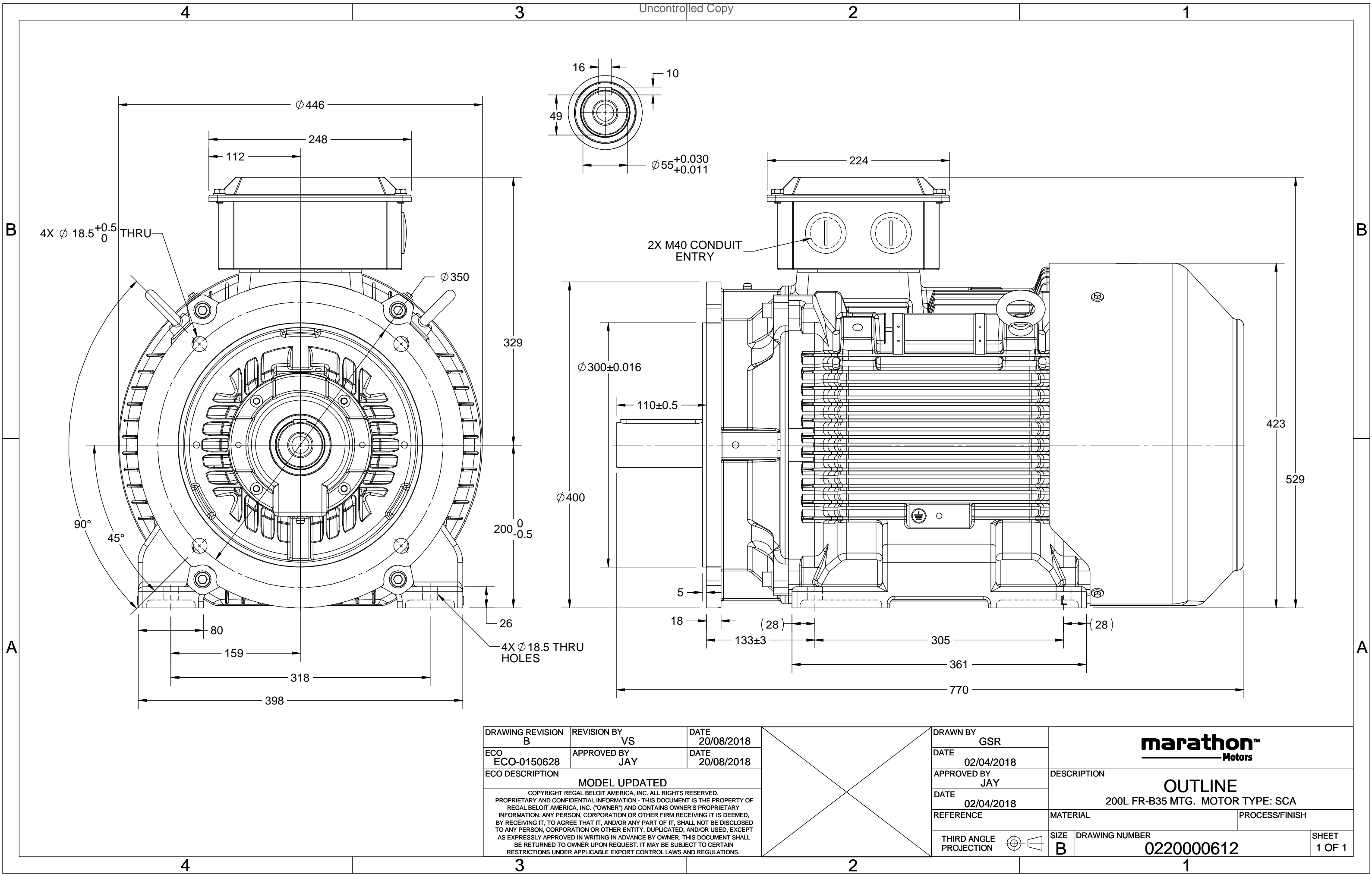
Nameplate Specifications

Output HP	20 Hp	Output KW	15.0 kW
Frequency	50 Hz	Voltage	415 V
Current	32.2 A	Speed	730 rpm
Service Factor	1	Phase	3
Efficiency	88 %	Power Factor	0.736
Duty	S1	Insulation Class	F
Frame	200L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	50 °C
Drive End Bearing Size	6312	Opp Drive End Bearing Size	6212
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	770 mm	Frame Length	370 mm
Shaft Diameter	55 mm	Shaft Extension	110 mm
Assembly/Box Mounting	TOP		
Connection Drawing	8442000085	Outline Drawing	0220000612

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DRAWING REVISION B	REVISION BY VS	DATE 20/08/2018
ECO ECO-0150628	APPROVED BY JAY	DATE 20/08/2018
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY GSR	marathon™ Motors	
DATE 02/04/2018		
APPROVED BY JAY	DESCRIPTION OUTLINE	
DATE 02/04/2018	200L FR-B35 MTG. MOTOR TYPE: SCA	
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0220000612
		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.

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. SCA0154A3131GAAD01

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]
415	Δ	50	15	20	32.0	730	195.54	IE2	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.9	1.8	2.9

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	200L	Motor weight - approx.	311 kg
Duty	S1	Gross weight - approx.	341 kg
Voltage variation *	± 10%	Motor inertia	0.7327 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)	61 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	6312 C3 / 6212 C3	Terminal box position	TOP
Lubrication method	Regreaseable	Maximum cable size/conduit size	1R x 3C x 50mm ² /2 x M40 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	NA

 I_A/I_N - Locked Rotor Current / Rated Current

 T_K/T_N - Breakdown Torque / Rated Torque

 T_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 combine variation are as per IEC60034-1

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

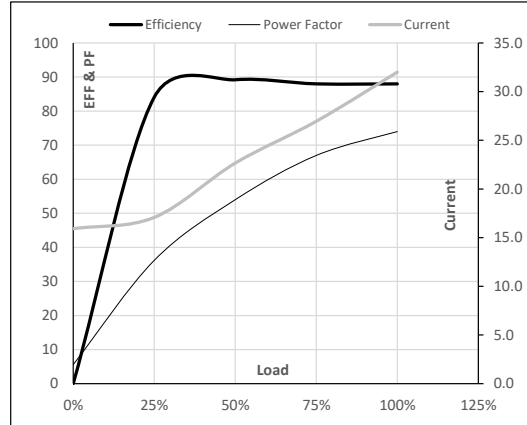
Efficiency Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	-	IS 12615 : 2018	-	-	-

Model No. SCA0154A3131GAAD01

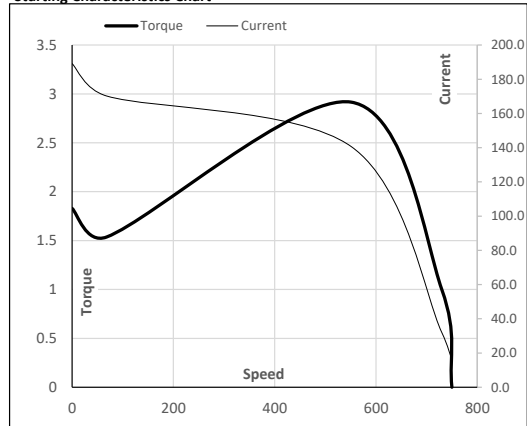
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	415	Δ	50	15	20.0	32.0	730	19.94	195.54	IE2	50	S1	1000	0.7327	311.3

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	15.9	17.1	22.7	27.0	32.0	
Torque	Nm	0.0	47.9	96.3	145.5	195.5	
Speed	r/min	750	745	740	735	730	
Efficiency	%	0.0	84.1	89.2	88.0	88.0	
Power Factor	%	5.6	36.2	54.0	67.0	74.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	68	551	730	750
Current	A	189.1	170.2	140.7	32.0	15.9
Torque	pu	1.8	1.5	2.9	1	0

Starting Characteristics Chart

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

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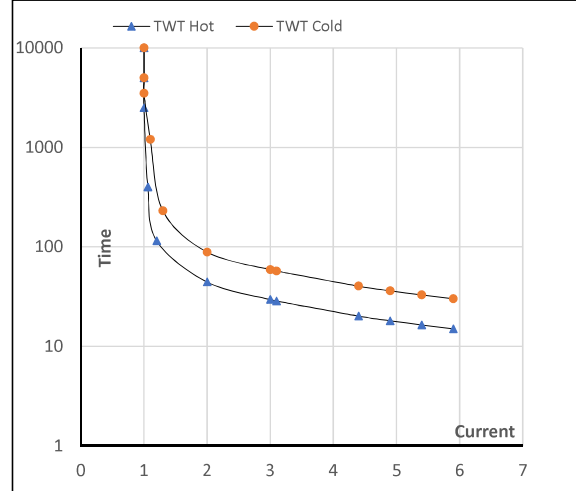
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Model No. SCA0154A3131GAAD01

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	15	20	32.0	730	19.94	195.54	IE2	50	S1	1000	0.7327	311

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s 10000	44	30	25	17	16	15
TWT Cold	s 10000	86	59	45	35	31	30
Current	pu	1	2	3	4	5	5.5

Thermal Characteristics Chart

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

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