

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCE0151A2111GAA001  
Catalog No: TCE0151A2111GAA001

TerraMAX® Increased Safety Motors Ex eb, Totally Enclosed Fan Cooled, 20 HP, 3 Ph, 50 Hz, 400 V,  
2956 RPM, 160M Frame



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**RegalRexnord**

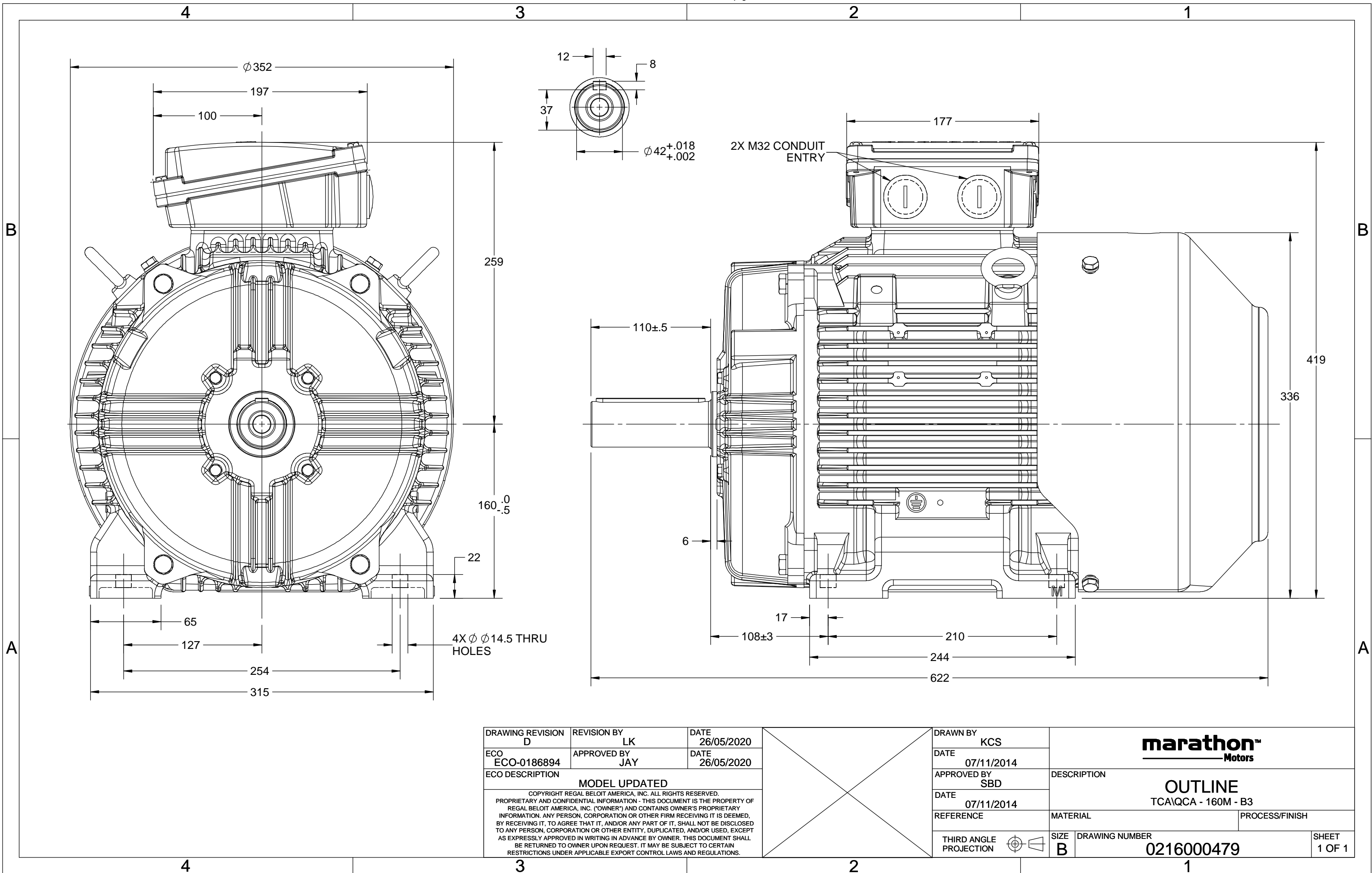
### Nameplate Specifications

Output HP	20 Hp	Output KW	15.0 kW
Frequency	50 Hz	Voltage	400 V
Current	26.7 A	Speed	2956 rpm
Service Factor	1	Phase	3
Efficiency	91.9 %	Power Factor	0.88
Duty	S1	Insulation Class	F
Frame	160M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6309	Opp Drive End Bearing Size	6209
UL	No	CSA	No
CE	Yes	IP Code	IP55
Number of Speeds	3		

### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	622 mm	Frame Length	254 mm
Shaft Diameter	42.000 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Outline Drawing	0216000479	Connection Drawing	8442000085

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DRAWING REVISION D	REVISION BY LK	DATE 26/05/2020
ECO ECO-0186894	APPROVED BY JAY	DATE 26/05/2020
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY KCS	<b>marathon™</b> Motors		
DATE 07/11/2014			
APPROVED BY SBD	DESCRIPTION OUTLINE TCA/QCA - 160M - B3		
DATE 07/11/2014			
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0216000479	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.** TCE0151A2111GAA001

U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>A</sub> /I <sub>N</sub> [pu]	T <sub>A</sub> /T <sub>N</sub> [pu]	T <sub>K</sub> /T <sub>N</sub> [pu]
400	$\Delta$	50	15	20.0	26.7	2956	48.19	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	8.4	2.7	4.1

Motor type	TCE	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	160M	Motor weight - approx.	156 kg
Duty	S1	Gross weight - approx.	176 kg
Voltage variation *	± 10%	Motor inertia	0.0817 kgm <sup>2</sup>
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)	71 dB(A)
Service factor	1.0	No. of starts hot/cold/Equally spread	2/3/4
Insulation class	F	Starting method	DOL
Ambient temperature	-15 to +40 °C	Type of coupling	Direct
Temperature rise (by resistance)	70 [ Class B ] K	tE time	10 s
Altitude above sea level	1000 meter	Direction of rotation	Bi-directional
Hazardous area classification	Ex eb	Standard rotation	Clockwise form DE
Zone classification	Zone 2	Paint shade	RAL 7016
Gas group	IIC	Accessories	
Temperature class	T3	Accessory - 1	PTC 150°C
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 <sup>2</sup> /2 X M32 x 1.5
Type of grease	NA	Auxiliary terminal box	NA

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**

ATEX/IEC Ex certified as per IEC/EN 60079-0; IEC/EN 60079-7

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 Standards	Europe IEC:60034-30-1	China	India -	Aus/Nz -	Brazil -	Global IEC IEC:60034-30-1
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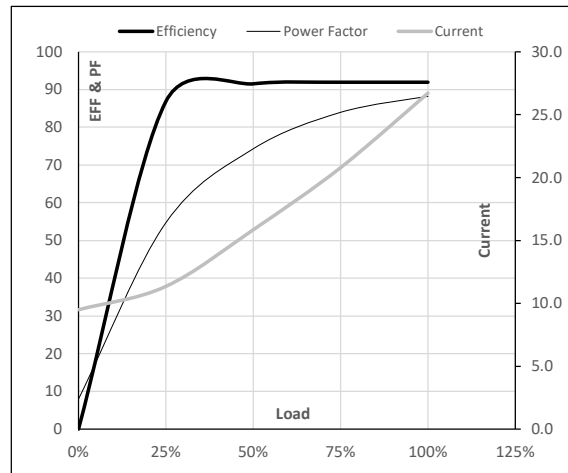
**Model No.** TCE0151A2111GAA001

Enclosure	U (V)	$\Delta$ / 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	400	$\Delta$	50	15	20	26.7	2956	4.91	48.19	IE3	40	S1	1000	0.0817	156

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	9.5	11.4	15.8	20.8	26.7	
Torque	Nm	0.0	16.2	32.4	48.8	48.2	
Speed	r/min	3000	2989	2978	2967	2956	
Efficiency	%	0.0	86.8	91.5	91.9	91.9	
Power Factor	%	8.0	54.7	74.3	83.9	88.2	

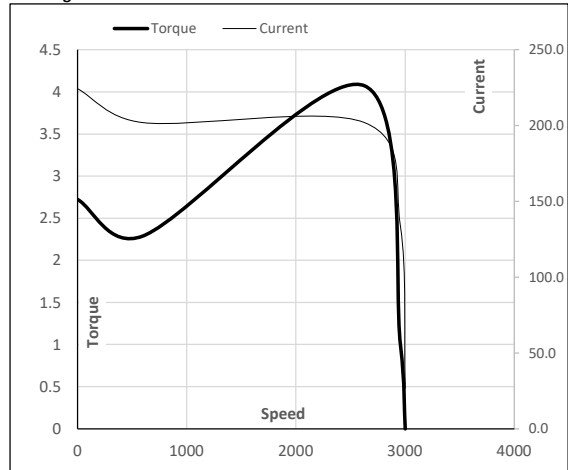
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2629	2956	3000
Current	A	224.3	201.9	133.5	26.7	9.5
Torque	pu	2.7	2.3	4.1	1	0

**Starting Characteristics Chart**



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

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