

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCE0221A2121GAA001

Catalog No: TCE0221A2121GAA001

TerraMAX® Increased Safety Motors Ex eb, Totally Enclosed Fan Cooled, 30 HP, 3 Ph, 50 Hz, 400 V,  
2963 RPM, 180M Frame



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**RegalRexnord**

### Nameplate Specifications

Output HP	30 Hp	Output KW	22.0 kW
Frequency	50 Hz	Voltage	400 V
Current	39.5 A	Speed	2963 rpm
Service Factor	1	Phase	3
Efficiency	92.7 %	Power Factor	0.87
Duty	S1	Insulation Class	F
Frame	180M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6311	Opp Drive End Bearing Size	6211
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	B5	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	712 mm	Frame Length	328 mm
Shaft Diameter	48.000 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0218000574

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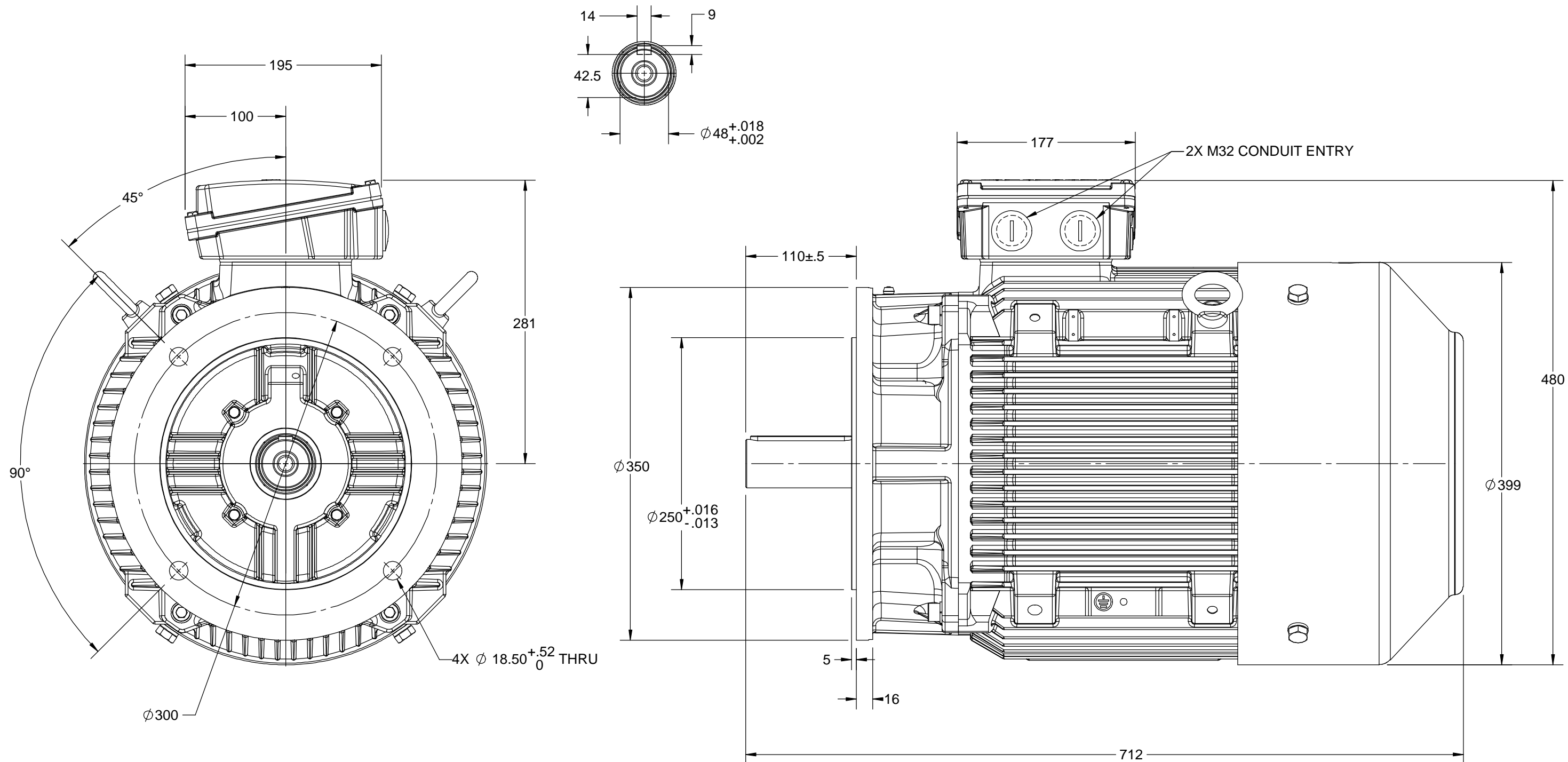
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DRAWING REVISION C	REVISION BY S.MUDDA	DATE 26/8/2020		DRAWN BY KCS	 Regal Beloit America, Inc.		
ECO ECO-0190270	APPROVED BY JAY	DATE 26/8/2020		DATE 19-03-2015	DESCRIPTION  OUTLINE 180M-2~8P-B5		
ECO DESCRIPTION CONFIGURATIONS ADDED IN THE 3D MODEL				APPROVED BY SBD			
				DATE 19-03-2015			
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				THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0218000574	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>		
	DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>		
	MATERIAL		PROCESS/FINISH
	SIZE <b>A</b>	DRAWING NUMBER <b>8442000085</b>	SHEET <b>1 OF 1</b>

**Model No.** TCE0221A2121GAA001

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 <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	Δ	50	22	30.0	39.5	2963	72.10	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.8	2.4	3.9

Motor type	TCE	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	180M	Motor weight - approx.	220 kg
Duty	S1	Gross weight - approx.	240 kg
Voltage variation *	± 10%	Motor inertia	0.1543 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)	72 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	15 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	6311-2Z / 6211-2Z	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	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	IEC:60034-30-1		-	-	-	IEC:60034-30-1

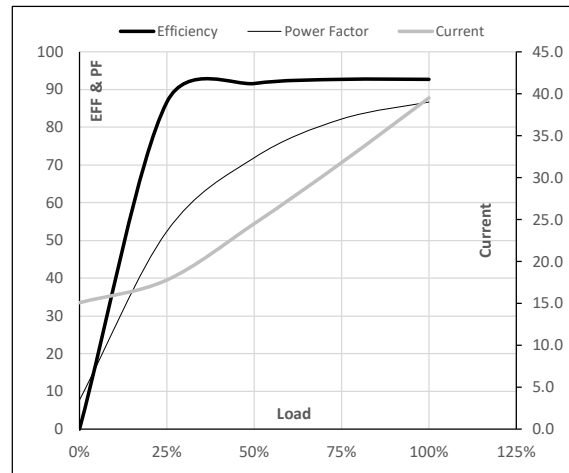
**Model No.** TCE0221A2121GAA001

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	22	30	39.5	2963	7.35	72.10	IE3	40	S1	1000	0.1543	220

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	15.1	17.8	24.5	31.8	39.5	
Torque	Nm	0.0	24.2	48.6	73.0	72.1	
Speed	r/min	3000	2991	2982	2973	2963	
Efficiency	%	0.0	86.7	91.6	92.7	92.7	
Power Factor	%	7.7	52.4	72.0	82.2	86.7	

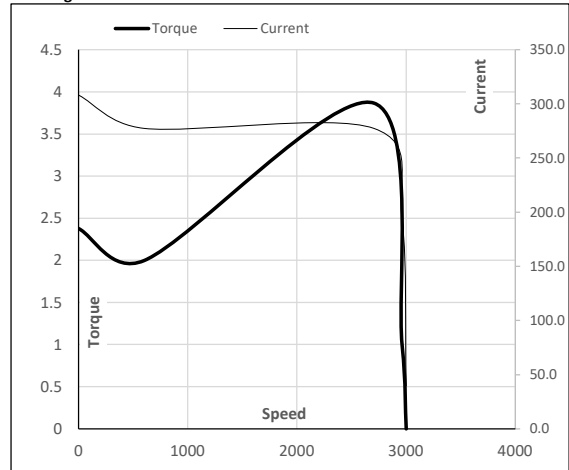
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2704	2963	3000
Current	A	308.2	277.4	192.5	39.5	15.1
Torque	pu	2.4	2.0	3.9	1	0

**Starting Characteristics Chart**



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

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