

# PRODUCT INFORMATION PACKET

Model No: TCA0303A1113GAC010

Catalog No: TCA0303A1113GAC010

TerraMAX® Cast Iron Motor, 40 HP, 3 Ph, 50 Hz, 400 V, 1000 RPM, 225M Frame, TEFC



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### Nameplate Specifications

Output HP	<b>40 Hp</b>	Output KW	<b>30.0 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>400 V</b>
Current	<b>56.2 A</b>	Speed	<b>987 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>92.9 %</b>	Power Factor	<b>0.83</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>225M</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No Protection</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6313</b>	Opp Drive End Bearing Size	<b>6213</b>
UL	<b>No</b>	CSA	<b>No</b>
CE	<b>Yes</b>	IP Code	<b>55</b>
Efficiency Class	<b>IE3</b>		

### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>6</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B3</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>C3</b>	Opp Drive End Bearing	<b>C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>862 mm</b>	Frame Length	<b>425 mm</b>
Shaft Diameter	<b>60 mm</b>	Shaft Extension	<b>140 mm</b>
Assembly/Box Mounting	<b>R Side</b>		
Outline Drawing	<b>0222500783</b>	Connection Drawing	<b>8442000085</b>

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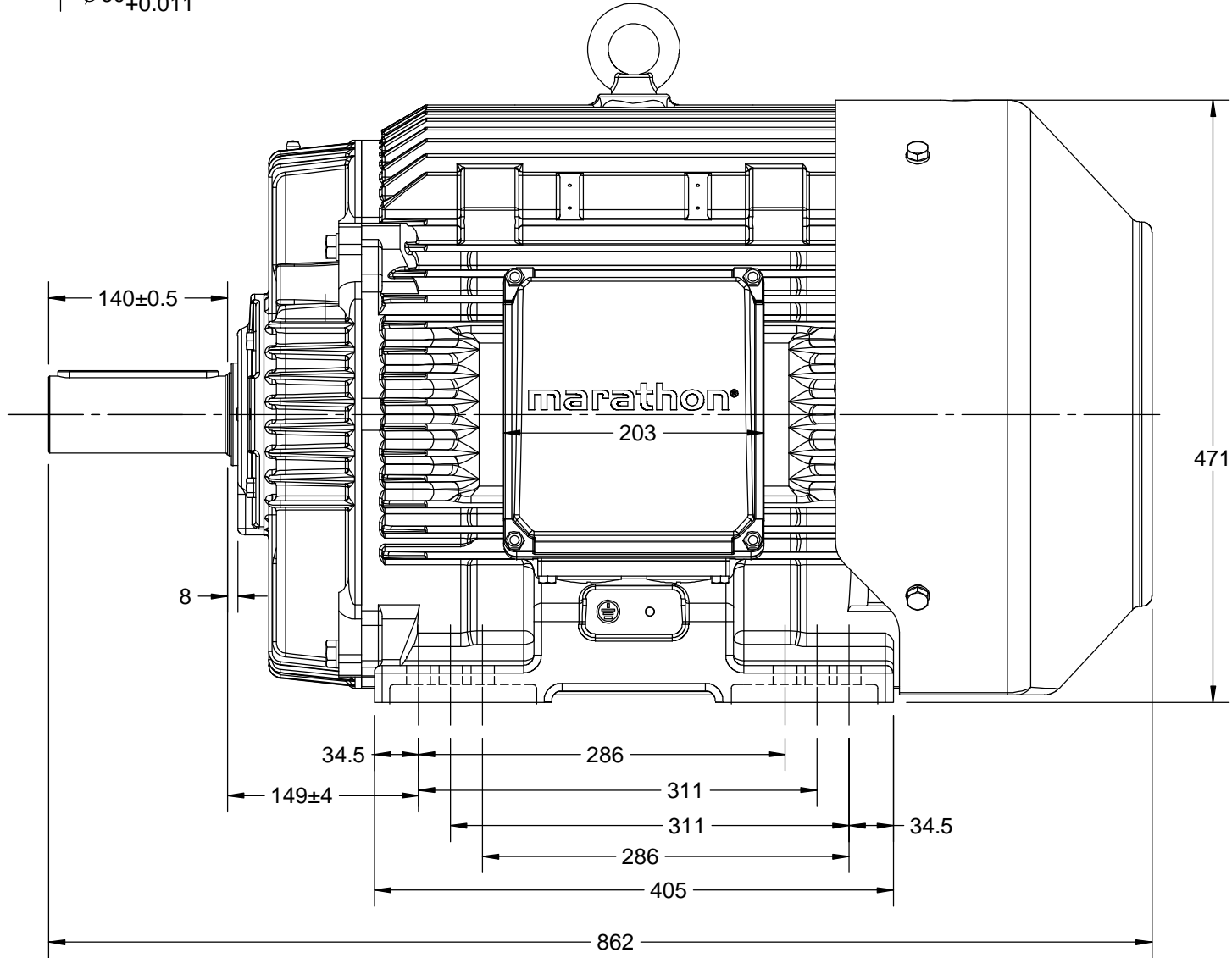
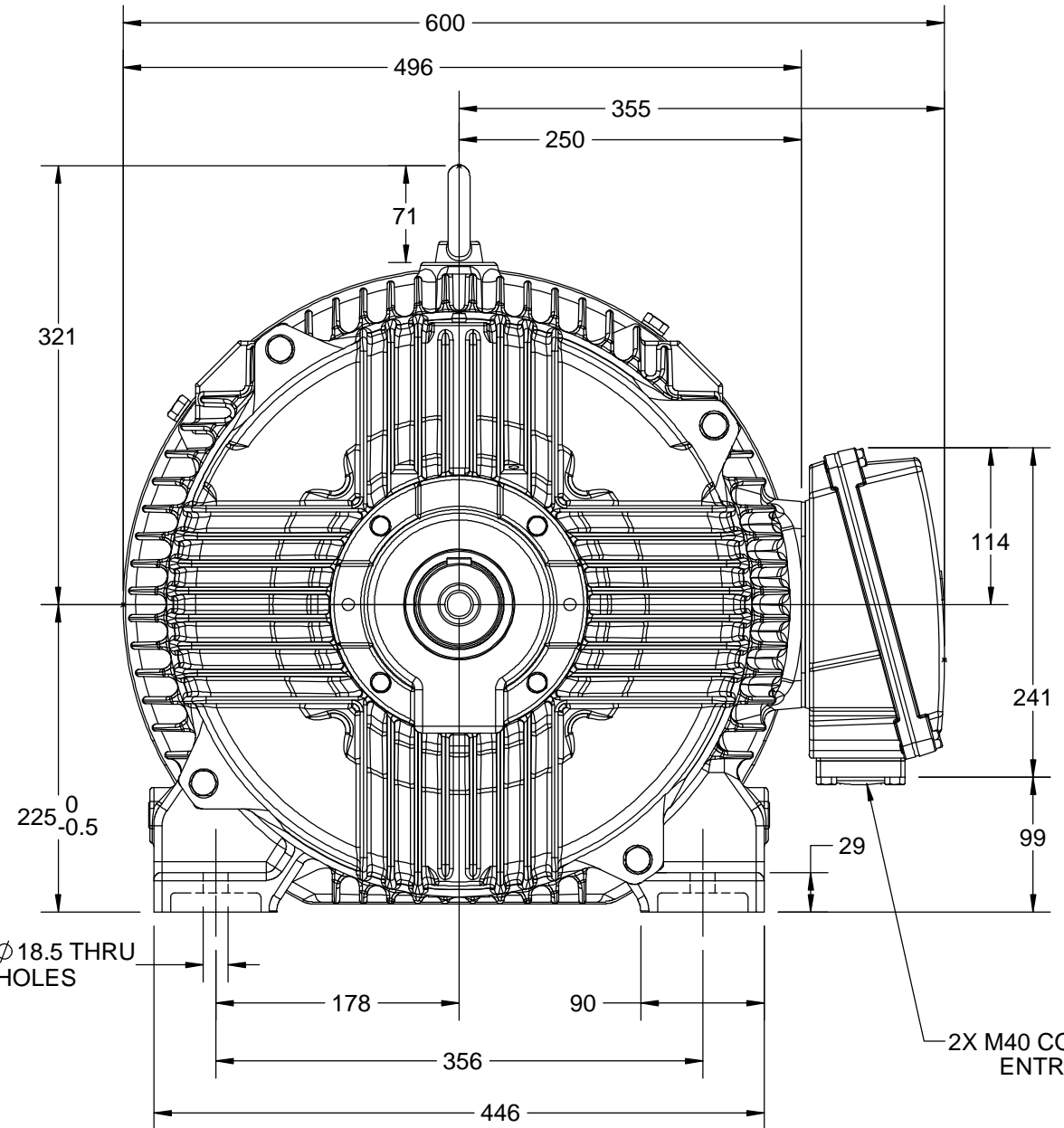
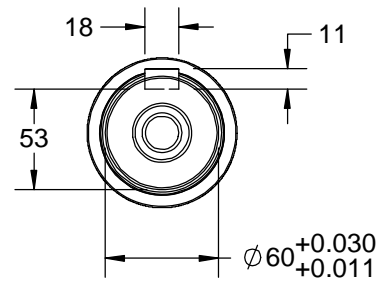
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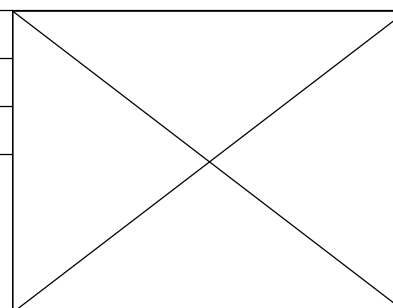
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DRAWING REVISION B	REVISION BY VS	DATE 09/08/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 09/08/2018
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DRAWN BY UDAY
DATE 16/08/2016
APPROVED BY SBD
DATE 16/08/2016
REFERENCE
THIRD ANGLE PROJECTION

<b>REGAL</b> ™ Regal Beloit America, Inc.	
DESCRIPTION <b>OUTLINE</b> 225M FR-4~8P-B3MTG TYPE:TCA/QCA RHS TB	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0222500783
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>	DATE <b>16/12/2016</b>		 <b>Regal Beloit America, Inc.</b>
	APPROVED BY <b>SBD</b>		
	DATE <b>16/12/2016</b>		DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>
	REFERENCE	MATERIAL	PROCESS/FINISH
	THIRD ANGLE PROJECTION 	SIZE <b>A</b>	DRAWING NUMBER <b>8442000085</b>



Model No. TCA0303A1113GAC010

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]	
									5/4FL	FL	3/4FL	1/2FL	FL	3/4FL				1/2FL
400	Δ	50	30	40	56.2	987	288.72	IE3	-	92.9	92.9	91.9	0.83	0.77	0.65	6.8	2.2	2.9

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	225M	Motor weight - approx.	377 kg
Duty	S1	Gross weight - approx.	407 kg
Voltage variation *	± 10%	Motor inertia	0.9206 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)	63 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 +40 °C	Type of coupling	Direct
Temperature rise (by resistance)	80 [ 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	PTC 150°C
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6313 C3 / 6213 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 50mm <sup>2</sup> /2 x M40 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	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**

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
	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30



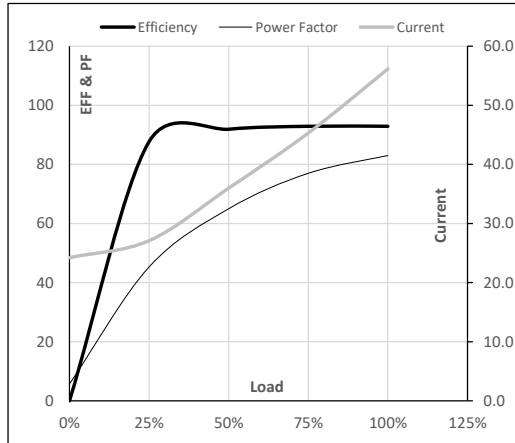
**Model No.** TCA0303A1113GAC010

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	400	Δ	50	30	40.0	56.2	987	29.44	288.72	IE3	40	S1	1000	0.9206	377

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	24.2	27.1	36.0	45.3	56.2	
Torque	Nm	0.0	71.5	143.4	215.8	288.7	
Speed	r/min	1000	997	994	990	987	
Efficiency	%	0.0	87.7	91.9	92.9	92.9	
Power Factor	%	5.7	45.3	65.0	77.0	83.0	

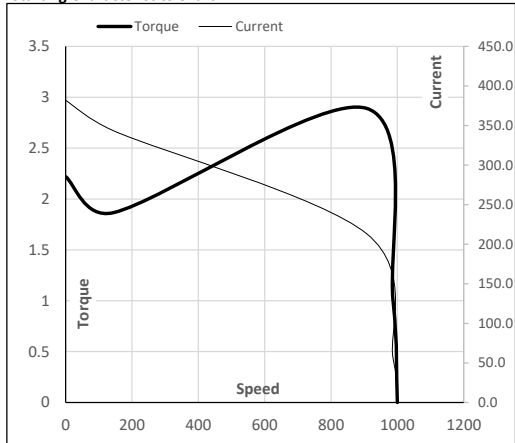
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	143	908	987	1000
Current	A	381.9	343.7	213.1	56.2	24.2
Torque	pu	2.2	1.9	2.9	1	0

**Starting Characteristics Chart**



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

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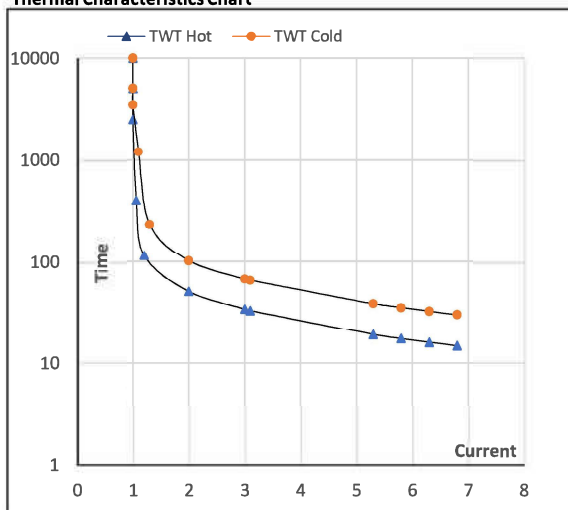
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Enclosure	U (V)	$\Delta / Y$ Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	400	$\Delta$	50	30	40.0	56.2	987	29.44	288.72	IE3	40	S1	1000	0.9206	377

**Motor Speed Torque Data**

Load	FL	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	LR
TWT Hot	s 10000	51	34	30	23	18	15
TWT Cold	s 10000	102	68	60	41	36	30
Current	pu 1	2	3	4	5	5.5	6.8

**Thermal Characteristics Chart**



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

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