

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA0303A1133GAC010

Catalog No: TCA0303A1133GAC010

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



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**RegalRexnord**

### Nameplate Specifications

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

### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	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	862 mm	Frame Length	425 mm
Shaft Diameter	60 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0222500784	Connection Drawing	8442000085

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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>		DESCRIPTION <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.** TCA0303A1133GAC010

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	30	40	56.2	987	288.72	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	6.8	2.2	2.9

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	225M	Motor weight - approx.	390 kg
Duty	S1	Gross weight - approx.	420 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

 $I_A/I_N$  - 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.

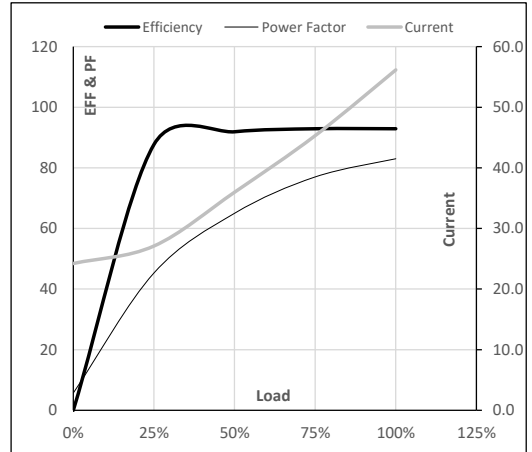
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

**Model No.** TCA0303A1133GAC010

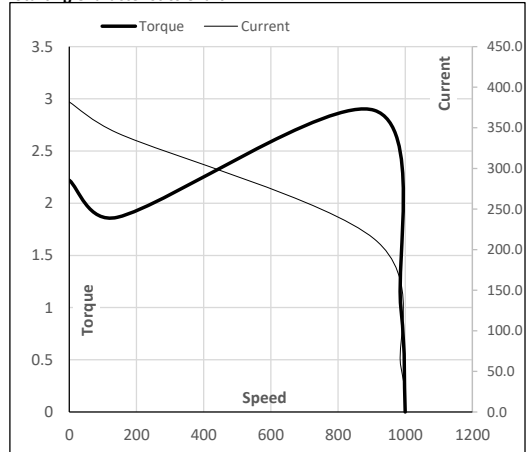
Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	400	$\Delta$	50	30	40.0	56.2	987	29.44	288.72	IE3	40	S1	1000	0.9206	390

**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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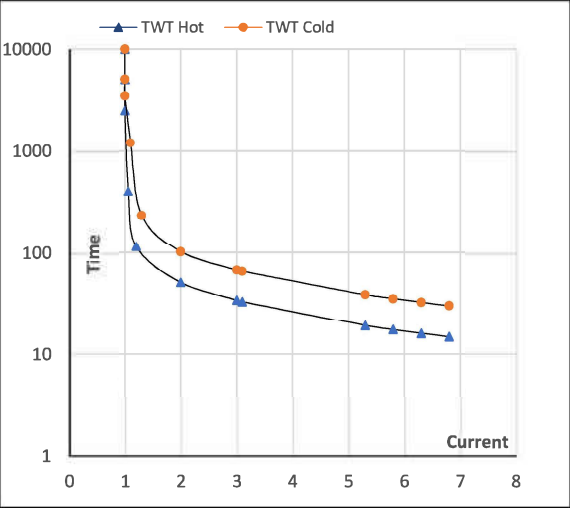
Model No. T CA0303A1133GA C010

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	390

Motor Speed Torque Data

Load	FL	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub>	I <sub>5</sub>	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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