

# PRODUCT INFORMATION PACKET

marathon®  
Motors

Model No: TCM1P14AZ113GAC011  
Catalog No: TCM1P14AZ113GAC011

TerraMAX® IE3, Mining Duty Motors, 1.1 kW, 3Ph, 8 Pole, 230/400V, B3, 50Hz, 100L Frame, TEFC



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RegalRexnord

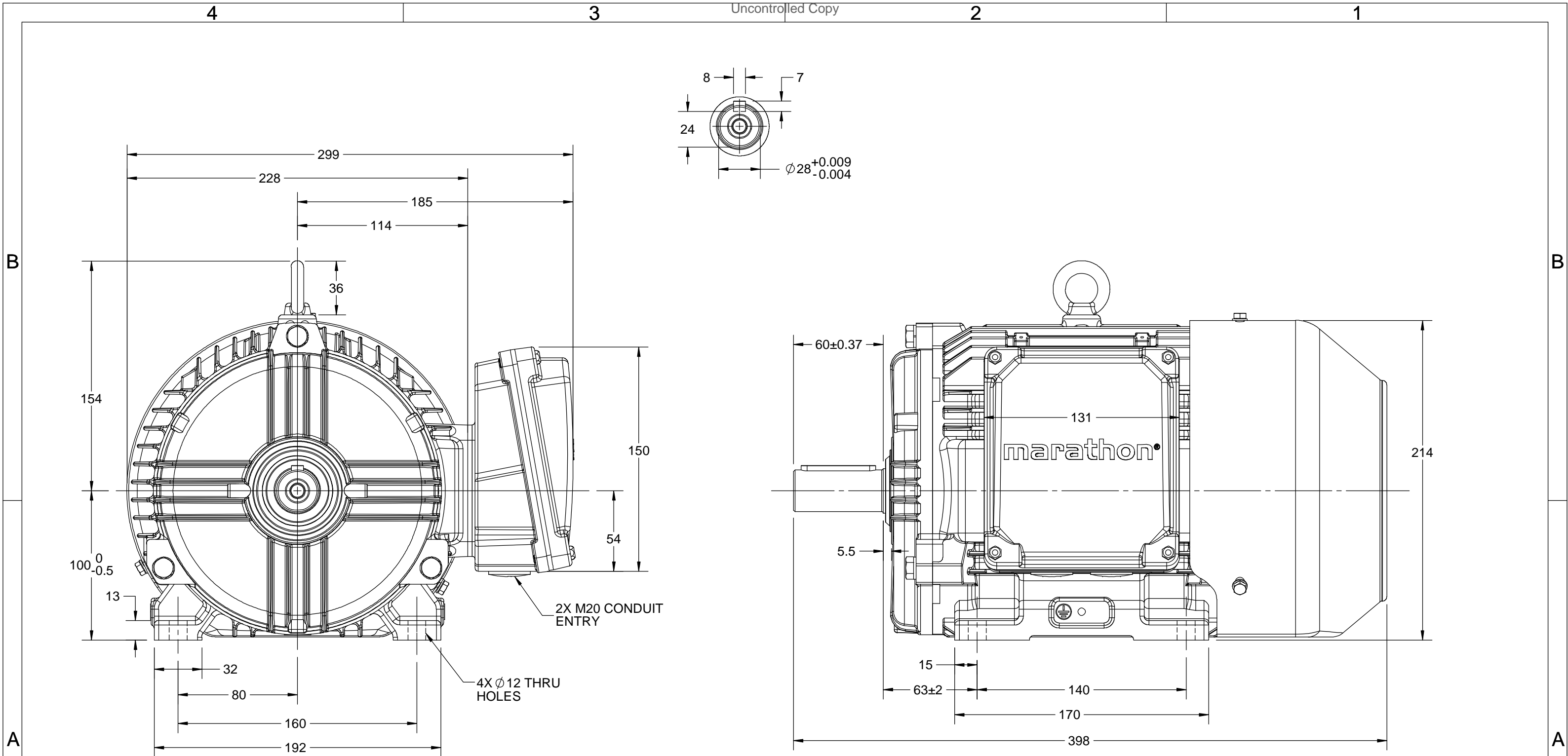
### Nameplate Specifications

Output HP	1.50 Hp	Output KW	1.1 kW
Frequency	50 Hz	Voltage	230/400 V
Current	3.0 A	Speed	721 rpm
Service Factor	1	Phase	3
Efficiency	77.7 %	Power Factor	0.67
Duty	S1	Insulation Class	H
Frame	100L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6206	Opp Drive End Bearing Size	6206
UL	NO	CSA	NO
CE	YES	IP Code	66
Number of Speeds	1	Efficiency Class	IE3



### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	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	398 mm	Frame Length	200 mm
Shaft Diameter	28 mm	Shaft Extension	60 mm
Assembly/Box Mounting	RHS		
Connection Drawing	8442000085	Outline Drawing	0210000472

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DRAWING REVISION B	REVISION BY LK	DATE 31/07/2018
ECO ECO-0149382	APPROVED BY SBD	DATE 31/07/2018
ECO DESCRIPTION MODEL UPDATED WITH NEW STRUCTURE		
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DRAWN BY LK			
DATE 18/12/2017			
APPROVED BY SBD	DESCRIPTION OUTLINE	100 FR.- B3 MTG. MOTOR TYPE: TCM	
DATE 18/12/2017	MATERIAL	PROCESS/FINISH	
REFERENCE	SIZE B	DRAWING NUMBER 0210000472	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>		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.** TCM1P14AZ113GAC011

U (V)	Δ / Y Conn	f [Hz]	P		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]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
400	Y	50	1.1	1.477	3.2	721	14.81	IE3	-	77.7	77.7	72.9	0.67	0.56	0.41	4.8	1.9	2.7

Motor type	TCM	Degree of protection	IP 66
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	100L	Motor weight - approx.	39 kg
Duty	S1	Gross weight - approx.	42 kg
Voltage variation *	± 10%	Motor inertia	0.0172 kgm <sup>2</sup>
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	1.6 mm/s
Design	N	Noise level ( 1meter distance from motor)	52 dB(A)
Service factor	1.15	No. of starts hot/cold/Equally spread	2/3/4
Insulation class	H	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)	20/40 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 2008
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	6206-2Z-C3 / 6206-2Z-C3	Terminal box position	RHS
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 16mm <sup>2</sup> /2 x M25 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**

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 slight variations between calculated values in this datasheet and the motor nameplate figures.

Efficiency Standards	Europe IEC:60034-30-1	China -	India -	Aus/Nz AS/NZ 1359:5:2004	Brazil -	Global IEC IEC:60034-30-1

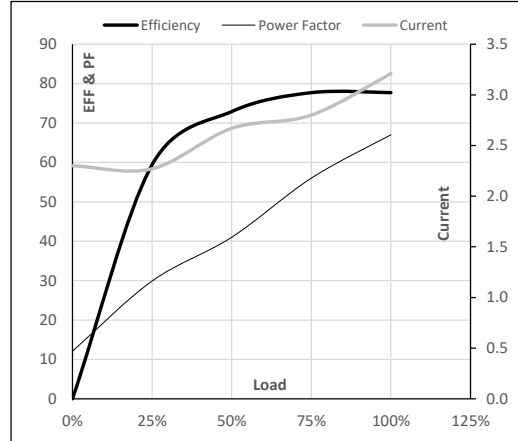
**Model No.** TCM1P14AZ113GAC011

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	Y	50	1.1	1.5	3.2	721	1.51	14.81	IE3	40	S1	1000	0.0172	39

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	2.3	2.3	2.7	2.8	3.2	
Torque	Nm	0.0	3.6	7.3	11.0	14.8	
Speed	r/min	750	743	737	729	721	
Efficiency	%	0.0	59.4	72.9	77.7	77.7	
Power Factor	%	12.1	29.9	41.0	56.0	67.0	

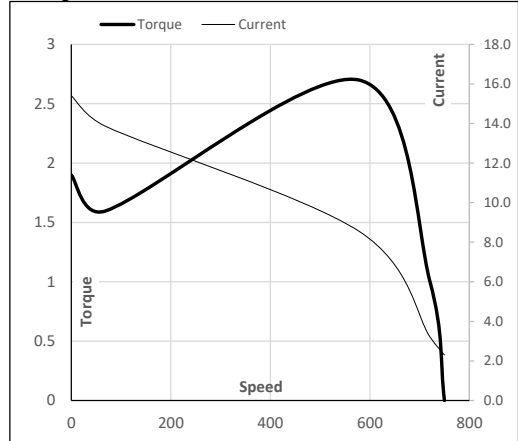
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	68	578	721	750
Current	A	15.4	13.9	8.6	3.2	2.3
Torque	pu	1.9	1.6	2.7	1	0

**Starting Characteristics Chart**



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

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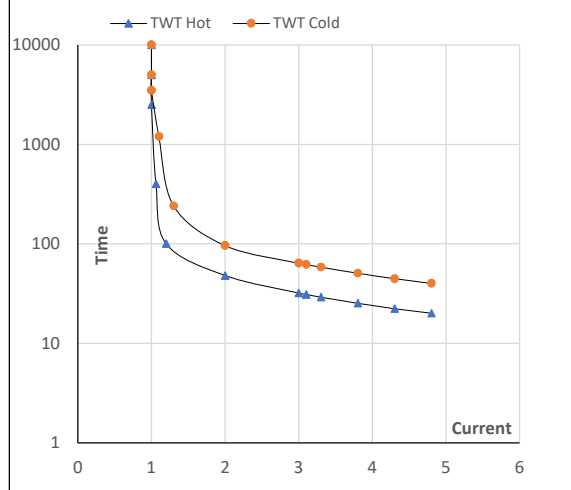
**Model No.** TCM1P14AZ113GAC011

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	Y	50	1.1	2	3.2	721	1.51	14.81	IE3	40	S1	1000	0.0172	39

**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	48	32	27	23	21	20	
TWT Cold	s 10000	96	64	55	47	42	40	
Current	pu	1	2	3	3.5	4	4.5	4.8

**Thermal Characteristics Chart**



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

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