

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA7P53A1111GAC010

Catalog No: TCA7P53A1111GAC010

TerraMAX® Cast Iron Motor, 10 HP, 3 Ph, 50 Hz, 400 V, 1000 RPM, 160M Frame, TEFC



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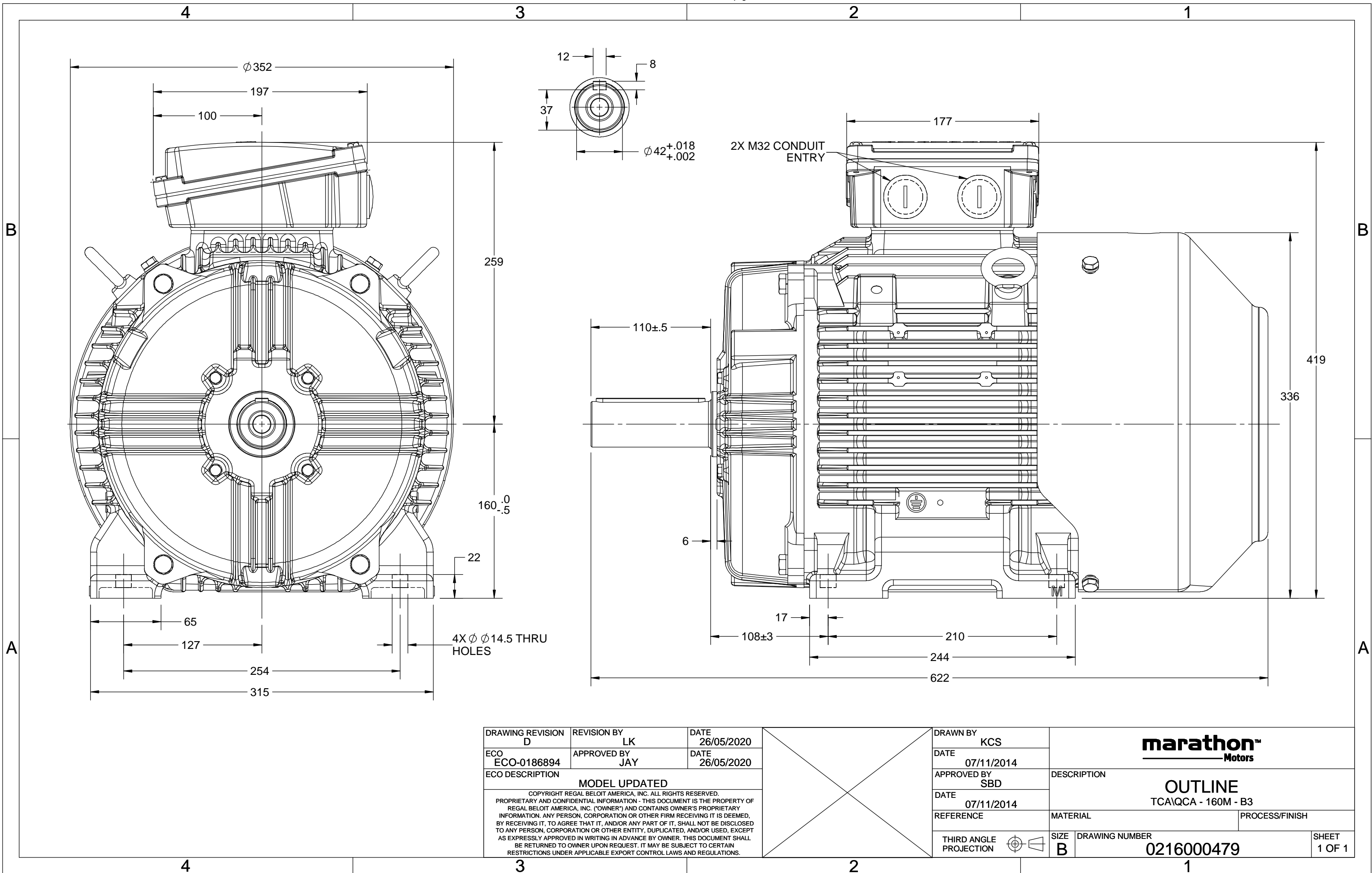
Nameplate Specifications

Output HP	10 Hp	Output KW	7.5 kW
Frequency	50 Hz	Voltage	400 V
Current	15.2 A	Speed	976 rpm
Service Factor	1	Phase	3
Efficiency	89.1 %	Power Factor	0.8
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	55
Efficiency Class	IE3		

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	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 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0216000479

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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	marathon™ Motors	
DATE 07/11/2014		
APPROVED BY SBD	DESCRIPTION OUTLINE TCA/QCA - 160M - B3	
DATE 07/11/2014	MATERIAL	
REFERENCE	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0216000479
		SHEET 1 OF 1

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ECO DESCRIPTION

GEOMETRIC TOLERANCE

LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



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 SN	 Regal Beloit America, Inc.		
	DATE 16/12/2016			
	APPROVED BY SBD	DESCRIPTION CONN DIAGRAM-NAMEPLATE		
	DATE 16/12/2016			
	REFERENCE	MATERIAL		PROCESS/FINISH
	THIRD ANGLE PROJECTION	SIZE A	DRAWING NUMBER 8442000085	

Model No. TCA7P53A1111GAC010

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 _A /I _N [pu]	T _A /T _N [pu]	T _K /T _N [pu]
400	Δ	50	7.5	10	15.2	976	72.98	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.3	1.8	2.4

Motor type	TCA	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.	135 kg
Duty	S1	Gross weight - approx.	155 kg
Voltage variation *	± 10%	Motor inertia	0.1355 kgm ²
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)	61 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	6309-2Z / 6209-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 35mm ² /2 X M32 x 1.5
Type of grease	NA	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.

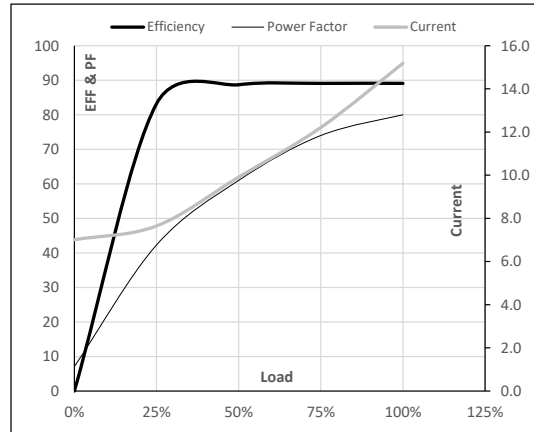
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

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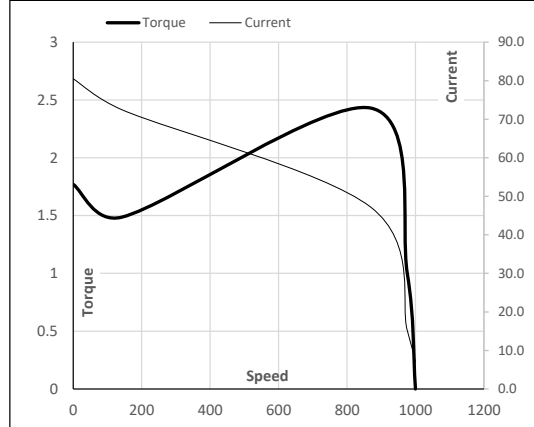
Enclosure	U (V)	Δ / Y Conn	f (Hz)	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	7.5	10.0	15.2	976	7.44	72.98	IE3	40	S1	1000	0.1355	135

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	7.0	7.7	9.9	12.2	15.2	
Torque	Nm	0.0	17.9	36.0	54.4	73.0	
Speed	r/min	1000	994	989	983	976	
Efficiency	%	0.0	83.2	88.7	89.1	89.1	
Power Factor	%	7.1	42.3	61.0	74.0	80.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	143	869	976	1000
Current	A	80.5	72.4	47.2	15.2	7.0
Torque	pu	1.8	1.5	2.4	1	0

Starting Characteristics Chart

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

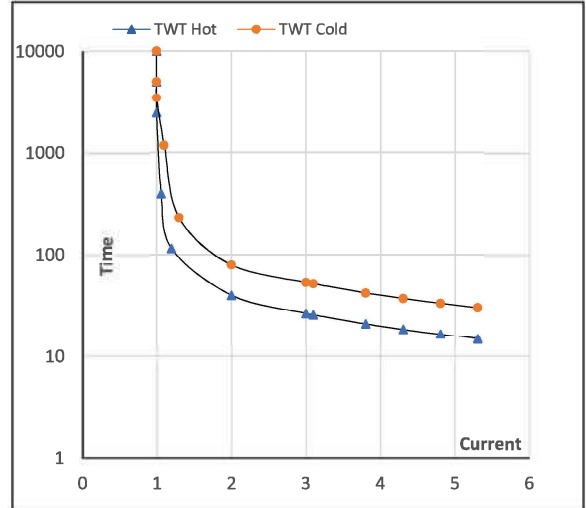
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	7.5	10.0	15.2	976	7.44	72.98	IE3	40	S1	1000	0.1355	135

Motor Speed Torque Data

Load	FL	I_1	I_2	I_3	I_4	I_5	LR	
TWT Hot	s 10000	40	27	19	17	16	15	
TWT Cold	s 10000	80	53	39	35	31	30	
Current	pu	1	2	3	4	4.5	5	5.3

Thermal Characteristics Chart

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

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