

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCN7P54A1113GAC010

Catalog No: TCN7P54A1113GAC010

TerraMAX® Cast Iron Motor, 10 HP, 3 Ph, 50 Hz, 400 V, 750 RPM, 160L Frame, TEFC



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RegalRexnord

Nameplate Specifications

Output HP	10 Hp	Output KW	7.5 kW
Frequency	50 Hz	Voltage	400 V
Current	17.2 A	Speed	728 rpm
Service Factor	1	Phase	3
Efficiency	87.3 %	Power Factor	0.72
Duty	S1	Insulation Class	F
Frame	160L	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
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	666 mm	Frame Length	298 mm
Shaft Diameter	42 mm	Shaft Extension	110 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0216000813	Connection Drawing	8442000085

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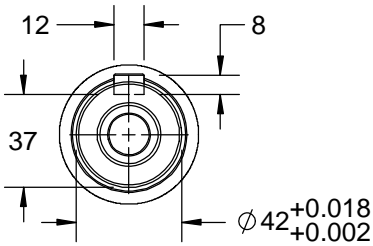
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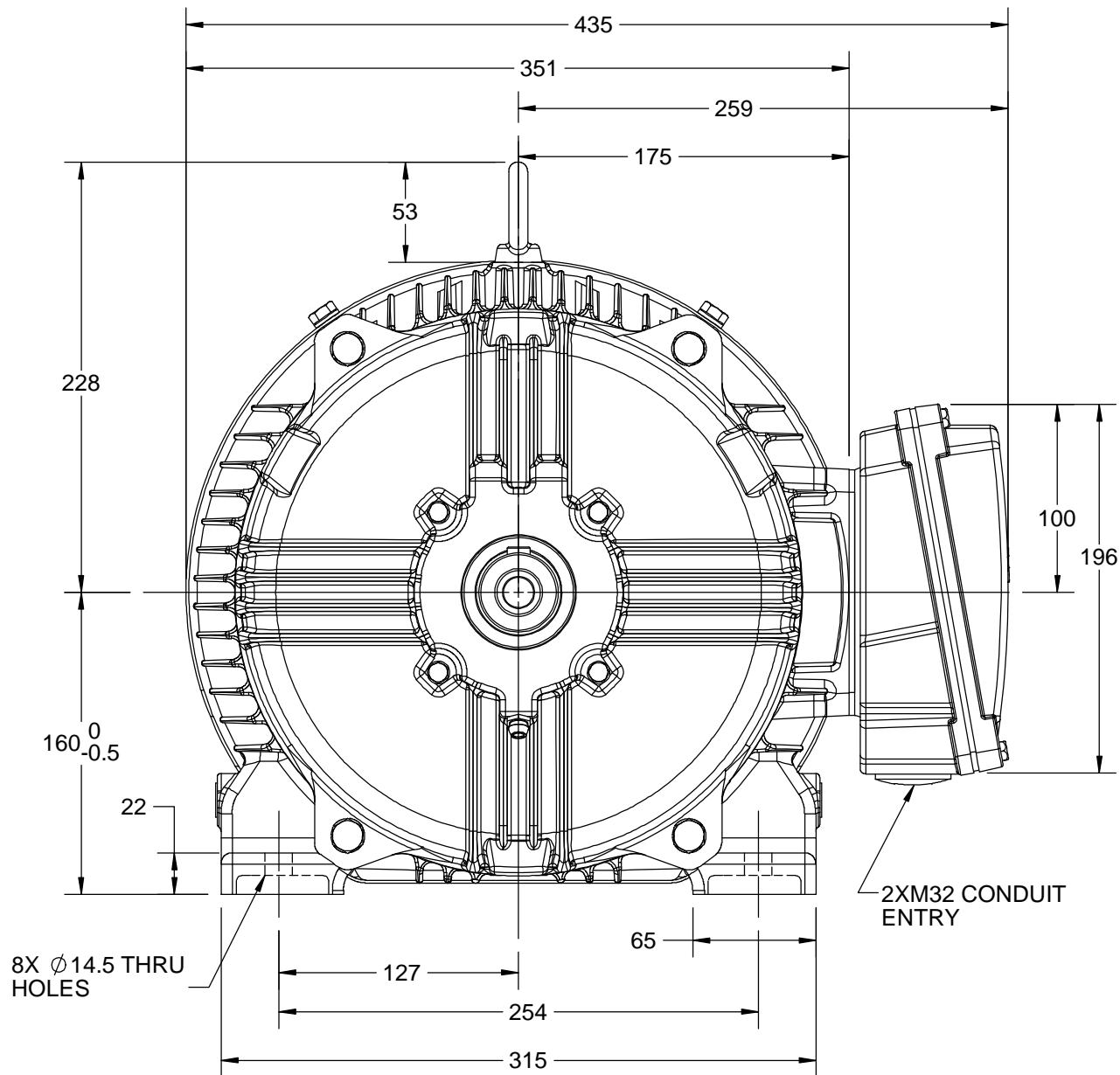
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OUTLINE



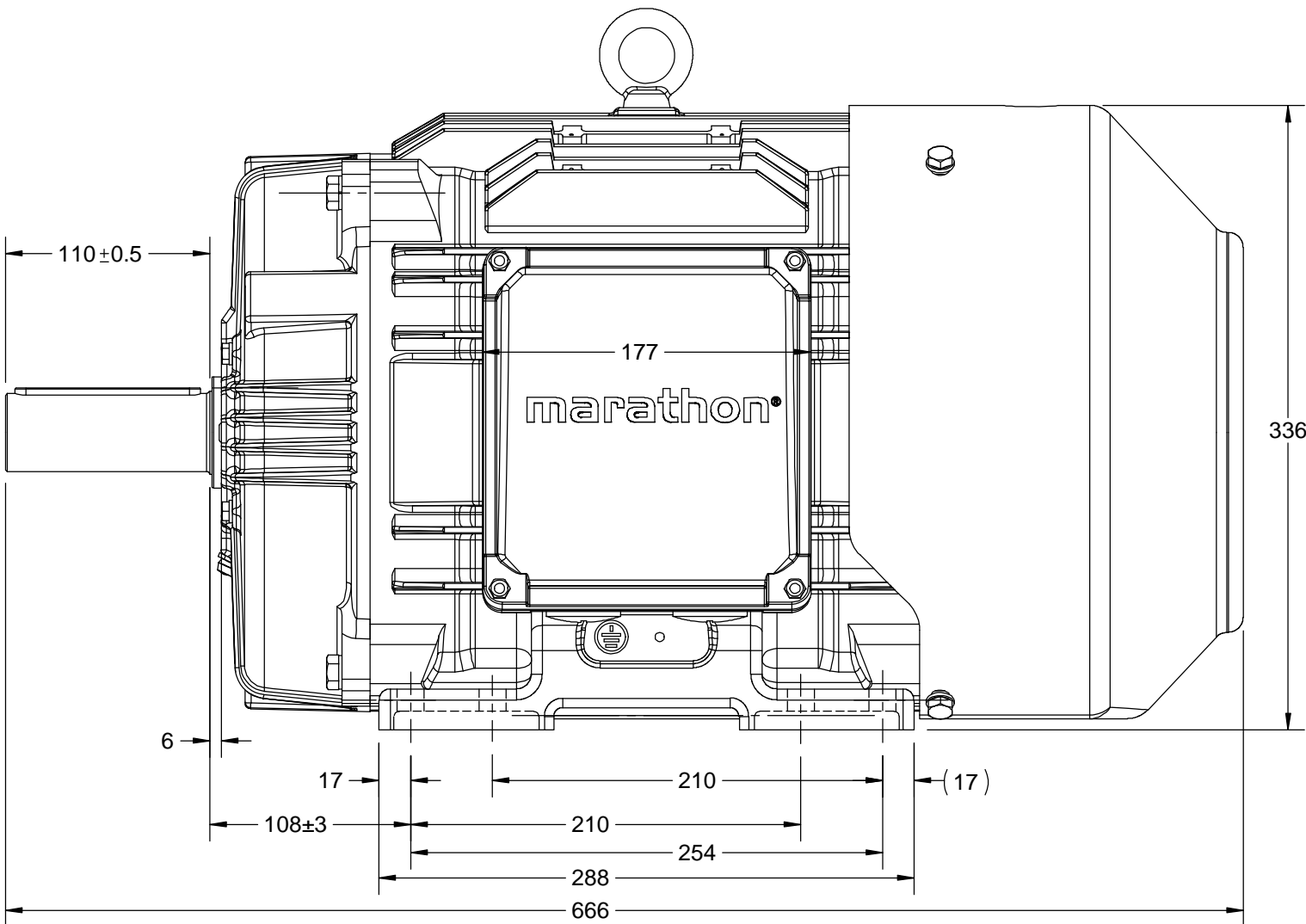
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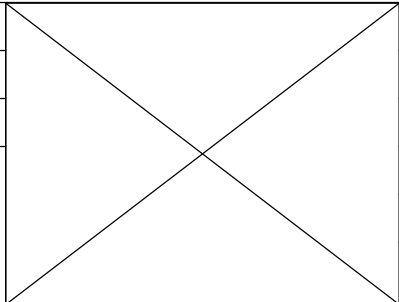


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DRAWING REVISION B	REVISION BY BISWA	DATE 27/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 27/07/2018
ECO DESCRIPTION		
DRAWING UPDATED		
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DRAWN BY SN	marathon™ Motors		
DATE 19/08/2016			
APPROVED BY SBD	DESCRIPTION OUTLINE		
DATE 19/08/2016	160LFR B3-MTG.TYPE: TCA/QCA-RHS TB		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0216000813	SHEET 1 OF 1

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3

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DRAWING REVISION A	REVISION BY SN	DATE 13/01/2017
ECO ECO-0116390	APPROVED BY SBD	DATE 13/01/2017
ECO DESCRIPTION NEW DRAWING RELEASE		

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 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

SHEET
1 OF 1

Model No. TCN7P54A1113GAC010

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]
									5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
400	Δ	50	7.5	10	17.2	728	97.97	IE3	-	87.3	87.3	87.8	0.72	0.65	0.52	5.4	1.8	2.3

Motor type	TCN	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	160L	Motor weight - approx.	173 kg
Duty	S1	Gross weight - approx.	193 kg
Voltage variation *	± 10%	Motor inertia	0.2040 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)	59 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)	25/50 s
Altitude above sea level	1000 meter	Direction of rotation	Bi-directional
Hazardous area classification	Ex nA	Standard rotation	Clockwise form DE
Zone classification	Zone 2	Paint shade	RAL 5014
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	6309-2Z / 6209-2Z	Terminal box position	RHS
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

ATEX/IEC Ex certified as per IEC/EN 60079-0; IEC/EN 60079-15

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	-	-	GEMS 2019	-	IEC:60034-30-1

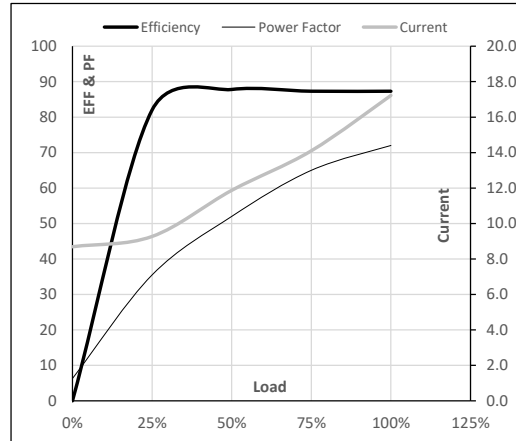
Model No. TCN7P54A1113GAC010

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	17.2	728	9.99	97.97	IE3	40	S1	1000	0.204	173

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	8.7	9.3	11.9	14.1	17.2	
Torque	Nm	0.0	24.0	48.2	72.9	98.0	
Speed	r/min	750	745	740	734	728	
Efficiency	%	0.0	82.0	87.8	87.3	87.3	
Power Factor	%	6.3	35.5	52.0	65.0	72.0	

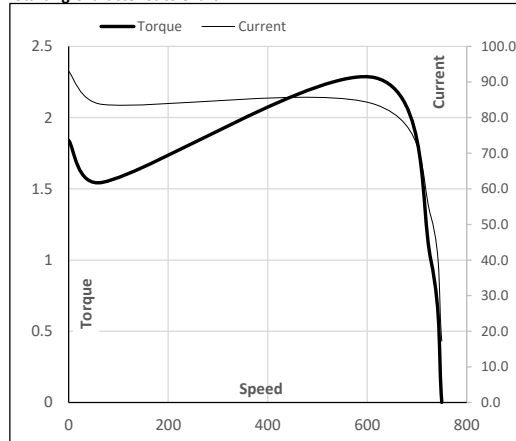
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	68	616	728	750
Current	A	93.0	83.7	52.3	17.2	8.7
Torque	pu	1.8	1.5	2.3	1	0

Starting Characteristics Chart



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

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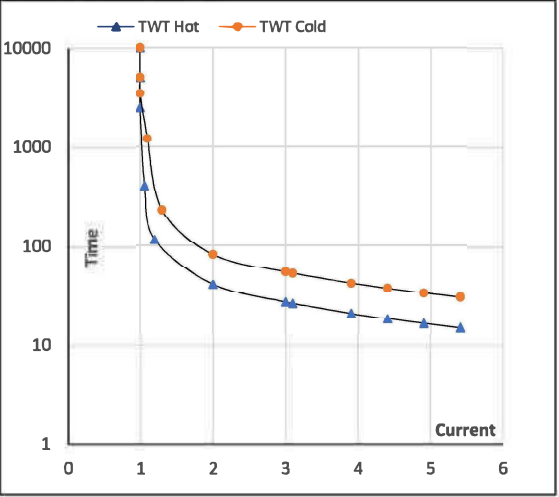
Model No. TCN7P54A1113GAC010

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	17.2	728	9.99	97.97	IE3	40	S1	1000	0.204	173

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s 10000	41	27	19	17	16	15
TWT Cold	s 10000	81	54	41	35	32	30
Current	pu 1	2	3	4	4.5	5	5.4

Thermal Characteristics Chart



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

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