

PRODUCT INFORMATION PACKET



Model No: TCN0222A1113GAC010

Catalog No: TCN0222A1113GAC010

TerraMAX® Cast Iron Motor, 30 HP, 3 Ph, 50 Hz, 400 V, 1500 RPM, 180L Frame, TEFC





Nameplate Specifications

Phase	3	Output HP	30 Hp
Output KW	22.0 kW	Voltage	400 V
Speed	1478 r/min	Service Factor	1
Frame	180L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	93 %
Ambient Temperature	40 °C	Frequency	50 Hz
Current	41.6 A	Power Factor	0.82
Duty	S1	Insulation Class	F
Drive End Bearing Size	6311	Opp Drive End Bearing Size	6211
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	4	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	750 mm	Frame Length	366 mm
Shaft Diameter	48 mm	Shaft Extension	110 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0218000764

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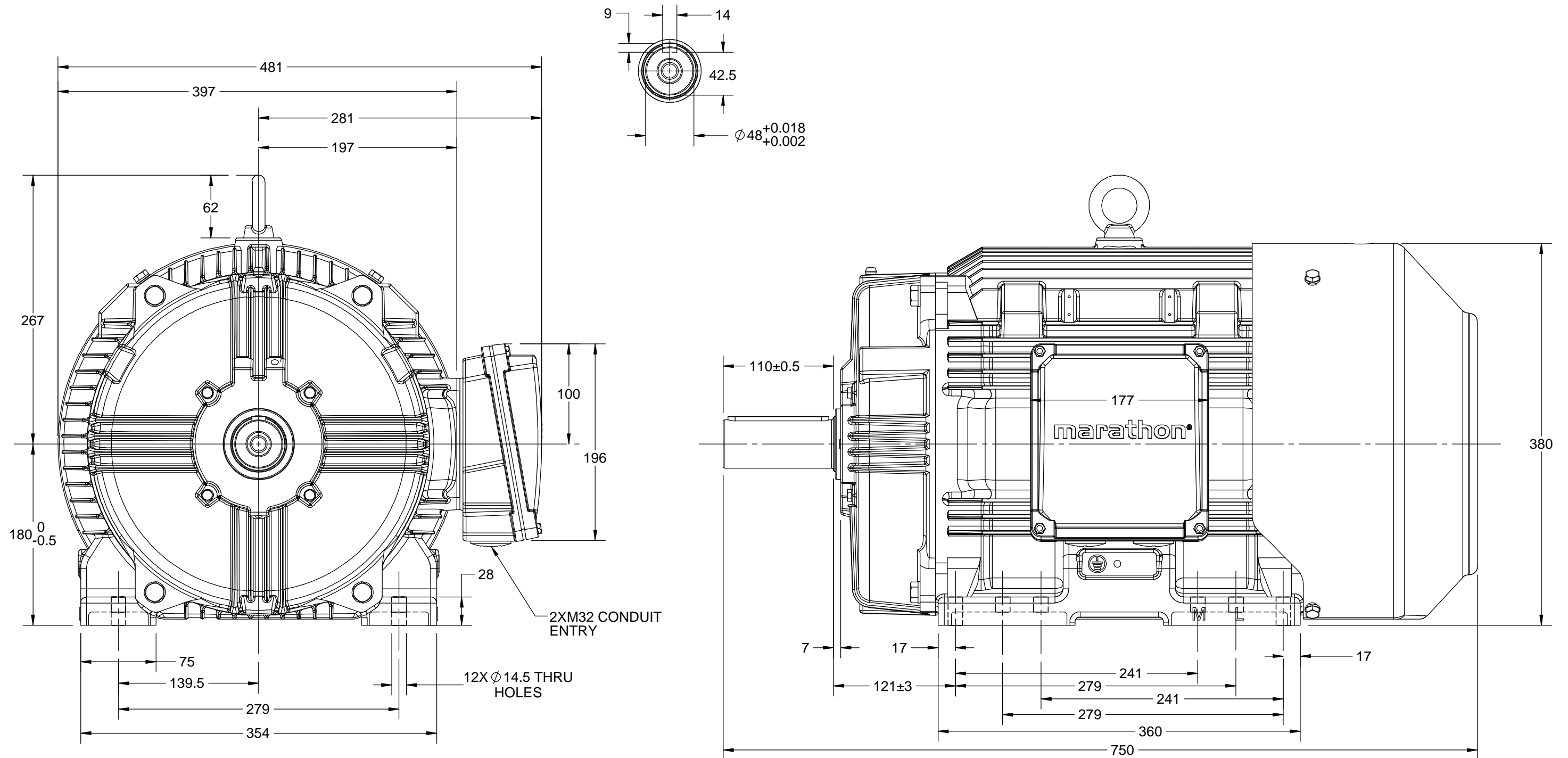
OUTLINE

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B

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A



DRAWING REVISION A	REVISION BY BISWA	DATE 05/07/2018		DRAWN BY BISWA			
ECO ECO-0148344	APPROVED BY SBD	DATE 05/07/2018		DATE 05/07/2018			
ECO DESCRIPTION NEW DRAWING RELEASE				APPROVED BY SBD	DESCRIPTION OUTLINE		
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				REFERENCE	MATERIAL	PROCESS/FINISH	
				THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0218000764	SHEET 1 OF 1

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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. TCN0222A1113GAC010

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	22	30	41.6	1478	144.6	IE3	-	93	93	92.5	0.82	0.76	0.63	7.5	2.7	3.5

Motor type	TCN	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	180L	Motor weight - approx.	237 kg
Duty	S1	Gross weight - approx.	257 kg
Voltage variation *	± 10%	Motor inertia	0.2415 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)	64 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)	12/25 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	6311-2Z / 6211-2Z	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.

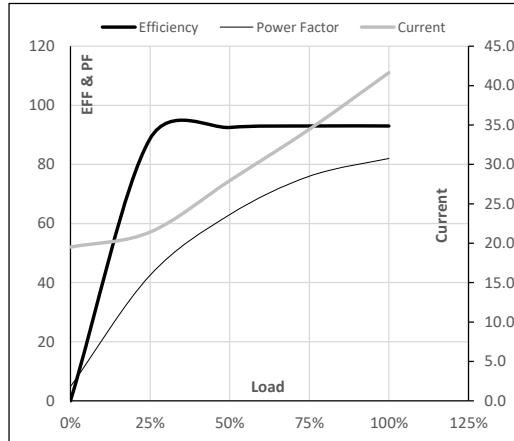
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	IEC 60034-30-1	-	-	GEMS 2019	-	IEC:60034-30-1

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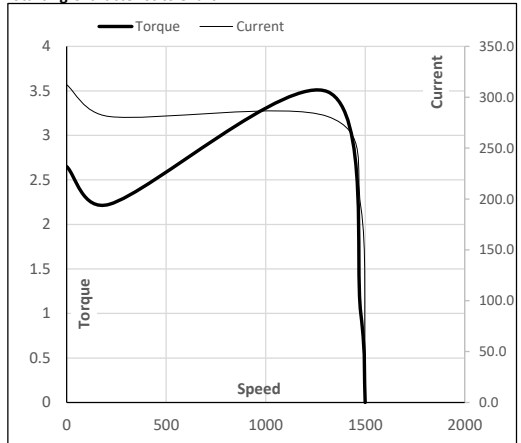
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	22	30	41.6	1478	14.74	144.60	IE3	40	S1	1000	0.2415	237

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	19.5	21.4	27.9	34.5	41.6	
Torque	Nm	0.0	35.7	71.7	108.0	144.6	
Speed	r/min	1500	1495	1489	1484	1478	
Efficiency	%	0.0	88.7	92.5	93.0	93.0	
Power Factor	%	4.8	42.5	63.0	76.0	82.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1312	1478	1500
Current	A	312.3	281.1	192.4	41.6	19.5
Torque	pu	2.7	2.2	3.5	1	0

Starting Characteristics Chart

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

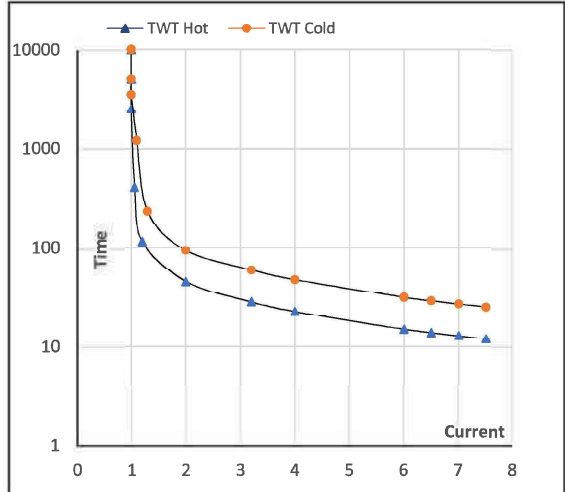
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	22	30.0	41.6	1478	14.74	144.60	IE3	40	S1	1000	0.2415	237

Motor Speed Torque Data

Load		FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s	10000	45	31	23	20	14	12
TWT Cold	s	10000	94	60	47	44	40	25
Current	pu	1	2	3	4	5	5.5	7.5

Thermal Characteristics Chart

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

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