

# PRODUCT INFORMATION PACKET



Model No: TCA0454A1133GAC010

Catalog No: TCA0454A1133GAC010

TerraMAX® Cast Iron Motor, 60 HP, 3 Ph, 50 Hz, 400 V, 750 RPM, 280M Frame, TEFC





## Nameplate Specifications

Phase	3	Output HP	60 Hp
Output KW	45.0 kW	Voltage	400 V
Speed	742 r/min	Service Factor	1
Frame	280M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	92.2 %
Ambient Temperature	40 °C	Frequency	50 Hz
Current	91.5 A	Power Factor	0.77
Duty	S1	Insulation Class	F
Drive End Bearing Size	6317	Opp Drive End Bearing Size	6317
UL	No	CSA	No
CE	Yes	IP Code	55
Efficiency Class	IE3		

## Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	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	1111 mm	Frame Length	600 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0228000973

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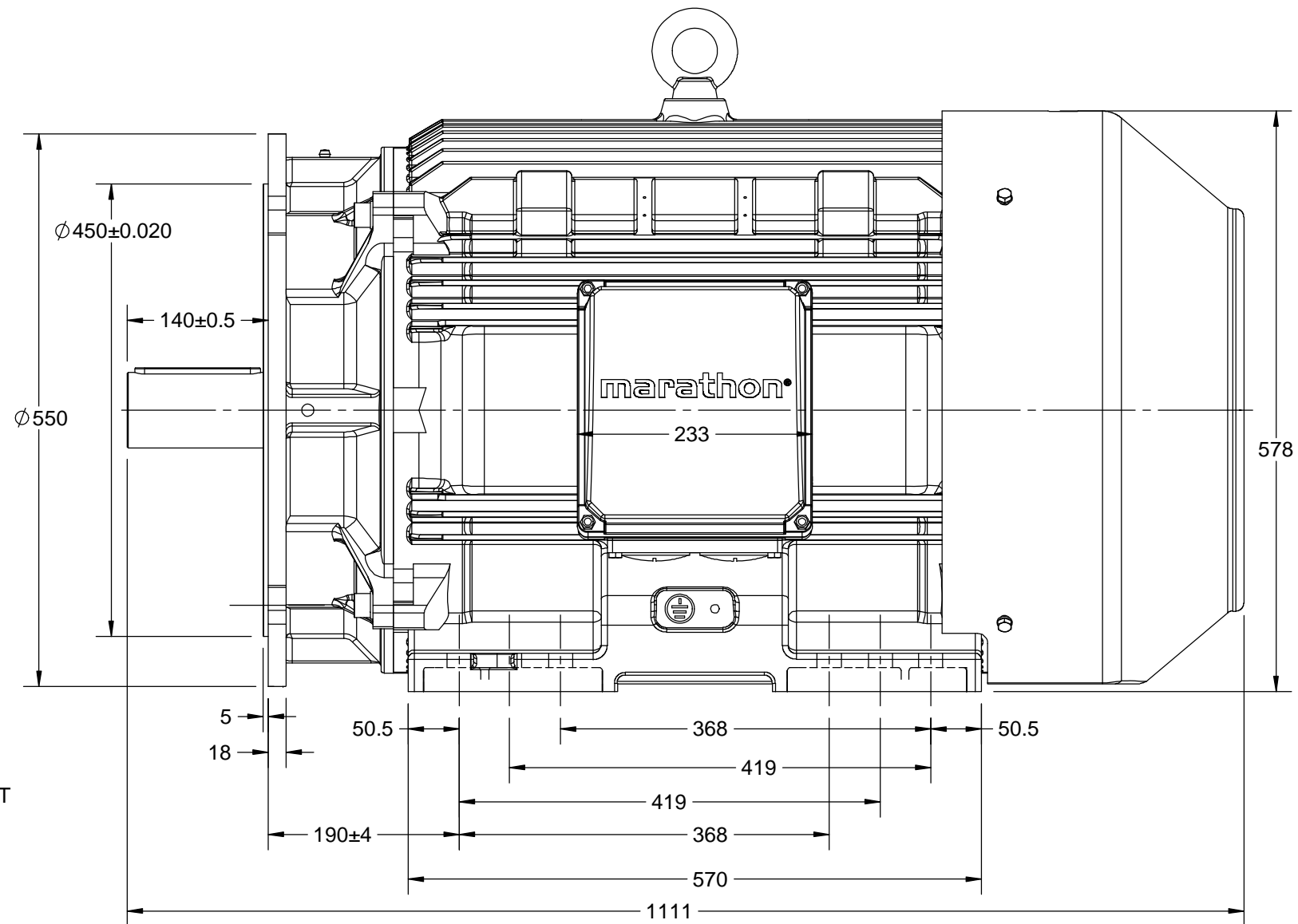
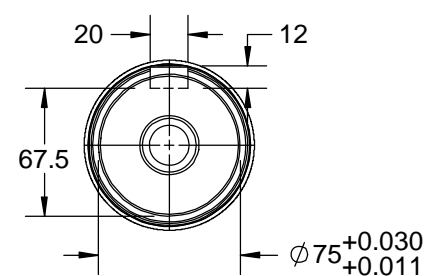
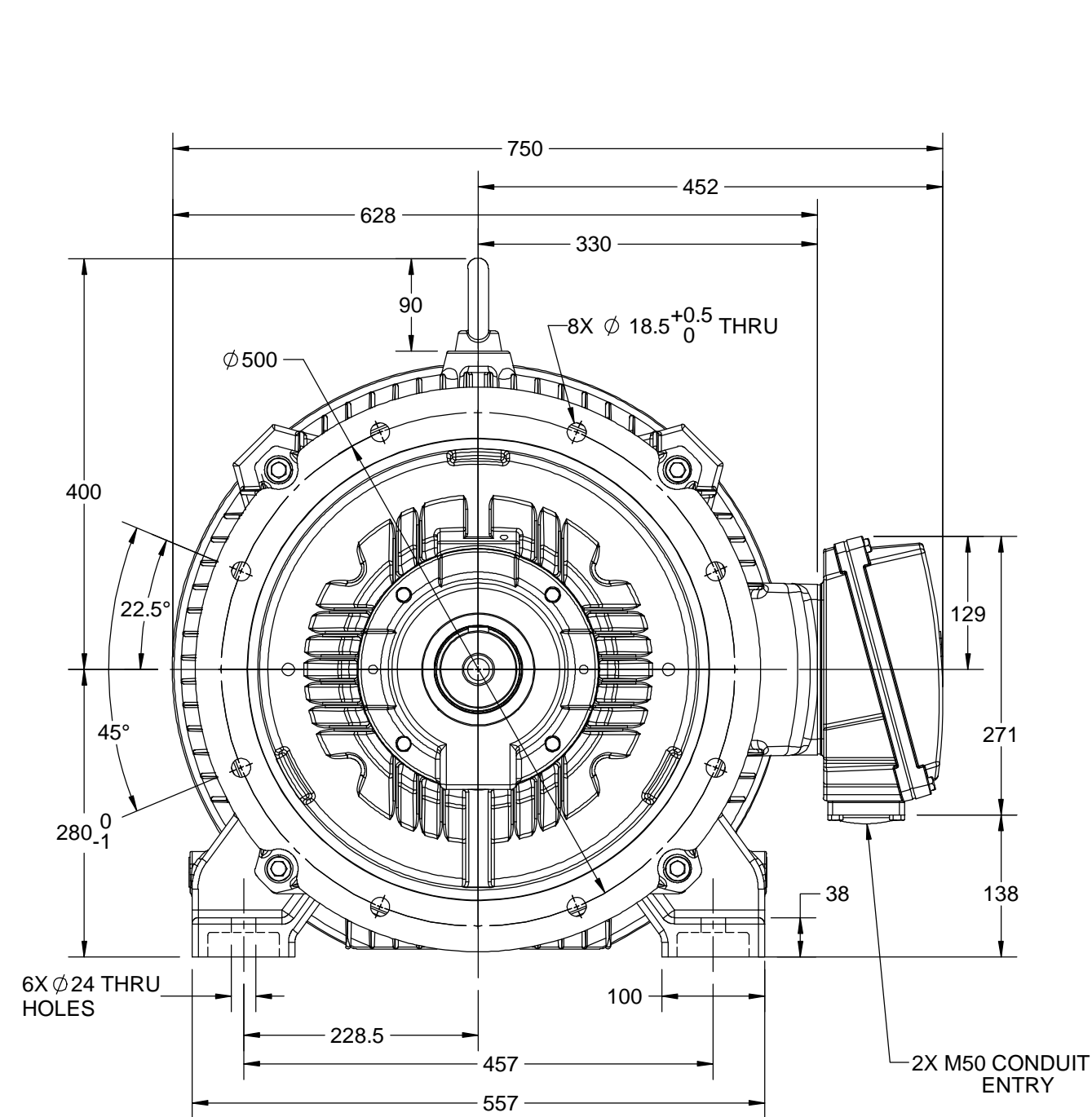
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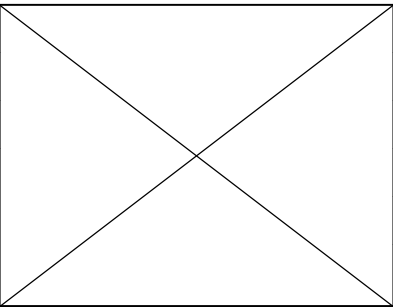
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DRAWING REVISION C	REVISION BY VS	DATE 20/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 20/07/2018
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY UDAY	<b>marathon™</b> Motors		
DATE 17/08/2016			
APPROVED BY SBD	DESCRIPTION <b>OUTLINE</b>		
DATE 17/08/2016	280M FR-B35- 4~8P MTG. TYPE: TCA/QCA-RHS TB		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0228000973	SHEET 1 OF 1

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DATE  
13/01/2017

ECO  
ECO-0116390

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SBD

DATE  
13/01/2017

ECO DESCRIPTION

NEW DRAWING RELEASE

GEOMETRIC TOLERANCE

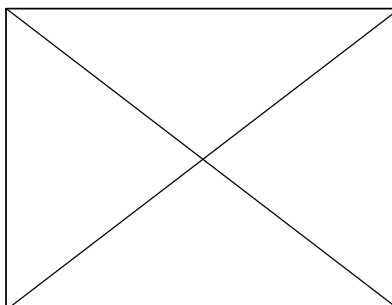
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



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  
DATE  
16/12/2016  
APPROVED BY  
SBD  
DATE  
16/12/2016  
REFERENCE  
THIRD ANGLE  
PROJECTION

REGAL<sup>TM</sup> Regal Beloit America, Inc.  
DESCRIPTION  
CONN DIAGRAM-NAMEPLATE  
MATERIAL  
PROCESS/FINISH  
SIZE  
A  
DRAWING NUMBER  
8442000085  
SHEET  
1 OF 1

**Model No.** TCA0454A1133GAC010

U (V)	$\Delta / Y$ 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	$\Delta$	50	45	60	91.5	742	576.18	IE3	-	92.2	92.2	92.6	0.77	0.72	0.6	5.9	2.1	2.4

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	280M	Motor weight - approx.	789 kg
Duty	S1	Gross weight - approx.	824 kg
Voltage variation *	± 10%	Motor inertia	3.5326 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)	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)	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	6317 C3 / 6317 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 95mm <sup>2</sup> /2 x M50 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.

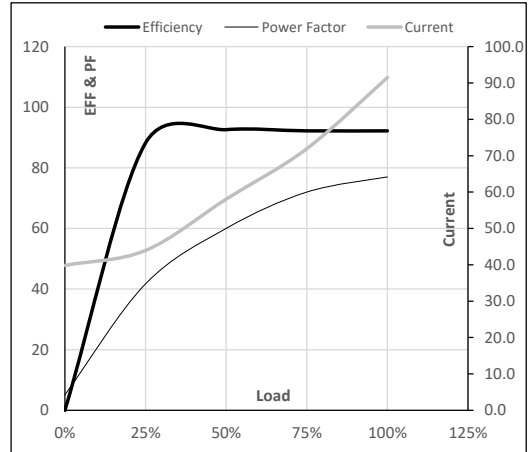
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

**Model No.** TCA0454A1133GAC010

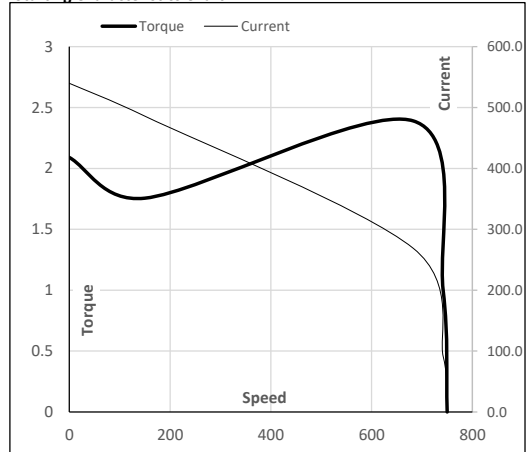
Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	400	$\Delta$	50	45	60.0	91.5	742	58.75	576.18	IE3	40	S1	1000	3.5326	789

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	39.8	44.0	58.1	71.9	91.5	
Torque	Nm	0.0	142.9	286.5	430.8	576.2	
Speed	r/min	750	748	746	744	742	
Efficiency	%	0.0	88.2	92.6	92.2	92.2	
Power Factor	%	5.1	41.7	60.0	72.0	77.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	150	683	742	750
Current	A	539.8	485.8	268.8	91.5	39.8
Torque	pu	2.1	1.8	2.4	1	0

**Starting Characteristics Chart**

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

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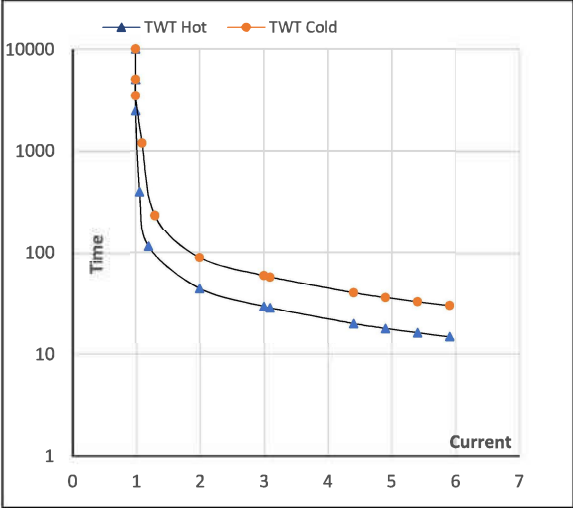
Model No. TCA0454A1133GAC010

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	45	60.0	91.5	742	58.75	576.18	IE3	40	S1	1000	3.5326	789

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	44	30	25	18	16	15	
TWT Cold	s 10000	89	59	46	36	32	30	
Current	pu	1	2	3	4	5	5.5	5.9

Thermal Characteristics Chart



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

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