

PRODUCT INFORMATION PACKET

Model No: TCA5P54A1141GAC010

Catalog No: TCA5P54A1141GAC010

TerraMAX® Cast Iron Motor, 7.50 HP, 3 Ph, 50 Hz, 400 V, 750 RPM, 160M Frame, TEFC



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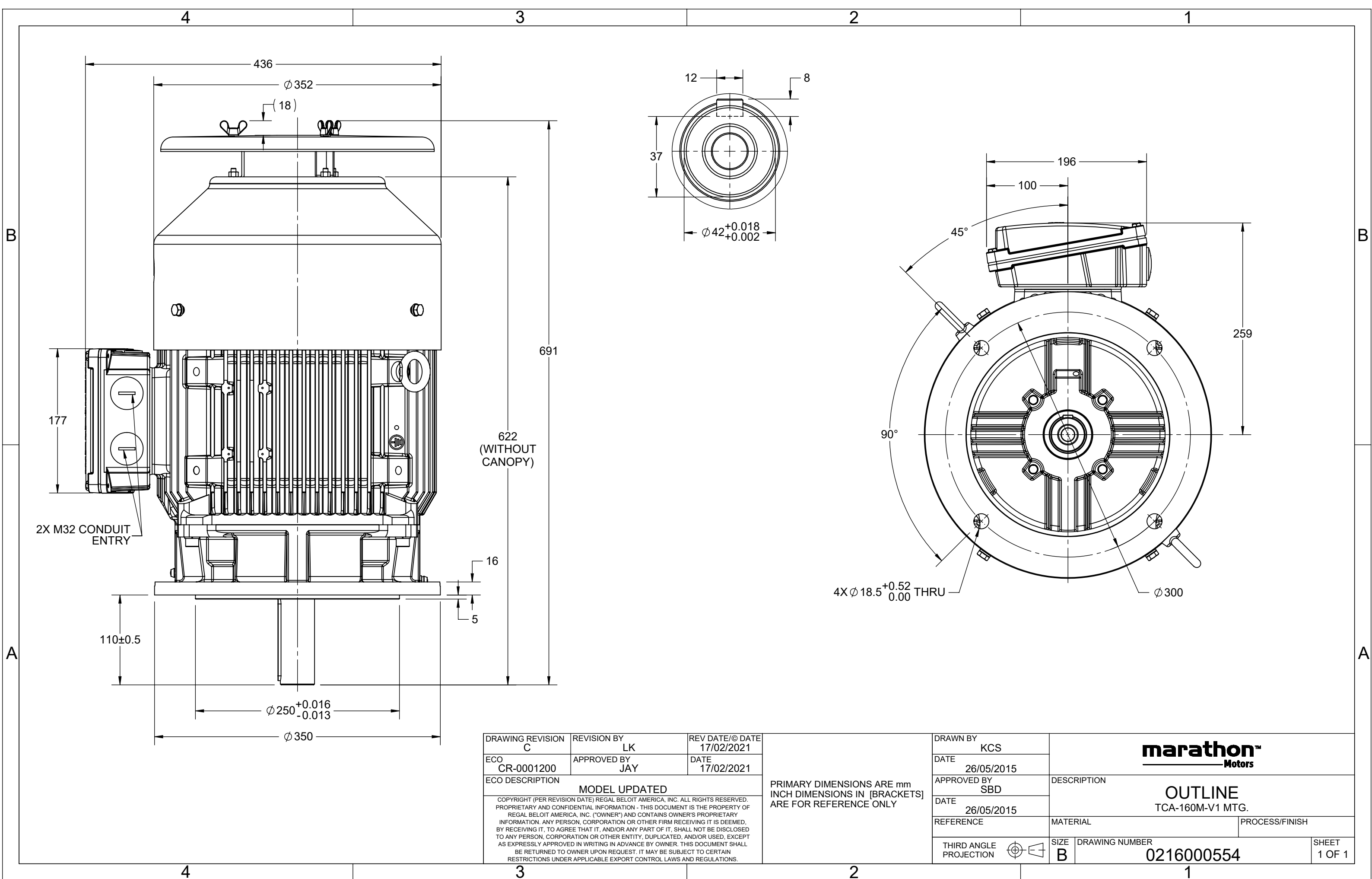
Nameplate Specifications

Output HP	7.50 Hp	Output KW	5.5 kW
Frequency	50 Hz	Voltage	400 V
Current	12.8 A	Speed	729 rpm
Service Factor	1	Phase	3
Efficiency	86.2 %	Power Factor	0.72
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
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	Rotation	Bi-Directional
Mounting	V1	Motor Orientation	Shaftdown
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	691 mm	Frame Length	254 mm
Shaft Diameter	42 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Outline Drawing	0216000554	Connection Drawing	8442000085

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DRAWING REVISION C	REVISION BY LK	REV DATE/© DATE 17/02/2021
ECO CR-0001200	APPROVED BY JAY	DATE 17/02/2021
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PRIMARY DIMENSIONS ARE mm
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DRAWN BY KCS	marathon™ Motors	
DATE 26/05/2015		
APPROVED BY SBD	DESCRIPTION OUTLINE TCA-160M-V1 MTG.	
DATE 26/05/2015	MATERIAL	PROCESS/FINISH
REFERENCE	SIZE B	DRAWING NUMBER 0216000554
THIRD ANGLE PROJECTION	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. TCA5P54A1141GAC010

U (V)	Δ / Y Conn	f [Hz]	P		I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load			PF at __ load			I _L /I _N [pu]	T _A /T _N [pu]	T _K /T _N [pu]	
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL				1/2FL
400	Δ	50	5.5	7.5	12.8	729	73.42	IE3	-	86.2	86.2	87	0.72	0.64	0.51	5.3	1.7	2.3

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM V1
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	160M	Motor weight - approx.	156 kg
Duty	S1	Gross weight - approx.	176 kg
Voltage variation *	± 10%	Motor inertia	0.1674 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)	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_L/I_N - Locked Rotor Current / Rated Current
T_A/T_N - Locked Rotor Torque / Rated Torque

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



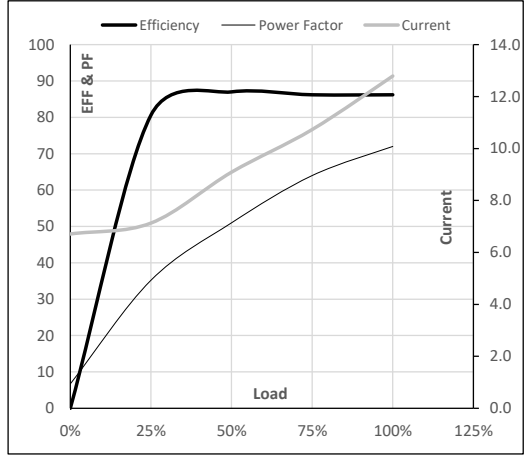
Model No. TCA5P54A1141GAC010

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	5.5	7.5	12.8	729	7.49	73.42	IE3	40	S1	1000	0.1674	156

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	6.7	7.1	9.1	10.7	12.8	
Torque	Nm	0.0	18.0	36.1	54.6	73.4	
Speed	r/min	750	745	740	735	729	
Efficiency	%	0.0	80.6	87.0	86.2	86.2	
Power Factor	%	6.7	35.2	51.0	64.0	72.0	

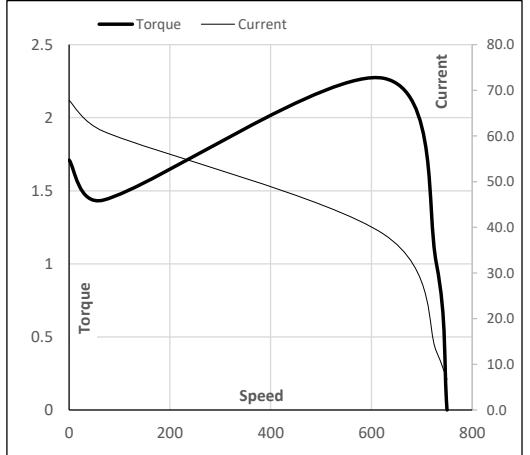
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	68	624	729	750
Current	A	67.8	61.0	38.5	12.8	6.7
Torque	pu	1.7	1.4	2.3	1	0

Starting Characteristics Chart



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

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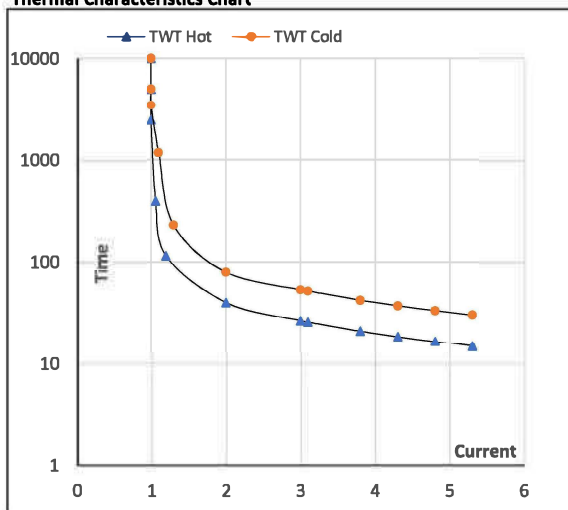
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	5.5	7.5	12.8	729	7.49	73.42	IE3	40	S1	1000	0.1674	149

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	32	30
Current	pu	1	2	3	4	4.5	5

Thermal Characteristics Chart



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

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