

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA7P54A3111GACD01

Catalog No: TCA7P54A3111GACD01

7.5 kW General Purpose Low Voltage IEC Motor, 3 phase, 750 RPM, 415 V, 160L Frame, TEFC
Cast Iron IE3 Efficiency Motors



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REGAL

Nameplate Specifications

Output HP	10 Hp	Output KW	7.5 kW
Frequency	50 Hz	Voltage	415 V
Current	16.6 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
Ambient Temperature	50 °C	Drive End Bearing Size	6309
Opp Drive End Bearing Size	6209	UL	No
CSA	No	CE	Yes
IP Code	55		

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	Top		
Outline Drawing	0216000441	Connection Drawing	8442000085

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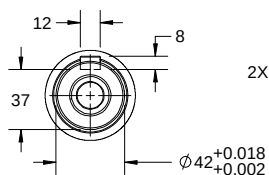
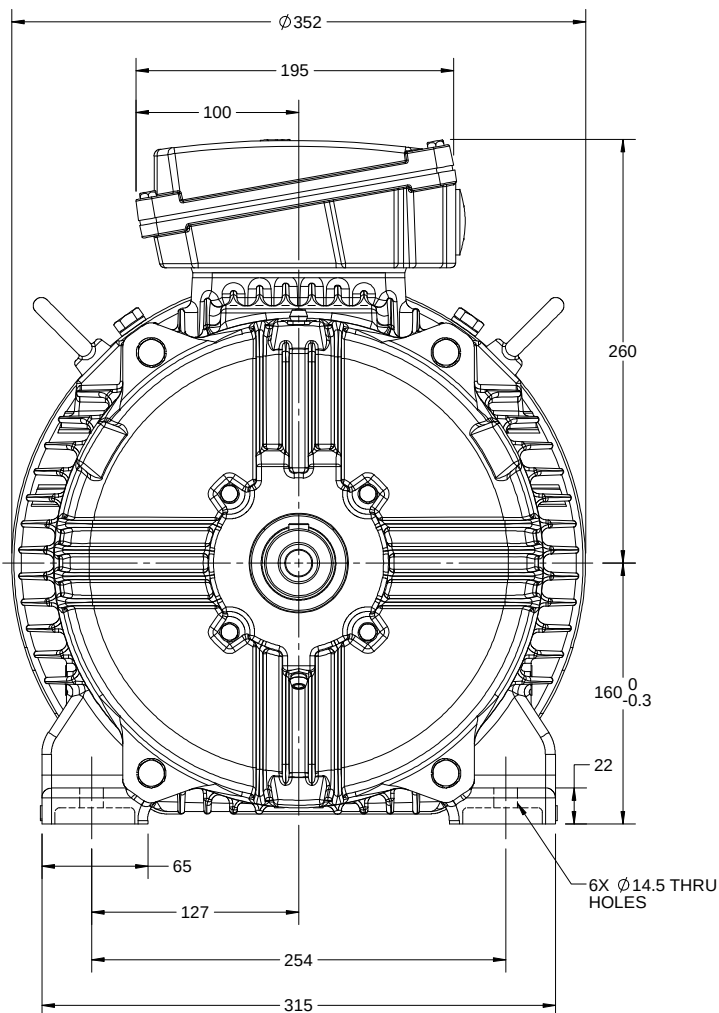
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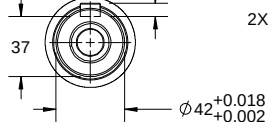
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A

A



2X M32 CONDUIT ENTRY



110±0.5

6

22

108±3

210

254

288

666

336

420

DRAWING REVISION C	REVISION BY A. KEETHA	DATE 09/07/2018
ECO ECO-0147359	APPROVED BY JAY	DATE 09/07/2018
ECO DESCRIPTION OUTLINE UPDATED AS PER NEW 3D STRUCTURING		
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DRAWN BY SDV
DATE 11/04/2014
APPROVED BY SBD
DATE 11/04/2014
REFERENCE

THIRD ANGLE
PROJECTION

DESCRIPTION OUTLINE 160FR B3-MTG MOTOR TYPE TCA/QCA	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0216000441
SHEET 1 OF 1	

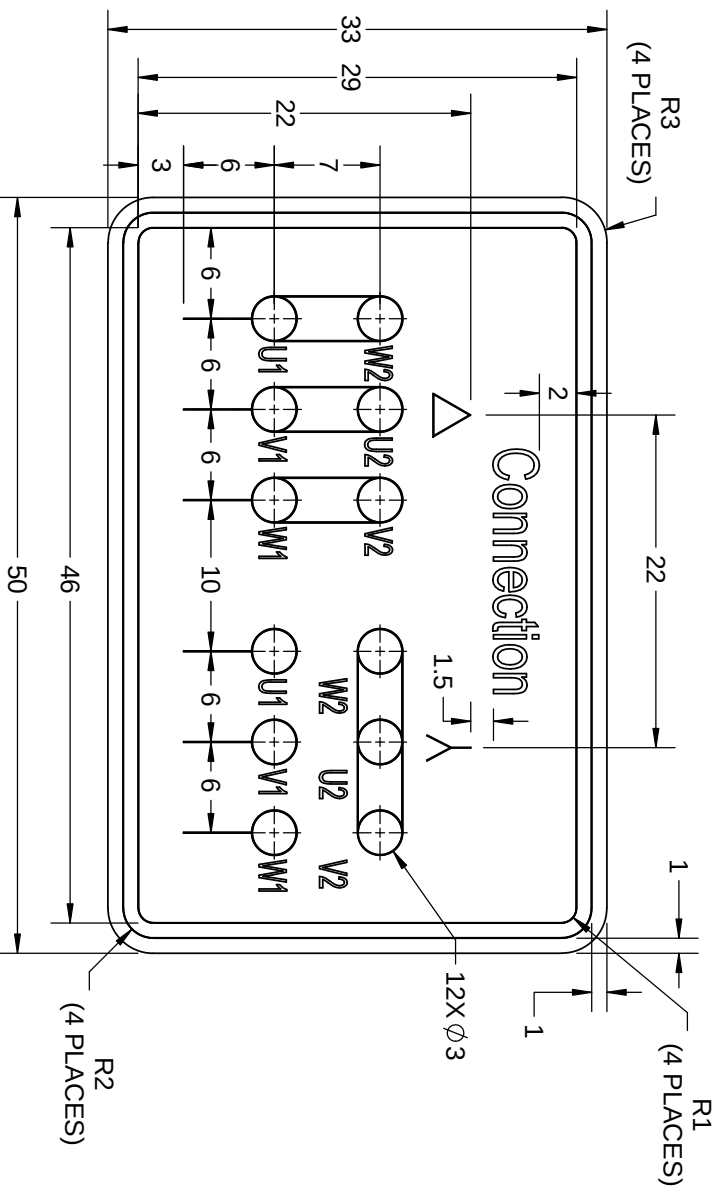
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1

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. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
 2. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.
 - 3.

Regal Beloit America, Inc.

			DRAWN BY		SN	
			DATE		16/12/2016	
			APPROVED BY		SBD	
			DATE		16/12/2016	
			REFERENCE			
THIRD ANGLE PROJECTION				SIZE	DRAWING NUMBER	SHEET
				A	84420000085	1 OF 1
			DESCRIPTION			
			CONN DIAGRAM-NAMEPLATE			
			MATERIAL		PROCESS/FINISH	

Model No. TCA7P54A3111GACD01

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 _b /T _N [pu]
415	Δ	50	7.5	10	16.6	728	97.96	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.4	1.8	2.3

Motor type	TCA	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.	172 kg
Duty	S1	Gross weight - approx.	192 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 +50 °C	Type of coupling	Direct
Temperature rise (by resistance)	70 [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	-
Rotor type	Aluminum die cast	Accessory - 2	-
Bearing type	Anti-friction ball bearing	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 CurrentT_b/T_N - Breakdown Torque / Rated TorqueT_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 Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	-	IS 12615 : 2018	-	-	-

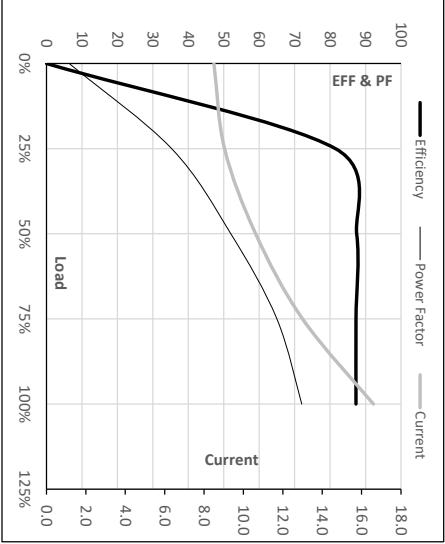
Model No. TCA7P54A3111GACD01

Enclosure	U [V]	Δ / Y Com	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb Temp [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	7.5	10	16.6	728	9.99	97.96	IE3	50	S1	1000	0.204	172

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	8.5	9.0	10.6	13.0	16.6	
Torque	Nm	0.0	24.0	48.2	72.8	98.0	
Speed	r/min	750	745	740	734	728	
Efficiency	%	0.0	81.5	87.5	87.3	87.3	
Power Factor	%	6.4	35.3	52.0	65.0	72.0	

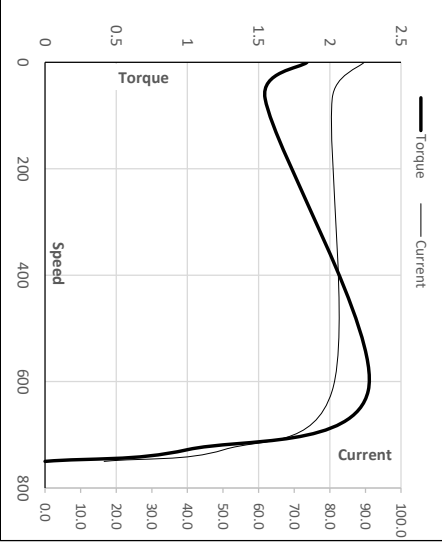
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	68	617	728	750
Current	A	89.6	80.7	50.3	16.6	8.5
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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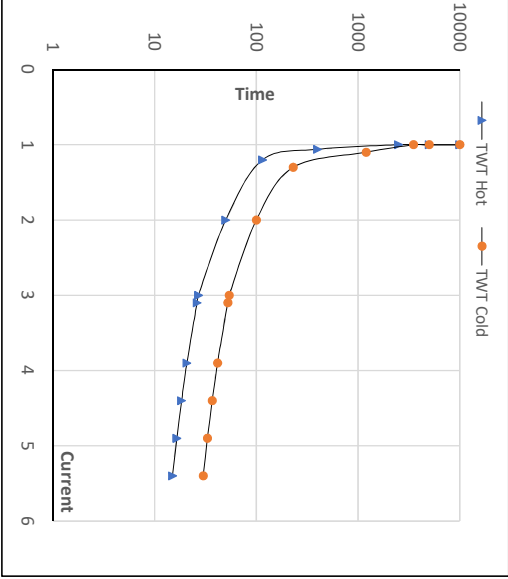
Model No. TCA7P5AA3111GACD01

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	415	Δ	50	7.5	10	16.6	728	9.98	97.96	IE3	50	S1	1000	0.2040	172

Motor Speed Torque Data

Load	FL	I_1	I_2	I_3	I_4	I_5	LR	
TWT Hot	s	10000	50	27	20	18	16	15
TWT Cold	s	10000	100	54	40	36	31	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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