PRODUCT INFORMATION PACKET

Model No: TCA1P51A3111GACD01 Catalog No: TCA1P51A3111GACD01 Cast Iron Motor, 2 HP, 3 Ph, 50 Hz, 415 V, 3000 RPM, 90S Frame, TEFC



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marathon[®]

Nameplate Specifications

Phase	3	Output HP	2 Нр		
Output KW	1.5 kW	Voltage	415 V		
Speed	2876 rpm	Service Factor	1		
Frame	90S	Enclosure	Totally Enclosed Fan Cooled		
Thermal Protection	No Protection	Efficiency	84.2 %		
Ambient Temperature	50 °C	Frequency	50 Hz		
Current	2.8 A	Power Factor	0.89		
Duty	S1	Insulation Class	F		
Drive End Bearing Size	6205	Opp Drive End Bearing Size	6205		
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	2	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	307 mm	Frame Length	128 mm
Shaft Diameter	24 mm	Shaft Extension	50 mm
Assembly/Box Mounting	Тор		
Connection Drawing	8442000085		

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Model No. TCA1P51A3111GACD01

(Y) Conn [Hz] [kW] [hp] [A] [RPM] [Nm] Class 5/4FL FL 3/4FL 1/2FL FL 3/4FL 1/2FL [pu]	υΔ	/ Y	f	Р	Р	1	n	т	IE		% EFF at	load		PF	at lo	ad	I _A /I _N	T ₄ /T ₂	T _K /T _N
415 Y 50 1.5 2.0 2.8 2876 4.95 IE3 - 84.2 83.3 0.89 0.84 0.73 7 3.0 3.1 Motor type TCA Image: Consume in the ima	-		-	-		•		-					1/2FI						
Motor type TCA Degree of protection IP 55 Enclosure TEFC Mounting type IM B3 Frame Material Cast Iron Coling method IC 411 Frame size 905 Motor weight - approx. 26.0 kg Voltage variation * ± 10% Motor weight - approx. 27.0 kg Yoltage variation * ± 5% Load inertia Customer to Provide Combined variation * 10% No Service factor 1.0 No. of starts hot/cold/Equally spread 2/3/4 Service factor 1.0 No. of starts hot/cold/Equally spread 2/3/4 Starting method Dolt Ambient temperature rise (by resistance) 70 [Class B] K K Ku withstand time (hot/cold) 7/15 se Accessory - 1 - - Accessory - 1 - - Di / NOE bearing 6205-22 6205-22 - Accessory - 3 - Lubrication method Greased for life Maximum cable size/conduit size 1R x 3C x 10mm²/2 x M20 x 1.5							· ·	· ·		- J/4/L									
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	DE / NDE b	bearin	ng		62	05-2Z /	6205-2Z			т	erminal b	ox posit	tion				TOP		
Type of grease NA Auxiliary terminal box NA	Lubricatio	on met	hod		0	Greased f	or life			Ν	/laximum	cable si	ze/cond	uit size	1R	x 3C x 1	.0mm²/2 x M2	20 x 1.5	
	Type of gr	rease				NA				А	uxiliary t	erminal	box				NA		

 $\rm I_A/\rm I_N$ - Locked Rotor Current / Rated Current

 $T_{\text{A}}/T_{\text{N}}$ - 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	-	-	IS 12615 : 2018	-	-	-



 $T_{\rm K}/T_{\rm N}$ - Breakdown Torque / Rated Torque

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Model No. TCA1P51A3111GACD01

Enclosure	U	Δ / Y	f	Р	Р	I	n	Т	Т	IE	Amb	Duty	Elevation	Inertia	Weight
	(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]		[m]	[kg-m ²]	[kg]
TEFC	415	Y	50	1.5	2.0	2.8	2876	0.50	4.95	IE3	50	S1	1000	0.0025	26.0

Motor Load Data

Motor Speed Torque Data

r/min

А

ри

Load Point

Speed

Current

Torque

LR

0

19.5

3.0

P-Up

600

17.5

2.5

BD

2036

12.0

3.1

Rated

2876

2.8

1

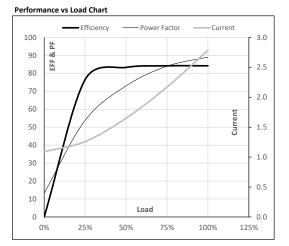
NL

3000

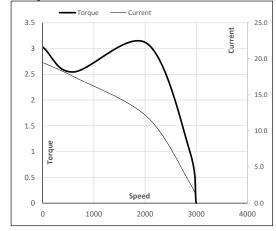
1.1

0

	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Α	1.1	1.3	1.7	2.2	2.8	
Nm	0.0	1.2	2.4	3.7	4.9	
r/min	3000	2970	2942	2911	2876	
%	0.0	76.5	83.3	84.2	84.2	
%	13.2	53.8	73.0	84.0	89.0	
	Nm r/min %	A 1.1 Nm 0.0 r/min 3000 % 0.0	A 1.1 1.3 Nm 0.0 1.2 r/min 3000 2970 % 0.0 76.5	A 1.1 1.3 1.7 Nm 0.0 1.2 2.4 r/min 3000 2970 2942 % 0.0 76.5 83.3	A 1.1 1.3 1.7 2.2 Nm 0.0 1.2 2.4 3.7 r/min 3000 2970 2942 2911 % 0.0 76.5 83.3 84.2	A 1.1 1.3 1.7 2.2 2.8 Nm 0.0 1.2 2.4 3.7 4.9 r/min 3000 2970 2942 2911 2876 % 0.0 76.5 83.3 84.2 84.2



Starting Characteristics Chart



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

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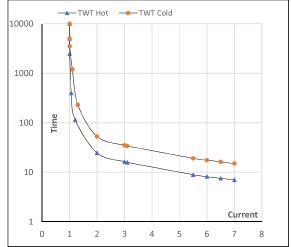
Model No. TCA1P51A3111GACD01

ſ	Enclosure	U	Δ / Y	f	Р	Р	Ι	n	Т	Т	IE	Amb	Duty	Elevation	Inertia	Weight
		(∨)	Conn	[Hz]	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]		[m]	[kg-m ²]	[kg]
ſ	TEFC	415	Y	50	1.5	2.0	2.8	2876	0.50	4.95	IE3	50	S1	1000	0.0025	26.0

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I ₅	LR
TWT Hot	s	10000	25	16	14	11	9	7
TWT Cold	s	10000	52	35	30	22	19	15
Current	pu	1	2	3	4	5	5.5	7

Thermal Characteristics Chart



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

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EC Declaration of Conformity

The undersigned representing the manufacturer:

Regal Beloit America 100 East Randolph St. Wausau, WI 54401 and the authorized representative established within the Community:

Marathon Electric UK 6F Thistleton Road Ind. Estate Market Overton Oakham, Rutland LE15 7PP UK

are committed to providing customers with products that comply with applicable regulations and international protocols to which they are subject, including the requirements of the European Parliament Directive on the Harmonization of the laws relating to electrical equipment designed for use within certain voltage limits (2014/35/EU).

Regal Beloit America declares that the following product(s), to which this declaration relates, are in conformity with the relevant sections of the EC standards listed below.

This statement supersedes any statements previously issued pertaining to the product(s) listed below and is subject to change without notice.

Model No : TCA1P51A3111GACD01

(Model No. may contain prefix and/or suffix characters)

Catalog No : TCA1P51A3111GACD01

Rework No : N/A

Directives :

Low Voltage Directive 2014/35/EU

Harmonized Standards Used :

EN 60034-1: 2010 (IEC 60034-1: 2010) EN 60034-5: 2001/A1:2007 (IEC 60034-5: 2000/A1:2006)

Authorized Representative:

Michael A Logsdon

Michael A. Logsdon Vice President, Technology

Created on 09/01/2022

(€ 22

Authorized Representative in the Community:

Julian Clark Marketing Engineer