PRODUCT INFORMATION PACKET

Model No: TCA0224A3111GACD01 Catalog No: TCA0224A3111GACD01 Cast Iron Motor, 30 HP, 3 Ph, 50 Hz, 415 V, 750 RPM, 225M Frame, TEFC



Regal and Marathon are trademarks of Regal Rexnord Corporation or one of its affiliated companies. ©2022 Regal Rexnord Corporation, All Rights Reserved. MC017097E







Product Information Packet: Model No: TCA0224A3111GACD01, Catalog No:TCA0224A3111GACD01 Cast Iron Motor, 30 HP, 3 Ph, 50 Hz, 415 V, 750 RPM, 225M Frame, TEFC

marathon®

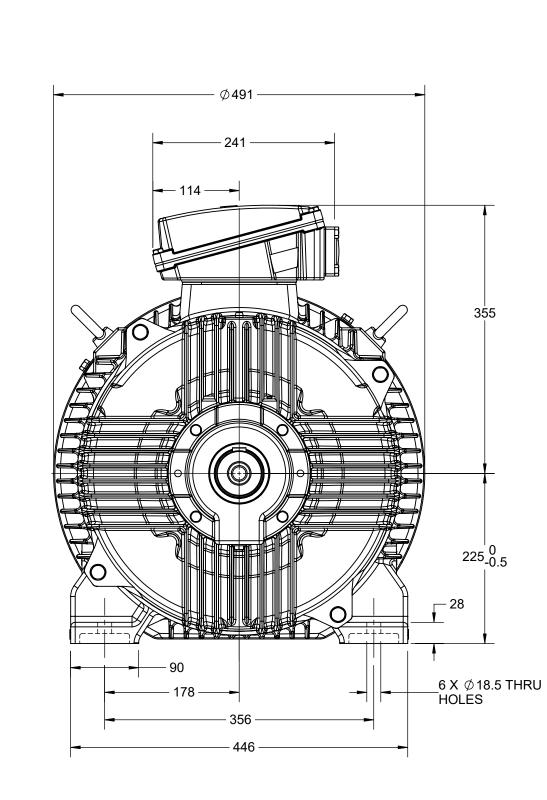
Nameplate Specifications

Output HP	30 Hp	Output KW	22.0 kW
Frequency	50 Hz	Voltage	415 V
Current	43.3 A	Speed	738 rpm
Service Factor	1	Phase	3
Efficiency	90.6 %	Power Factor	0.78
Duty	S1	Insulation Class	F
Frame	225M	Enclosure	Totally Enclosed Fan Cooled
Frame Thermal Protection	225M No Protection	Enclosure Ambient Temperature	Totally Enclosed Fan Cooled 50 °C
Thermal Protection	No Protection	Ambient Temperature	50 °C
Thermal Protection Drive End Bearing Size	No Protection 6313	Ambient Temperature Opp Drive End Bearing Size	50 °C 6213

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	СЗ
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	862 mm	Frame Length	425 mm
Shaft Diameter	60 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Тор		
Connection Drawing	8442000085	Outline Drawing	0222500462

This is an uncontrolled document once printed or downloaded and is subject to change without notice. Date Created: 12/01/2022



4

4

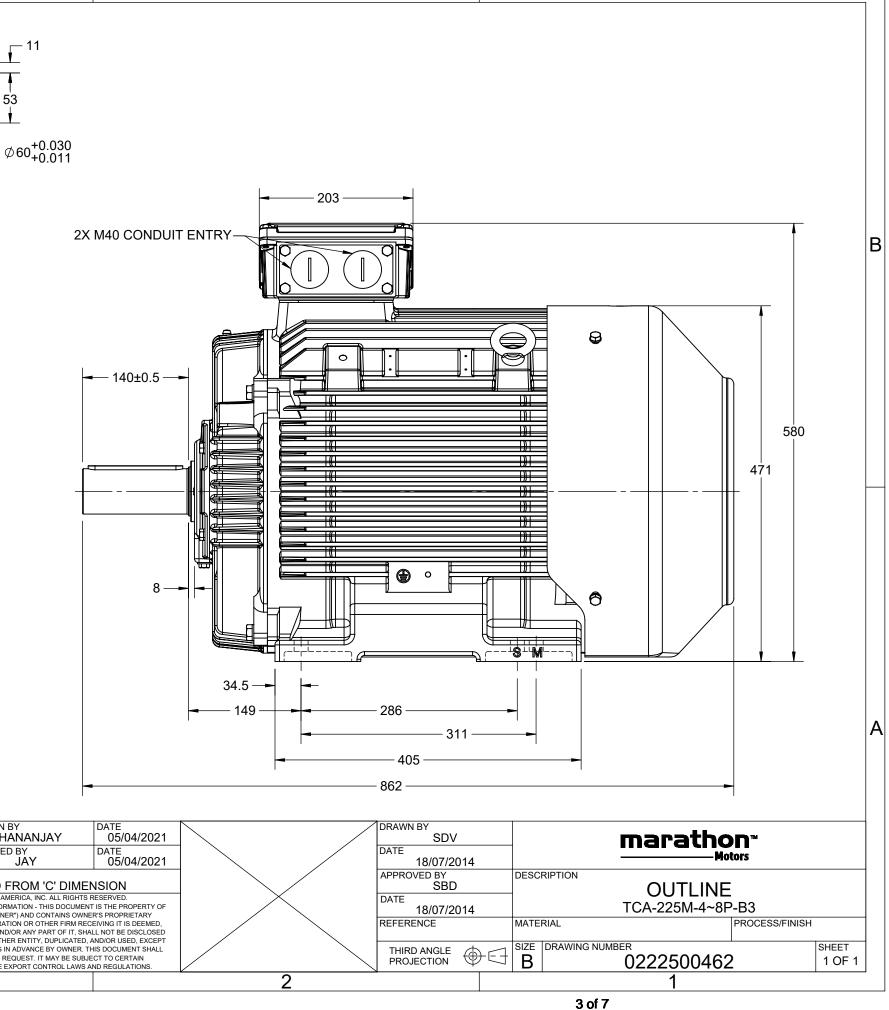
B

Α

3

18 —

- 11



1

DRAWING REVISION	REVISION BY	DATE		DRAWN BY
E	DHANANJAY	05/04/2021		SDV
ECO	APPROVED BY	DATE		DATE
NMR-0208910	JAY	05/04/2021		18/07/2014
ECO DESCRIPTION			1 \ /	APPROVED BY
TOL. RE	MOVED FROM 'C' DIMEN	VSION		SBD
COPYRIGHT RE	EGAL BELOIT AMERICA, INC. ALL RIGHTS F	RESERVED.	1 X	DATE
	DENTIAL INFORMATION - THIS DOCUMENT			18/07/2014
	CA, INC. ("OWNER") AND CONTAINS OWNE SON. CORPORATION OR OTHER FIRM REC			REFERENCE
	EE THAT IT. AND/OR ANY PART OF IT. SHA	- /		KEI EKENGE
,	RATION OR OTHER ENTITY, DUPLICATED, A			
AS EXPRESSLY APPROVE	D IN WRITING IN ADVANCE BY OWNER. TH	HIS DOCUMENT SHALL		THIRD ANGLE
	OWNER UPON REQUEST. IT MAY BE SUBJE			PROJECTION
RESTRICTIONS UNDER	R APPLICABLE EXPORT CONTROL LAWS A	ND REGULATIONS.		·
3			2	
0		1		

2







Model No. TCA0224A3111GACD01

415 Δ 50 22 30 43.3 738 289.41 IE3 - 90.6 90.6 91 0.78 0.72 0.6 5.3 1.8 2.3 Motor type TCA	U	Δ/Υ	f	Р	Р	1	n	т	IE	9	6 EFF at	load		PF	at_lo	ad	I _A /I _N	T_A/T_N	$T_{\rm K}/T_{\rm N}$
Motor type TCA Degree of protection IP 55 inclosure TEFC Mounting type IM B3 crame size 225M Mounting type IM B3 buty S1 Cooling method IC 411 voltage variation * ± 10% Gross weight - approx. A09 kt combined variation * ± 0% Motor inertia 1.0453 kgm combined variation * 10% Outy S22 mm, begree of protection IP 55 Motor weight - approx. A09 kt combined variation * ± 0% Motor inertia 1.0453 kgm consider variation * 10% Vibration level 2.2 mm, voltage variation * 1.0 No ise level (1meter distance from motor) 61 db(///////////////////////////////////	(∨)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[Nm]	Class	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	[pu]	[pu]	[pu]
Andre rypDescriptionFrame MaterialCast IronIM B3Frame MaterialCast IronIC 411Frame MaterialCast IronIC 411Frame MaterialCast IronIC 411Frame MaterialS1Motor weight - approx.409kVoltage variation *± 10%Gross weight - approx.409kFrequency variation *± 0%Load inertiaCustomer to ProvideCombined variation *10%Load inertiaCustomer to ProvideService factor1.0No. of starts hot/cold/Equally spread2/3/4Service factor1.0No. of starts hot/cold/Equally spread2/3/4Service factor1.00meterStarting methodDOLNuitude above sea level1000meterType of couplingDirectHutidue above sea level1000meterStandard rotationClockwise form DEGas groupNACascesoriesAccessoriesAccessory - 1-Accessory - 2-Accessory - 2Accessory - 3Temperature classGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3Up for the methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5	415	Δ	50	22	30	43.3	738	289.41	IE3	-	90.6	90.6	91	0.78	0.72	0.6	5.3	1.8	2.3
Andre rypDescriptionFrame MaterialCast IronIM B3Frame MaterialCast IronIC 411Frame MaterialCast IronIC 411Frame MaterialCast IronIC 411Frame MaterialS1Motor weight - approx.409kVoltage variation *± 10%Gross weight - approx.409kFrequency variation *± 0%Load inertiaCustomer to ProvideCombined variation *10%Load inertiaCustomer to ProvideService factor1.0No. of starts hot/cold/Equally spread2/3/4Service factor1.0No. of starts hot/cold/Equally spread2/3/4Service factor1.00meterStarting methodDOLNuitude above sea level1000meterType of couplingDirectHutidue above sea level1000meterStandard rotationClockwise form DEGas groupNACascesoriesAccessoriesAccessory - 1-Accessory - 2-Accessory - 2Accessory - 3Temperature classGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3Up for the methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5																			
Andre rypDescriptionFrame MaterialCast IronIM B3Frame MaterialCast IronIC 411Frame MaterialCast IronIC 411Frame MaterialCast IronIC 411Frame MaterialS1Motor weight - approx.409kVoltage variation *± 10%Gross weight - approx.409kFrequency variation *± 0%Load inertiaCustomer to ProvideCombined variation *10%Load inertiaCustomer to ProvideService factor1.0No. of starts hot/cold/Equally spread2/3/4Service factor1.0No. of starts hot/cold/Equally spread2/3/4Service factor1.00meterStarting methodDOLNuitude above sea level1000meterType of couplingDirectHutidue above sea level1000meterStandard rotationClockwise form DEGas groupNACascesoriesAccessoriesAccessory - 1-Accessory - 2-Accessory - 2Accessory - 3Temperature classGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3Up for the methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5																			
Andre rypDescriptionFrame MaterialCast IronIM B3Frame MaterialCast IronIC 411Frame MaterialCast IronIC 411Frame MaterialCast IronIC 411Frame MaterialS1Motor weight - approx.409kVoltage variation *± 10%Gross weight - approx.409kFrequency variation *± 0%Load inertiaCustomer to ProvideCombined variation *10%Load inertiaCustomer to ProvideService factor1.0No. of starts hot/cold/Equally spread2/3/4Service factor1.0No. of starts hot/cold/Equally spread2/3/4Service factor1.00meterStarting methodDOLNuitude above sea level1000meterType of couplingDirectHutidue above sea level1000meterStandard rotationClockwise form DEGas groupNACascesoriesAccessoriesAccessory - 1-Accessory - 2-Accessory - 2Accessory - 3Temperature classGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3De / NDE bearingGa13 C3 / 6213 C3Up for the methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5	Motor	*****				тсл				D	ograa of	protocti					ID 55		
Trame MaterialCast IronCooling methodIC 411Frame MaterialCast IronCooling methodIC 411Frame Material225MMotor weight - approx.379kVoltage variation *±10%Gross weight - approx.409kFrequency variation *±10%Load inertiaLoudsokgnFrequency variation *10%Load inertiaCustomer to ProvideCombined variation *10%Vibration level2.2mm,DesignNNoise level (1 meter distance from motor)61dB(AService factor1.0No. of starts hot/cold/Equally spread2/3/4dB(AService factor1.00meter15/30EAmbient temperature-20 to +50°CType of couplingDirectFremeparture rise (by resistance)70 [Class B]KLR withstand time (hot/cold)15/30Altitude above sea level1000meter15/30EAdor targe gargingNADirection of rotationBi-directionalZone classificationNAAccessoriesEAccessoriesTemperature classNAAccessory - 1-Gas groupNAAccessory - 3-Ges groupGail G3/ 6213 C3-Terminal box positionTOPMaximum cable size/conduit size1Rx 3Cx 50mm²/2 x M40 x 1.5											-	•	011						
rame size 225M Duty 51 Auticulage variation * ±10% Combined variation * ±10% Combined variation * ±10% Combined variation * 10% Design NN Design NN Direct Design Direct Direction of rotation Bi-directional Direct Design Direct Direction of rotation Bi-directional Direct Design Direct Direction of rotation Bi-directional Direct Design Clockwise form DE Direct Design Clockwise form DE Design Clockwise form																			
ControlS1Gross weight - approx.409kVoltage variation *± 10%Gross weight - approx.409kFrequency variation *± 0%Load inertiaLo453kgmCombined variation *10%Load inertiaCustomer to Provide2.2mm/DesignNNoise level (1meter distance from motor)61dB(AService factor1.0No. of starts hot/cold/Equally spread2/3/4dB(AInsulation classFStarting methodDOLdB(AAmbient temperature-20 to +50°CType of couplingDirectdB(AAltitude above sea level1000meterStarting methodDOLdB(AAltitude above sea level1000meterStandard rotationBi-directionaldB(AGas groupNAStandard rotationClockwise form DEStandard rotationStandard rotationStandard rotationClockwise form DEAccessoriesNAAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesAcce			I								0								
Aution and a stand and a s		size					I					• •							kg
Trequency variation *± 5%Load inertiaCustomer to ProvideCombined variation *10%Load inertiaCustomer to ProvideDesignNVibration level2.2mm,DesignNNoise level (1meter distance from motor)61dB(AService factor1.0Noi of starts hot/cold/Equally spread2/3/4dB(AAmbient temperature-20 to +50°CType of couplingDirectdB(ATemperature rise (by resistance)70 [Class B]KKMitthat time (hot/cold)15/30dB(AAutitude above sea level1000meterLa withstand time (hot/cold)15/30dB(AdB(AAutitude above sea level1000meterStandard rotationClockwise form DEdB(AAutitude above sea level1000meterStandard rotationClockwise form DEdB(AAccessoriesNAAccessoriesAccessoriesAccessoriesAccessoriesAccessoriesTemperature classNAAccessory - 1-Accessory - 2-Accessory - 2Accessory - 3-Terminal box positionTOPAutiriction methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5Maximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5							,						orox.						kg
Combined variationInformationCombined variation *10%DesignNDesignNService factor1.0nsulation classFAmbient temperature-20 to +50Cemperature rise (by resistance)70 [Class B]Attitude above sea level1000Autitude above sea level1000Accessories2100Autitude above sea level1000Accessory - 1-Accessory - 2-Accessory - 3-Accessory - 3-Autitude above sea level110 × 30 × 50mm²/2 x M40 x 1.5De / NDE bearing6313 C3 / 6213 C3Autitude above sea level110 × 30 × 50mm²/2 x M40 x 1.5 </td <td>U</td> <td></td> <td>C</td> <td></td> <td>1.</td> <td>kgm⁻</td>	U															C		1.	kgm ⁻
Noise level (1meter distance from motor)61dB(AService factor1.0Noise level (1meter distance from motor)61dB(Ansulation classFNo. of starts hot/cold/Equally spread2/3/4dAmbient temperature-20 to +50°CType of couplingDoLFemperature rise (by resistance)70 [Class B]KLR withstand time (hot/cold)15/30Altitude above sea level1000meterDirection of rotationBi-directionalAlzardous area classificationNADirection of rotationClockwise form DEZone classificationNAStandard rotationClockwise form DEGas groupNAAccessoriesAccessory - 1Cotor typeAluminum die castAccessory - 2-Searing typeAnti-friction ball bearingAccessory - 3-DE / NDE bearing6313 C3 / 6213 C3Terminal box positionTOPJubrication methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5	•															Custo		ie	
ConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstructionConstruction </td <td></td> <td></td> <td>ation *</td> <td></td> <td>mm/s</td>			ation *																mm/s
nsulation classFStarting methodDOLAmbient temperature rise (by resistance)70 [Class B]KType of couplingDirectAltitude above sea level1000meterDirection of rotationBi-directionalAltitude above sea level1000meterStandard rotationClockwise form DEHazardous area classificationNADirection of rotationClockwise form DEZone classificationNAAccessoriesRAL 5014Gas groupNAAccessory - 1-Temperature classNAAccessory - 1-Starting typeAnti-friction ball bearingAccessory - 2-De / NDE bearing6313 C3 / 6213 C3Terminal box positionTOPJubrication methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5	Design)			dB(A)
Andicide dussScaling inclusionAnabient temperature-20 to +50°CFremperature rise (by resistance)70 [Class B]KAltitude above sea level1000meterHazardous area classificationNADirection of rotationBi-directionalZone classificationNAStandard rotationClockwise form DEGas groupNAAccessoriesRAL 5014Gas groupNAAccessory - 1-Rotor typeAnti-friction ball bearingAccessory - 2-DE / NDE bearing6313 C3 / 6213 C3Terminal box positionTOPJubrication methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5	Service	e factor											old/Equ	ally spr	ead				
Rememerature rise (by resistance)70 [Class B]KLR withstand time (hot/cold)15/30Altitude above sea level1000meterDirection of rotationBi-directionalHazardous area classificationNAStandard rotationClockwise form DEZone classificationNAAccessoriesRAL 5014Gas groupNAAccessory - 1-Temperature classNAAccessory - 2-Rotor typeAnti-friction ball bearingAccessory - 3-DF / NDE bearing6313 C3 / 6213 C3Terminal box positionTOPJubrication methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5	Insulat	ion class	5							St	arting m	ethod							
Altitude above sea level1000meterAltitude above sea level1000meterHazardous area classificationNADirection of rotationBi-directionalZone classificationNAStandard rotationClockwise form DEGas groupNAAccessoriesAccessory - 1-Temperature classNAAccessory - 1-Bearing typeAnti-friction ball bearingAccessory - 2-DF / NDE bearing6313 C3 / 6213 C3Terminal box positionTOPubrication methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5	Ambie	nt tempe	erature						°C	T	pe of co	upling							
Hazardous area classificationNAStandard rotationClockwise form DEHazardous area classificationNAStandard rotationClockwise form DEZone classificationNAPaint shadeRAL 5014Gas groupNAAccessoriesClockwise form DETemperature classNAAccessory - 1-Rotor typeAnti-friction ball bearingAccessory - 2-DE / NDE bearing6313 C3 / 6213 C3Terminal box positionTOPubrication methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5	Tempe	rature ri	ise (by i	resistan	ce)	70 [Clas	s B]		К	L	R withsta	nd time	(hot/co	ld)			15/30		S
And output of the distribution of the distributication of the distribution of the distribu	Altitud	e above	sea lev	el		1000			meter	D	irection o	of rotati	on			В	i-directional		
Gas groupNAAccessoriesGas groupNAAccessory - 1Temperature classNAAccessory - 2Rotor typeAluminum die castAccessory - 2Bearing typeAnti-friction ball bearingAccessory - 3DE / NDE bearing6313 C3 / 6213 C3Terminal box positionubrication methodRegreasableMaximum cable size/conduit size	Hazard	lous area	a classif	fication		NA				St	andard r	otation				Cloc	kwise form DI	Ξ	
Temperature classNAAccessory - 1-Rotor typeAluminum die castAccessory - 2-Bearing typeAnti-friction ball bearingAccessory - 3-DE / NDE bearing6313 C3 / 6213 C3Terminal box positionTOPJubrication methodRegreasableMaximum cable size/conduit size1R x 3C x 50mm²/2 x M40 x 1.5		Zone cl	assifica	tion		NA				P	aint shad	le					RAL 5014		
Aluminum die cast Accessory - 2 - Bearing type Anti-friction ball bearing Accessory - 3 - DE / NDE bearing 6313 C3 / 6213 C3 Terminal box position TOP Jubrication method Regreasable Maximum cable size/conduit size 1R x 3C x 50mm²/2 x M40 x 1.5		Gas gro	up			NA				A	ccessorie	es							
Bearing type Anti-friction ball bearing Accessory - 3 DE / NDE bearing 6313 C3 / 6213 C3 Lubrication method Regreasable		Temper	rature o	class		NA					Ac	cessory	- 1				-		
DE / NDE bearing 6313 C3 / 6213 C3 Terminal box position TOP Lubrication method Regreasable Maximum cable size/conduit size 1R x 3C x 50mm²/2 x M40 x 1.5	Rotor t	ype			Alı	uminum c	lie cast				Ac	cessory	- 2				-		
ubrication method Regreasable Maximum cable size/conduit size 1R x 3C x 50mm ² /2 x M40 x 1.5	Bearin	g type			Anti-	friction ba	all bearing				Ac	cessory	- 3				-		
	DE / NI	DE beari	ng		63	13 C3/6	213 C3			Т	erminal b	ox posit	ion				TOP		
Type of grease Shell Gadus S5 V100 or Equivalent Auxiliary terminal box NA	Lubrica	ation me	thod			Regrease	able			N	laximum	cable si	ze/cond	uit size	1R	x 3C x 5	50mm²/2 x M4	0 x 1.5	
	Type o	f grease		Sh	nell Gadu	us S5 V10) or Equiv	alent		A	uxiliary t	erminal	box				NA		

 I_A/I_N - Locked Rotor Current / Rated Current

 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	-	-	IS 12615 : 2018	-	-	-



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

marathon®

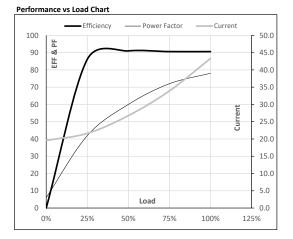


Model No. TCA0224A3111GACD01

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	Δ	50	22	30.0	43.3	738	29.51	289.41	IE3	50	S1	1000	1.0453	378.6

Motor Load Data

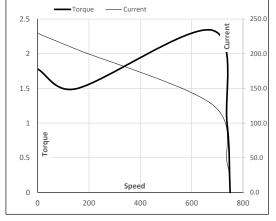
Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	Α	19.6	21.6	26.8	33.9	43.3	
Torque	Nm	0.0	71.5	143.5	216.1	289.4	
Speed	r/min	750	747	745	742	738	
Efficiency	%	0.0	86.1	91.0	90.6	90.6	
Power Factor	%	6.0	41.9	60.0	72.0	78.0	



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL	
Speed	r/min	0	150	679	738	750	
Current	А	229.6	206.6	127.3	43.3	19.6	
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

Issued By Issued Date

REGAL





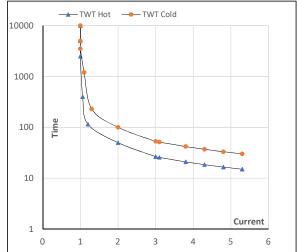
Model No. TCA0224A3111GACD01

Enclosure	U	Δ / Y	f	Р	Р	Ι	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	Δ	50	22	30	43.3	738	29.49	289.41	IE3	50	S1	1000	1.0453	379

Motor Speed Torque Data

Load		FL	I_1	l ₂	I_3	I_4	I_5	LR
TWT Hot	s	10000	50	27	20	18	16	15
TWT Cold	s	10000	100	53	40	36	31	30
Current	pu	1	2	3	4	4.5	5	5.3

Thermal Characteristics Chart



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

Issued By Issued Date

REGAL