

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0151AE221GAA009

Catalog No: R236

Cast Iron Motor, 20 & 15 HP, 3 Ph, 60 & 50 Hz, 230/460 & 200/400 V, 3600 & 3000 RPM, 160M Frame,
TEFC



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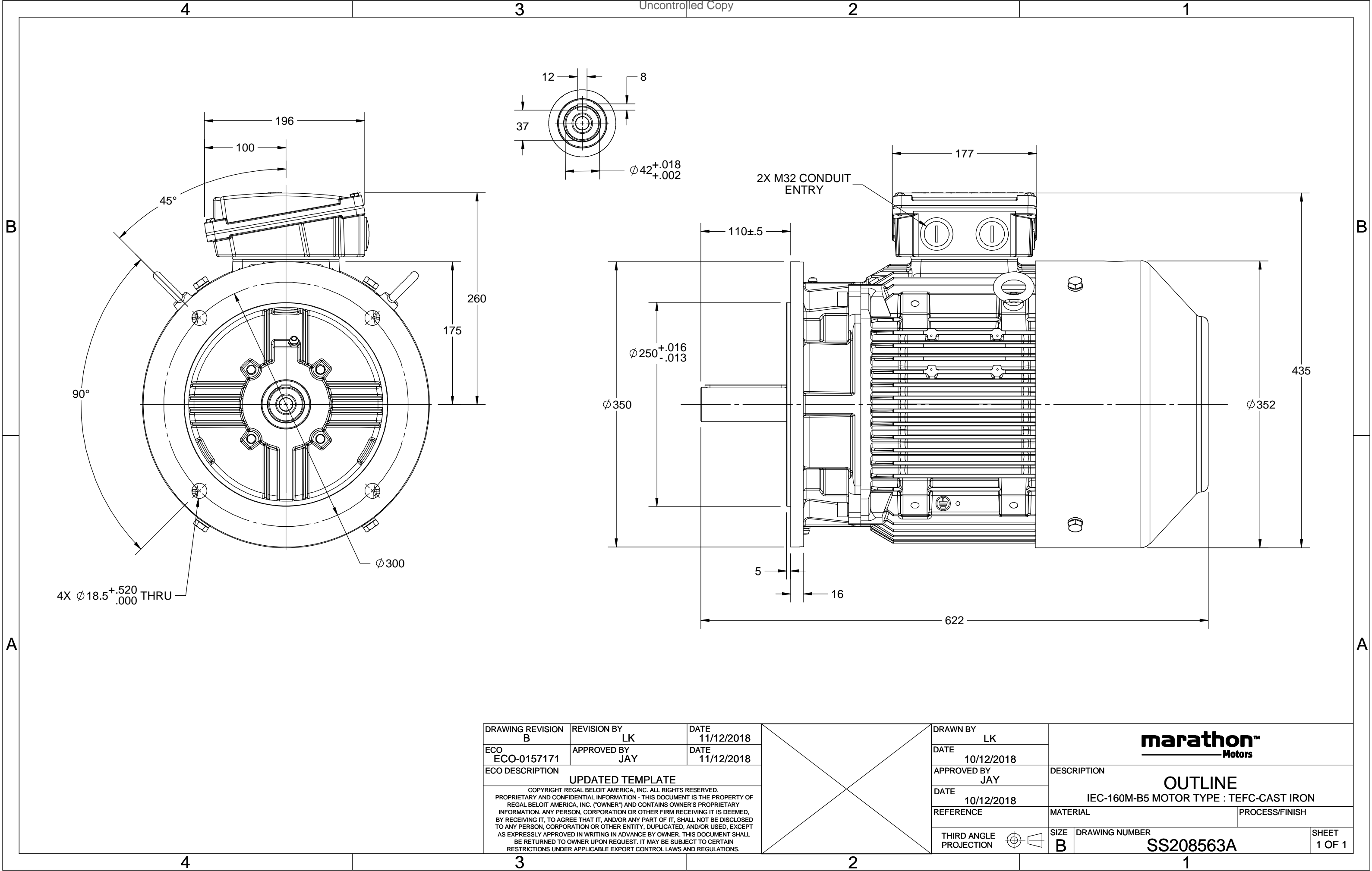
RegalRexnord

Nameplate Specifications

Phase	3	Output HP	20 & 15 Hp
Output KW	15.0 & 11.0 kW	Voltage	230/460 & 200/400 V
Speed	3540 & 2950 rpm	Service Factor	1.15 & 1.15
Frame	160M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	91 & 91.2 %
Ambient Temperature	40 °C	Frequency	60 & 50 Hz
Current	45.5/22.8 & 39/19.5 A	Power Factor	91
Duty	Continuous	Insulation Class	F
Design Code	N (IEC)	KVA Code	G
Drive End Bearing Size	6309	Opp Drive End Bearing Size	6209
UL	Recognized	CSA	N
CE	Y	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

Electrical Type	Squirrel Cage Inverter Rated	Starting Method	Line Or Inverter
Poles	2	Rotation	Reversible
Resistance Main	.73 Ohms	Mounting	Round
Motor Orientation	Horizontal	Drive End Bearing	Ball
Opp Drive End Bearing	Ball	Frame Material	Cast Iron
Shaft Type	IEC	Overall Length	20.55 in
Frame Length	10.00 in	Shaft Diameter	1.654 in
Shaft Extension	4.33 in	Assembly/Box Mounting	F3
Inverter Load	CONSTANT 2:1/VARIABLE 10:1		
Connection Drawing	8442000715	Outline Drawing	SS208563A



DRAWING REVISION B	REVISION BY LK	DATE 11/12/2018
ECO ECO-0157171	APPROVED BY JAY	DATE 11/12/2018
ECO DESCRIPTION UPDATED TEMPLATE		
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DRAWN BY LK	<div>marathon™ Motors</div>		
DATE 10/12/2018			
APPROVED BY JAY	DESCRIPTION OUTLINE		
DATE 10/12/2018	IEC-160M-B5 MOTOR TYPE : TEFC-CAST IRON		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER SS208563A	SHEET 1 OF 1

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DRAWING REVISION
A
 ECO
 ECO-0194685
 ECO DESCRIPTION

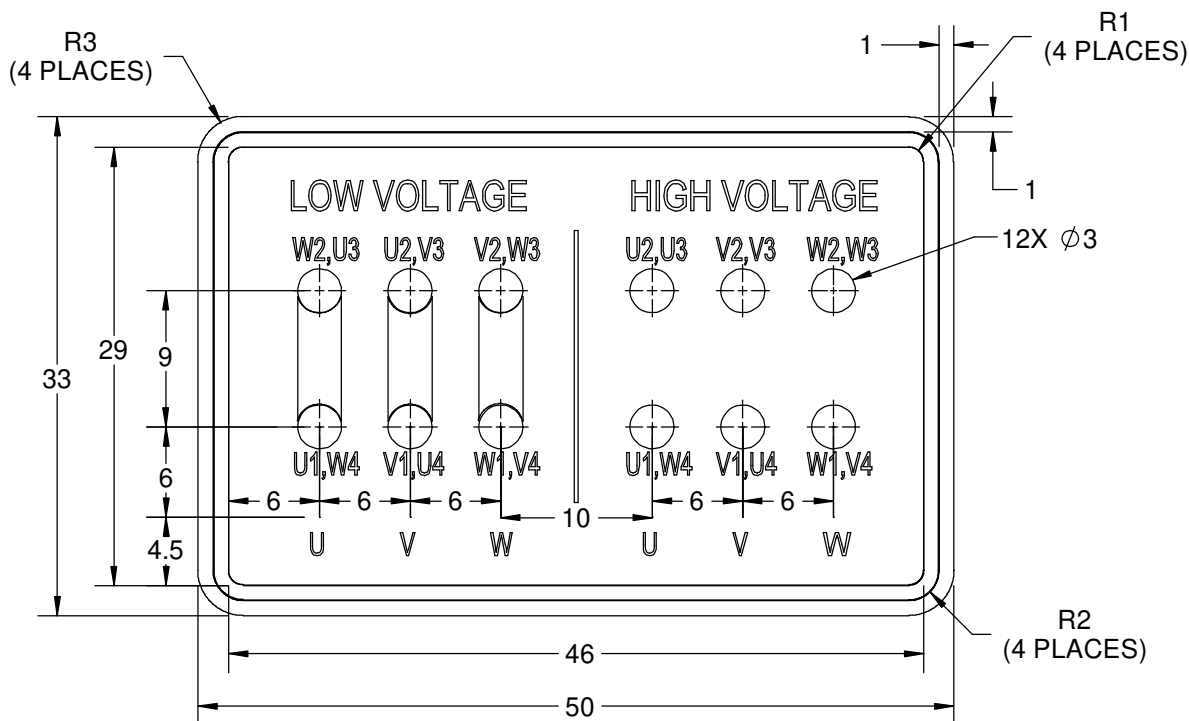
REVISION BY
S.MUDDA
 APPROVED BY
SUMANTA

DATE
16/11/2020
 DATE
16/11/2020

NEW DRAWING

GEOMETRIC TOLERANCE

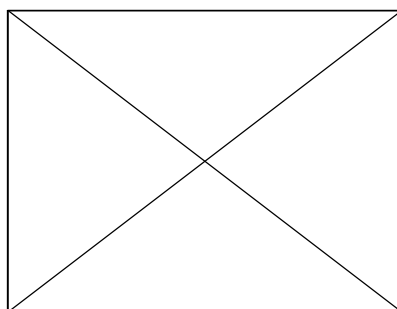
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



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.
4. LEAD TERMINAL MARKINGS FONT SIZE : T1-T12 & U1-U4,V1-V4& W1-W4 OF ARIAL WITH 3mm SIZE
5. OTHER LETTER FONT SIZE SHOULD BE 3.5mm.

8WD.442.2017



DRAWN BY
S.MUDDA
 DATE
16/11/2020
 APPROVED BY
SUMANTA
 DATE
16/11/2020
 REFERENCE

THIRD ANGLE
 PROJECTION



Regal Beloit America, Inc.

DESCRIPTION

CONN DIAGRAM-NAMEPLATE

MATERIAL

PROCESS/FINISH

SIZE
A

DRAWING NUMBER

8442000715

SHEET
1 OF 1



P.O. BOX 8003
WAUSAU, WI 54401-8003
PH. 715-675-3311

DATA VOLTS: 460

CERTIFICATION DATA SHEET

CUSTOMER:
ORDER #:
CONN. DIAGRAM: 8442000677
OUTLINE: SS208563A
WINDING: IE3L1602202 NONE 1
SPEED:

CUSTOMER P.O. #:
REFERENCE MODEL #: TCA0151AE221GAA009
CAT #: R236
CUSTOMER PART #:
MOUNTING: F3

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC RPM	FL RPM	FRAME	ENCLOSURE	TYPE	KVA CODE	DESIGN
20	14.9	3600	3540	160M	TEFC	TCA 160MC02	G	N

PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB (* C)	ELEV.(Ft.)
3	60/50	230/460#200/400	45.5/22.8&39/19.5	LINE OR INVERTER	CONT	F	1.15	40	3300

F.L. EFF	91.0	3/4 LD EFF	91.0	1/2 LD EFF	91.3	GTD EFF	ELECT. TYPE
F.L. PF	91.0	3/4 LD PF	88.0	1/2 LD PF	82.0	89.7	SQ CAGE INV RATED

F.L. TORQUE	LR AMPS @ 460 V	L.R. TORQUE	B.D. TORQUE	F.L. RISE (* C)
29.7 LB-FT	143	47.2 LB-FT 159%	76.7 LB-FT 258%	80

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK ²	MAX. LOAD WK ²	SAFE STALL TIME	STARTS/HOUR	APROX.	MOTOR WGT
75 dBA	84 dBA	1.59 LB-FT ²	1.59 LB-FT ²	7 SEC.	2	152	KG.

*** SUPPLEMENTAL INFORMATION ***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	MOTOR ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
FF-FLANGE-300	STANDARD	ROUND	HORIZONTAL	NO	NONE	NO	NONE	BLUE (ENAMEL)

BEARINGS	GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE ODE						
BALL BALL	POLYREX EM	STANDARD IEC	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
6309 6209						

THERMOSTATS	PROTECTORS	WDG RTD's	BRG RTD's	THERMISTORS	CONTROL	SPACE HEATERS
NONE	NOT	NONE	NONE	NONE	FALSE	NA

R1 (ohms/ph)	R2 (ohms/ph)	X1 (ohms/ph)	X2 (ohms/ph)	Xm (ohms/ph)	VIBRATION (in/sec)	FLOAT
0.454	0.184	1.007	0.964	41.582	0.150	ODE

* N O T E S *		INVERTER TORQUE: CONSTANT 2:1/VARIABLE 10:1 INV. HP SPEED RANGE: NONE
		ENCODER: NONE NONE NONE PPR

PREPARED BY:	DATE: 11/16/2020	BRAKE: NONE NONE NONE	FT-LB: NA VOLTAGE: NONE	HZ:
FORM: 3531 REV_4	2/27/06	UL: V - LI,ME-INS,CONST UL REC		

REGAL®

Data Sheet

TCA0151AE221GAA009

Date: 5/30/2019

Customer: _____

Attention: _____

Submitted by: Fareeda Dudekula

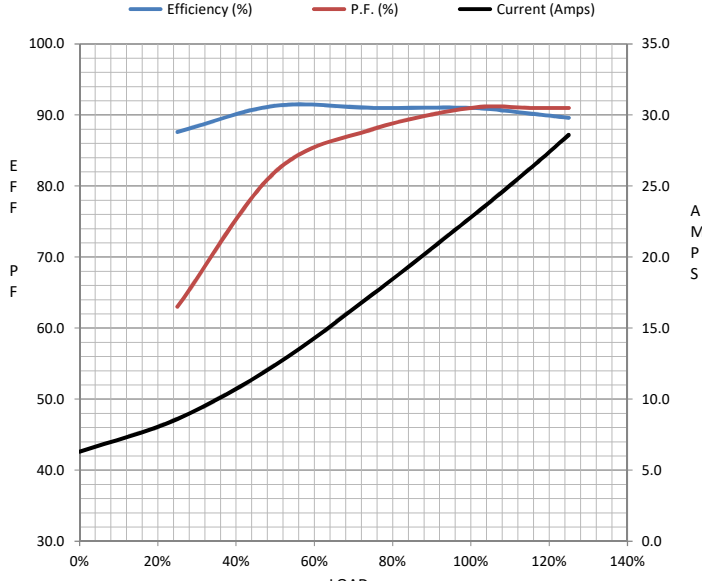
Submittal

Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	6.3	8.6	12.4	17.4	22.8	26.2	28.6	143	
Torque (ft-lb)	0.00	7.3	14.7	22.1	29.7	34.2	37.3	47.2	
RPM	3600	3586	3572	3558	3540	3,532	3524	0	
Efficiency (%)		87.6	91.3	91.0	91.0	90.2	89.6		
P.F. (%)	9.0	63.0	82.0	88.0	91.0	91.0	91.0	63.4	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle																																	
Speed (RPM)	0	1200	3250	3540	3600																																	
Current (Amps)	143	136	86.0	22.8	6.3																																	
Torque (ft-lb)	47.2	44.9	76.7	29.7	0.00																																	
<div><div>Efficiency (%)</div><div>P.F. (%)</div><div>Current (Amps)</div></div>  <table><thead><tr><th>LOAD</th><th>Efficiency (%)</th><th>P.F. (%)</th><th>Current (Amps)</th></tr></thead><tbody><tr><td>0%</td><td>-</td><td>-</td><td>6.3</td></tr><tr><td>25%</td><td>88</td><td>63</td><td>8.5</td></tr><tr><td>50%</td><td>91</td><td>85</td><td>13.5</td></tr><tr><td>75%</td><td>91</td><td>89</td><td>19.5</td></tr><tr><td>100%</td><td>91</td><td>92</td><td>25.5</td></tr><tr><td>125%</td><td>90</td><td>91</td><td>30.0</td></tr></tbody></table>						LOAD	Efficiency (%)	P.F. (%)	Current (Amps)	0%	-	-	6.3	25%	88	63	8.5	50%	91	85	13.5	75%	91	89	19.5	100%	91	92	25.5	125%	90	91	30.0	Information Block				
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						125%	90	91	30.0																													
						HP			20.0																													
						Sync. RPM			3600																													
						Frame			160																													
						Enclosure			TEFC																													
						Construction			TCA 160MC02																													
						Voltage			230/460#200/400 V																													
						Frequency			60 Hz																													
						Design			N																													
						LR Code letter			G																													
Service Factor			1.15																																			
Temp Rise @ FL			80 °C																																			
Duty			CONT																																			
Ambient			40 °C																																			
Elevation			3,300 feet																																			
Rotor/Shaft wk²			1.59 Lb-Ft²																																			
Ref Wdg			IE3L1602202 NONE																																			
Sound Pressure @ 1M			75 dBA																																			
VFD Rating			CONSTANT 2:1/VARIABLE 10:1																																			
Outline Dwg			SS208563A																																			
Conn. Diag			8442000677																																			
Additional Specifications:																																						
0																																						
0																																						
EQUIV CKT (OHMS / PHASE)																																						
R1		R2		X1		X2		Xm																														
0.4540		0.1840		1.0070		0.9640		41.5820																														

IEC

Speed -Torque Curve



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 : TCA0151AE221GAA009

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

Catalog No : R236

Rework No : N/A

Directives :

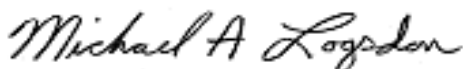
Low Voltage Directive 2014/35/EU

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
Vice President, Technology

Authorized Representative in the Community:



Julian Clark
Marketing Engineer

Created on 09/01/2022

CE 22