

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA0112AE221GAA009

Catalog No: R234

Cast Iron Motor, 15 & 10 HP, 3 Ph, 60 & 50 Hz, 230/460 & 200/400 V, 1800 & 1500 RPM, 160M Frame,  
TEFC



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**RegalRexnord**

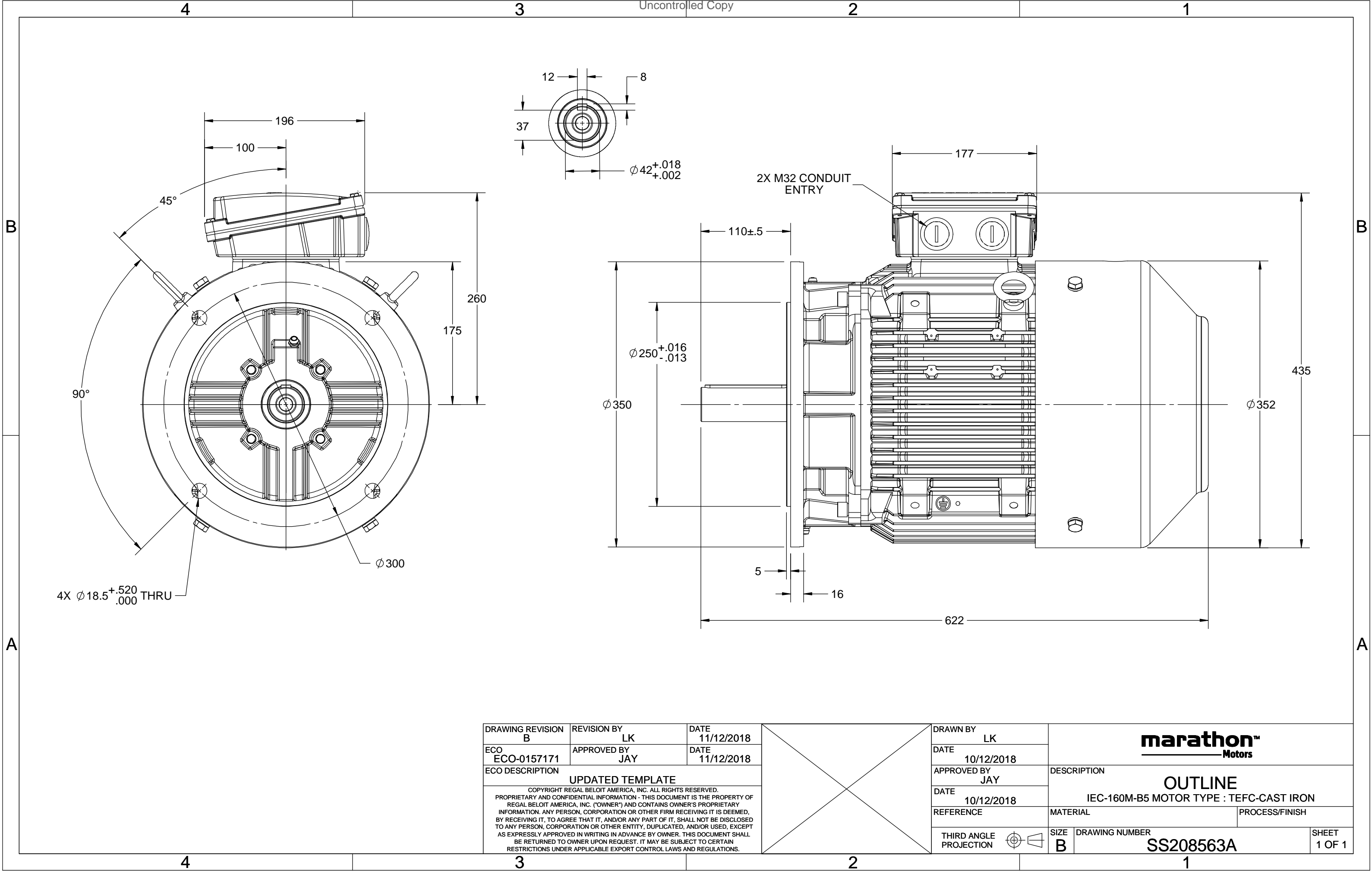
### Nameplate Specifications

Phase	3	Output HP	15 & 10 Hp
Output KW	11.0 & 7.5 kW	Voltage	230/460 & 200/400 V
Speed	1775 & 1485 rpm	Service Factor	1.15 & 1.15
Frame	160M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	92.4 & 90.4 %
Ambient Temperature	40 °C	Frequency	60 & 50 Hz
Current	37.5/18.7 & 33/16.4 A	Power Factor	80
Duty	Continuous	Insulation Class	F
Design Code	N (IEC)	KVA Code	J
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

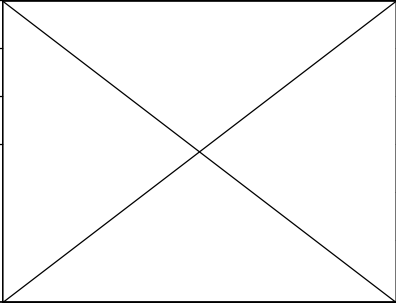
### Technical Specifications


Electrical Type	Squirrel Cage Inverter Rated	Starting Method	Line Or Inverter
Poles	4	Rotation	Reversible
Resistance Main	.69 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			
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

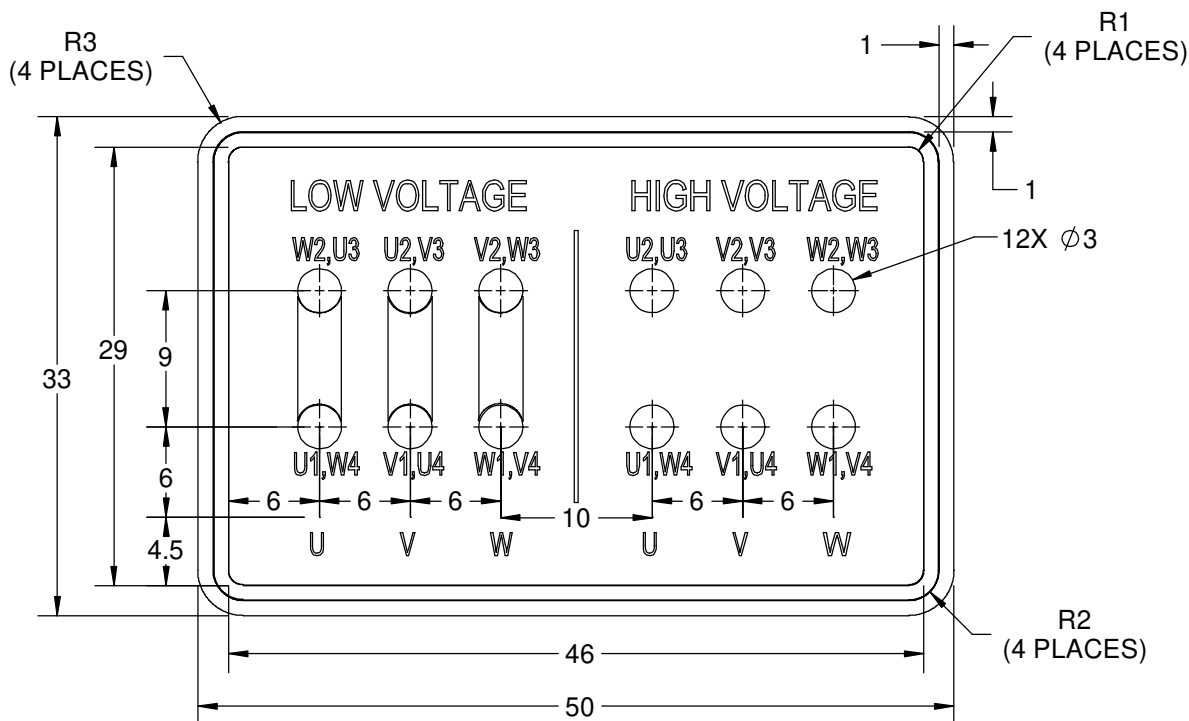
REVISION BY  
**S.MUDDA**  
 APPROVED BY  
**SUMANTA**

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

NEW DRAWING

GEOMETRIC TOLERANCE

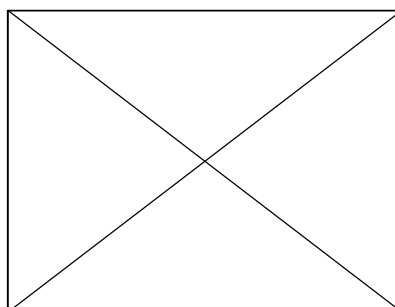
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



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: IE3L1604201 NONE 1  
SPEED: \_\_\_\_\_

CUSTOMER P.O. #: \_\_\_\_\_  
REFERENCE MODEL #: TCA0112AE221GAA009  
CAT #: R234  
CUSTOMER PART #: \_\_\_\_\_  
MOUNTING: F3

### TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC RPM	FL RPM	FRAME	ENCLOSURE	TYPE	KVA CODE	DESIGN
15	11.2	1800	1775	160M	TEFC	TCA 160MB04	J	N

PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB (* C)	ELEV.(Ft.)
3	60/50	230/460#200/400	37.5/18.7&33/16.4	LINE OR INVERTER	CONT	F	1.15	40	3300

F.L. EFF	92.4	3/4 LD EFF	92.4	1/2 LD EFF	91.6	GTD EFF	ELECT. TYPE
F.L. PF	80.0	3/4 LD PF	73.0	1/2 LD PF	61.0	91.3	SQ CAGE INV RATED

F.L. TORQUE		LR AMPS @ 460 V		L.R. TORQUE		B.D. TORQUE		F.L. RISE (° C)		
44.4	LB-FT	134		103	LB-FT 232%	142	LB-FT 320%	80		

SOUND PRESSURE @ 3 FT.	SOUND	POWER	ROTOR WK <sup>2</sup>	MAX. LOAD WK <sup>2</sup>	SAFE STALL TIME	STARTS/HOUR	APROX.	MOTOR WGT
68 dBA	77 dBA		2.54 LB-FT <sup>2</sup>	2.54 LB-FT <sup>2</sup>	10 SEC.	2	154	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
0.435	0.208	1.002	1.229	28.214	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 UL: V - LI,ME-INS,CONST UL REC	HZ: _____
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FORM: 3531 REV\_4 2/27/06



## Data Sheet

TCA0112AE221GAA009

Date: 5/30/2019

Customer:

Attention:

Submitted by: Fareeda Dudekula

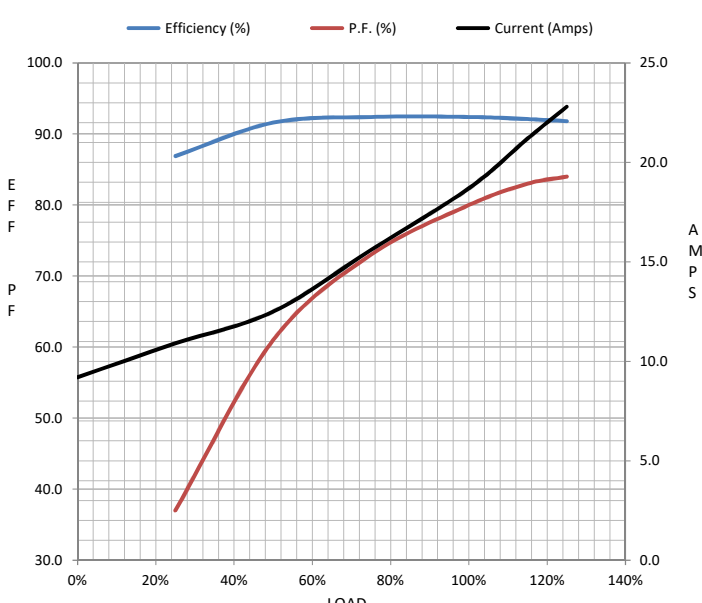
Submittal

Data @ 460 V

## Motor Load Data

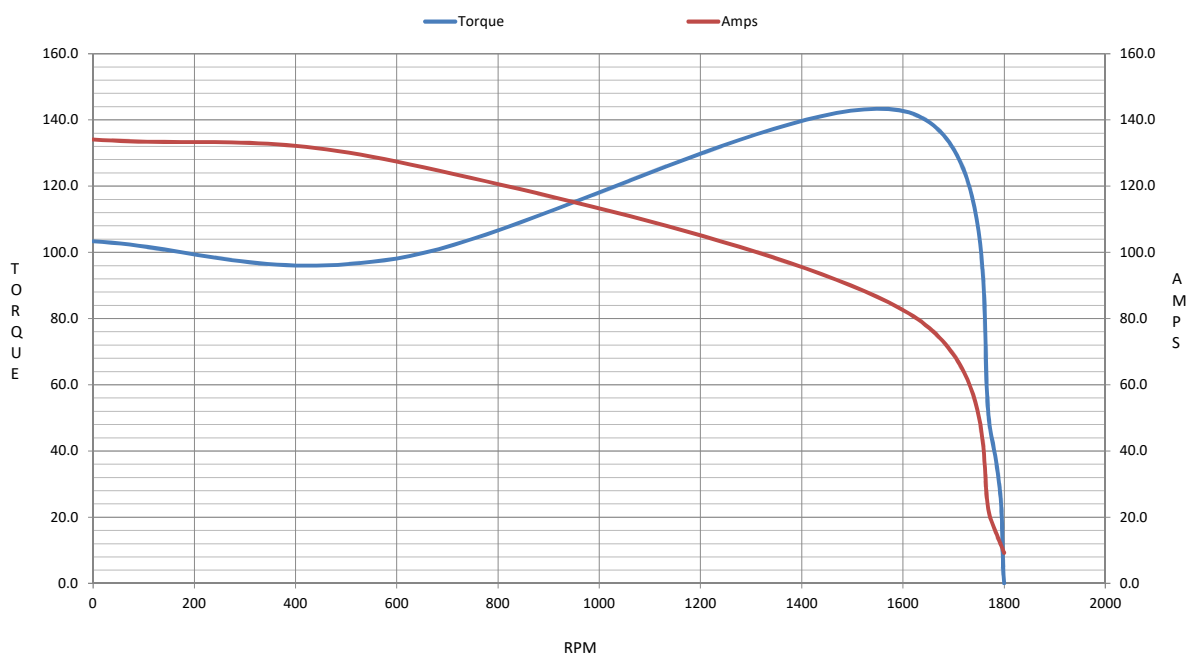
Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	9.2	10.9	12.5	15.6	18.7	21.2	22.8	134	
Torque (ft-lb)	0.00	11.0	22.0	33.2	44.4	51.1	55.7	103	
RPM	1800	1794	1788	1783	1775	1,772	1769	0	
Efficiency (%)		86.9	91.6	92.4	92.4	92.1	91.8		
P.F. (%)	5.0	37.0	61.0	73.0	80.0	83.0	84.0	63.4	

## Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle	Information Block	
Speed (RPM)	0	600	1612	1775	1800	HP	15.0
Current (Amps)	134	127	81.5	18.7	9.2	Sync. RPM	1800
Torque (ft-lb)	103	98.2	142	44.4	0.00	Frame	160
						Enclosure	TEFC
						Construction	TCA 160MB04
						Voltage	230/460#200/400 V
						Frequency	60 Hz
						Design	N
						LR Code letter	J
						Service Factor	1.15
						Temp Rise @ FL	80 °C
						Duty	CONT
						Ambient	40 °C
						Elevation	3,300 feet
						Rotor/Shaft wk²	2.54 Lb-Ft²
						Ref Wdg	IE3L1604201 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	
						0.4350	0.2080
						1.0020	1.2290
						28.2140	

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 : TCA0112AE221GAA009

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

Catalog No : R234

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**