

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA0221AE221GAA009

Catalog No: R242

Cast Iron Motor, 30 & 25 HP, 3 Ph, 60 & 50 Hz, 230/460 & 200/400 V, 3600 & 3000 RPM, 180M Frame,  
TEFC



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**RegalRexnord**

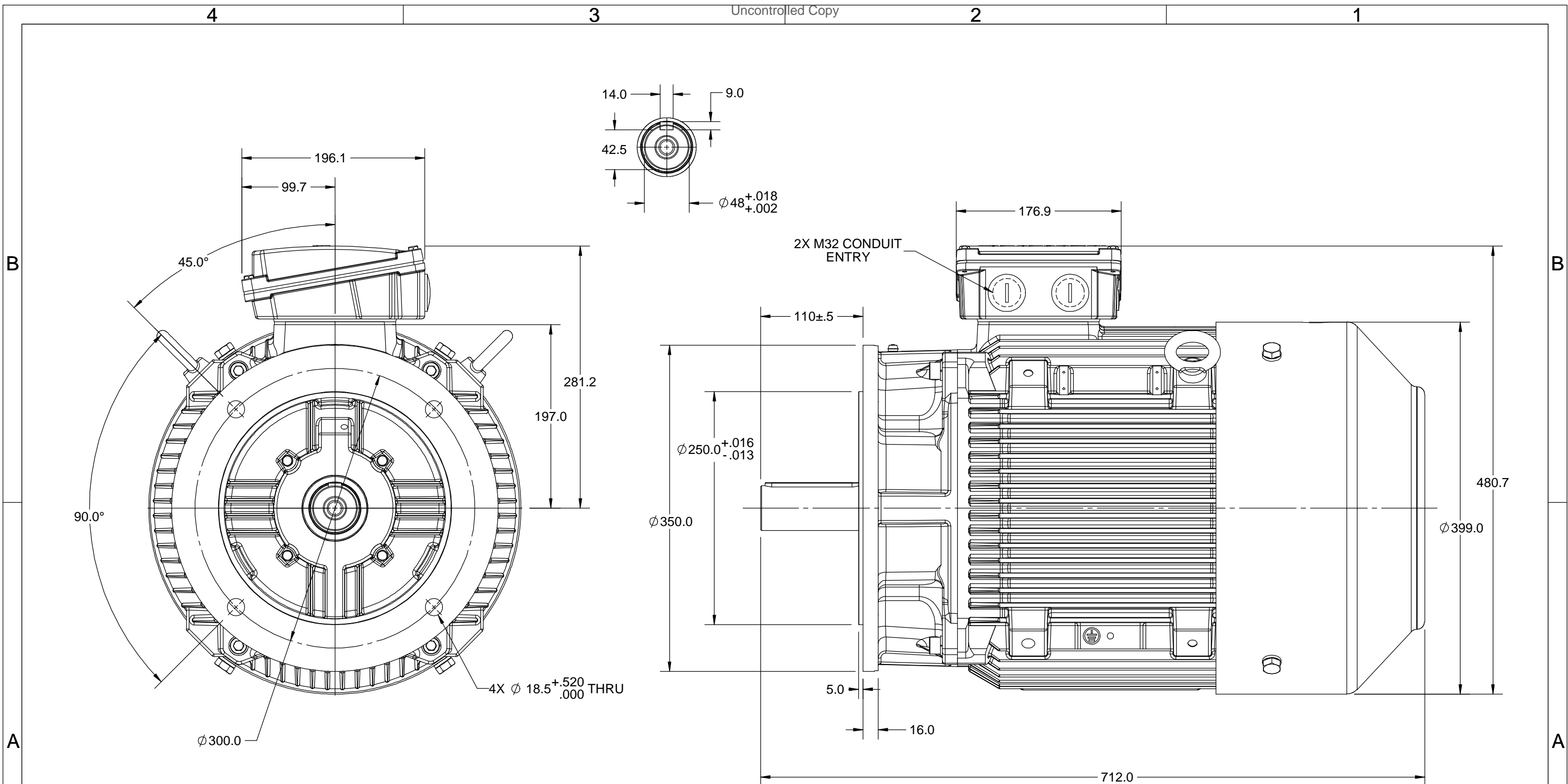
### Nameplate Specifications

Phase	<b>3</b>	Output HP	<b>30 &amp; 25 Hp</b>
Output KW	<b>22.0 &amp; 18.5 kW</b>	Voltage	<b>230/460 &amp; 200/400 V</b>
Speed	<b>3550 &amp; 2955 rpm</b>	Service Factor	<b>1.15 &amp; 1.15</b>
Frame	<b>180M</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No Protection</b>	Efficiency	<b>91.7 &amp; 92.4 %</b>
Ambient Temperature	<b>40 °C</b>	Frequency	<b>60 &amp; 50 Hz</b>
Current	<b>68/34 &amp; 68/34 A</b>	Power Factor	<b>88</b>
Duty	<b>Continuous</b>	Insulation Class	<b>F</b>
Design Code	<b>N (IEC)</b>	KVA Code	<b>F</b>
Drive End Bearing Size	<b>6311</b>	Opp Drive End Bearing Size	<b>6211</b>
UL	<b>Recognized</b>	CSA	<b>N</b>
CE	<b>Y</b>	IP Code	<b>55</b>
Number of Speeds	<b>1</b>	Efficiency Class	<b>IE3</b>

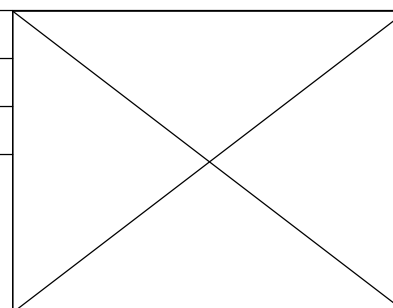
### Technical Specifications

Electrical Type	<b>Squirrel Cage Inverter Rated</b>	Starting Method	<b>Line Or Inverter</b>
Poles	<b>2</b>	Rotation	<b>Reversible</b>
Resistance Main	<b>.37 Ohms</b>	Mounting	<b>Round</b>
Motor Orientation	<b>Horizontal</b>	Drive End Bearing	<b>Ball</b>
Opp Drive End Bearing	<b>Ball</b>	Frame Material	<b>Cast Iron</b>
Shaft Type	<b>IEC</b>	Overall Length	<b>28.03 in</b>
Frame Length	<b>12.91 in</b>	Shaft Diameter	<b>1.890 in</b>
Shaft Extension	<b>4.33 in</b>	Assembly/Box Mounting	<b>F3</b>
Inverter Load	<b>CONSTANT 2:1/VARIABLE 10:1</b>		
Outline Drawing	<b>SS312997A</b>	Connection Drawing	<b>8442000715</b>

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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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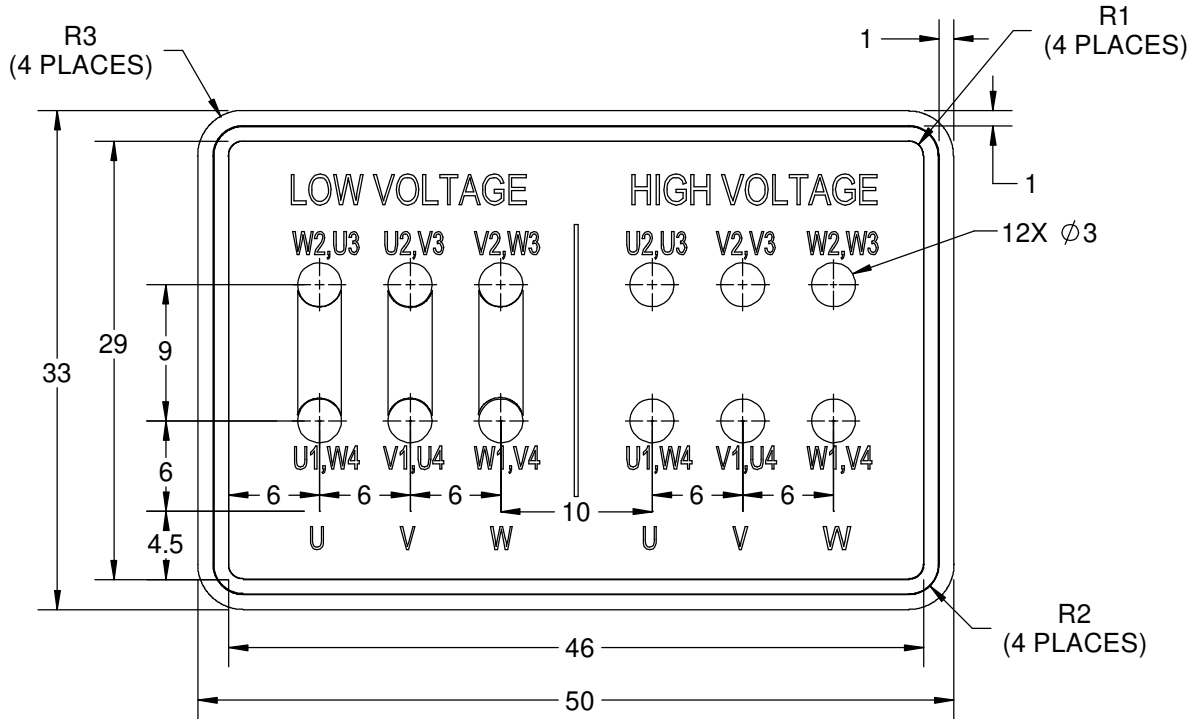
DRAWN BY LK
DATE 10/12/2018
APPROVED BY JAY
DATE 10/12/2018
REFERENCE

<b>marathon™ Motors</b>	
<b>OUTLINE</b>	
IEC-180M-B5 MOTOR TYPE: TEFC-CAST IRON	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER SS312997A
SHEET 1 OF 1	

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DRAWING REVISION <b>A</b>	REVISION BY <b>S.MUDDA</b>	DATE <b>16/11/2020</b>
ECO <b>ECO-0194685</b>	APPROVED BY <b>SUMANTA</b>	DATE <b>16/11/2020</b>
ECO DESCRIPTION <b>NEW DRAWING</b>		

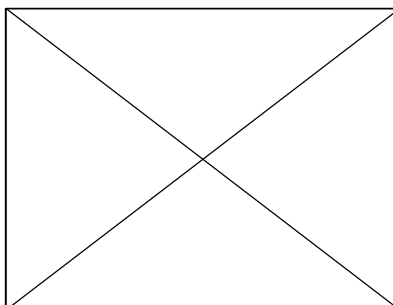
GEOMETRIC TOLERANCE		
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3





**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 <b>S.MUDDA</b>	DATE <b>16/11/2020</b>	 <b>Regal Beloit America, Inc.</b>		
	APPROVED BY <b>SUMANTA</b>		DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>	
	DATE <b>16/11/2020</b>	MATERIAL	PROCESS/FINISH	
	REFERENCE	SIZE <b>A</b>	DRAWING NUMBER <b>8442000715</b>	SHEET <b>1 OF 1</b>
	THIRD ANGLE PROJECTION 			



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

DATA VOLTS: 460

**CERTIFICATION DATA SHEET**

CUSTOMER: \_\_\_\_\_  
ORDER #: \_\_\_\_\_  
CONN. DIAGRAM: 8442000677  
OUTLINE: SS312997A  
WINDING: IE3L1802201 NONE 1  
SPEED: \_\_\_\_\_

CUSTOMER P.O. #: \_\_\_\_\_  
REFERENCE MODEL #: TCA0221AE221GAA009  
CAT #: R242  
CUSTOMER PART #: \_\_\_\_\_  
MOUNTING: F3

**TYPICAL MOTOR PERFORMANCE DATA**

HP	KW	SYNC RPM	FL RPM	FRAME	ENCLOSURE	TYPE	KVA CODE	DESIGN
30	22.4	3600	3550	180M	TEFC	TCA 180MA02	F	N

PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB (° C)	ELEV.(Ft.)
3	60/50	230/460#200/400	68/34&68/34	LINE OR INVERTER	CONT	F	1.15	40	3300

F.L. EFF	91.7	3/4 LD EFF	91.7	1/2 LD EFF	91.4	GTD EFF	ELECT. TYPE
F.L. PF	88.0	3/4 LD PF	84.0	1/2 LD PF	77.0	90.5	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	207	65.0 LB-FT 146%	113 LB-FT 255%	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
76 dBA	85 dBA	2.81 LB-FT <sup>2</sup>	2.81 LB-FT <sup>2</sup>	15 SEC.	2	209 KG.

**\*\*\* SUPPLEMENTAL INFORMATION \*\*\***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	MOTOR ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAIN
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 BALL	ODE BALL	POLYREX EM	STANDARD IEC	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
6311	6211						

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
0.236	0.113	0.662	0.766	23.146	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					
	BRAKE: NONE					

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



Data Sheet

TCA0221AE221GAA009

Date: 5/30/2019  
 Customer:  
 Attention:

Submittal

Submitted by: Fareeda Dudekula

Data @ 460 V

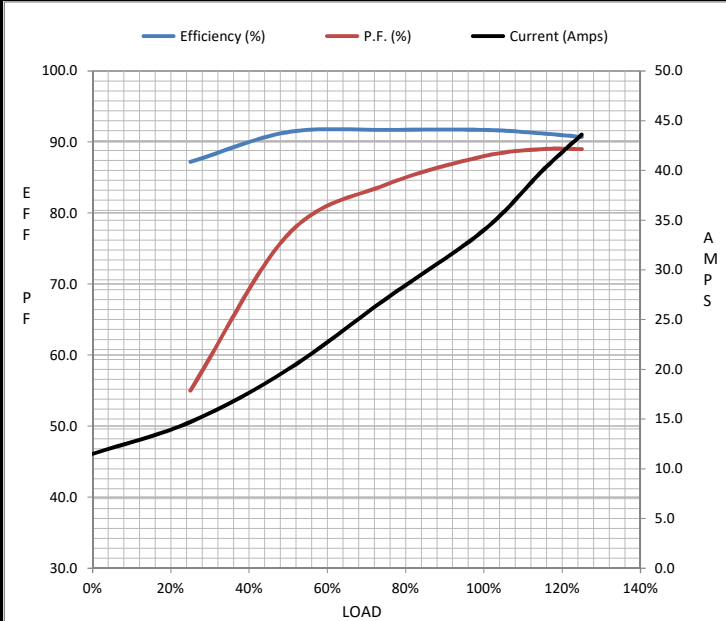
Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR
Current (Amps)	11.5	14.7	20.0	27.1	34.0	40.0	43.6	207
Torque (ft-lb)	0.00	11.0	22.0	33.2	44.4	51.2	55.7	65.0
RPM	3600	3588	3576	3563	3550	3,541	3535	0
Efficiency (%)		87.2	91.4	91.7	91.7	91.2	90.7	
P.F. (%)	8.0	55.0	77.0	84.0	88.0	89.0	89.0	63.4

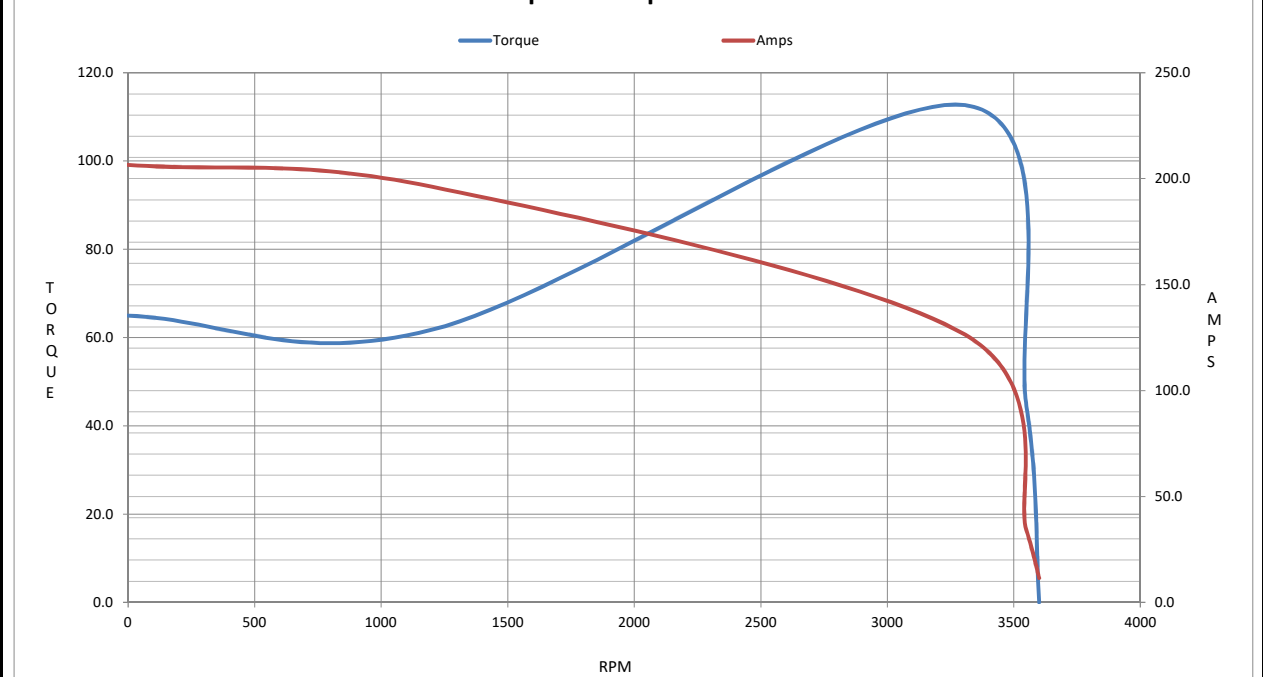
Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	1200	3308	3550	3600
Current (Amps)	207	196	126	34.0	11.5
Torque (ft-lb)	65.0	61.7	113	44.4	0.00

Information Block				
HP	30.0			
Sync. RPM	3600			
Frame	180			
Enclosure	TEFC			
Construction	TCA 180M02			
Voltage	230/460#200/400 V			
Frequency	60 Hz			
Design	N			
LR Code letter	F			
Service Factor	1.15			
Temp Rise @ FL	80 °C			
Duty	CONT			
Ambient	40 °C			
Elevation	3,300 feet			
Rotor/Shaft wk <sup>2</sup>	2.81 Lb-Ft <sup>2</sup>			
Ref Wdg	IE3L1802201 NONE			
Sound Pressure @ 1M	76 dBA			
VFD Rating	CONSTANT 2:1/VARIABLE 10:1			
Outline Dwg	SS312997A			
Conn. Diag	8442000677			
Additional Specifications:				
0				
0				
EQUIV CKT (OHMS / PHASE)				
R1	R2	X1	X2	Xm
0.2360	0.1130	0.6620	0.7660	23.1460



Speed -Torque Curve



IEC

IEC

IEC

## 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 : TCA0221AE221GAA009

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

Catalog No : R242

Rework No : N/A

Directives :

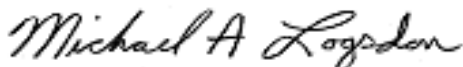
Low Voltage Directive 2014/35/EU

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**