

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0031AE271GAA009

Catalog No: R651

Cast Iron Motor, 4 & 3 HP, 3 Ph, 60 & 50 Hz, 230/460 & 200/400 V, 3600 & 3000 RPM, 100L Frame, TEFC



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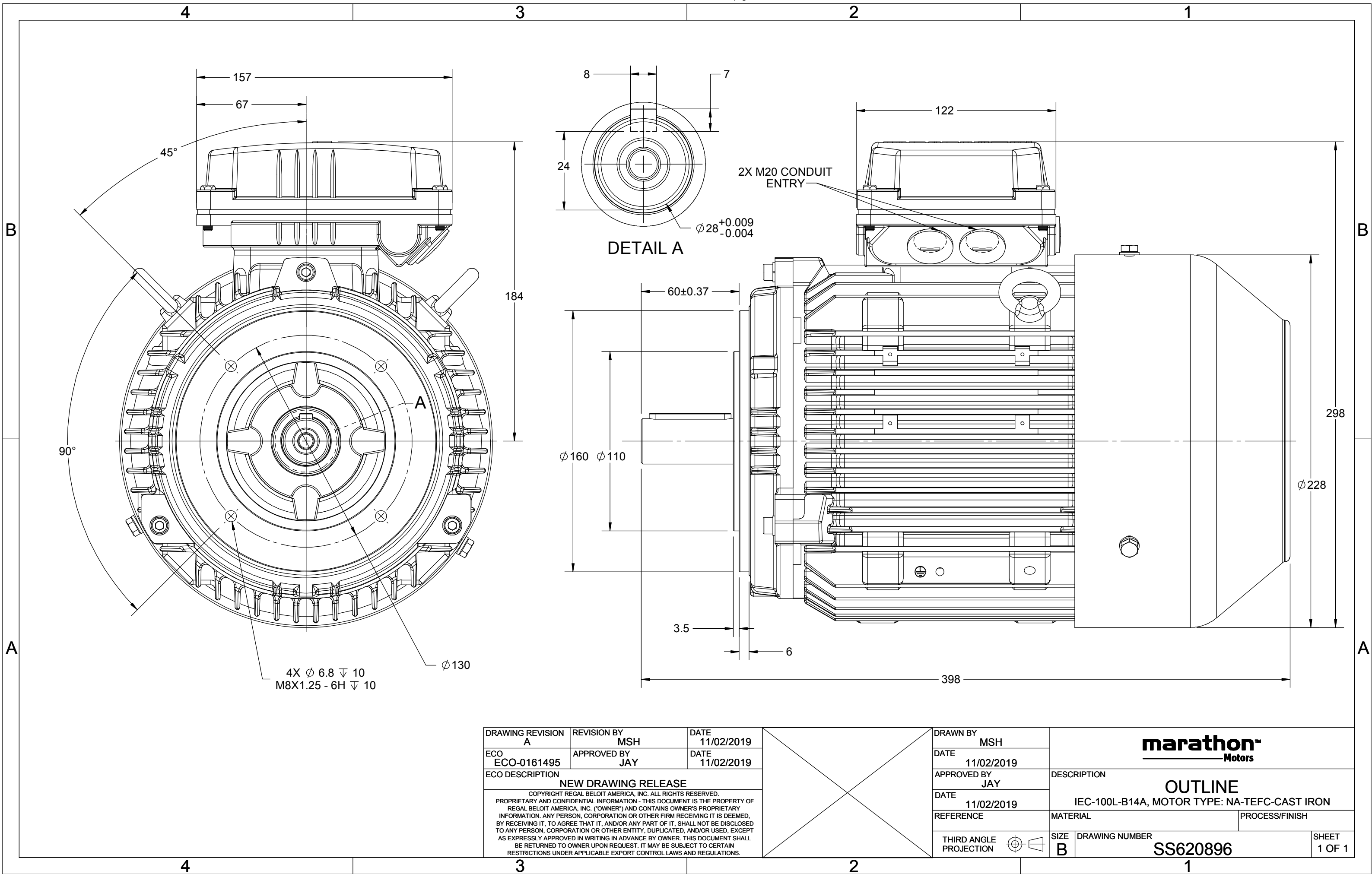
RegalRexnord

Nameplate Specifications

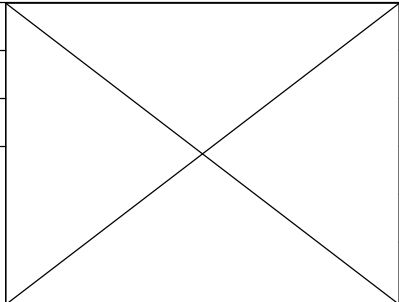
Phase	3	Output HP	4 & 3 Hp
Output KW	3.0 & 2.2 kW	Voltage	230/460 & 200/400 V
Speed	3500 & 2915 rpm	Service Factor	1.15 & 1.15
Frame	100L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	88.5 & 85.9 %
Ambient Temperature	40 °C	Frequency	60 & 50 Hz
Current	9.8/4.9 & 8.4/4.2 A	Power Factor	89
Duty	Continuous	Insulation Class	F
Design Code	N (IEC)	KVA Code	K
Drive End Bearing Size	6206	Opp Drive End Bearing Size	6206
UL	Recognized	CSA	N
CE	Y	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

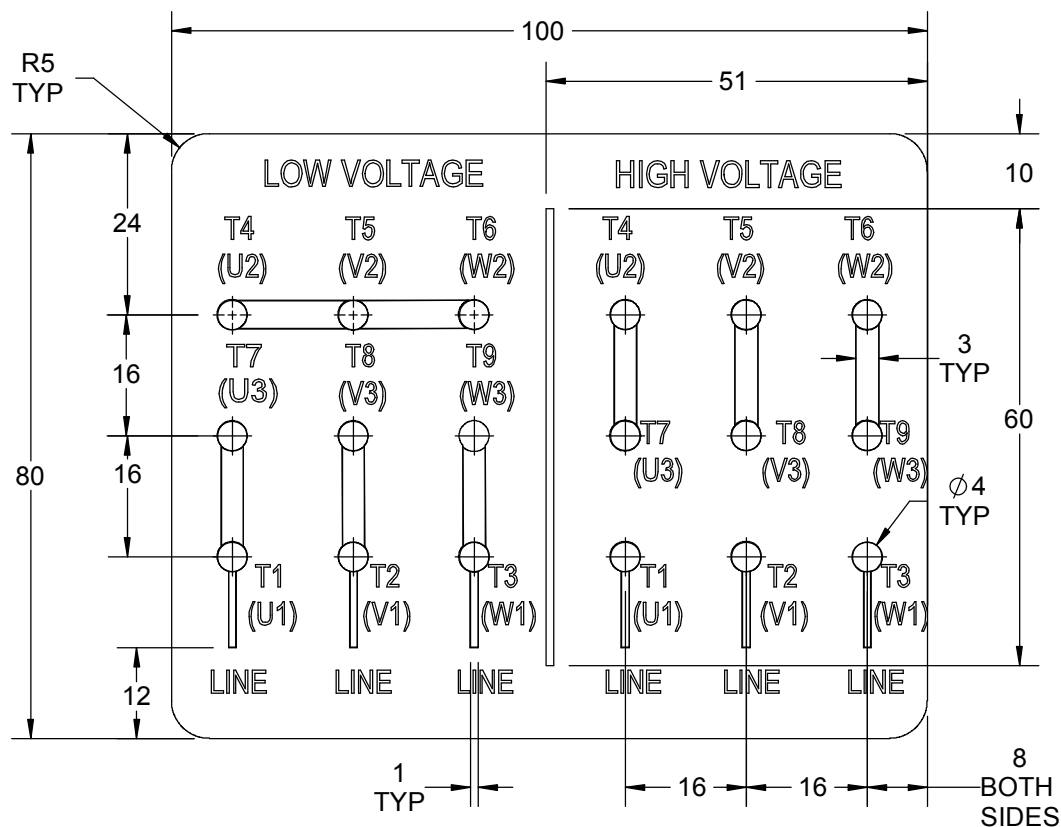
Electrical Type	Squirrel Cage Inverter Rated	Starting Method	Line Or Inverter
Poles	2	Rotation	Reversible
Resistance Main	3.74 Ohms	Mounting	Round
Motor Orientation	Horizontal	Drive End Bearing	Ball
Opp Drive End Bearing	Ball	Frame Material	Cast Iron
Shaft Type	IEC	Overall Length	15.67 in
Frame Length	7.87 in	Shaft Diameter	1.102 in
Shaft Extension	2.36 in	Assembly/Box Mounting	F3
Inverter Load	CONSTANT 2:1/VARIABLE 10:1		
Connection Drawing	8442000675	Outline Drawing	SS620896



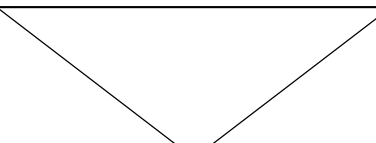


DRAWING REVISION A	REVISION BY MSH	DATE 11/02/2019
ECO ECO-0161495	APPROVED BY JAY	DATE 11/02/2019
ECO DESCRIPTION NEW DRAWING RELEASE		
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DRAWN BY MSH	marathon™ Motors	
DATE 11/02/2019		
APPROVED BY JAY	DESCRIPTION OUTLINE	
DATE 11/02/2019	IEC-100L-B14A, MOTOR TYPE: NA-TEFC-CAST IRON	
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER SS620896
		SHEET 1 OF 1



1. PRESSURE-SENSITIVE ADHESIVE TAPE COATED WITH ANTI-ADHESIVE.
2. YELLOW COLOR BACK GROUND LETTERS WILL BE 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.

DRAWING REVISION B		REVISION BY NIV		DATE 05/03/2019			DRAWN BY NIV		 Regal Beloit America, Inc.				
ECO ECO-0162986		APPROVED BY JAY		DATE 05/03/2019			DATE 29/01/2019		<div>DESCRIPTION</div> <div>CONNECTION DIAGRAM</div> <div>9 LEADS- STAR CONNECTON</div>				
ECO DESCRIPTION							APPROVED BY JAY						
UPDATED DRAWING							DATE 29/01/2019						
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						THIRD ANGLE PROJECTION				SIZE A	DRAWING NUMBER 8442000675		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: 8442000675
OUTLINE: SS620896
WINDING: IE3L1002201 NONE 1
SPEED: _____

CUSTOMER P.O. #: _____
REFERENCE MODEL #: TCA0031AE271GAA009
CAT #: R651
CUSTOMER PART #: _____
MOUNTING: F3

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC RPM	FL RPM	FRAME	ENCLOSURE	TYPE	KVA CODE	DESIGN
4	3.0	3600	3500	100L	TEFC	TCA 100LA02	K	N

PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB (° C)	ELEV.(Ft.)
3	60/50	230/460#200/400	9.8/4.9&8.4/4.2	LINE OR INVERTER	CONT	F	1.15	40	3300

F.L. EFF	88.5	3/4 LD EFF	86.5	1/2 LD EFF	86.0	GTD EFF	ELECT. TYPE
F.L. PF	89.0	3/4 LD PF	84.0	1/2 LD PF	75.0	84.5	SQ CAGE INV RATED

F.L. TORQUE	LR AMPS @ 460 V	L.R. TORQUE	B.D. TORQUE	F.L. RISE (° C)
6.0 LB-FT	45.0	19.1 LB-FT 318%	22.1 LB-FT 368%	80

SOUND PRESSURE @ 3 FT.	SOUND	POWER	ROTOR WK ²	MAX. LOAD WK ²	SAFE STALL TIME	STARTS/HOUR	APROX.	MOTOR WGT
63 dBA	72 dBA		0.11 LB-FT ²	0.11 LB-FT ²	7 SEC.	2	41.7	KG.

*** SUPPLEMENTAL INFORMATION ***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	MOTOR ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
FT-FLANGE-130	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
6206 6206							

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
2.340	1.560	3.971	1.347	143.455	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

REGAL®

Data Sheet

TCA0031AE271GAA009

Date: 5/30/2019

Customer: _____

Attention: _____

Submitted by: Fareeda Dudekula

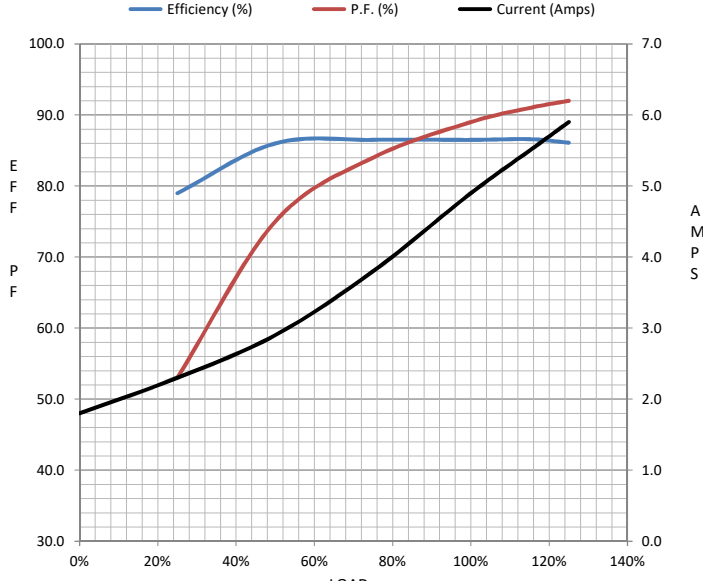
Submittal

Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	1.80	2.30	2.90	3.8	4.9	5.5	5.9	45.0	
Torque (ft-lb)	0.00	1.50	3.0	4.5	6.0	6.9	7.6	19.1	
RPM	3600	3574	3551	3526	3500	3,482	3470	0	
Efficiency (%)		79.0	86.0	86.5	86.5	86.6	86.1		
P.F. (%)	12.0	53.0	75.0	84.0	89.0	91.0	92.0	63.4	

Motor Speed Data

Motor Speed Data							
	LR	Pull-Up	BD	Rated	Idle		
Speed (RPM)	0	1200	2623	3500	3600		
Current (Amps)	45.0	42.8	27.1	4.9	1.80		
Torque (ft-lb)	19.1	18.1	22.1	6.0	0.00		
<div><div>Efficiency (%)</div><div>P. F. (%)</div><div>Current (Amps)</div></div> 						Information Block	
						HP	4.0
						Sync. RPM	3600
						Frame	100
						Enclosure	TEFC
						Construction	TCA 100LA02
						Voltage	230/460#200/400 V
						Frequency	60 Hz
						Design	N
						LR Code letter	K
						Service Factor	1.15
						Temp Rise @ FL	80 °C
						Duty	CONT
						Ambient	40 °C
						Elevation	3,300 feet
						Rotor/Shaft wk²	0.11 Lb-Ft²
						Ref Wdg	IE3L1002201 NONE
Sound Pressure @ 1M	63 dBA						
VFD Rating	CONSTANT 2:1/VARIABLE 10:1						
Outline Dwg	SS620896						
Conn. Diag	8442000675						
Additional Specifications:							
0							
0							
EQUIV CKT (OHMS / PHASE)							
R1	R2	X1	X2	Xm			
2.3400	1.5600	3.9710	1.3470	143.4550			

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 : TCA0031AE271GAA009

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

Catalog No : R651

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