

PRODUCT INFORMATION PACKET

Model No: TCA0152AE231GAA009

Catalog No: R837

TerraMAX® Cast Iron Motor, 20 & 15 HP, 3 Ph, 60 & 50 Hz, 230/460 & 200/400 V, 1800 & 1500 RPM,
160L Frame, TEFC



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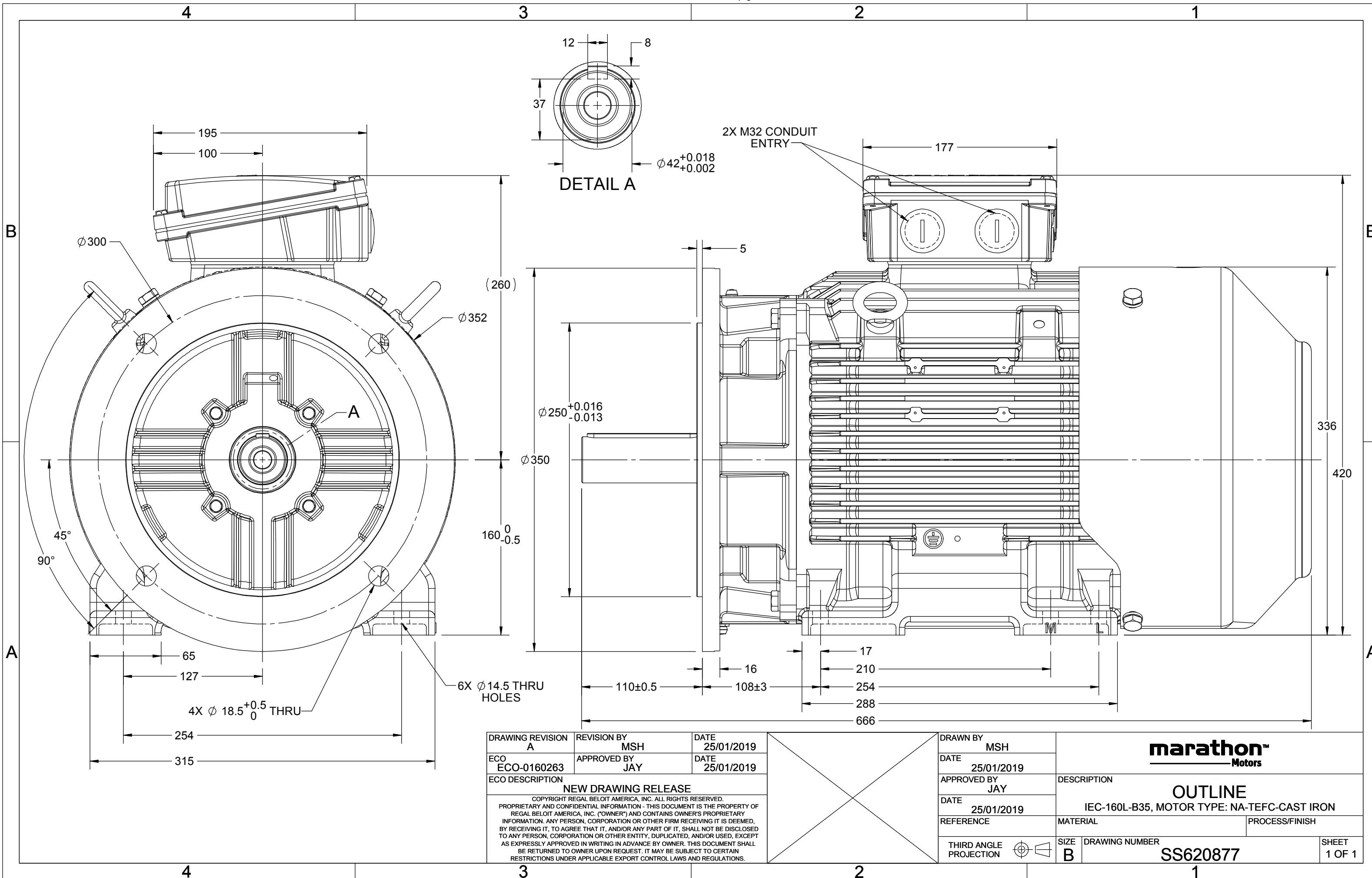
Nameplate Specifications

| | | | |
|------------------------|----------------------------------|----------------------------|------------------------------------|
| Phase | 3 | Output HP | 20 & 15 Hp |
| Output KW | 15.0 & 11.0 kW | Voltage | 230/460 & 200/400 V |
| Speed | 1775 & 1480 rpm | Service Factor | 1.15 & 1.15 |
| Frame | 160L | Enclosure | Totally Enclosed Fan Cooled |
| Thermal Protection | No Protection | Efficiency | 93 & 91.4 % |
| Ambient Temperature | 40 °C | Frequency | 60 & 50 Hz |
| Current | 50/25.1 & 45.5/22.8 A | Power Factor | 81 |
| 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 | .49 Ohms | Mounting | B3 |
| Motor Orientation | Horizontal | Drive End Bearing | Ball |
| Opp Drive End Bearing | Ball | Frame Material | Cast Iron |
| Shaft Type | IEC | Shaft Diameter | 42.000 in |
| Assembly/Box Mounting | F3 | Inverter Load | CONSTANT 2:1/VARIABLE 10:1 |
| Connection Drawing | 8442000715 | Outline Drawing | SS620877 |

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| | | |
|---|--------------------|--------------------|
| DRAWING REVISION A | REVISION BY MSH | DATE 25/01/2019 |
| ECO ECO-0160263 | APPROVED BY JAY | DATE 25/01/2019 |
| ECO DESCRIPTION NEW DRAWING RELEASE COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS. | | |

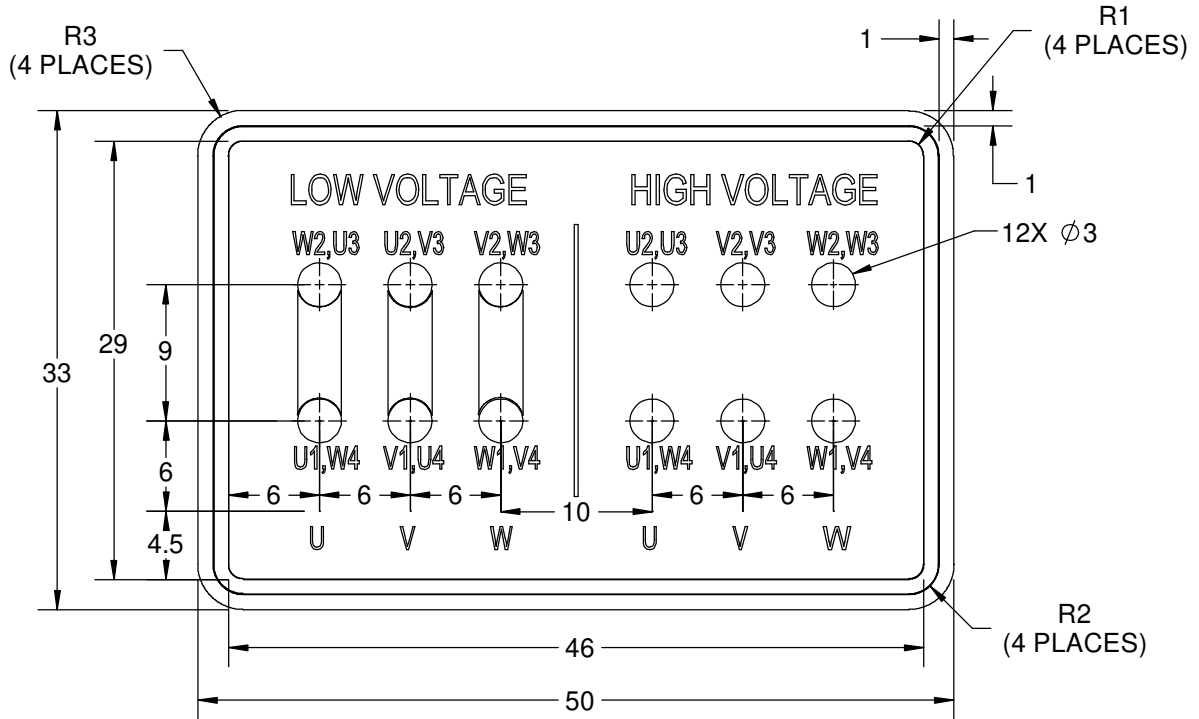
| |
|------------------------|
| DRAWN BY MSH |
| DATE 25/01/2019 |
| APPROVED BY JAY |
| DATE 25/01/2019 |
| REFERENCE |
| THIRD ANGLE PROJECTION |

| | |
|---|-----------------------------------|
| marathon™ Motors | |
| OUTLINE | |
| IEC-160L-B35, MOTOR TYPE: NA-TEFC-CAST IRON | |
| MATERIAL | PROCESS/FINISH |
| SIZE B | DRAWING NUMBER SS620877 |
| SHEET 1 OF 1 | |

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

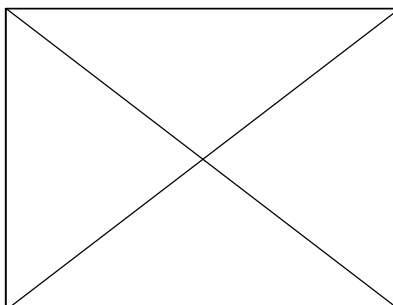
| GEOMETRIC TOLERANCE | | |
|---------------------|---------|------|
| LINEAR DIM | >0~6 | ±0.1 |
| | >6~30 | ±0.2 |
| | >30~120 | ±0.3 |





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 |  Regal Beloit America, Inc. | | |
| | APPROVED BY SUMANTA | | DESCRIPTION CONN DIAGRAM-NAMEPLATE | |
| | DATE 16/11/2020 | MATERIAL | PROCESS/FINISH | |
| | REFERENCE | SIZE A | DRAWING NUMBER 8442000715 | SHEET 1 OF 1 |
| | 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: SS620877
WINDING: IE3L1604202 NONE 1
SPEED: _____

CUSTOMER P.O. #: _____
REFERENCE MODEL #: TCA0152AE231GAA009
CAT #: R837
CUSTOMER PART #: _____
MOUNTING: F3

TYPICAL MOTOR PERFORMANCE DATA

| HP | KW | SYNC RPM | FL RPM | FRAME | ENCLOSURE | TYPE | KVA CODE | DESIGN |
|----|-------|----------|--------|-------|-----------|-------------|----------|--------|
| 20 | 15.00 | 1800 | 1775 | 160L | TEFC | TCA 160LA04 | J | N |

| PH | HZ | VOLTS | AMPS | START TYPE | DUTY | INSL | S.F. | AMB (° C) | ELEV.(Ft.) |
|----|-------|-----------------|-------------------|------------------|------|------|------|-----------|------------|
| 3 | 60/50 | 230/460#200/400 | 50/25.1&45.5/22.8 | LINE OR INVERTER | CONT | F | 1.15 | 40 | 3300 |

| F.L. EFF | 93.0 | 3/4 LD EFF | 93.0 | 1/2 LD EFF | 92.2 | GTD EFF | ELECT. TYPE |
|----------|------|------------|------|------------|------|---------|-------------------|
| F.L. PF | 81.0 | 3/4 LD PF | 74.0 | 1/2 LD PF | 62.0 | 92.0 | SQ CAGE INV RATED |

| F.L. TORQUE | LR AMPS @ 460 V | L.R. TORQUE | B.D. TORQUE | F.L. RISE (° C) |
|-------------|-----------------|----------------|----------------|-----------------|
| 59.2 LB-FT | 179 | 145 LB-FT 245% | 189 LB-FT 319% | 80 |

| SOUND PRESSURE @ 3 FT. | SOUND POWER | ROTOR WK ² | MAX. LOAD WK ² | SAFE STALL TIME | STARTS/HOUR | APROX. MOTOR WGT |
|------------------------|-------------|-------------------------|---------------------------|-----------------|-------------|------------------|
| 68 dBA | 77 dBA | 2.86 LB-FT ² | 2.86 LB-FT ² | 10 SEC. | 2 | 170 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 | B3 | 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 |
| 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 |
|--------------|--------------|--------------|--------------|--------------|--------------------|-------|
| 0.298 | 0.156 | 0.752 | 0.979 | 21.940 | 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: 11/27/2020 | NONE NONE |
| | FT-LB: NA |
| | VOLTAGE: NONE |
| | HZ: _____ |
| | UL: V - LI,ME-INS,CONST UL REC |

FORM: 3531 REV_4 2/27/06





Data Sheet

Date: 4/8/2020 TCA0152AE231GAA009

Customer: _____

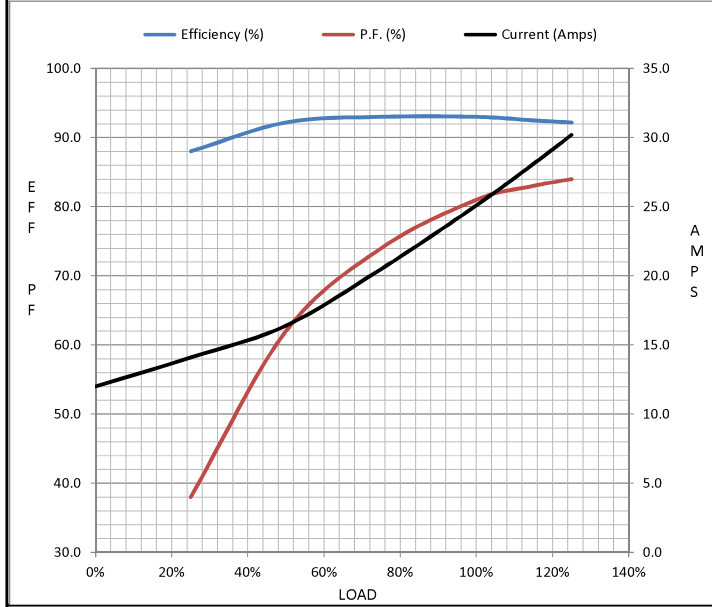
Attention: _____

Submittal

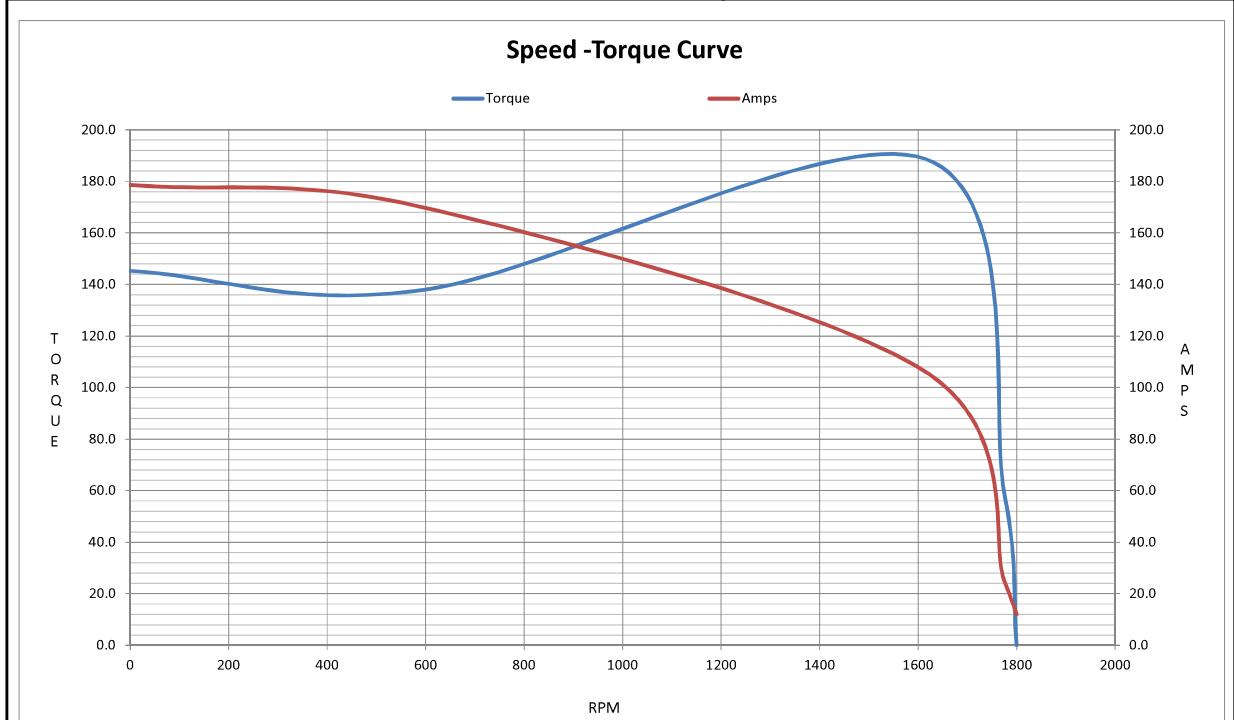
Submitted by: _____ Data @ 460 V

| Motor Load Data | | | | | | | | | |
|-----------------|------|------|------|------|------|-------|------|------|--|
| Load | 0% | 25% | 50% | 75% | 100% | 115% | 125% | LR | |
| Current (Amps) | 12.0 | 14.1 | 16.4 | 20.5 | 25.1 | 28.1 | 30.2 | 179 | |
| Torque (ft-lb) | 0.00 | 14.6 | 29.4 | 44.2 | 59.2 | 68.2 | 74.2 | 145 | |
| RPM | 1800 | 1794 | 1788 | 1782 | 1775 | 1,772 | 1769 | 0 | |
| Efficiency (%) | | 88.0 | 92.2 | 93.0 | 93.0 | 92.5 | 92.2 | | |
| P.F. (%) | 5.0 | 38.0 | 62.0 | 74.0 | 81.0 | 83.0 | 84.0 | 63.4 | |

| Motor Speed Data | | | | | | Information Block | |
|----------------------------|--------|---------|--------|--------|---------|-----------------------------|----------------------------|
| | LR | Pull-Up | BD | Rated | Idle | | |
| Speed (RPM) | 0 | 600 | 1615 | 1775 | 1800 | HP | 20.0 |
| Current (Amps) | 179 | 170 | 106 | 25.1 | 12.0 | Sync. RPM | 1800 |
| Torque (ft-lb) | 145 | 138 | 189 | 59.2 | 0.00 | Frame | 160 |
| | | | | | | Enclosure | TEFC |
| | | | | | | Construction | TCA 160LA04 |
| | | | | | | 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 wk ² | 2.86 Lb-Ft ² |
| | | | | | | Ref Wdg | IE3L1604202 NONE |
| | | | | | | Sound Pressure @ 1M | 68 dBA |
| | | | | | | VFD Rating | CONSTANT 2:1/VARIABLE 10:1 |
| | | | | | | Outline Dwg | SS620877 |
| | | | | | | Conn. Diag | 8442000677 |
| Additional Specifications: | | | | | | | |
| 0 | | | | | | | |
| 0 | | | | | | | |
| EQUIV CKT (OHMS / PHASE) | | | | | | | |
| | R1 | R2 | X1 | X2 | Xm | | |
| | 0.2980 | 0.1560 | 0.7520 | 0.9790 | 21.9400 | | |



| EQUIV CKT (OHMS / PHASE) | | | | |
|--------------------------|--------|--------|--------|---------|
| | R1 | R2 | X1 | Xm |
| | 0.2980 | 0.1560 | 0.7520 | 21.9400 |



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 : TCA0152AE231GAA009

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

Catalog No : R837

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