

# PRODUCT INFORMATION PACKET

Model No: TCA7P51AE231GAA009

Catalog No: R830

TerraMAX® Cast Iron Motor, 10 & 7.50 HP, 3 Ph, 60 & 50 Hz, 230/460 & 200/400 V, 3600 & 3000 RPM,  
132S Frame, TEFC



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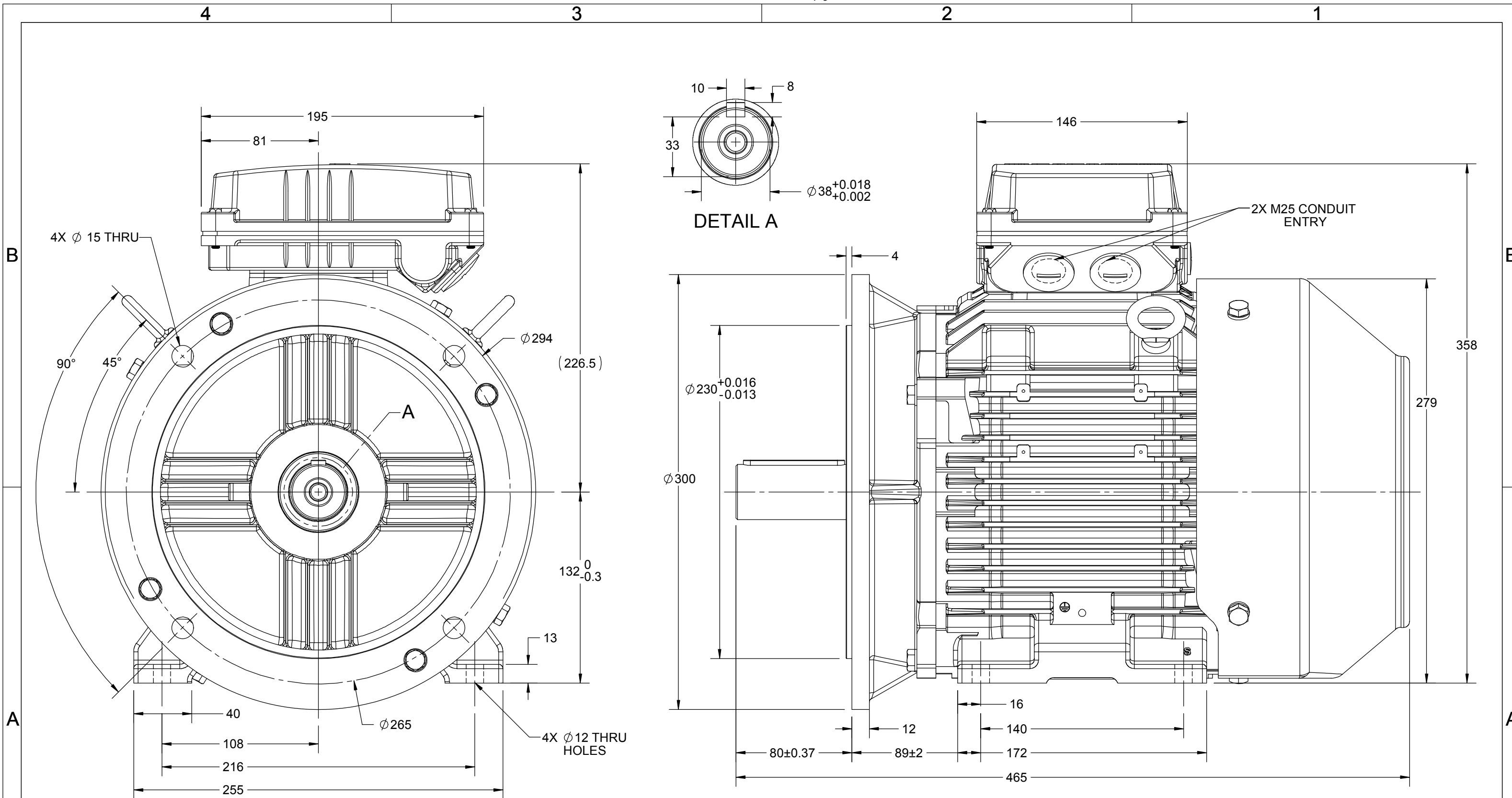
### Nameplate Specifications

|                        |                                  |                            |                                    |
|------------------------|----------------------------------|----------------------------|------------------------------------|
| Phase                  | <b>3</b>                         | Output HP                  | <b>10 &amp; 7.5 Hp</b>             |
| Output KW              | <b>7.5 &amp; 5.6 kW</b>          | Voltage                    | <b>230/460 &amp; 200/400 V</b>     |
| Speed                  | <b>3540 &amp; 2950 rpm</b>       | Service Factor             | <b>1.15 &amp; 1.15</b>             |
| Frame                  | <b>132S</b>                      | Enclosure                  | <b>Totally Enclosed Fan Cooled</b> |
| Thermal Protection     | <b>No Protection</b>             | Efficiency                 | <b>90.2 &amp; 89.2 %</b>           |
| Ambient Temperature    | <b>40 °C</b>                     | Frequency                  | <b>60 &amp; 50 Hz</b>              |
| Current                | <b>23.8/11.9 &amp; 21/10.5 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>J</b>                           |
| Drive End Bearing Size | <b>6308</b>                      | Opp Drive End Bearing Size | <b>6208</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>1.24 Ohms</b>                    | Mounting           | <b>B35</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>                          | Shaft Diameter     | <b>38.000 in</b>                  |
| Assembly/Box Mounting | <b>F3</b>                           | Inverter Load      | <b>CONSTANT 2:1/VARIABLE 10:1</b> |
| Outline Drawing       | <b>SS620874</b>                     | Connection Drawing | <b>8442000715</b>                 |

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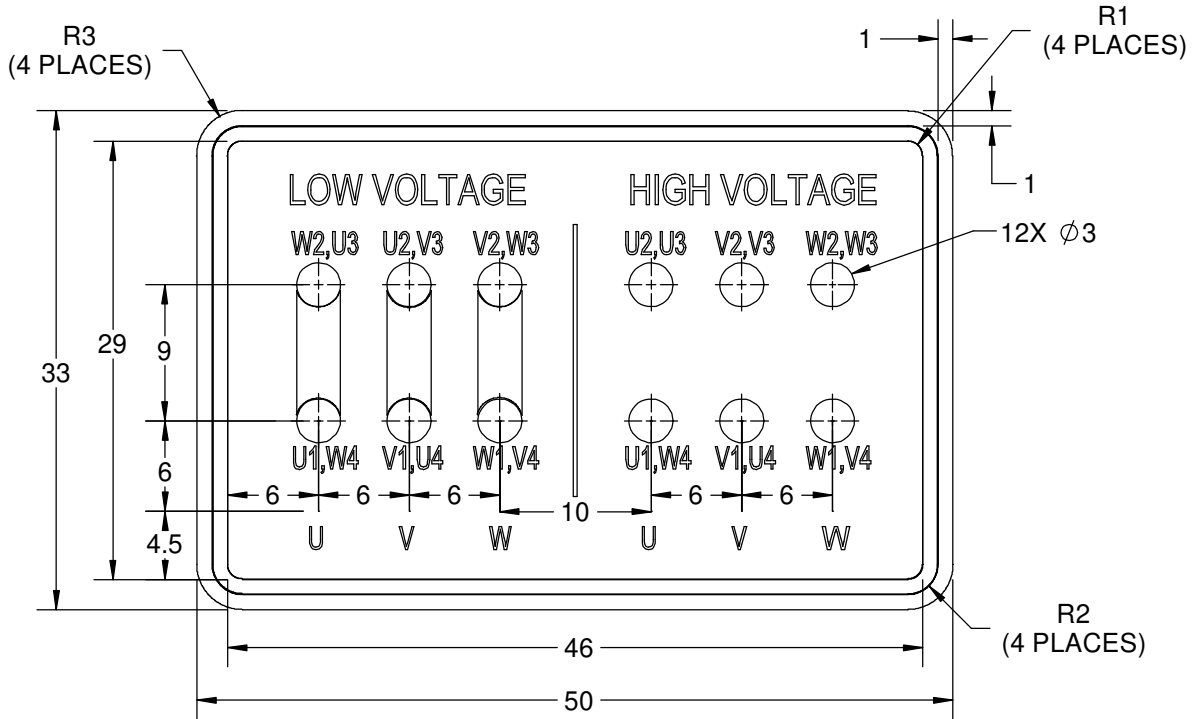
|   |                    |                    |
|---|--------------------|--------------------|
| DRAWING REVISION<br>A   | REVISION BY<br>MSH | DATE<br>25/01/2019 |
| ECO<br>ECO-0160263  | APPROVED BY<br>JAY | DATE<br>25/01/2019 |
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|                           |  |                            |
|---------------------------|--|----------------------------|
| DRAWN BY<br>MSH           | <b>marathon™</b><br>Motors   |                            |
| DATE<br>25/01/2019        |  |                            |
| APPROVED BY<br>JAY        | DESCRIPTION<br><b>OUTLINE</b><br>IEC-132S-B35, MOTOR TYPE: NA-TEFC-CAST IRON |                            |
| DATE<br>25/01/2019        | MATERIAL   | PROCESS/FINISH             |
| REFERENCE                 | SIZE<br>B  | DRAWING NUMBER<br>SS620874 |
| THIRD ANGLE<br>PROJECTION | SHEET<br>1 OF 1  |                            |

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

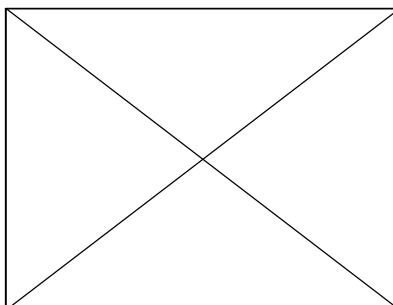
| GEOMETRIC TOLERANCE |         |      |
|---------------------|---------|------|
| LINEAR DIM          | >0~6    | ±0.1 |
|                     | >6~30   | ±0.2 |
|                     | >30~120 | ±0.3 |





**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<br><b>S.MUDDA</b> | DATE<br><b>16/11/2020</b>  |  <b>Regal Beloit America, Inc.</b> |  |                        |
|                            | APPROVED BY<br><b>SUMANTA</b>  |  | DESCRIPTION<br><b>CONN DIAGRAM-NAMEPLATE</b> |                        |
|                            | DATE<br><b>16/11/2020</b>  | MATERIAL   | PROCESS/FINISH                               |                        |
|                            | REFERENCE  | SIZE<br><b>A</b>   | DRAWING NUMBER<br><b>8442000715</b>          | SHEET<br><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: SS620874  
WINDING: IE3L1322202 NONE 1  
SPEED: \_\_\_\_\_

CUSTOMER P.O. #: \_\_\_\_\_  
REFERENCE MODEL #: TCA7P51AE231GAA009  
CAT #: R630  
CUSTOMER PART #: \_\_\_\_\_  
MOUNTING: F3

**TYPICAL MOTOR PERFORMANCE DATA**

| HP | KW  | SYNC RPM | FL RPM | FRAME | ENCLOSURE | TYPE        | KVA CODE | DESIGN |
|----|-----|----------|--------|-------|-----------|-------------|----------|--------|
| 10 | 7.5 | 3600     | 3540   | 132S  | TEFC      | TCA 132SB02 | J        | N      |

| PH | HZ    | VOLTS           | AMPS              | START TYPE       | DUTY | INSL | S.F. | AMB (° C) | ELEV.(Ft.) |
|----|-------|-----------------|-------------------|------------------|------|------|------|-----------|------------|
| 3  | 60/50 | 230/460#200/400 | 23.8/11.9&21/10.5 | LINE OR INVERTER | CONT | F    | 1.15 | 40        | 3300       |

| F.L. EFF | 90.2 | 3/4 LD EFF | 90.2 | 1/2 LD EFF | 89.0 | GTD EFF | ELECT. TYPE       |
|----------|------|------------|------|------------|------|---------|-------------------|
| F.L. PF  | 88.0 | 3/4 LD PF  | 83.0 | 1/2 LD PF  | 74.0 | 88.7    | SQ CAGE INV RATED |

| F.L. TORQUE | LR AMPS @ 460 V | L.R. TORQUE     | B.D. TORQUE     | F.L. RISE (° C) |
|-------------|-----------------|-----------------|-----------------|-----------------|
| 14.8 LB-FT  | 79.0            | 28.0 LB-FT 189% | 41.0 LB-FT 277% | 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 |
|------------------------|-------------|-------------------------|---------------------------|-----------------|-------------|------------------|
| 72 dBA                 | 81 dBA      | 0.51 LB-FT <sup>2</sup> | 0.51 LB-FT <sup>2</sup>   | 10 SEC.         | 2           | 88 KG.           |

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

| DE BRACKET TYPE | ODE BRACKET TYPE | MOUNT TYPE | MOTOR ORIENTATION | SEVERE DUTY | HAZARDOUS LOCATION | DRIP COVER | SCREENS | PAIN          |
|-----------------|------------------|------------|-------------------|-------------|--------------------|------------|---------|---------------|
| FF-FLANGE-265   | 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      |
| 6308     | 6208     |            |              |            |             |                         |                |

| 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 |
|--------------|--------------|--------------|--------------|--------------|--------------------|-------|
| 0.766        | 0.397        | 1.532        | 1.163        | 57.553       | 0.150              | ODE   |

|                                 |  |  |  |  |  |  |
|---------------------------------|--|--|--|--|--|--|
| *<br>N<br>O<br>T<br>E<br>S<br>* | INVERTER TORQUE: CONSTANT 2:1/VARIABLE 10:1<br>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: 4/9/2020 TCA7P51AE231GAA009

Customer: \_\_\_\_\_

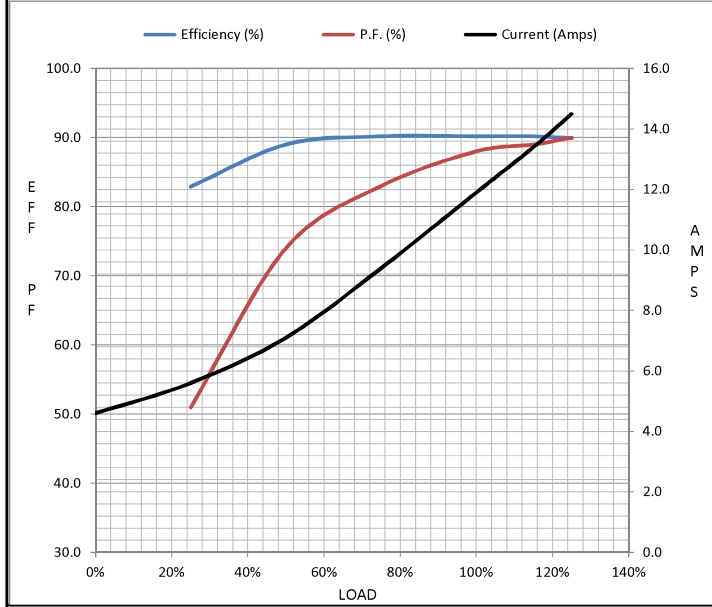
Attention: \_\_\_\_\_

**Submittal**

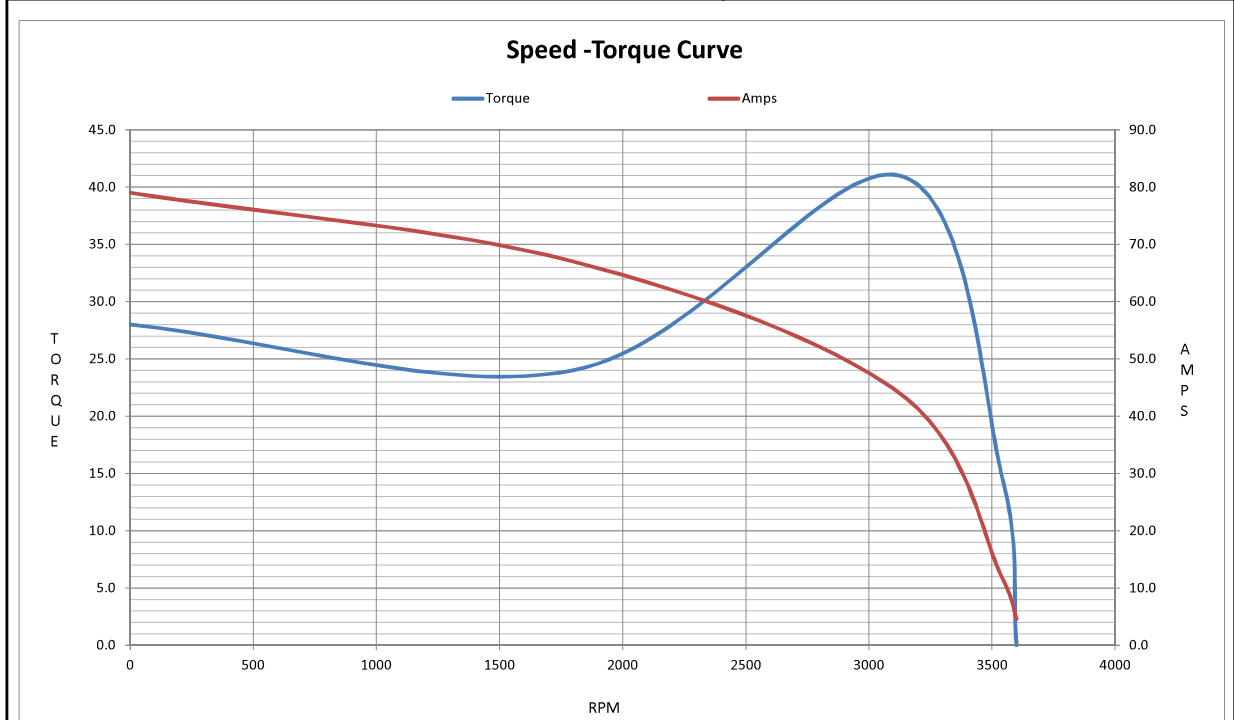
Submitted by: \_\_\_\_\_ Data @ 460 V

| Motor Load Data |      |      |      |      |      |       |      |      |  |
|-----------------|------|------|------|------|------|-------|------|------|--|
| Load            | 0%   | 25%  | 50%  | 75%  | 100% | 115%  | 125% | LR   |  |
| Current (Amps)  | 4.6  | 5.6  | 7.1  | 9.4  | 11.9 | 13.4  | 14.5 | 79.0 |  |
| Torque (ft-lb)  | 0.00 | 3.7  | 7.4  | 11.1 | 14.8 | 17.1  | 18.6 | 28.0 |  |
| RPM             | 3600 | 3585 | 3570 | 3556 | 3540 | 3,530 | 3523 | 0    |  |
| Efficiency (%)  |      | 82.9 | 89.0 | 90.2 | 90.2 | 90.2  | 89.9 |      |  |
| P.F. (%)        | 10.0 | 51.0 | 74.0 | 83.0 | 88.0 | 89.0  | 90.0 | 45.0 |  |

| Motor Speed Data           |        |         |        |        |         | Information Block           |                            |
|----------------------------|--------|---------|--------|--------|---------|-----------------------------|----------------------------|
|                            | LR     | Pull-Up | BD     | Rated  | Idle    |                             |                            |
| Speed (RPM)                | 0      | 1800    | 3125   | 3540   | 3600    | HP                          | 10.0                       |
| Current (Amps)             | 79.0   | 67.0    | 44.0   | 11.9   | 4.6     | Sync. RPM                   | 3600                       |
| Torque (ft-lb)             | 28.0   | 24.0    | 41.0   | 14.8   | 0.00    | Frame                       | 132                        |
|                            |        |         |        |        |         | Enclosure                   | TEFC                       |
|                            |        |         |        |        |         | Construction                | TCA 132SB02                |
|                            |        |         |        |        |         | 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 <sup>2</sup> | 0.51 Lb-Ft <sup>2</sup>    |
|                            |        |         |        |        |         | Ref Wdg                     | IE3L1322202 NONE           |
|                            |        |         |        |        |         | Sound Pressure @ 1M         | 68 dBA                     |
|                            |        |         |        |        |         | VFD Rating                  | CONSTANT 2:1/VARIABLE 10:1 |
|                            |        |         |        |        |         | Outline Dwg                 | SS620874                   |
|                            |        |         |        |        |         | Conn. Diag                  | 8442000677                 |
| Additional Specifications: |        |         |        |        |         |                             |                            |
| 0                          |        |         |        |        |         |                             |                            |
| 0                          |        |         |        |        |         |                             |                            |
| EQUIV CKT (OHMS / PHASE)   |        |         |        |        |         |                             |                            |
|                            | R1     | R2      | X1     | X2     | Xm      |                             |                            |
|                            | 0.7660 | 0.3970  | 1.5320 | 1.1630 | 57.5530 |                             |                            |



| Information Block           |                            |        |        |        |         |
|-----------------------------|----------------------------|--------|--------|--------|---------|
| HP                          | 10.0                       |        |        |        |         |
| Sync. RPM                   | 3600                       |        |        |        |         |
| Frame                       | 132                        |        |        |        |         |
| Enclosure                   | TEFC                       |        |        |        |         |
| Construction                | TCA 132SB02                |        |        |        |         |
| 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 <sup>2</sup> | 0.51 Lb-Ft <sup>2</sup>    |        |        |        |         |
| Ref Wdg                     | IE3L1322202 NONE           |        |        |        |         |
| Sound Pressure @ 1M         | 68 dBA                     |        |        |        |         |
| VFD Rating                  | CONSTANT 2:1/VARIABLE 10:1 |        |        |        |         |
| Outline Dwg                 | SS620874                   |        |        |        |         |
| Conn. Diag                  | 8442000677                 |        |        |        |         |
| Additional Specifications:  |                            |        |        |        |         |
| 0                           |                            |        |        |        |         |
| 0                           |                            |        |        |        |         |
| EQUIV CKT (OHMS / PHASE)    |                            |        |        |        |         |
|                             | R1                         | R2     | X1     | X2     | Xm      |
|                             | 0.7660                     | 0.3970 | 1.5320 | 1.1630 | 57.5530 |



## 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 : TCA7P51AE231GAA009

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

Catalog No : R830

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**