

PRODUCT INFORMATION PACKET

Model No: TCA2P23AE221GAA009

Catalog No: R223

Cast Iron Motor, 3 & 2 HP, 3 Ph, 60 & 50 Hz, 230/460 & 200/400 V, 1200 & 1000 RPM, 112M Frame, TEFC



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Nameplate Specifications

| | | | |
|------------------------|--------------------------------|----------------------------|------------------------------------|
| Phase | 3 | Output HP | 3 & 2 Hp |
| Output KW | 2.2 & 1.5 kW | Voltage | 230/460 & 200/400 V |
| Speed | 1170 & 980 rpm | Service Factor | 1.15 & 1.15 |
| Frame | 112M | Enclosure | Totally Enclosed Fan Cooled |
| Thermal Protection | No Protection | Efficiency | 89.5 & 82.5 % |
| Ambient Temperature | 40 °C | Frequency | 60 & 50 Hz |
| Current | 8.8/4.4 & 8.2/4.1 A | Power Factor | 70 |
| Duty | Continuous | Insulation Class | F |
| Design Code | N (IEC) | KVA Code | M |
| Drive End Bearing Size | 6306 | Opp Drive End Bearing Size | 6206 |
| UL | Recognized | CSA | N |
| CE | Y | IP Code | 55 |
| Number of Speeds | 1 | Efficiency Class | IE3 |

Technical Specifications

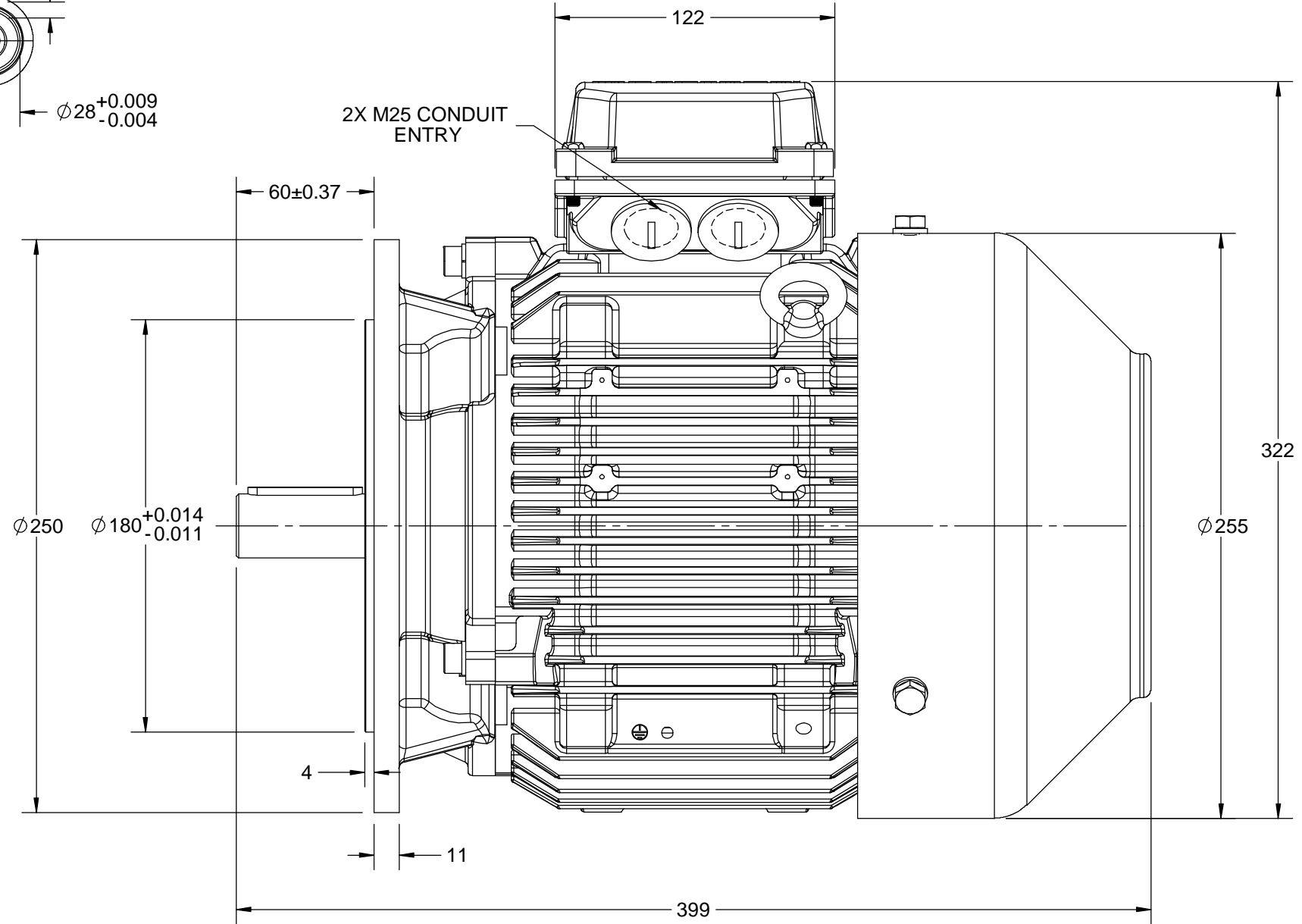
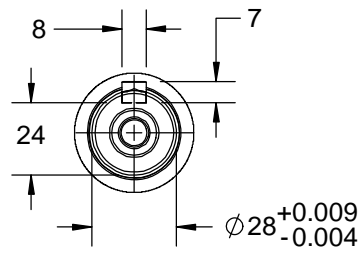
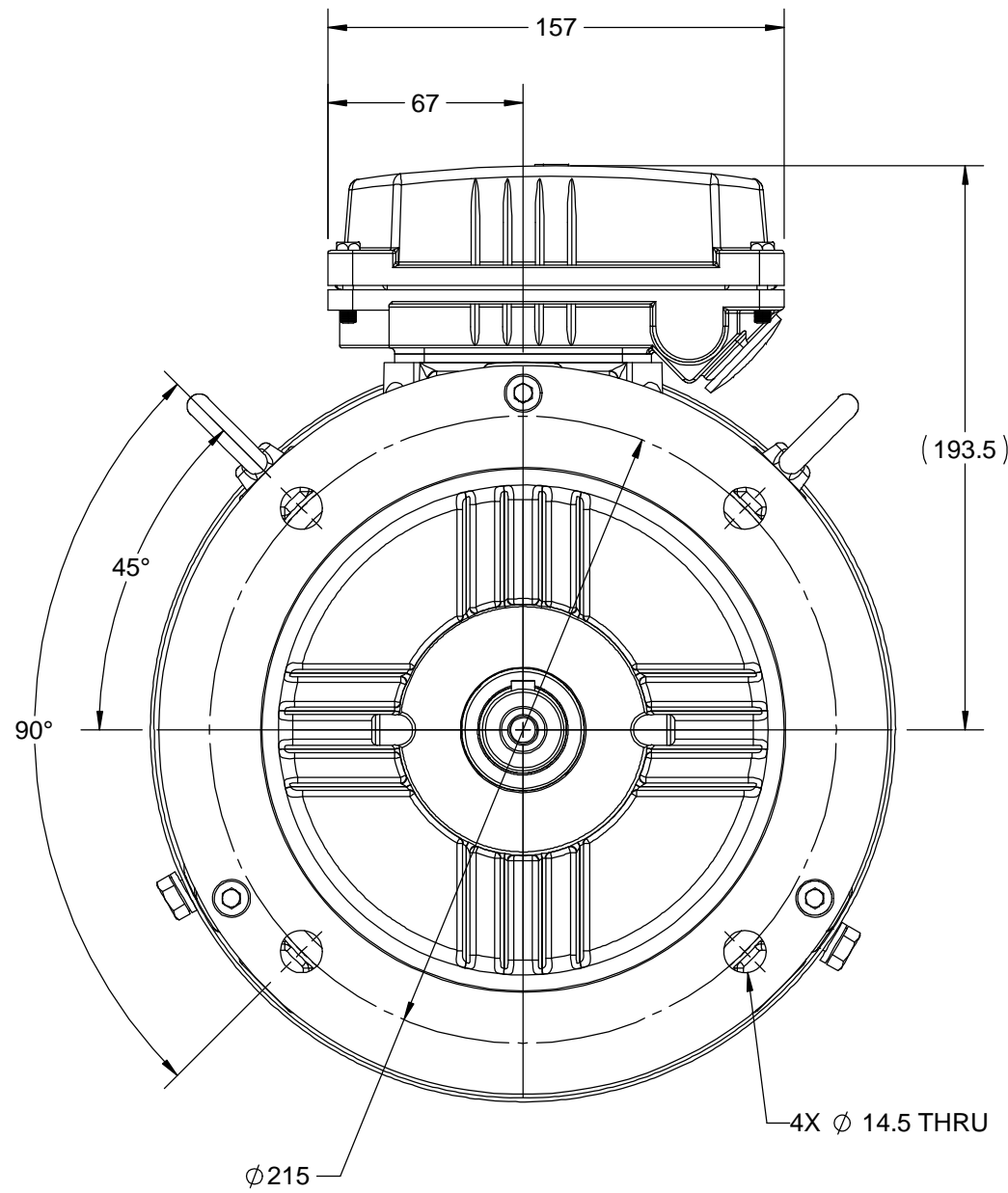
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|-----------------------|-------------------------------------|-----------------------|-------------------------|
| Electrical Type | Squirrel Cage Inverter Rated | Starting Method | Line Or Inverter |
| Poles | 6 | Rotation | Reversible |
| Resistance Main | 3.31 Ohms | Mounting | Round |
| Motor Orientation | Horizontal | Drive End Bearing | Ball |
| Opp Drive End Bearing | Ball | Frame Material | Cast Iron |
| Shaft Type | IEC | Overall Length | 15.71 in |
| Frame Length | 6.85 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 | SS600217A |

B

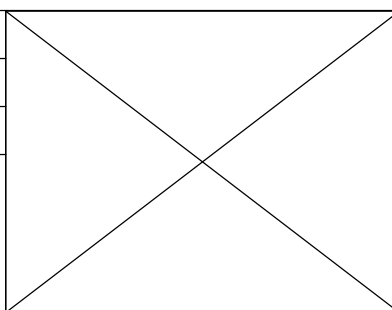
B

A

A



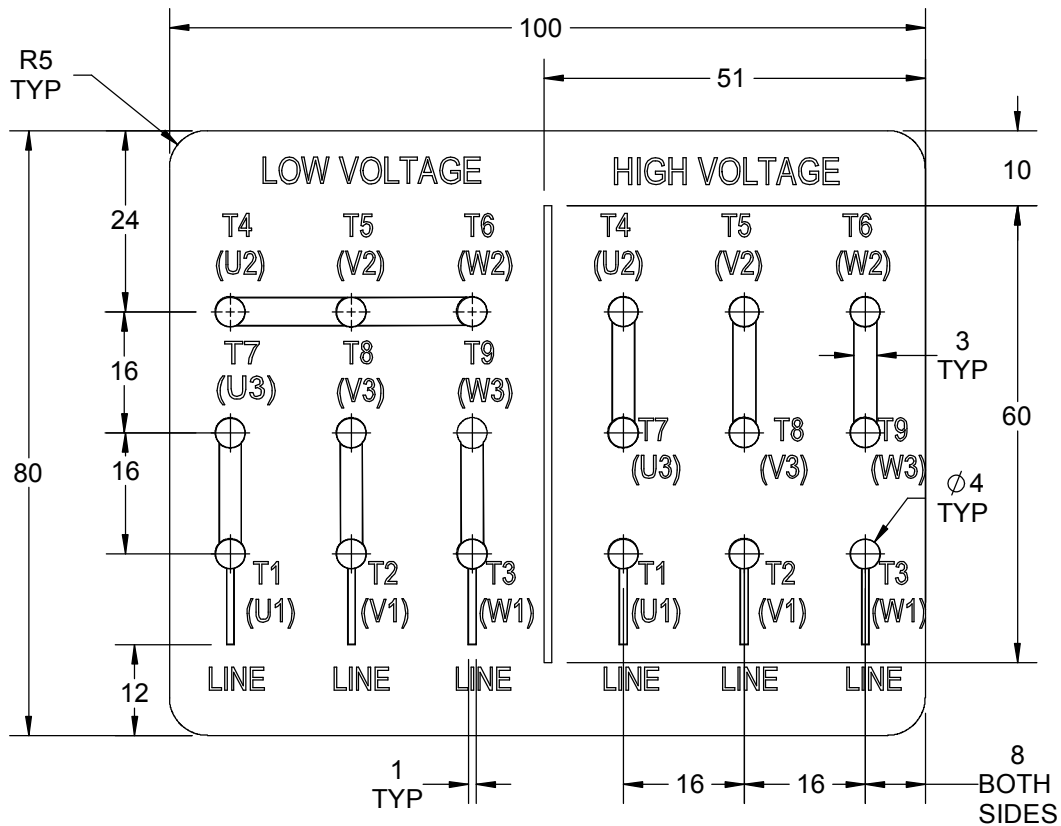
| | | |
|---|--------------------|--------------------|
| DRAWING REVISION A | REVISION BY NIV | DATE 10/12/2018 |
| ECO ECO-0157171 | APPROVED BY JAY | DATE 10/12/2018 |
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| |
|------------------------|
| DRAWN BY NIV |
| DATE 10/12/2018 |
| APPROVED BY JAY |
| DATE 10/12/2018 |
| REFERENCE |
| THIRD ANGLE PROJECTION |

| | |
|--|------------------------------------|
| marathon™ Motors | |
| OUTLINE | |
| IEC-112 FR.- B5 MOTOR TYPE: TEFC-CAST IRON | |
| MATERIAL | PROCESS/FINISH |
| SIZE B | DRAWING NUMBER SS600217A |
| SHEET 1 OF 1 | |

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



NOTES:

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 | |
| ECO DESCRIPTION UPDATED DRAWING | | | | APPROVED BY JAY | DESCRIPTION CONNECTION DIAGRAM 9 LEADS- STAR CONNECTOR |
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| | | | REFERENCE | SIZE A | DRAWING NUMBER 8442000675 |



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

DATA VOLTS: 460

CERTIFICATION DATA SHEET

CUSTOMER: _____
ORDER #: _____
CONN. DIAGRAM: 8442000675
OUTLINE: SS600217A
WINDING: IE3L1126201 NONE 1
SPEED: _____

CUSTOMER P.O. #: _____
REFERENCE MODEL #: TCA2P23AE221GAA009
CAT #: R223
CUSTOMER PART #: _____
MOUNTING: F3

TYPICAL MOTOR PERFORMANCE DATA

| HP | KW | SYNC RPM | FL RPM | FRAME | ENCLOSURE | TYPE | KVA CODE | DESIGN |
|----|-----|----------|--------|-------|-----------|-------------|----------|--------|
| 3 | 2.2 | 1200 | 1170 | 112M | TEFC | TCA 112MA06 | M | N |

| PH | HZ | VOLTS | AMPS | START TYPE | DUTY | INSL | S.F. | AMB (° C) | ELEV.(Ft.) |
|----|-------|-----------------|-----------------|------------------|------|------|------|-----------|------------|
| 3 | 60/50 | 230/460#200/400 | 8.8/4.4&8.2/4.1 | LINE OR INVERTER | CONT | F | 1.15 | 40 | 3300 |

| F.L. EFF | 89.5 | 3/4 LD EFF | 89.5 | 1/2 LD EFF | 83.4 | GTD EFF | ELECT. TYPE |
|----------|------|------------|------|------------|------|---------|-------------------|
| F.L. PF | 70.0 | 3/4 LD PF | 61.0 | 1/2 LD PF | 50.0 | 87.9 | SQ CAGE INV RATED |

| F.L. TORQUE | LR AMPS @ 460 V | L.R. TORQUE | B.D. TORQUE | F.L. RISE (° C) |
|-------------|-----------------|-------------|-------------|-----------------|
| 13.5 LB-FT | 38.2 | 43.6 LB-FT | 323% | 51.4 LB-FT |
| | | | | 381% |
| | | | | 80 |

| SOUND PRESSURE @ 3 FT. | SOUND POWER | ROTOR WK ² | MAX. LOAD WK ² | SAFE STALL TIME | STARTS/HOUR | APROX. MOTOR WGT |
|------------------------|-------------|-------------------------|---------------------------|-----------------|-------------|------------------|
| 55 dBA | 64 dBA | 0.50 LB-FT ² | 0.5 LB-FT ² | 15 SEC. | 2 | 60 KG. |

***** SUPPLEMENTAL INFORMATION *****

| DE BRACKET TYPE | ODE BRACKET TYPE | MOUNT TYPE | MOTOR ORIENTATION | SEVERE DUTY | HAZARDOUS LOCATION | DRIP COVER | SCREENS | PAINT |
|-----------------|------------------|------------|-------------------|-------------|--------------------|------------|---------|---------------|
| FF-FLANGE-215 | STANDARD | ROUND | HORIZONTAL | NO | NONE | NO | NONE | BLUE (ENAMEL) |

| BEARINGS | | GREASE | SHAFT TYPE | SPECIAL DE | SPECIAL ODE | SHAFT MATERIAL | FRAME MATERIAL |
|----------|------|------------|--------------|------------|-------------|-------------------------|----------------|
| DE | ODE | POLYREX EM | STANDARD IEC | NONE | NONE | 1045 HOT ROLLED (C-204) | CAST IRON |
| BALL | BALL | | | | | | |
| 6306 | 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 |
|--------------|--------------|--------------|--------------|--------------|--------------------|-------|
| 1.986 | 1.702 | 6.146 | 7.469 | 94.454 | 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 |
| | FT-LB: NA |
| | VOLTAGE: NONE |
| | HZ: _____ |
| | UL: V - LI,ME-INS,CONST UL REC |

FORM: 3531 REV_4 2/27/06



Data Sheet

TCA2P23AE221GAA009

Date: 5/30/2019
Customer:
Attention:

Submittal

Submitted by: Fareeda Dudekula

Data @ 460 V

Motor Load Data

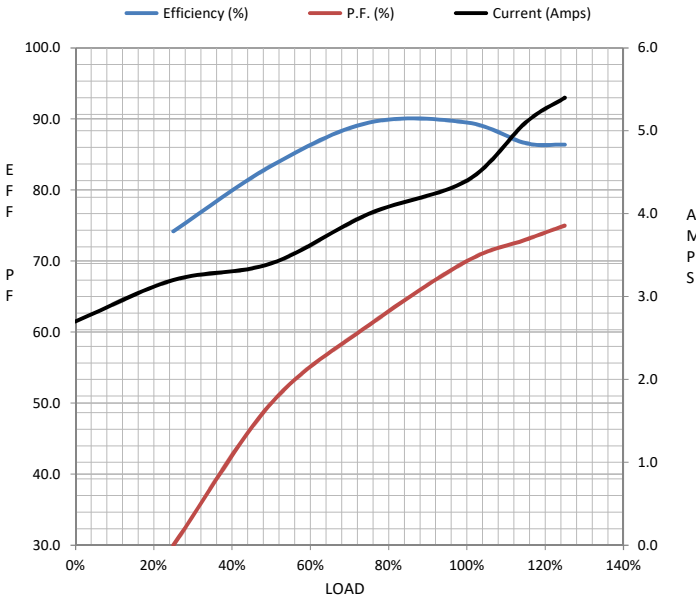
| Load | 0% | 25% | 50% | 75% | 100% | 115% | 125% | LR |
|----------------|------|------|------|------|------|-------|------|------|
| Current (Amps) | 2.70 | 3.2 | 3.4 | 4.0 | 4.4 | 5.1 | 5.4 | 38.2 |
| Torque (ft-lb) | 0.00 | 3.3 | 6.6 | 10.0 | 13.5 | 15.6 | 17.0 | 43.6 |
| RPM | 1200 | 1193 | 1186 | 1179 | 1170 | 1,167 | 1164 | 0 |
| Efficiency (%) | | 74.2 | 83.4 | 89.5 | 89.5 | 86.6 | 86.4 | |
| P.F. (%) | 9.0 | 30.0 | 50.0 | 61.0 | 70.0 | 73.0 | 75.0 | 63.4 |

Motor Speed Data

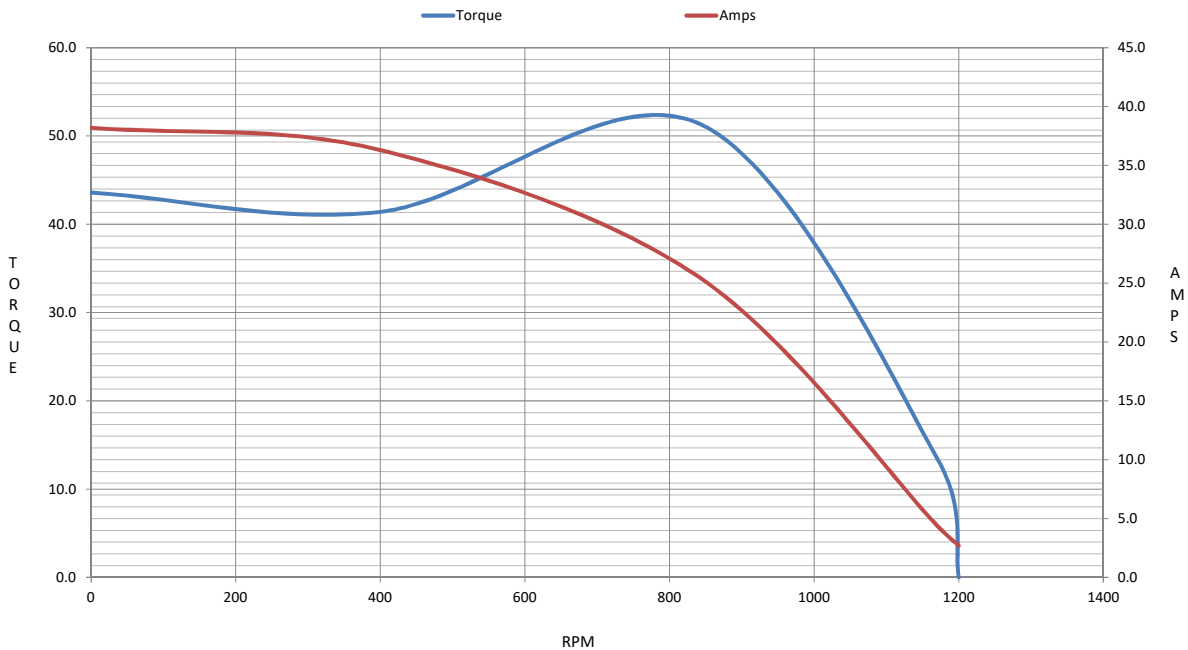
| | LR | Pull-Up | BD | Rated | Idle |
|----------------|------|---------|------|-------|------|
| Speed (RPM) | 0 | 400 | 841 | 1170 | 1200 |
| Current (Amps) | 38.2 | 36.3 | 25.5 | 4.4 | 2.70 |
| Torque (ft-lb) | 43.6 | 41.4 | 51.4 | 13.5 | 0.00 |

Information Block

| | | | | |
|-----------------------------|----------------------------|--------|--------|---------|
| HP | 3.0 | | | |
| Sync. RPM | 1200 | | | |
| Frame | 112 | | | |
| Enclosure | TEFC | | | |
| Construction | TCA 112M06 | | | |
| Voltage | 230/460#200/400 V | | | |
| Frequency | 60 Hz | | | |
| Design | N | | | |
| LR Code letter | M | | | |
| Service Factor | 1.15 | | | |
| Temp Rise @ FL | 80 °C | | | |
| Duty | CONT | | | |
| Ambient | 40 °C | | | |
| Elevation | 3,300 feet | | | |
| Rotor/Shaft wk ² | 0.50 Lb-Ft ² | | | |
| Ref Wdg | IE3L1126201 NONE | | | |
| Sound Pressure @ 1M | 62 dBA | | | |
| VFD Rating | CONSTANT 2:1/VARIABLE 10:1 | | | |
| Outline Dwg | SS600217A | | | |
| Conn. Diag | 8442000675 | | | |
| Additional Specifications: | | | | |
| 0 | | | | |
| 0 | | | | |
| EQUIV CKT (OHMS / PHASE) | | | | |
| R1 | R2 | X1 | X2 | Xm |
| 1.9860 | 1.7020 | 6.1460 | 7.4690 | 94.4540 |



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 : TCA2P23AE221GAA009

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

Catalog No : R223

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