

PRODUCT INFORMATION PACKET

Model No: 405THFCD8046

Catalog No: Y517A

Blue Max® Inverter Duty Encoder Motor, 100 HP, 3 Ph, 60 Hz, 230/460 V, 1800 RPM, 405TC Frame,
TEBC-AXIAL



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Nameplate Specifications

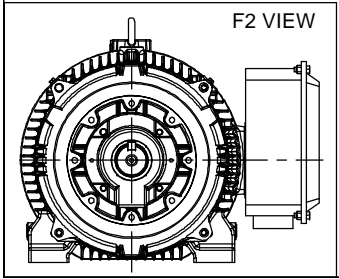
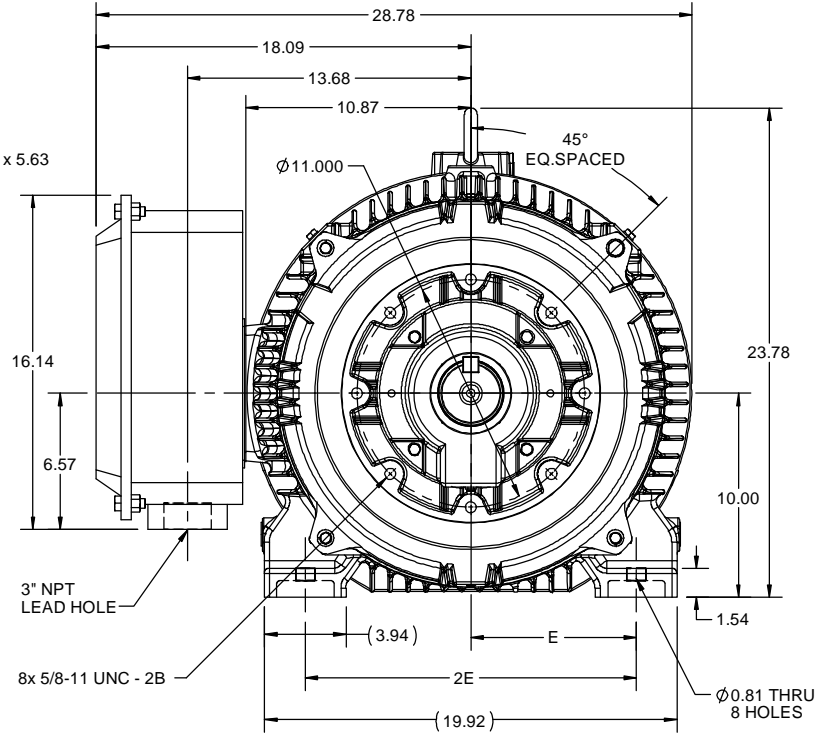
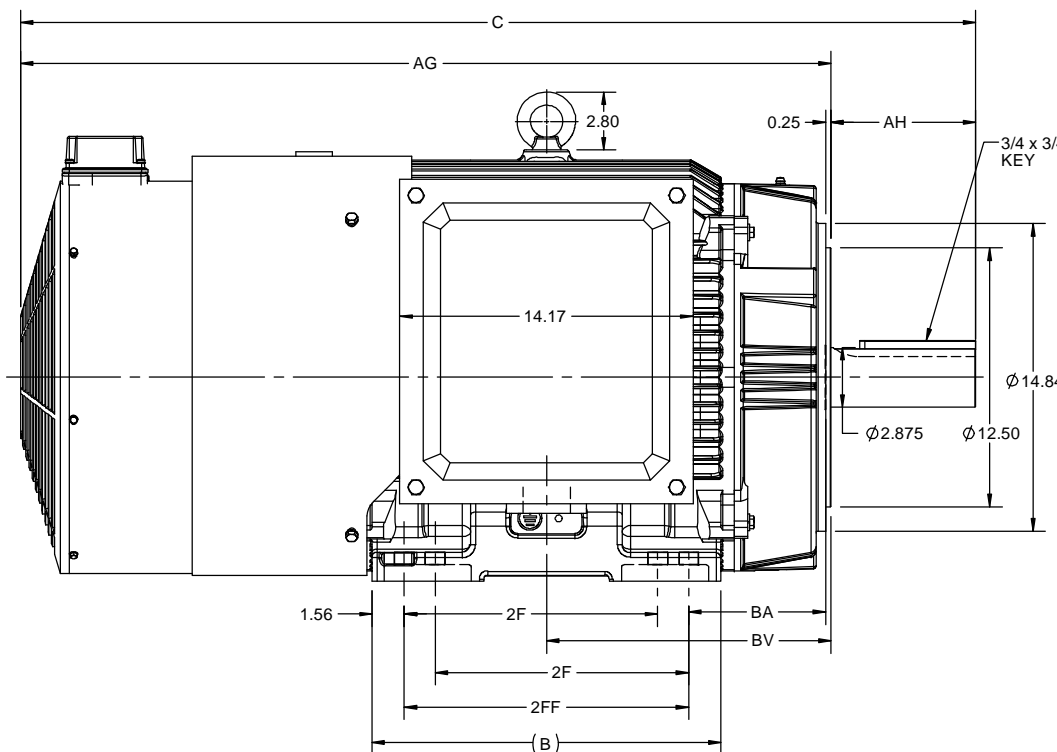
| | | | |
|------------------------|---------------|----------------------------|--|
| Output HP | 100 Hp | Output KW | 75.0 kW |
| Frequency | 60 Hz | Voltage | 230/460 V |
| Current | 224.0/112.0 A | Speed | 1785 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 95.4 % | Power Factor | 87 |
| Duty | Continuous | Insulation Class | H |
| Design Code | INV | KVA Code | K |
| Frame | 405TC | Enclosure | Totally Enclosed Blower cooled - Axial |
| Thermal Protection | Thermostat | Ambient Temperature | 40 °C |
| Drive End Bearing Size | 6316 | Opp Drive End Bearing Size | 6314 |
| UL | Recognized | CSA | Y |
| CE | Y | IP Code | 55 |
| Number of Speeds | 1 | | |

Technical Specifications

| | | | |
|-----------------------|-----------------------------|--------------------|-----------------|
| Electrical Type | Squirrel Cage Inverter Duty | Starting Method | Inverter Only |
| Poles | 4 | Rotation | Reversible |
| Resistance Main | .0509 Ohms | Mounting | Rigid Base |
| Motor Orientation | Horizontal | Drive End Bearing | Ball |
| Opp Drive End Bearing | Ball | Frame Material | Cast Iron |
| Shaft Type | T | Shaft Diameter | 2.875 in |
| Assembly/Box Mounting | F1/F2 CAPABLE | Inverter Load | CONSTANT 2000:1 |
| Outline Drawing | SS621112 | Connection Drawing | EE7308AD |

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| | | | | | | | | | | | | |
|-------|-------|------|-------|-------|-------|-------|------|------|-------|----------|--|---|
| 4 | | | | 3 | | | | | | 2 | | 1 |
| B | C | E | 2E | 2F | 2FF | AG | AH | BA | BV | MOUNTING | | |
| 16.85 | 46.13 | 8.00 | 16.00 | 12.25 | 13.75 | 39.13 | 7.00 | 6.62 | 13.73 | F1 OR F2 | | |

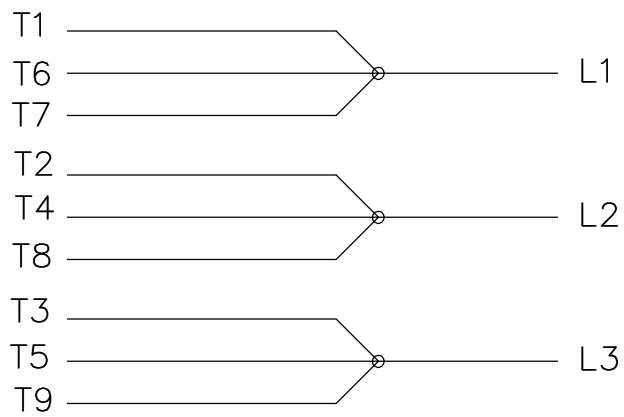


| | | |
|---|----------------------|-------------------------------|
| DRAWING REVISION A | REVISION BY BISWA | REV DATE/© DATE 15/12/2020 |
| ECO CR-0000250 | APPROVED BY SBD | DATE 15/12/2020 |
| ECO DESCRIPTION NEW DRAWING RELEASE | | |
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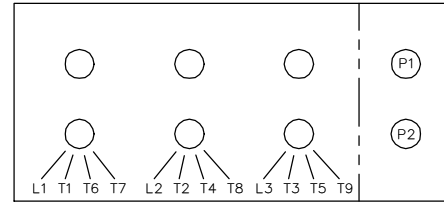
PRIMARY DIMENSIONS ARE INCH
DIMENSIONS IN [BRACKETS]
ARE FOR REFERENCE ONLY

| | | |
|---------------------------|--|-----------------|
| DRAWN BY BISWA | REGAL Regal Beloit America, Inc. | |
| DATE 15/12/2020 | DESCRIPTION OUTLINE 404/405TC FR NEMA-TEBC AXIAL BLOWER | |
| APPROVED BY SBD | MATERIAL | PROCESS/FINISH |
| DATE 15/12/2020 | DRAWING NUMBER SS621112 | |
| REFERENCE | SIZE B | SHEET 1 OF 1 |
| THIRD ANGLE PROJECTION | | |

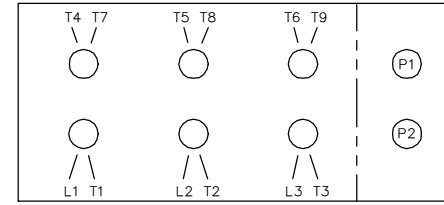
LOW VOLTAGE



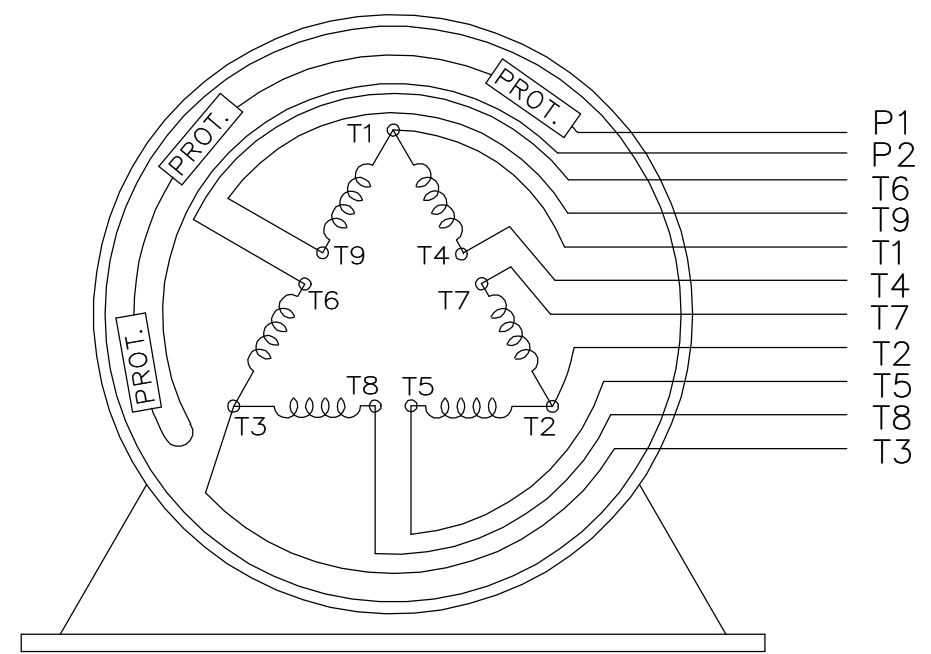
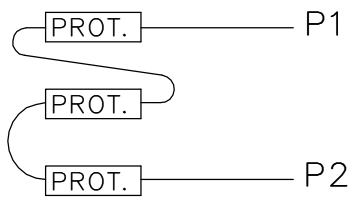
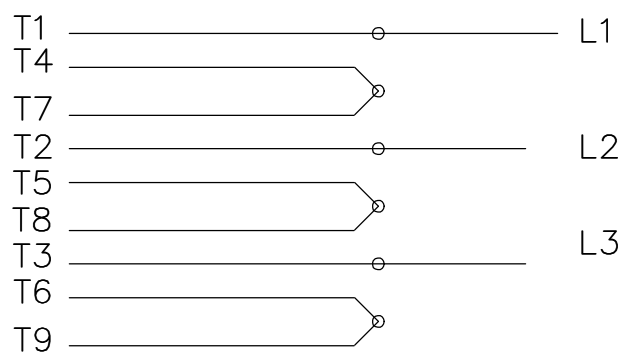
LOW VOLTAGE



HIGH VOLTAGE



HIGH VOLTAGE



VIEW OF TERMINAL END

WHEN MORE THAN ONE PROT. IS USED; PROT. ARE CONNECTED IN SERIES

| | | | | | | | | | |
|--|--|--------------------------|--------------------------------------|--|------------------|---------------------------|----------------------|---|--|
| DRAWING REVISION L | | REVISION BY JP | REV DATE/© DATE 06-21-2019 | TOLERANCES (EXCEPT AS NOTED): | | DRAWN BY MJD | | Regal Beloit America, Inc. | |
| ECO ECO-0168744 | | APPROVED BY MH | DATE 06-21-2019 | DEC. .X | INCH ±0.1 | mm [±3] | ANGLE ±7° 30" | | |
| ECO DESCRIPTION UPDATED TO CURRENT STANDARDS | | | | REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.08/.38] X 45° | | APPROVED BY GK | | DESCRIPTION CONN DIAGRAM-EXTERNAL | |
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| | | | | MACHINED SURFACES: 200/ 5.1 | | REFERENCE | | PROCESS/FINISH | |
| | | | | mm DIMENSIONS IN [BRACKETS] ARE FOR REFERENCE ONLY | | THIRD ANGLE PROJECTION | | DRAWING NUMBER EE7308AD | |
| | | | | | | | | 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: EE7308AD
 OUTLINE: SS621112
 WINDING: HA32504014 NONE 2
 SPEED: _____

CUSTOMER P.O. #: _____
 REFERENCE MODEL #: 405THFCD8046
 CAT #: Y517A
 CUSTOMER PART #: _____
 MOUNTING: F1/F2 CAPABLE

TYPICAL MOTOR PERFORMANCE DATA

| HP | KW | SYNC RPM | FL RPM | FRAME | ENCLOSURE | TYPE | KVA CODE | DESIGN |
|-----|----|----------|--------|-------|------------|------|----------|--------|
| 100 | 75 | 1800 | 1785 | 405TC | TEBC-AXIAL | TFN | K | INV |

| PH | HZ | VOLTS | AMPS | START TYPE | DUTY | INSL | S.F. | AMB | ELEV. |
|----|----|---------|---------|---------------|------|------|------|-----|-------|
| 3 | 60 | 230/460 | 224/112 | INVERTER ONLY | CONT | H | 1.15 | 40 | 3300 |

| F.L. EFF | 95.4 | 3/4 LD EFF | 95.6 | 1/2 LD EFF | 95.0 | GTD EFF | ELECT. TYPE |
|----------|------|------------|------|------------|------|---------|------------------|
| F.L. PF | 87.0 | 3/4 LD PF | 83.0 | 1/2 LD PF | 73.0 | 95.0 | SQ CAGE INV DUTY |

| F.L. TORQUE | LR AMPS @ 460 V | L.R. TORQUE | B.D. TORQUE | F.L. RISE (°C) |
|-------------|-----------------|-------------|-------------|------------------|
| 294 LB-FT | 1,117 | 710 LB-FT | 241% | 1,087 LB-FT 370% |

| SOUND PRESSURE @ 3 FT. | SOUND | POWER | ROTOR WK ² | MAX. LOAD WK ² | SAFE STALL TIME | STARTS/HOUR | APROX. | MOTOR WGT |
|------------------------|--------|-------|--------------------------|---------------------------|-----------------|-------------|--------|-----------|
| 75 dBA | 84 dBA | | 9.065 LB-FT ² | 130 LB-FT ² | 20 SEC. | 2 | 1265 | LB. |

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

| DE BRACKET TYPE | ODE BRACKET TYPE | MOUNT TYPE | MOTOR ORIENTATION | SEVERE DUTY | HAZARDOUS LOCATION | DRIP COVER | SCREENS | PAINT |
|-----------------|------------------|------------|-------------------|-------------|--------------------|------------|---------|---------------|
| C-FACE | ENCODER | RIGID | HORIZONTAL | NO | NONE | NO | NONE | BLUE (ENAMEL) |

| DE | ODE | GREASE | SHAFT TYPE | SPECIAL DE | SPECIAL ODE | SHAFT MATERIAL | FRAME MATERIAL |
|------|------|------------|------------|------------|-------------|-------------------------|----------------|
| BALL | BALL | POLYREX EM | T | NONE | NONE | 1045 HOT ROLLED (C-204) | CAST IRON |
| 6316 | 6314 | | | | | | |

| THERMOSTATS | PROTECTORS | WDG RTD's | BRG RTD's | THERMISTORS | CONTROL | SPACE HEATERS |
|--------------|------------|-----------|-----------|-------------|---------|---------------|
| TSTATS (NIC) | 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 |
|--------------|--------------|--------------|--------------|--------------|--------------------|-------|
| 0.032 | 0.017 | 0.166 | 0.174 | 6.007 | 0.150 | ODE |

| | | | | | | |
|-------|---|--|--|--|--|--|
| NOTES | INVERTER TORQUE: CONSTANT 2000:1 INV. HP SPEED RANGE: 1.5 X BASE SPEED | | | | | |
| | ENCODER: NORTHSTAR ST56 NONE PPR | | | | | |
| | BRAKE: NONE NONE NONE | | | | | |
| | FT-LB: NA VOLTAGE: NONE HZ: | | | | | |

PREPARED BY: _____
 DATE: 9/27/2021

BRAKE: NONE
 NONE NONE
 FT-LB: NA
 VOLTAGE: NONE
 HZ:
 UL: V-INS, CONST, OVERHEAT PRT DEV UL REC

FORM: 3531 REV_4 2/27/06

Data Sheet

Date: 9/27/2021
 Customer: _____
 Attention: _____
 Submitted by: _____



405THFCD8046

Submittal

Data @ 460 V

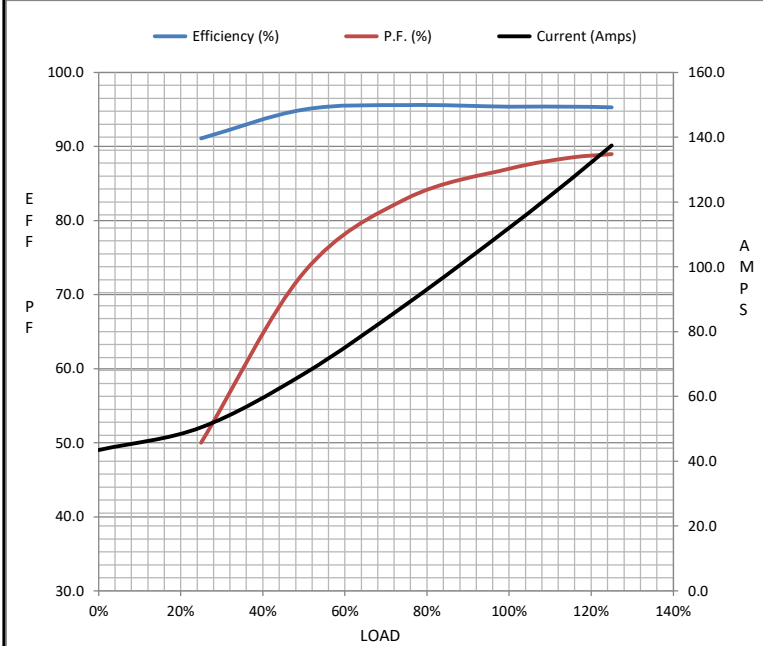
Motor Load Data

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 125% | LR |
|----------------|------|------|------|------|------|-------|------|-------|
| Current (Amps) | 43.5 | 50.5 | 67.0 | 88.5 | 112 | 127 | 138 | 1,117 |
| Torque (ft-lb) | 0.00 | 73.0 | 146 | 220 | 294 | 338 | 368 | 710 |
| RPM | 1800 | 1795 | 1790 | 1790 | 1785 | 1,785 | 1780 | 0 |
| Efficiency (%) | | 91.1 | 95.0 | 95.6 | 95.4 | 95.4 | 95.3 | |
| P.F. (%) | 4.5 | 50.0 | 73.0 | 83.0 | 87.0 | 88.5 | 89.0 | 34.0 |

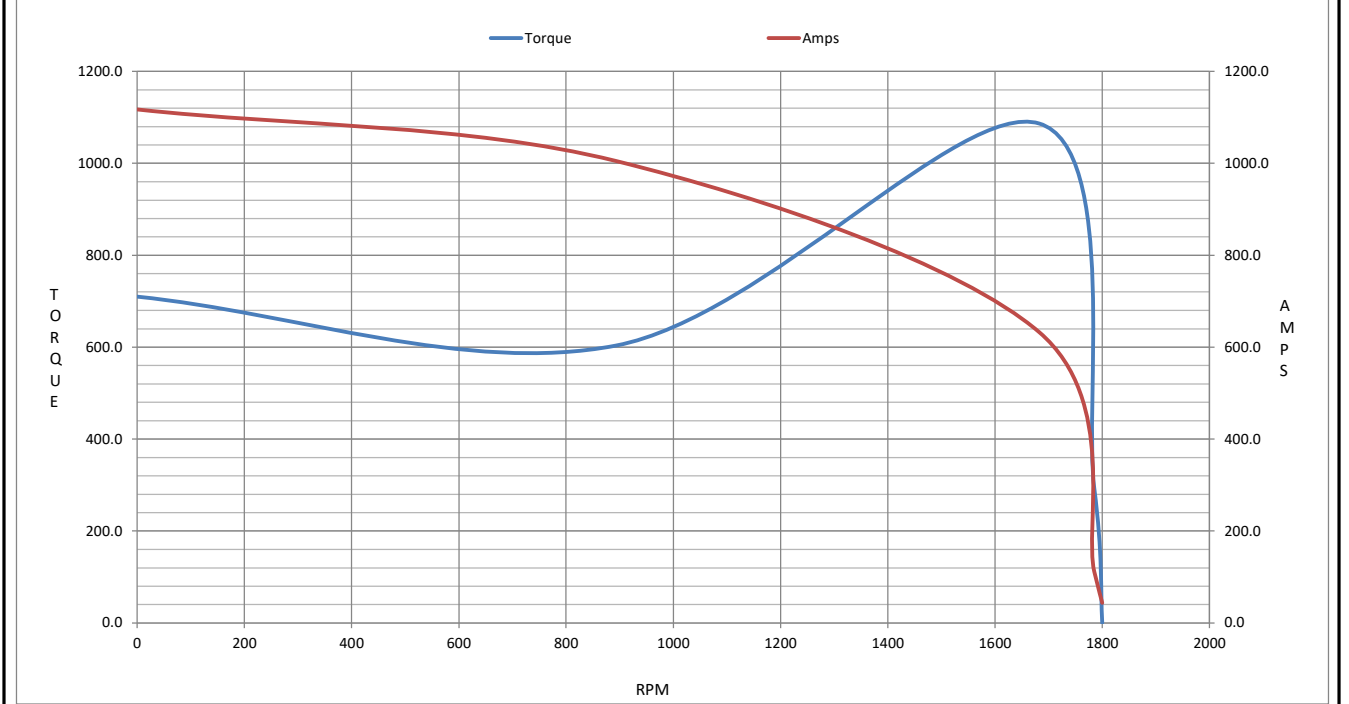
Motor Speed Data

| | LR | Pull-Up | BD | Rated | Idle |
|----------------|-------|---------|-------|-------|------|
| Speed (RPM) | 0 | 893 | 1682 | 1785 | 1800 |
| Current (Amps) | 1,117 | 1,005 | 633 | 112 | 43.5 |
| Torque (ft-lb) | 710 | 604 | 1,087 | 294 | 0.00 |

| Information Block | | | | |
|-----------------------------|-------------------------|--------|--------|--------|
| HP | 100.0 | | | |
| Sync. RPM | 1800 | | | |
| Frame | 405 | | | |
| Enclosure | TEBC-AXIAL | | | |
| Construction | TFN | | | |
| Voltage | 230/460 V | | | |
| Frequency | 60 Hz | | | |
| Design | INV | | | |
| LR Code letter | K | | | |
| Service Factor | 1.15 | | | |
| Temp Rise @ FL | 60 ° C | | | |
| Duty | CONT | | | |
| Ambient | 40 ° C | | | |
| Elevation | 3,300 feet | | | |
| Rotor/Shaft wk ² | 9.065 Lb-F ² | | | |
| Ref Wdg | HA32504014 NONE | | | |
| Sound Pressure @ 1M | 75 dBA | | | |
| VFD Rating | CONSTANT 2000:1 | | | |
| Outline Dwg | SS621112 | | | |
| Conn. Diag | EE7308AD | | | |
| Additional Specifications: | | | | |
| 0 | | | | |
| 0 | | | | |
| EQUIV CKT (OHMS / PHASE) | | | | |
| R1 | R2 | X1 | X2 | Xm |
| 0.0320 | 0.0170 | 0.1660 | 0.1740 | 6.0070 |



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 : 405THFCD8046

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

Catalog No : Y517A

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