

# PRODUCT INFORMATION PACKET

**marathon**<sup>®</sup>  
Motors

Model No: 256TTFL16042  
Catalog No: U354A  
20,1800,TEFC,256JM,3/60/230/460  
JM



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**REGAL**<sup>®</sup>



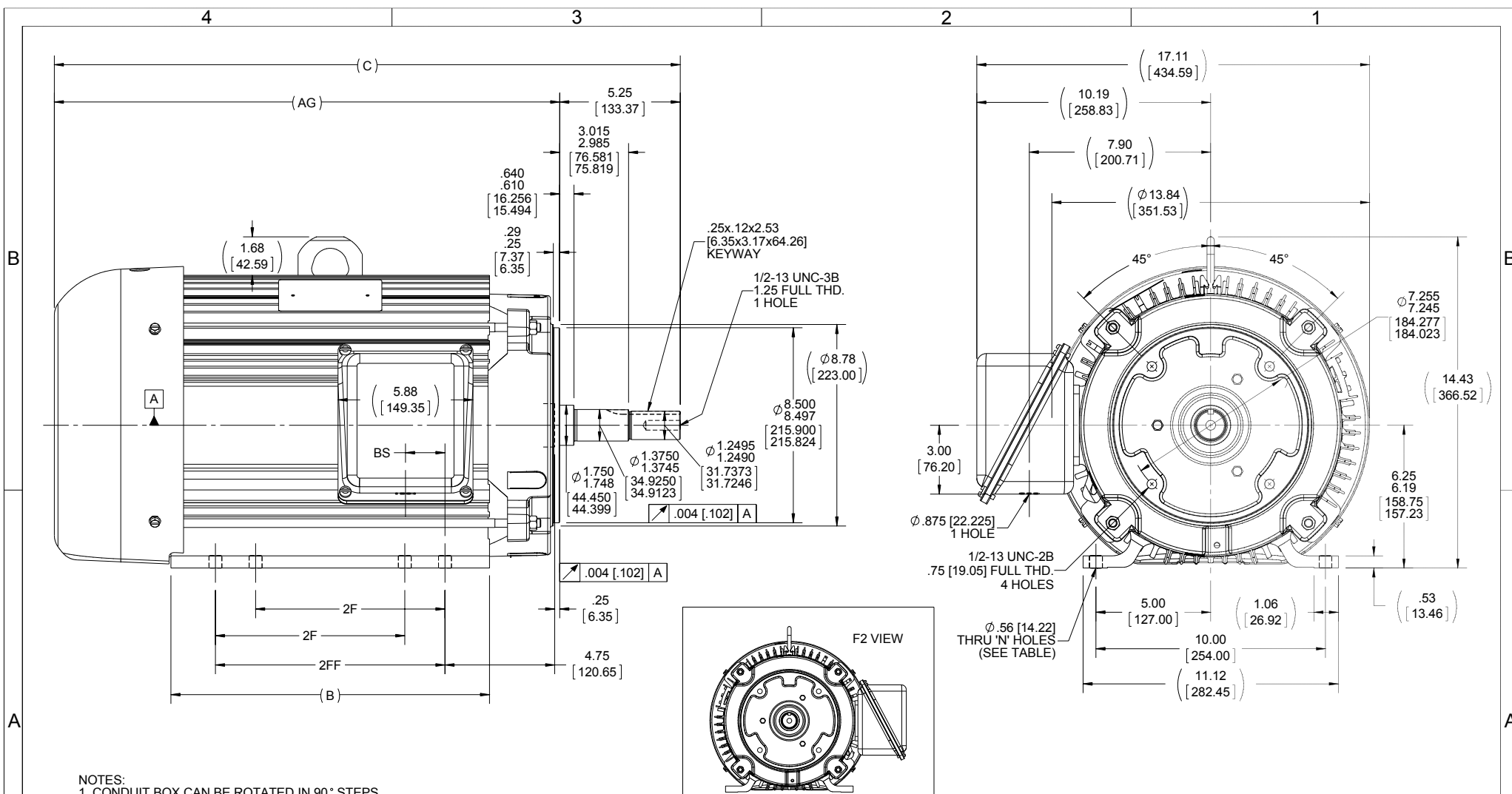
### Nameplate Specifications

|                            |                                    |                        |                   |
|----------------------------|------------------------------------|------------------------|-------------------|
| Output HP                  | <b>20 Hp</b>                       | Output KW              | <b>14.9 kW</b>    |
| Frequency                  | <b>60 Hz</b>                       | Voltage                | <b>230/460 V</b>  |
| Current                    | <b>48.0/24.1 A</b>                 | Speed                  | <b>1775 rpm</b>   |
| Service Factor             | <b>1.15</b>                        | Phase                  | <b>3</b>          |
| Efficiency                 | <b>93 %</b>                        | Duty                   | <b>Continuous</b> |
| Insulation Class           | <b>F</b>                           | Design Code            | <b>B</b>          |
| KVA Code                   | <b>G</b>                           | Frame                  | <b>256JM</b>      |
| Enclosure                  | <b>Totally Enclosed Fan Cooled</b> | Overload Protector     | <b>No</b>         |
| Ambient Temperature        | <b>40 °C</b>                       | Drive End Bearing Size | <b>6309</b>       |
| Opp Drive End Bearing Size | <b>6208</b>                        | UL                     | <b>Recognized</b> |
| CSA                        | <b>Y</b>                           | CE                     | <b>Y</b>          |
| IP Code                    | <b>43</b>                          |                        |                   |

### Technical Specifications

|                       |                                    |                       |                        |
|-----------------------|------------------------------------|-----------------------|------------------------|
| Electrical Type       | <b>Squirrel Cage Induction Run</b> | Starting Method       | <b>Across The Line</b> |
| Poles                 | <b>4</b>                           | Rotation              | <b>Reversible</b>      |
| Mounting              | <b>Rigid base</b>                  | Motor Orientation     | <b>HORIZONTAL</b>      |
| Drive End Bearing     | <b>BALL</b>                        | Opp Drive End Bearing | <b>BALL</b>            |
| Frame Material        | <b>Aluminum</b>                    | Shaft Type            | <b>JM</b>              |
| Overall Length        | <b>27.27 in</b>                    | Frame Length          | <b>13.75 in</b>        |
| Shaft Diameter        | <b>1.750 in</b>                    | Shaft Extension       | <b>5.25 in</b>         |
| Assembly/Box Mounting | <b>F1/F2 CAPABLE</b>               |                       |                        |
| Outline Drawing       | <b>B-SS321151-1375</b>             | Connection Diagram    | <b>A-EE7308</b>        |

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- NOTES:  
 1. CONDUIT BOX CAN BE ROTATED IN 90° STEPS.  
 2. CONDUIT BOX CAN BE MOUNTED ON OPPOSITE SIDE BY REMOVING BRACKETS AND TURNING FRAME 180°.  
 3. NAMEPLATES READ FROM CONDUIT BOX SIDE OF MOTOR.

|      |           |                   |                   |                   |                  |                   |                 |   |
|------|-----------|-------------------|-------------------|-------------------|------------------|-------------------|-----------------|---|
| 1200 | 254JM     | 25.52<br>[648.21] | 20.27<br>[514.86] | 12.13<br>[308.10] | ---              | 8.25<br>[209.55]  | 1.73<br>[43.94] | 4 |
| 1375 | 254/256JM | 27.27<br>[692.62] | 22.02<br>[559.26] | 13.88<br>[352.55] | 8.25<br>[209.55] | 10.00<br>[254.00] | 1.73<br>[43.94] | 8 |
| DASH | FRAME     | C                 | AG                | B                 | 2F               | 2FF               | BS              | N |

|   |                     |                    |
|---|---------------------|--------------------|
| DRAWING REVISION<br>D                           | REVISION BY<br>MSG  | DATE<br>11-18-2015 |
| ECO<br>ECO-0088803                              | APPROVED BY<br>TVUE | DATE<br>11-18-2015 |
| ECO DESCRIPTION<br>UPDATED TO CURRENT STANDARDS |                     |                    |

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|  |         |           |
|--|---------|-----------|
| TOLERANCES UNLESS OTHERWISE SPECIFIED:                         |         |           |
| DEC.   | INCH    | mm        |
| .X   | +0.1    | [+2.5]    |
| .XX  | +0.03   | [+0.76]   |
| .XXX   | +0.005  | [+0.127]  |
| .XXXX  | +0.0005 | [+0.0127] |
| REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [0.076/.381] X 45° |         |           |
| CORNER FILLETS: R.02 [51]                                      |         |           |
| MACHINED SURFACES: 200 / 5.1                                   |         |           |
| mm SHOWN IN [BRACKETS]   |         |           |

|                        |
|------------------------|
| DRAWN BY<br>RWR        |
| DATE<br>07-10-2007     |
| APPROVED BY<br>ML      |
| DATE<br>07-11-2007     |
| REFERENCE              |
| THIRD ANGLE PROJECTION |

**REGAL**™ Regal Beloit America, Inc.

**OUTLINE**  
 250 JM FR. - TEFC - ALUMINUM FRAME

|                 |                            |
|-----------------|----------------------------|
| MATERIAL        | PROCESS/FINISH             |
| SIZE<br>B       | DRAWING NUMBER<br>SS321151 |
| SHEET<br>1 OF 1 |                            |

EE7308

THREE PHASE  
DUAL VOLTAGE MOTOR



VIEW OF TERMINAL END

REF.  
WINDING DIAGRAM

T8Y, T2Y, T2BL, T4BX, T2EC, T2G  
T6BZ, T2B, T6BL, T4AV, T6B, T4B

OPTIONAL CORD  
CONNECTION

L1 — WHITE  
L2 — RED  
L3 — BLACK

| NO.  | REVISION                                       | BY & DATE      | CHK | ANG   | TOLERANCES<br>UNLESS SPECIFIED |        | FINISH                   | DRAWN RM 11/20/1990 |        |                    |           |        |
|--|--|----------------|-----|-------|--------------------------------|--------|--------------------------|---------------------|--------|--------------------|-----------|--------|
|  |  |                |     |       | DEC.                           | INCHES |                          |                     |        |                    |           |        |
| 5  | CHG TO REGAL LOGO                              | SL 09/10/2015  | AB  |       |                                |        |                          | CHK ML 11/21/1990   |        |                    |           |        |
| 4  | REVISED IEC NOTATIONS                          | MSG 11/15/2011 | CMN | .X    | ±.1                            |        |                          | APPD SAS 04/24/2003 |        |                    |           |        |
| 3  | ADDED IEC NOTATIONS... (U1), (V1) ETC. MU95194 | MSG 5/10/2010  | MJS | .XX   | ±.02                           |        | TITLE CONNECTION DIAGRAM | SCALE 1=1           |        |                    |           |        |
| 2  | ADDED THE OPTIONAL CORD CONNECTION MU46318     | RDH 04/24/2003 | DRS | .XXX  | ±.005                          |        | 3Ø - DUAL VOLTAGE MOTOR  | REF                 |        |                    |           |        |
| 1  | REDRAWN  | RM 11/20/1990  |     | .XXXX | ±.0005                         |        | MAT'L.                   | FMF                 |        |                    |           |        |
|  |  |                |     |       | ±7'30"                         |        |                          | PREV                |        |                    |           |        |
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|  |  |                |     |       |                                |        | DIST WP                  |                     |        |                    |           |        |



Regal Beloit America, Inc.

3Ø - DUAL VOLTAGE MOTOR



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

DATA VOLTS: 460

CERTIFICATION DATA SHEET

CUSTOMER: \_\_\_\_\_ CUSTOMER P.O. #: \_\_\_\_\_  
 ORDER #: \_\_\_\_\_ REFERENCE MODEL #: 256TTL16042  
 CONN. DIAGRAM: A-EE7308 CAT #: U354A  
 OUTLINE: B-SS921151-1375 CUSTOMER PART #: \_\_\_\_\_  
 WINDING: K2564164 R26 6 MOUNTING: F1/F2 CAPABLE  
 SPEED: \_\_\_\_\_

TYPICAL MOTOR PERFORMANCE DATA

| HP          | KW              | SYNC RPM               | FL RPM                    | FRAME           | ENCLOSURE   | TYPE      | KVA CODE | DESIGN          |       |
|-------------|-----------------|------------------------|---------------------------|-----------------|-------------|-----------|----------|-----------------|-------|
| 20          | 14.9            | 1800                   | 1775                      | 256JM           | TEFC        | TEY       | G        | B               |       |
| PH          | HZ              | VOLTS                  | AMPS                      | START TYPE      | DUTY        | INSL      | S.F.     | AMB             | ELEV. |
| 3           | 60/50           | 230/460#190/380        | 48/24.1&44/22             | ACROSS-THE LINE | CONT        | F         | 1.15     | 40              | 3300  |
|             | F.L. EFF        | 93.0                   | 3/4 LD EFF                | 93.6            | 1/2 LD EFF  | 93.0      | GTD EFF  | ELECT. TYPE     |       |
|             | F.L. PF         | 84.0                   | 3/4 LD PF                 | 81.0            | 1/2 LD PF   | 72.0      | 92.4     | SQ CAGE IND RUN |       |
| F.L. TORQUE | LR AMPS @ 460 V | L.R. TORQUE            | B.D. TORQUE               | F.L. RISE (°C)  |             |           |          |                 |       |
| 59.2 LB-FT  | 138             | 104 LB-FT              | 176%                      | 146 LB-FT       | 247%        | 65        |          |                 |       |
| @ 3 FT.     | POWER           | ROTOR WK <sup>2</sup>  | MAX. LOAD WK <sup>2</sup> | SAFE STALL TIME | START/SHOUR | MOTOR WGT |          |                 |       |
| 65 DBA      | 74 DBA          | 3.2 LB-FT <sup>2</sup> | 125 LB-FT <sup>2</sup>    | 25 SEC.         | 2           | 425 LB.   |          |                 |       |

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

| DE BRACKET TYPE | ODE BRACKET TYPE | MOUNT TYPE   | MOTOR ORIENTATION | SEVERE DUTY  | HAZARDOUS LOCATION      | DRIP COVER    | SCREENS        | PAINT         |
|-----------------|------------------|--------------|-------------------|--------------|-------------------------|---------------|----------------|---------------|
| C-FACE          | STANDARD         | RIGID        | HORIZONTAL        | NO           | NONE                    | NO            | NONE           | BLUE (ENAMEL) |
| BEARINGS        | GREASE           | SHAFT TYPE   | SPECIAL DE        | SPECIAL ODE  | SHAFT                   | MATERIAL      | FRAME MATERIAL |               |
| DE BALL 6309    | POLYREX EM       | JM           | NONE              | NONE         | 1045 HOT ROLLED (C-204) |               | ALUMINUM       |               |
| 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         |                |               |
| 0.267           | 0.207            | 0.99         | 1.491             | 28.4         | 0.150                   | ODE           |                |               |

\* INVERTER TORQUE: NONE  
 INV. HP SPEED RANGE: NONE  
 ENCODER: NONE  
 NONE  
 NONE  
 BRAKE: NONE  
 NONE  
 NONE  
 NONE PPR

PREPARED BY: FAREEDA DUDEKULA  
 DATE: 9/17/2018  
 FT-LB: NA  
 VOLTAGE: NONE  
 HZ: \_\_\_\_\_  
 UL: V/INS, CONST UL REC

Data Sheet

256TFL16042

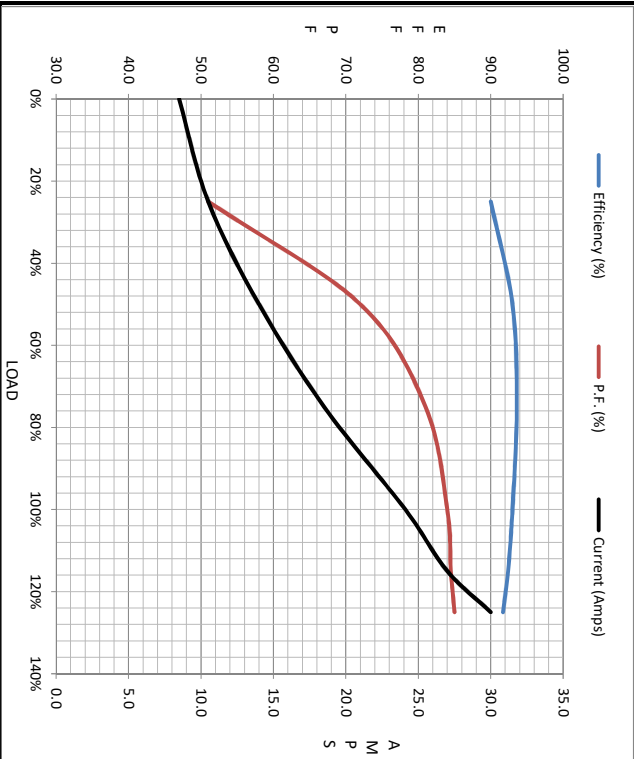


Submital Data @ 460 V

Date: 9/17/2018  
 Customer: \_\_\_\_\_  
 Attention: \_\_\_\_\_  
 Submitted by: FAREEDA DUDEKULA

| Load           | Motor Load Data |      |      |      |      |       |      |      |  |  |
|----------------|-----------------|------|------|------|------|-------|------|------|--|--|
|                | 0%              | 25%  | 50%  | 75%  | 100% | 115%  | 125% | LR   |  |  |
| Current (Amps) | 8.5             | 10.5 | 14.0 | 18.5 | 24.1 | 27.0  | 30.0 | 138  |  |  |
| Torque (ft-lb) | 0.00            | 14.5 | 29.5 | 44.5 | 59.2 | 68.0  | 74.5 | 104  |  |  |
| RPM            | 1800            | 1795 | 1785 | 1780 | 1775 | 1,770 | 1760 | 0    |  |  |
| Efficiency (%) |                 | 90.0 | 93.0 | 93.6 | 93.0 | 92.4  | 91.7 |      |  |  |
| P.F. (%)       | 8.5             | 51.0 | 72.0 | 81.0 | 84.0 | 84.5  | 85.0 | 40.0 |  |  |

|                | Motor Speed Data |         |      |       |      | Information Block |              |           |              |                 |           |        |                |                |                |      |         |           |                             |                     |            |                |            |                            |
|----------------|------------------|---------|------|-------|------|-------------------|--------------|-----------|--------------|-----------------|-----------|--------|----------------|----------------|----------------|------|---------|-----------|-----------------------------|---------------------|------------|----------------|------------|----------------------------|
|                | LR               | Pull-Up | BD   | Rated | Idle | HP                | Frame        | Enclosure | Construction | Voltage         | Frequency | Design | LR Code letter | Service Factor | Temp Rise @ FL | Duty | Ambient | Elevation | Motor/Shaft wk <sup>2</sup> | Sound Pressure @ 1M | VFD Rating | Outline Dwg    | Conn. Diag | Additional Specifications: |
| Speed (RPM)    | 0                | 900     | 1625 | 1775  | 1800 | 20.0              | 256182TFC080 | TEFC      | TFY          | 230/460#190/380 | 60        | B      | G              | 1.15           | 65             | CONT | 40      | 1,000     | K2564164 R26                | 65                  | NONE       | B-SS32151-1375 | A-EE7308   |                            |
| Current (Amps) | 138              | 115     | 86.0 | 24.1  | 8.5  |                   |              |           |              |                 |           |        |                |                |                |      |         |           |                             |                     |            |                |            |                            |
| Torque (ft-lb) | 104              | 100     | 146  | 59.2  | 0.00 |                   |              |           |              |                 |           |        |                |                |                |      |         |           |                             |                     |            |                |            |                            |



|                            | R1     | R2     | X1     | X2     | Xm      |
|----------------------------|--------|--------|--------|--------|---------|
| EQUIV CKT (OHMS / PHASE)   | 0.2670 | 0.2070 | 0.9900 | 1.4910 | 28.4000 |
| Additional Specifications: |        |        |        |        |         |
| 0                          |        |        |        |        |         |
| 0                          |        |        |        |        |         |

