

# PRODUCT INFORMATION PACKET

Model No: 256TTGN16509

Catalog No: E505

Hazardous Duty® Explosion Proof Motor, 20 & 15 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V,  
3600 & 3000 RPM, 256T Frame, EPFC



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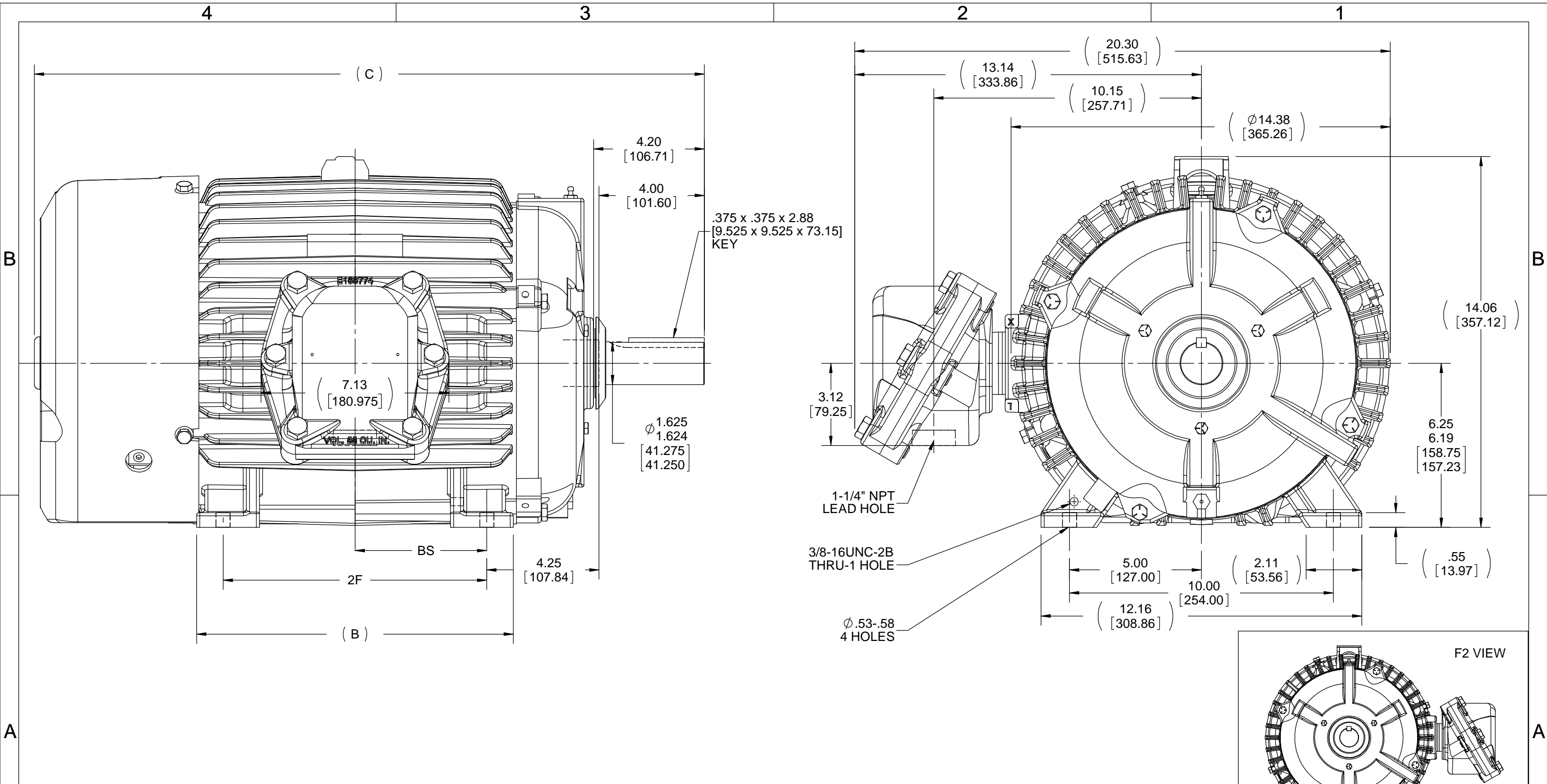
### Nameplate Specifications

|                        |                                    |                            |                                                       |
|------------------------|------------------------------------|----------------------------|-------------------------------------------------------|
| Phase                  | <b>3</b>                           | Output HP                  | <b>20 &amp; 15 Hp</b>                                 |
| Output KW              | <b>14.9 &amp; 11.2 kW</b>          | Voltage                    | <b>230/460 &amp; 190/380 V</b>                        |
| Speed                  | <b>3537 &amp; 2955 rpm</b>         | Service Factor             | <b>1.15 &amp; 1.15</b>                                |
| Frame                  | <b>256T</b>                        | Enclosure                  | <b>Explosion Proof Fan cooled</b>                     |
| Thermal Protection     | <b>Thermostat</b>                  | Efficiency                 | <b>92.4 &amp; 92.4 %</b>                              |
| Ambient Temperature    | <b>40 °C</b>                       | Frequency                  | <b>60 &amp; 50 Hz</b>                                 |
| Current                | <b>47/23.4 &amp; 42/21 A</b>       | Power Factor               | <b>86</b>                                             |
| Duty                   | <b>Continuous</b>                  | Insulation Class           | <b>F</b>                                              |
| Design Code            | <b>B</b>                           | KVA Code                   | <b>G</b>                                              |
| Drive End Bearing Size | <b>6309</b>                        | Opp Drive End Bearing Size | <b>6210</b>                                           |
| UL                     | <b>UL Listed And CSA Certified</b> | CSA                        | <b>Y</b>                                              |
| CE                     | <b>N</b>                           | IP Code                    | <b>54</b>                                             |
| Number of Speeds       | <b>1</b>                           | Hazardous Location         | <b>EXP PROOF CL I GR C&amp;D CL II GR F&amp;G T3B</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>.394 Ohms</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>Cast Iron</b>        |
| Shaft Type            | <b>T</b>                            | Overall Length        | <b>25.27 in</b>         |
| Frame Length          | <b>12.25 in</b>                     | Shaft Diameter        | <b>1.625 in</b>         |
| Shaft Extension       | <b>4.18 in</b>                      | Assembly/Box Mounting | <b>F1 ONLY</b>          |
| Inverter Load         | <b>CONSTANT 10:1</b>                |                       |                         |
| Connection Drawing    | <b>A-EE7308AD</b>                   | Outline Drawing       | <b>B-SS203001-1225</b>  |





NOTES:  
 1. CONDUIT BOX CAN ONLY BE ROTATED CLOCKWISE UP TO 270° FROM ITS ORIGINAL POSITION.  
 2. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

| DASH | FRAME | B                 | C                 | 2F  | 2FF               | BS               |
|------|-------|-------------------|-------------------|-----|-------------------|------------------|
| 1050 | 254T  | 10.25<br>[260.35] | 23.65<br>[600.71] | --- | 8.25<br>[209.55]  | 4.12<br>[104.65] |
| 1225 | 256T  | 12.00<br>[304.80] | 25.40<br>[645.16] | --- | 10.00<br>[254.00] | 5.00<br>[127.00] |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|
| DRAWING REVISION<br>F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | REVISION BY<br>SD  | DATE<br>11/18/2019 |
| ECO<br>ECO-0177002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | APPROVED BY<br>VMR | DATE<br>11/18/2019 |
| ECO DESCRIPTION<br>OUTLINE DESCRIPTION AND C DIMENSION UPDATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                    |
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TOLERANCES UNLESS OTHERWISE SPECIFIED:  
 DEC. INCH mm ANGLE  
 .X ±0.1 [±2.5] ±7° 30"  
 .XX ±0.03 [±0.76]  
 .XXX ±0.005 [±0.127]  
 .XXXX ±0.0005 [±0.0127]  
 REMOVE BURRS & BREAK SHARP  
 EDGES: .003/.015 [.076/.381]  
 CORNER FILLETS: .02 [.51]  
 MACHINED SURFACES: 200 INCH/mm 5.1  
 mm SHOWN IN [BRACKETS]

DRAWN BY  
RM  
 DATE  
12-14-1993  
 APPROVED BY  
FG  
 DATE  
12-15-1993  
 REFERENCE  
 THIRD ANGLE PROJECTION

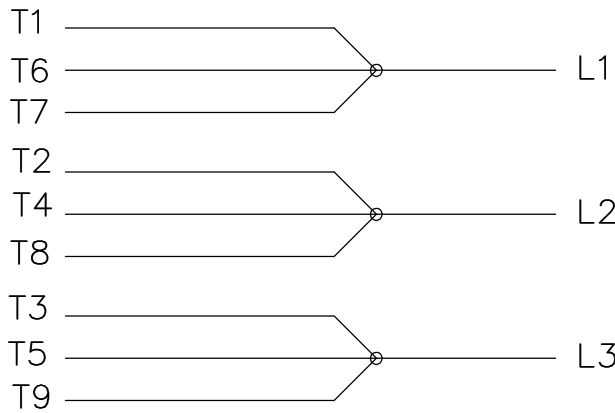
**REGAL**™ Regal Beloit America, Inc.

DESCRIPTION  
**OUTLINE**  
250T FR. EXP. PR. - BB - T - STD.

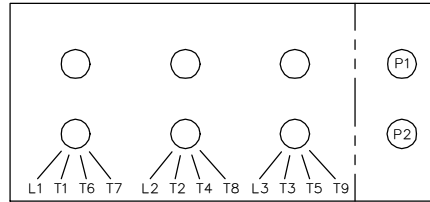
MATERIAL PROCESS/FINISH

SIZE **B** DRAWING NUMBER **SS203001** SHEET 1 OF 1

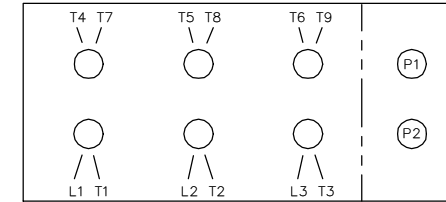
LOW VOLTAGE



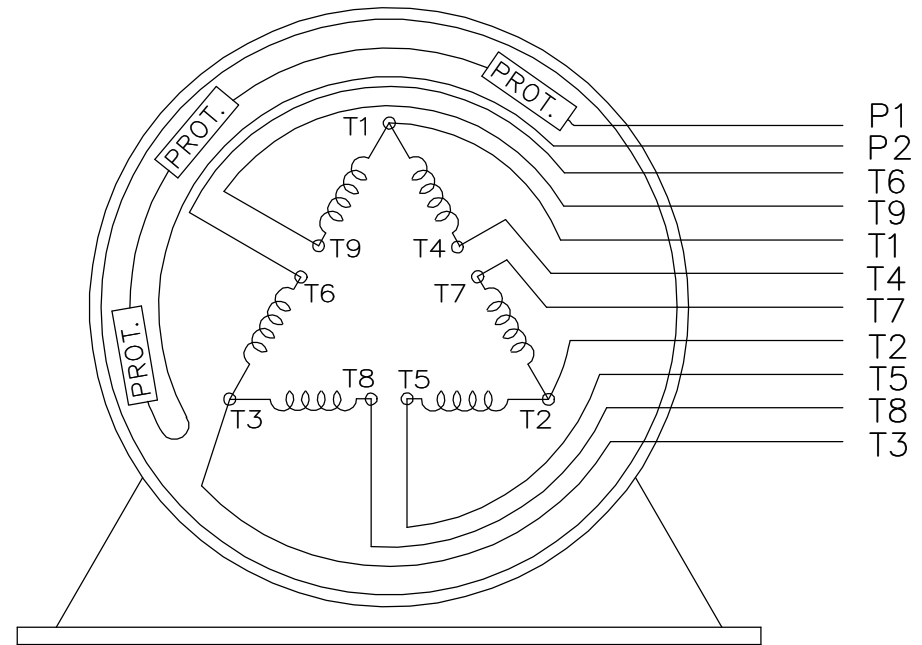
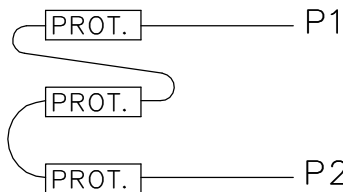
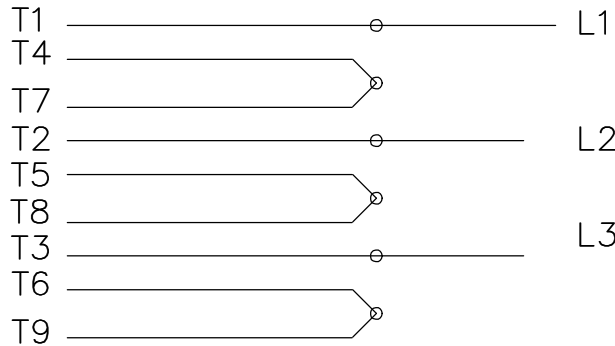
LOW VOLTAGE



HIGH VOLTAGE



HIGH VOLTAGE



VIEW OF TERMINAL END

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                                      |                                                                                                                                                                                        |                                |                           |                                             |                                   |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------|---------------------------------------------|-----------------------------------|------------------------|
| DRAWING REVISION<br><b>L</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | REVISION BY<br><b>JP</b> | REV DATE/© DATE<br><b>06-21-2019</b> | TOLERANCES (EXCEPT AS NOTED):                                                                                                                                                          |                                | DRAWN BY<br><b>MJD</b>    | Regal Beloit America, Inc.                  |                                   |                        |
| ECO<br><b>ECO-0168744</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | APPROVED BY<br><b>MH</b> | DATE<br><b>06-21-2019</b>            | DEC.    .X    ±0.1    [±3]                                                                                                                                                             | INCH    .XX    ±0.02    [±0.5] | DATE<br><b>12-19-1997</b> |                                             |                                   |                        |
| ECO DESCRIPTION<br><b>UPDATED TO CURRENT STANDARDS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                                      | .XXX    ±0.005    [±0.13]                                                                                                                                                              |                                | APPROVED BY<br><b>GK</b>  | DESCRIPTION<br><b>CONN DIAGRAM-EXTERNAL</b> |                                   |                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                                      | REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.08/.38] X 45 °<br>CORNER FILLETS: R.02 [.5]<br>MACHINED SURFACES: 200/ 5.1 INCH/mm<br>mm DIMENSIONS IN [BRACKETS] ARE FOR REFERENCE ONLY |                                | REFERENCE                 | PROCESS/FINISH                              |                                   |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                                      |                                                                                                                                                                                        |                                | THIRD ANGLE PROJECTION    | SIZE <b>A</b>                               | DRAWING NUMBER<br><b>EE7308AD</b> | SHEET<br><b>1 OF 1</b> |

**CERTIFICATION DATA SHEET**

**Model#:** 256TTGN16509 AA      **WINDING#:** K256288 NONE 6  
**CONN. DIAGRAM:** A-EE7308AD      **ASSEMBLY:** F1 ONLY  
**OUTLINE:** B-SS203001-1225

**TYPICAL MOTOR PERFORMANCE DATA**

| HP    | KW        | SYNC. RPM | F.L. RPM  | FRAME | ENCLOSURE | KVA CODE | DESIGN |
|-------|-----------|-----------|-----------|-------|-----------|----------|--------|
| 20&15 | 14.9&11.2 | 3600      | 3537&2955 | 256T  | EPFC      | G        | B      |

| PH | Hz    | VOLTS               | FL AMPS       | START TYPE          | DUTY           | INSL | S.F       | AMB°C | ELEVATION |
|----|-------|---------------------|---------------|---------------------|----------------|------|-----------|-------|-----------|
| 3  | 60/50 | 230/460#190/<br>380 | 47/23.4&42/21 | LINE OR<br>INVERTER | CONTINUOU<br>S | F3   | 1.15/1.15 | 40    | 3300      |

| FULL LOAD EFF:<br>92.4&92.4 | 3/4 LOAD EFF: 91.7 | 1/2 LOAD EFF: 91 | GTD. EFF | ELEC. TYPE        | NO LOAD AMPS |
|-----------------------------|--------------------|------------------|----------|-------------------|--------------|
| FULL LOAD PF:<br>86&86.5    | 3/4 LOAD PF: 85    | 1/2 LOAD PF: 78  | 91.7     | SQ CAGE INV RATED | 14 / 7       |

| F.L. TORQUE | LOCKED ROTOR AMPS | L.R. TORQUE  | B.D. TORQUE  | F.L. RISE°C |
|-------------|-------------------|--------------|--------------|-------------|
| 29.7 LB-FT  | 290 / 145         | 55 LB-FT 185 | 84 LB-FT 283 | 55          |

| SOUND PRESSURE<br>@ 3 FT. | SOUND POWER | ROTOR WK^2  | MAX. WK^2  | SAFE STALL TIME | STARTS<br>/HOUR | APPROX. MOTOR<br>WGT |
|---------------------------|-------------|-------------|------------|-----------------|-----------------|----------------------|
| 72 dBA                    | 82 dBA      | 1.3 LB-FT^2 | 26 LB-FT^2 | 20 SEC.         | 2               | 370 LBS.             |

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

| DE BRACKET<br>TYPE | ODE BRACKET<br>TYPE | MOUNT<br>TYPE | ORIENTATION | SEVERE<br>DUTY         | HAZARDOUS<br>LOCATION                        | DRIP<br>COVER | SCREENS | PAINT        |
|--------------------|---------------------|---------------|-------------|------------------------|----------------------------------------------|---------------|---------|--------------|
| STANDARD           | STANDARD            | RIGID         | HORIZONTAL  | PREMIUM<br>SEVERE DUTY | EXP PROOF CL<br>I GR C&D CL II<br>GR F&G T3B | FALSE         | NONE    | BLUE (EPOXY) |

| BEARINGS |      | GREASE     | SHAFT TYPE | SPECIAL DE | SPECIAL ODE | SHAFT<br>MATERIAL          | FRAME<br>MATERIAL |
|----------|------|------------|------------|------------|-------------|----------------------------|-------------------|
| DE       | OPE  |            |            |            |             |                            |                   |
| BALL     | BALL | POLYREX EM | T          | NONE       | NONE        | 1045 HOT<br>ROLLED (C-204) | CAST IRON         |
| 6309     | 6210 |            |            |            |             |                            |                   |

| THERMO-PROTECTORS |            |          |          | THERMISTORS | CONTROL | SPACE /n HEATERS |
|-------------------|------------|----------|----------|-------------|---------|------------------|
| THERMOSTATS       | PROTECTORS | WDG RTDs | BRG RTDs |             |         |                  |
| TSTATS (N/C)      | NOT        | NONE     | NONE     | NONE        | FALSE   | NONE VOLTS       |

If Inverter equals NONE, contact factory for further information

\*  
N  
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\*

|                                                                          |
|--------------------------------------------------------------------------|
| INVERTER TORQUE: CONSTANT 10:1<br>INV. HP SPEED RANGE: NONE              |
| ENCODER: NONE<br>NONE NONE<br>NONE NONE PPR                              |
| BRAKE: NONE NONE<br>NONE P/N NONE<br>NONE NONE<br>- FT-LB NONE V NONE Hz |

DATE: 06/23/2017 07:20:15 AM  
 FORM 3531 REV.3 02/07/99

\*\* Subject to change without notice.

Data Sheet

256TTGN16509

Date: 1/25/2019  
 Customer: \_\_\_\_\_  
 Attention: \_\_\_\_\_  
 Submitted by: FAREEDA DUDEKULA



Submittal

Data @ 460 V

Motor Load Data

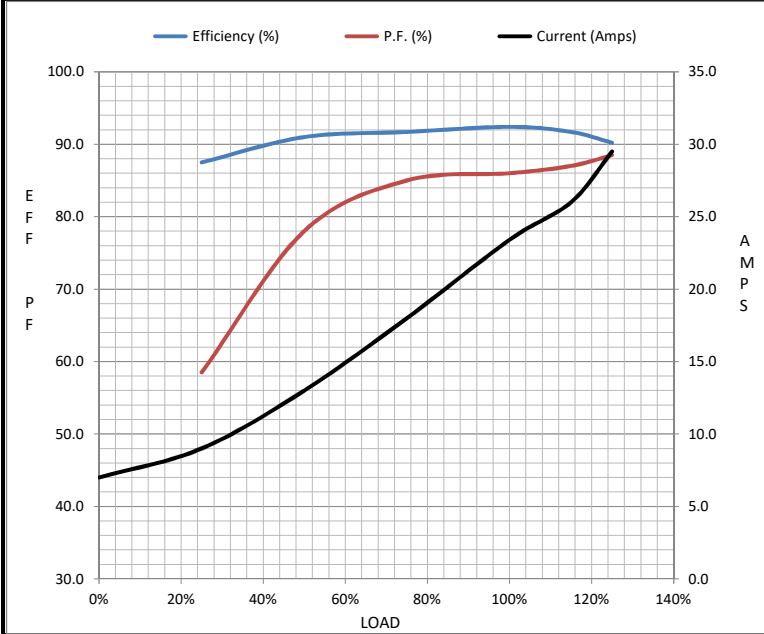
| Load           | 0%   | 25%  | 50%  | 75%  | 100% | 115%  | 125% | LR   |
|----------------|------|------|------|------|------|-------|------|------|
| Current (Amps) | 7.0  | 9.0  | 13.0 | 18.0 | 23.4 | 26.0  | 29.5 | 145  |
| Torque (ft-lb) | 0.00 | 7.5  | 15.0 | 22.0 | 29.7 | 31.0  | 37.5 | 55.0 |
| RPM            | 3600 | 3585 | 3570 | 3555 | 3537 | 3,525 | 3515 | 0    |
| Efficiency (%) |      | 87.5 | 91.0 | 91.7 | 92.4 | 91.7  | 90.2 |      |
| P.F. (%)       | 10.5 | 58.5 | 78.0 | 85.0 | 86.0 | 87.0  | 88.5 | 37.0 |

Motor Speed Data

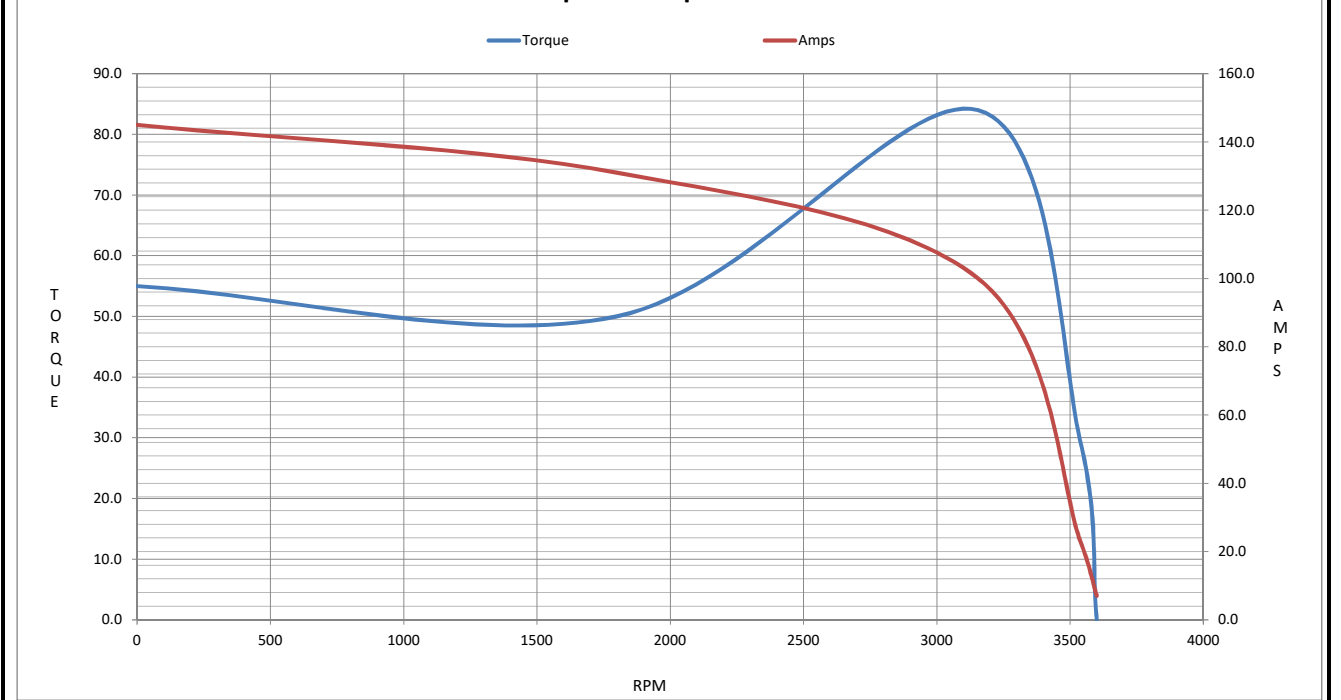
|                | LR   | Pull-Up | BD   | Rated | Idle |
|----------------|------|---------|------|-------|------|
| Speed (RPM)    | 0    | 1800    | 3155 | 3537  | 3600 |
| Current (Amps) | 145  | 131     | 100  | 23.4  | 7.0  |
| Torque (ft-lb) | 55.0 | 50.0    | 84.0 | 29.7  | 0.00 |

Information Block

|                             |                         |        |        |         |
|-----------------------------|-------------------------|--------|--------|---------|
| HP                          | 20.0                    |        |        |         |
| Sync. RPM                   | 3600                    |        |        |         |
| Frame                       | 256                     |        |        |         |
| Enclosure                   | EPFC                    |        |        |         |
| Construction                | TGS                     |        |        |         |
| Voltage                     | 230/460#190/380 V       |        |        |         |
| Frequency                   | 60 Hz                   |        |        |         |
| Design                      | B                       |        |        |         |
| LR Code letter              | G                       |        |        |         |
| Service Factor              | 1.15                    |        |        |         |
| Temp Rise @ FL              | 55 °C                   |        |        |         |
| Duty                        | CONT                    |        |        |         |
| Ambient                     | 40 °C                   |        |        |         |
| Elevation                   | 3,300 feet              |        |        |         |
| Rotor/Shaft wk <sup>2</sup> | 1.30 Lb-Ft <sup>2</sup> |        |        |         |
| Ref Wdg                     | K256288 NONE            |        |        |         |
| Sound Pressure @ 1M         | 72 dBA                  |        |        |         |
| VFD Rating                  | CONSTANT 10:1           |        |        |         |
| Outline Dwg                 | B-SS203001-1225         |        |        |         |
| Conn. Diag                  | A-EE7308AD              |        |        |         |
| Additional Specifications:  |                         |        |        |         |
| 0                           |                         |        |        |         |
| 0                           |                         |        |        |         |
| EQUIV CKT (OHMS / PHASE)    |                         |        |        |         |
| R1                          | R2                      | X1     | X2     | Xm      |
| 0.2530                      | 0.2230                  | 1.0790 | 1.1190 | 37.7720 |



Speed - Torque Curve





# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20220314- E12044  
**Report Reference** E12044-19950413  
**Issue Date** 2022-MARCH-14

**Issued to:** REGAL BELOIT AMERICA INC  
1946 W COOK RD  
FORT WAYNE IN 46818

Tradename: Marathon

**This certificate confirms that  
representative samples of**

MOTORS FOR USE IN HAZARDOUS LOCATIONS  
Electric motors for use in hazardous locations; Class I,  
Groups C and D; Class II, Groups F and G; Inclusive of  
Model Number 256TTGN16509 (may have prefix and/or  
suffix characters).

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** UL 674 - Electric Motors and Generators for Use in Division  
1 Hazardous (Classified) Locations,  
CSA C22.2 No. 145, Electric Motors and Generators for  
Use in Hazardous (Classified) Locations

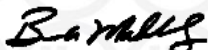
**Additional Information:** See the UL Online Certifications Directory at  
<https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up  
Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's  
Follow-Up Services.

Look for the UL Certification Mark on the product.

This is to certify that representative samples of the product as specified on this certificate were tested  
according to the current UL requirements.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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