

# PRODUCT INFORMATION PACKET

Model No: 324TSTGS6501

Catalog No: E566

Explosion Proof Motor, 40 HP, 3 Ph, 60 Hz, 230/460 V, 3600 RPM, 324TS Frame, EPFC



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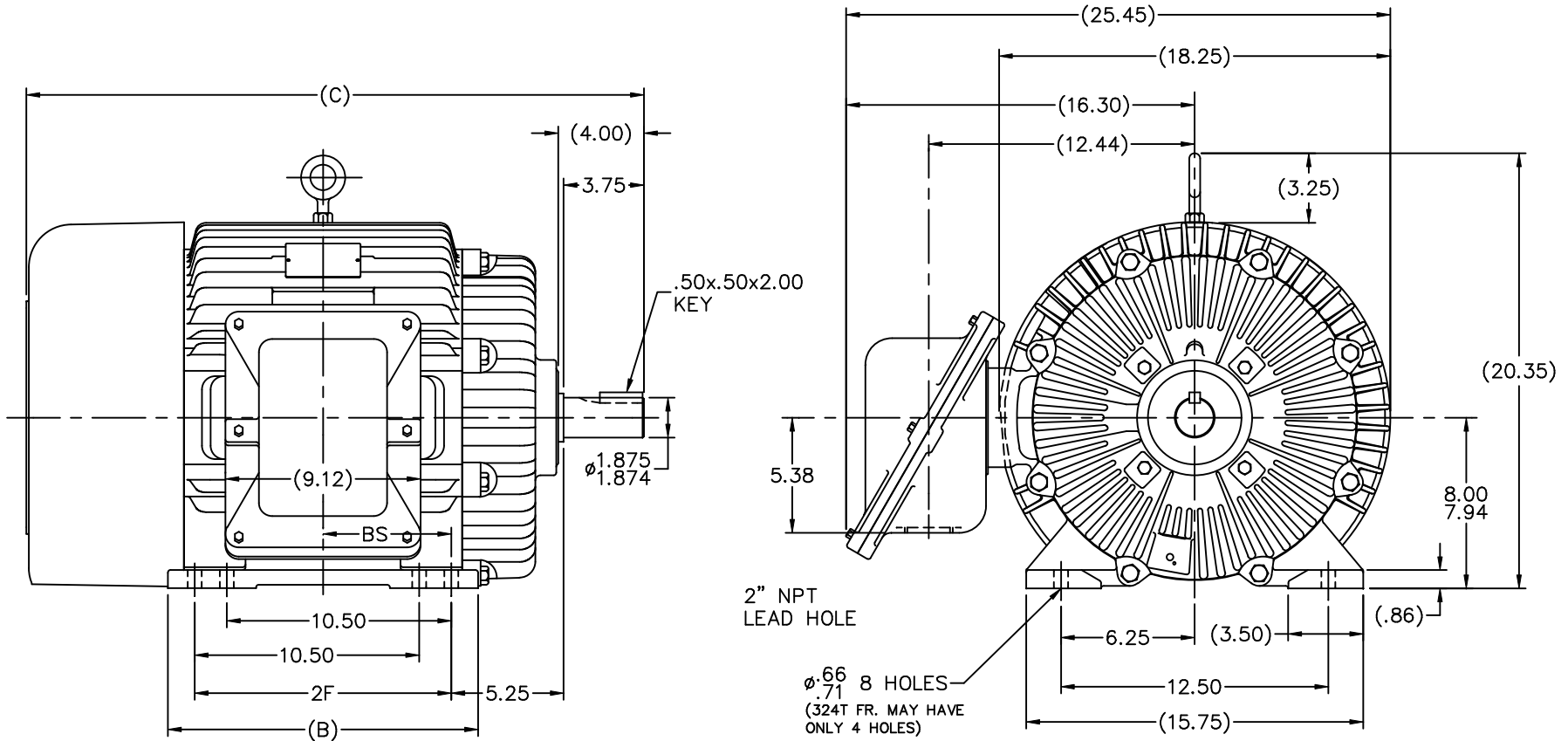
### Nameplate Specifications

|                        |   |                            |                                   |
|------------------------|---|----------------------------|-----------------------------------|
| Output HP              | <b>40 Hp</b>                                      | Output KW                  | <b>30.0 kW</b>                    |
| Frequency              | <b>60 Hz</b>                                      | Voltage                    | <b>230/460 V</b>                  |
| Current                | <b>94.0/47.0 A</b>                                | Speed                      | <b>3545 rpm</b>                   |
| Service Factor         | <b>1</b>  | Phase                      | <b>3</b>                          |
| Efficiency             | <b>93.6 %</b>                                     | Power Factor               | <b>85</b>                         |
| Duty                   | <b>Continuous</b>                                 | Insulation Class           | <b>F</b>                          |
| Design Code            | <b>B</b>  | KVA Code                   | <b>G</b>                          |
| Frame                  | <b>324TS</b>                                      | Enclosure                  | <b>Explosion Proof Fan cooled</b> |
| Thermal Protection     | <b>Thermostat</b>                                 | Ambient Temperature        | <b>50 °C</b>                      |
| Drive End Bearing Size | <b>6312</b>                                       | Opp Drive End Bearing Size | <b>6311</b>                       |
| UL                     | <b>UL Listed And CSA Certified</b>                | CSA                        | <b>Y</b>                          |
| CE                     | <b>N</b>  | IP Code                    | <b>54</b>                         |
| Hazardous Location     | <b>DIV 1 EXP PROOF CL I GR CD CL II GR FG T3C</b> | Number of Speeds           | <b>1</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>.122 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>TS</b>                           | Overall Length        | <b>28.87 in</b>         |
| Frame Length          | <b>13.00 in</b>                     | Shaft Diameter        | <b>1.875 in</b>         |
| Shaft Extension       | <b>4 in</b>                         | Assembly/Box Mounting | <b>F1 ONLY</b>          |
| Inverter Load         | <b>CONSTANT 2:1</b>                 |                       |                         |
| Outline Drawing       | <b>B-SS28118-1300</b>               | Connection Drawing    | <b>A-EE7308AD</b>       |

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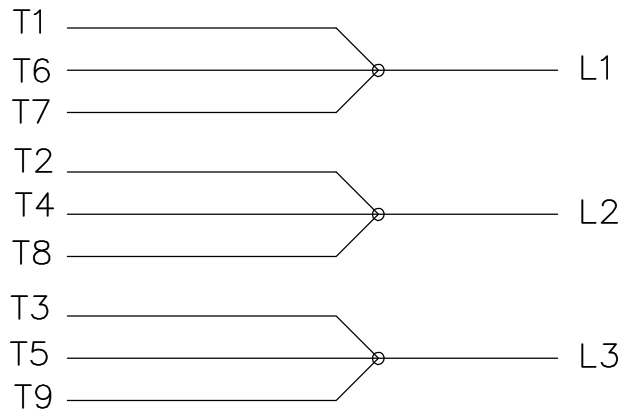
NOTES:

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

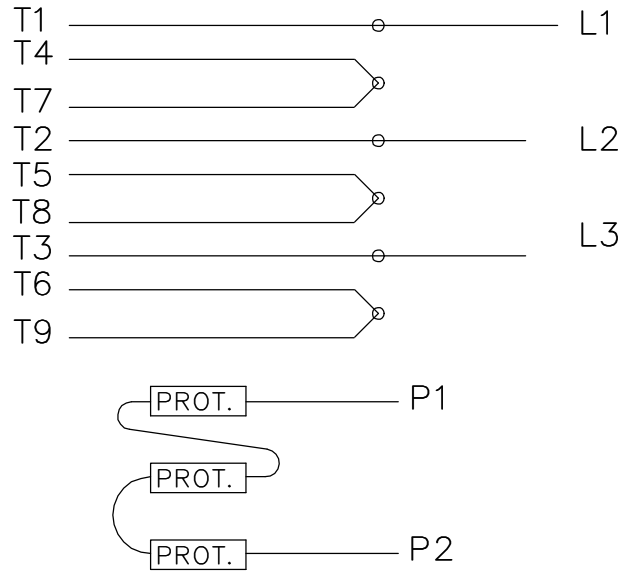
| DASH | FRAME | B     | C     | 2F    | BS   |
|------|-------|-------|-------|-------|------|
| 1150 | 324TS | 13.00 | 27.37 | 10.50 | 5.25 |
| 1300 | 324TS | 14.50 | 28.87 | 12.00 | 6.00 |
| 1300 | 326TS | 14.50 | 28.87 | 12.00 | 6.00 |
| 1450 | 326TS | 15.00 | 30.37 | 12.00 | 6.75 |

|     |  | TOLERANCES UNLESS SPECIFIED |              | MARATHON ELECTRIC             |                  | DRAWN MRB 09-05-1995 |                     |
|-----|--|-----------------------------|--------------|-------------------------------|------------------|----------------------|---------------------|
|     |  | DEC.                        | INCHES       | CHK                           | DA               | 09-06-1995           |                     |
| 7   | REDRAWN IN AUTOCAD   | TAT 07-06-2004              | ML X ±.1     |                               |                  | APPD                 | GK 09-06-1995       |
| 6   | ADDED DASH 1300 324TS FR. MU25460  | MJD 06-07-1999              | .XX ±.03     | TITLE OUTLINE                 |                  | SCALE                | 1=5                 |
| 5   | ADDED DUAL DRILLING CN 26835   | DRS 04-29-1999              | .XXX ±.005   | 320TS FR. - BB - TS - EXP.PR. |                  | REF                  |                     |
| 4   | REDRAWN ON CADD MRB 09-06-1995   | MRB 09-06-1995              | .XXXX ±.0005 | MATL                          |                  | FMF                  |                     |
| NO. | REVISION   | BY & DATE                   | CHK          | ANG                           | FINISH           | PREV                 |                     |
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|     |  |                             | DIST         | LB                            |                  | B                    | SS28118 7           |

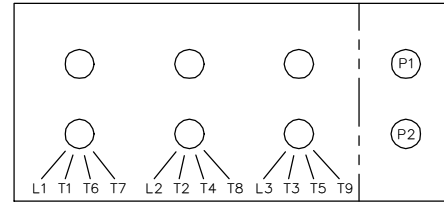
LOW VOLTAGE



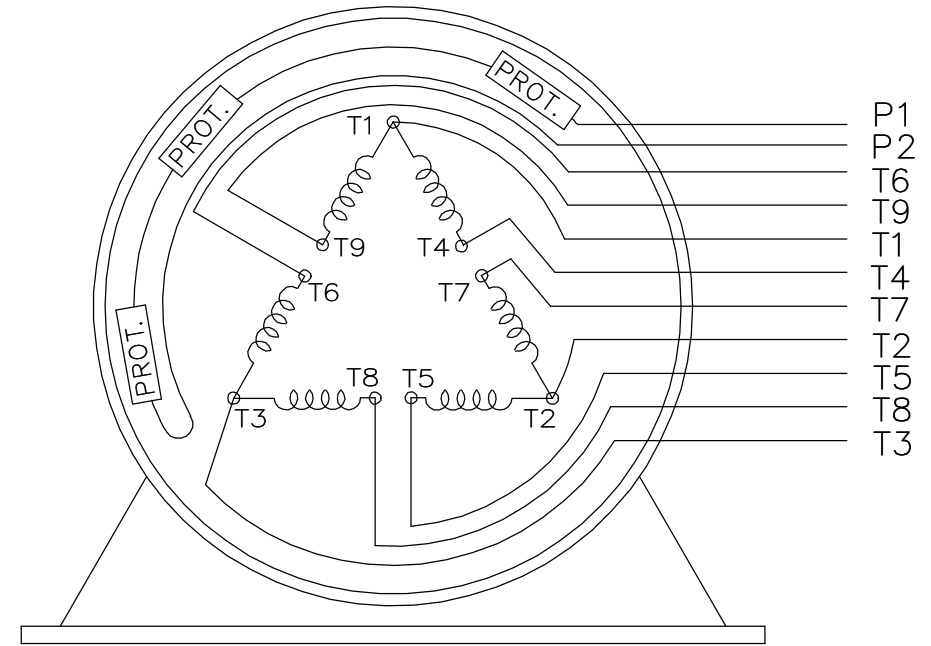
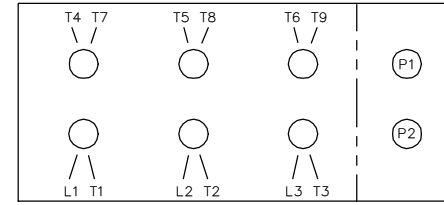
HIGH VOLTAGE



LOW 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):<br>DEC.    INCH    mm    ANGLE<br>.X       ±0.1     [±3]     ±7' 30"<br>.XX      ±0.02    [±0.5]<br>.XXX    ±0.005    [±0.13]<br>.XXXX   ±0.0005 [±0.013] | 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>            |   | DATE<br><b>12-19-1997</b>         |   |
| ECO DESCRIPTION<br><b>UPDATED TO CURRENT STANDARDS</b>   |                          |                                      | 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   | APPROVED BY<br><b>GK</b>          | DESCRIPTION<br><b>CONN DIAGRAM-EXTERNAL</b> |
| COPYRIGHT (PER REVISION DATE) REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS. |                          |                                      | THIRD ANGLE PROJECTION  | MATERIAL                          | PROCESS/FINISH                              |
|  |                          |                                      | SIZE<br><b>A</b>  | DRAWING NUMBER<br><b>EE7308AD</b> | SHEET<br><b>1 OF 1</b>                      |

**CERTIFICATION DATA SHEET**

**Model#:** 324TSTGS6501 BS      **WINDING#:** 324248 NONE 6  
**CONN. DIAGRAM:** A-EE7308AD      **ASSEMBLY:** F1 ONLY  
**OUTLINE:** B-SS28118-1300

**TYPICAL MOTOR PERFORMANCE DATA**

| HP    | KW      | SYNC. RPM | F.L. RPM  | FRAME | ENCLOSURE | KVA CODE | DESIGN |
|-------|---------|-----------|-----------|-------|-----------|----------|--------|
| 40&30 | 30&22.4 | 3600      | 3545&2955 | 324TS | 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 | 94/47&83/41.5 | LINE OR<br>INVERTER | CONTINUOU<br>S | F3   | 1.15/1.15 | 40    | 3300      |

| FULL LOAD EFF:<br>93.6&94.1 | 3/4 LOAD EFF: 93.6 | 1/2 LOAD EFF: 92.4 | GTD. EFF | ELEC. TYPE        | NO LOAD AMPS |
|-----------------------------|--------------------|--------------------|----------|-------------------|--------------|
| FULL LOAD PF:<br>85&85.5    | 3/4 LOAD PF: 83    | 1/2 LOAD PF: 76    | 93       | SQ CAGE INV RATED | 29.4 / 14.7  |

| F.L. TORQUE | LOCKED ROTOR AMPS | L.R. TORQUE    | B.D. TORQUE   | F.L. RISE°C |
|-------------|-------------------|----------------|---------------|-------------|
| 59.5 LB-FT  | 550 / 275         | 91.5 LB-FT 154 | 157 LB-FT 264 | 60          |

| 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      | 4.9 LB-FT^2 | 25 LB-FT^2 | 15 SEC.         | 2               | 625 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 | TS         | NONE       | NONE        | 1045 HOT<br>ROLLED (C-204) | CAST IRON         |
| 6312     | 6311 |            |            |            |             |                            |                   |

| 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

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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: 06/21/2017 03:53:55 AM  
 FORM 3531 REV.3 02/07/99

\*\* Subject to change without notice.

**Data Sheet**

**Date:** 29-06-2017  
**Customer:** \_\_\_\_\_  
**Attention:** \_\_\_\_\_  
**Submitted by:** FAREEDA DUDEKULA



324TSTGS6501

**Submittal**

Data @ **460 V**

**Motor Load Data**

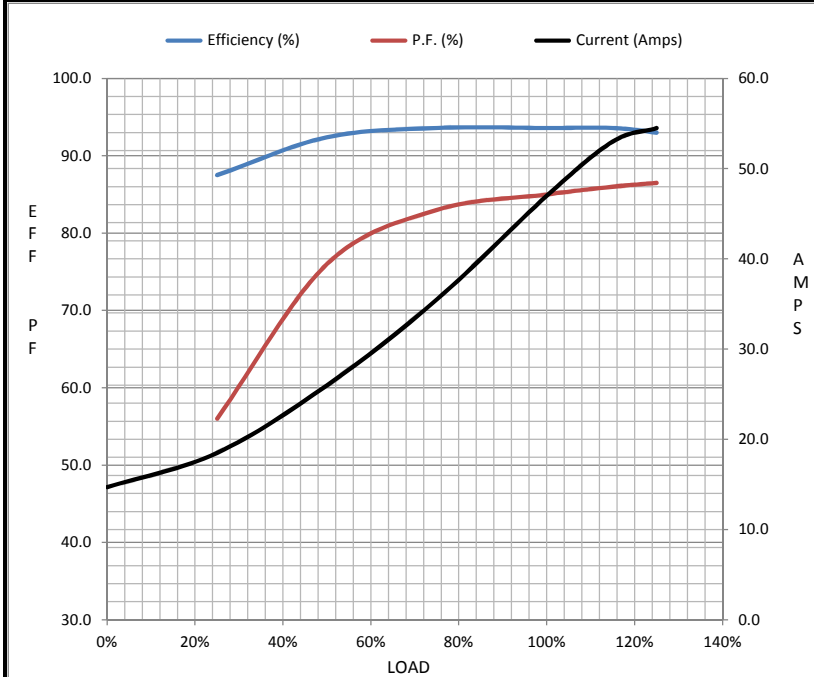
| Load           | 0%   | 25%  | 50%  | 75%  | 100% | 115%  | 125% | LR   |
|----------------|------|------|------|------|------|-------|------|------|
| Current (Amps) | 14.7 | 18.5 | 26.0 | 35.5 | 47.0 | 53.0  | 54.5 | 275  |
| Torque (ft-lb) | 0.00 | 14.5 | 29.5 | 44.0 | 59.5 | 68.5  | 74.5 | 91.5 |
| RPM            | 3600 | 3590 | 3575 | 3560 | 3545 | 3,540 | 3530 | 0    |
| Efficiency (%) |      | 87.5 | 92.4 | 93.6 | 93.6 | 93.6  | 93.0 |      |
| P.F. (%)       | 9.3  | 56.0 | 76.0 | 83.0 | 85.0 | 86.0  | 86.5 | 29.0 |

**Motor Speed Data**

|                | LR   | Pull-Up | BD   | Rated | Idle |
|----------------|------|---------|------|-------|------|
| Speed (RPM)    | 0    | 1800    | 3300 | 3545  | 3600 |
| Current (Amps) | 275  | 248     | 172  | 47.0  | 14.7 |
| Torque (ft-lb) | 91.5 | 82.0    | 157  | 59.5  | 0.00 |

**Information Block**

|                             |                        |        |        |         |
|-----------------------------|------------------------|--------|--------|---------|
| HP                          | 40.0                   |        |        |         |
| Sync. RPM                   | 3600                   |        |        |         |
| Frame                       | 324                    |        |        |         |
| Enclosure                   | TEFC                   |        |        |         |
| Construction                | TFN                    |        |        |         |
| Voltage                     | 230/460#190/38(V)      |        |        |         |
| Frequency                   | 60 Hz                  |        |        |         |
| Design                      | B                      |        |        |         |
| LR Code letter              | G                      |        |        |         |
| Service Factor              | 1.15                   |        |        |         |
| Temp Rise @ FL              | 60 ° C                 |        |        |         |
| Duty                        | CONT                   |        |        |         |
| Ambient                     | 40 ° C                 |        |        |         |
| Elevation                   | 1,000 feet             |        |        |         |
| Rotor/Shaft wk <sup>2</sup> | 4.9 Lb-Ft <sup>2</sup> |        |        |         |
| Ref Wdg                     | 324248 NONE            |        |        |         |
| Sound Pressure @ 1M         | 72 dBA                 |        |        |         |
| VFD Rating                  | CONSTANT 10:1          |        |        |         |
| Outline Dwg                 | B-SS28118-1300         |        |        |         |
| Conn. Diag                  | A-EE7308AD             |        |        |         |
| Additional Specifications:  |                        |        |        |         |
| 0                           |                        |        |        |         |
| 365THFS8036                 |                        |        |        |         |
| EQUIV CKT (OHMS / PHASE)    |                        |        |        |         |
| R1                          | R2                     | X1     | X2     | Xm      |
| 0.0750                      | 0.0720                 | 0.6480 | 0.4750 | 18.6730 |



**Speed - Torque Curve**

