

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: 404THFS9101

Catalog No: W583

XRI®-841 Severe Duty Motor, 50 HP, 3 Ph, 60 Hz, 460 V, 900 RPM, 404T Frame, TEFC



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**RegalRexnord**

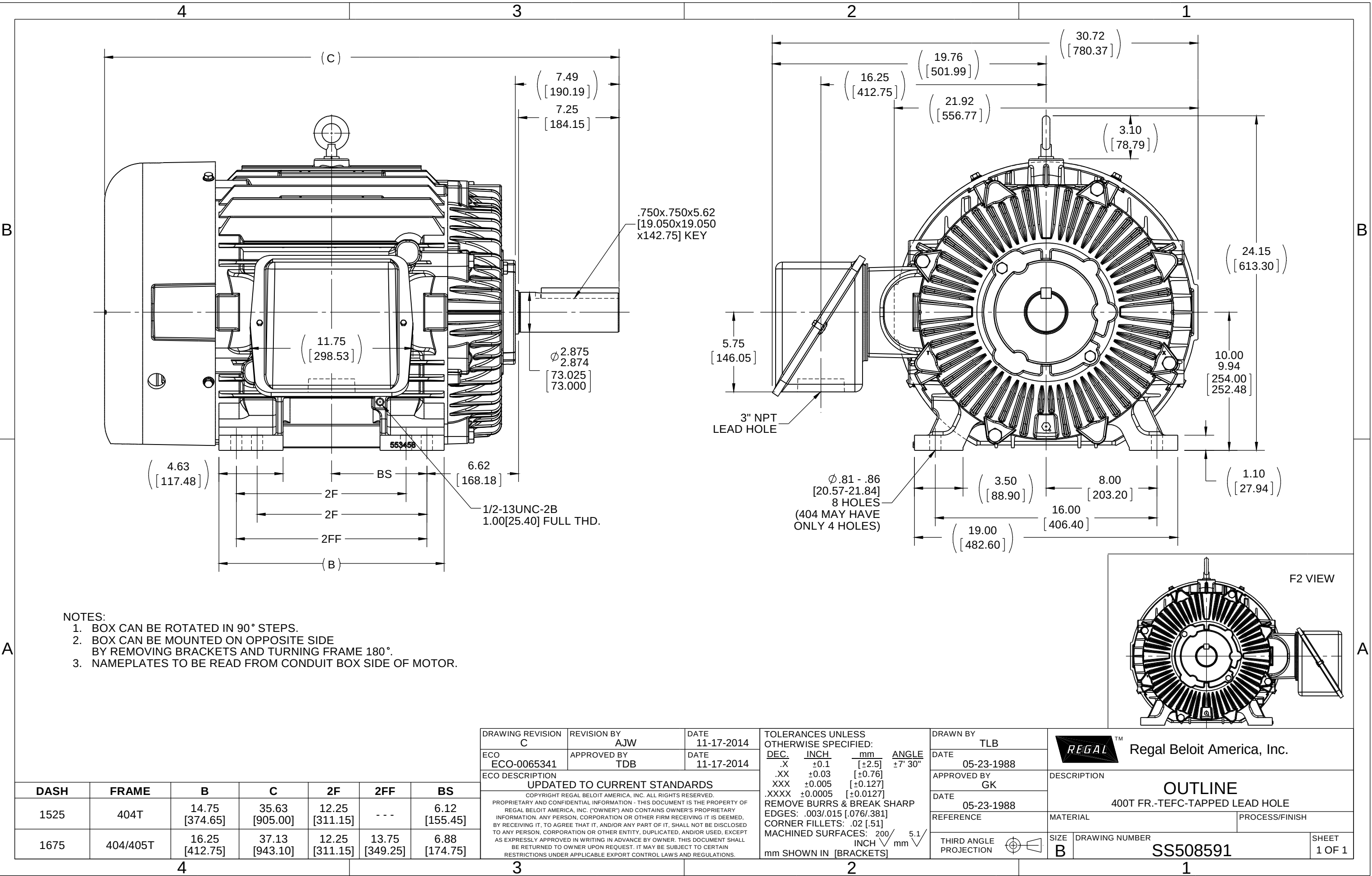
## Nameplate Specifications

|                        |               |                            |                             |
|------------------------|---------------|----------------------------|-----------------------------|
| Phase                  | 3             | Output HP                  | 50 Hp                       |
| Output KW              | 37.0 kW       | Voltage                    | 460 V                       |
| Speed                  | 890 rpm       | Service Factor             | 1.15                        |
| Frame                  | 404T          | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection | Efficiency                 | 93.6 %                      |
| Ambient Temperature    | 40 °C         | Frequency                  | 60 Hz                       |
| Current                | 66.0 A        | Power Factor               | 75.5                        |
| Duty                   | Continuous    | Insulation Class           | F                           |
| Design Code            | B             | KVA Code                   | G                           |
| Drive End Bearing Size | 6316          | Opp Drive End Bearing Size | 6313                        |
| UL                     | Recognized    | CSA                        | Y                           |
| CE                     | Y             | IP Code                    | 56                          |
| Number of Speeds       | 1             | Hazardous Location         | DIVISION 2 T2B              |

## Technical Specifications

|                       |                              |                       |                  |
|-----------------------|------------------------------|-----------------------|------------------|
| Electrical Type       | Squirrel Cage Inverter Rated | Starting Method       | Line Or Inverter |
| Poles                 | 8                            | Rotation              | Reversible       |
| Resistance Main       | .1455 Ohms                   | Mounting              | Rigid Base       |
| Motor Orientation     | Horizontal                   | Drive End Bearing     | Ball             |
| Opp Drive End Bearing | Ball                         | Frame Material        | Cast Iron        |
| Shaft Type            | T                            | Overall Length        | 35.63 in         |
| Frame Length          | 15.25 in                     | Shaft Diameter        | 2.875 in         |
| Shaft Extension       | 7.49 in                      | Assembly/Box Mounting | F1/F2 CAPABLE    |
| Inverter Load         | CONSTANT 2:1                 |                       |                  |
| Connection Drawing    | A-EE7300                     | Outline Drawing       | B-SS508591-1525  |





THREE PHASE - SINGLE VOLTAGE  
MOTOR - CONDUIT BOX @ 'A'

TO REVERSE ROTATION:  
INTERCHANGE ANY TWO LINE  
LEAD CONNECTIONS

TERMINAL BLOCK WHEN SPECIFIED

IF MOTOR HAS 9 LEADS

T1(U1) T1(U1) T1(U1) → L1

T2(V1) T2(V1) T2(V1) → L2

T3(W1) T3(W1) T3(W1) → L3

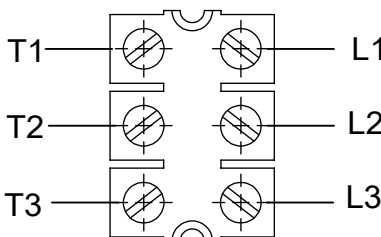
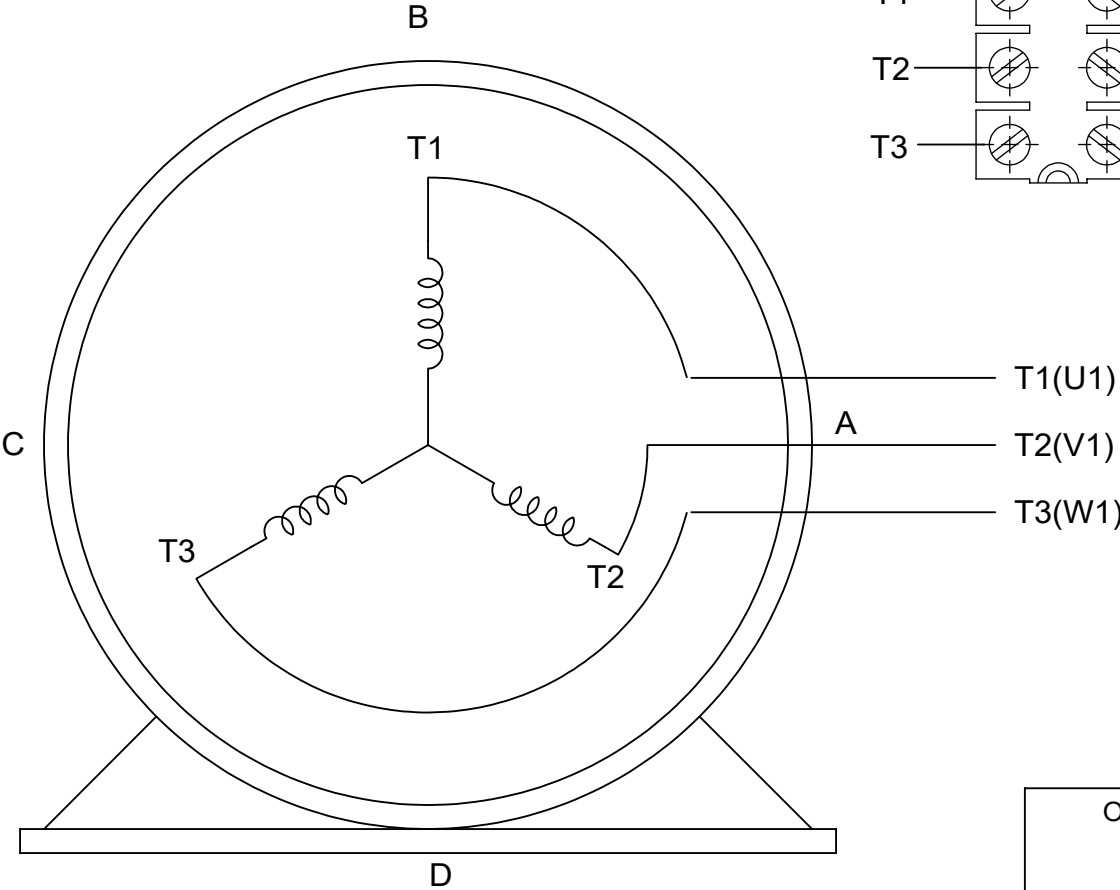
IF MOTOR HAS 6 LEADS

T1(U1) T1(U1) → L1

T2(V1) T2(V1) → L2

T3(W1) T3(W1) → L3

A-9806 DECAL



| OPTIONAL CORD CONNECTION |       |
|--------------------------|-------|
| L1                       | WHITE |
| L2                       | RED   |
| L3                       | BLACK |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------|
| DRAWING REVISION<br>AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | REVISION BY<br>BS | REV DATE/© DATE<br>26/07/2022 |
| REQUEST NUMBER<br>CR-0010402                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | APPROVED BY<br>SN | DATE<br>26/07/2022            |
| REQUEST NUMBER DESCRIPTION<br>DRAWING UPDATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                               |
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|                           |
|---------------------------|
| DRAWN BY<br>DA            |
| DATE<br>03-26-1993        |
| APPROVED BY<br>TB         |
| DATE<br>03-26-1993        |
| REFERENCE                 |
| THIRD ANGLE<br>PROJECTION |

|                                                                                                                  |                          |
|------------------------------------------------------------------------------------------------------------------|--------------------------|
|  Regal Beloit America, Inc. |                          |
| DESCRIPTION<br><b>CONNECTION DIAGRAM</b><br>EXTERNAL - SINGLE VOLTAGE - 3Ø MOTOR                                 |                          |
| MATERIAL                                                                                                         | PROCESS/FINISH           |
| SIZE<br>A                                                                                                        | DRAWING NUMBER<br>EE7300 |
| SHEET<br>1 OF 1                                                                                                  |                          |

## CERTIFICATION DATA SHEET

Model#: 404THFS9101 AP  
 CONN. DIAGRAM: A-EE7300  
 OUTLINE: B-SS508591-1525

WINDING#: T404816 NONE 1  
 ASSEMBLY: F1/F2 CAPABLE

## TYPICAL MOTOR PERFORMANCE DATA

| HP | KW | SYNC. RPM | F.L. RPM | FRAME | ENCLOSURE | KVA CODE | DESIGN |
|----|----|-----------|----------|-------|-----------|----------|--------|
| 50 | 37 | 900       | 890      | 404T  | TEFC      | G        | B      |

| PH | Hz | VOLTS | FL AMPS | START TYPE          | DUTY       | INSL | S.F  | AMB°C | ELEVATION |
|----|----|-------|---------|---------------------|------------|------|------|-------|-----------|
| 3  | 60 | 460   | 66      | LINE OR<br>INVERTER | CONTINUOUS | F1   | 1.15 | 40    | 3300      |

|                     |                    |                    |          |                   |              |
|---------------------|--------------------|--------------------|----------|-------------------|--------------|
| FULL LOAD EFF: 93.6 | 3/4 LOAD EFF: 93.6 | 1/2 LOAD EFF: 93.6 | GTD. EFF | ELEC. TYPE        | NO LOAD AMPS |
| FULL LOAD PF: 75.5  | 3/4 LOAD PF: 72    | 1/2 LOAD PF: 62    | 93       | SQ CAGE INV RATED | 28           |

| F.L. TORQUE | LOCKED ROTOR AMPS | L.R. TORQUE   | B.D. TORQUE   | F.L. RISE°C |
|-------------|-------------------|---------------|---------------|-------------|
| 295 LB-FT   | 350               | 515 LB-FT 175 | 625 LB-FT 212 | 72          |

| SOUND PRESSURE<br>@ 3 FT. | SOUND POWER | ROTOR WK^2   | MAX. WK^2 | SAFE STALL TIME | STARTS<br>/HOUR | APPROX. MOTOR<br>WGT |
|---------------------------|-------------|--------------|-----------|-----------------|-----------------|----------------------|
| 62 dBA                    | 72 dBA      | 36.5 LB-FT^2 | - LB-FT^2 | 20 SEC.         | -               | 1200 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 | PAIN         |
|--------------------|---------------------|---------------|-------------|------------------------|-----------------------|---------------|---------|--------------|
| STANDARD           | STANDARD            | RIGID         | HORIZONTAL  | PREMIUM<br>SEVERE DUTY | DIVISION 2 T2B        | FALSE         | NONE    | BLUE (EPOXY) |

| BEARINGS |      | GREASE     | SHAFT TYPE | SPECIAL DE | SPECIAL ODE | SHAFT<br>MATERIAL          | FRAME<br>MATERIAL |
|----------|------|------------|------------|------------|-------------|----------------------------|-------------------|
| DE       | OPE  |            |            |            |             |                            |                   |
| BALL     | BALL |            |            |            |             |                            |                   |
| 6316     | 6313 | POLYREX EM | T          | NONE       | NONE        | 1045 HOT<br>ROLLED (C-204) | CAST IRON         |

| THERMO-PROTECTORS |            |          |          | THERMISTORS | CONTROL | SPACE /n HEATERS |
|-------------------|------------|----------|----------|-------------|---------|------------------|
| THERMOSTATS       | PROTECTORS | WDG RTDs | BRG RTDs |             |         |                  |
| NONE              | NOT        | NONE     | NONE     | NONE        | FALSE   | NONE VOLTS       |

If Inverter equals NONE, contact factory for further information

|                                 |                               |  |         |  |
|---------------------------------|-------------------------------|--|---------|--|
| *<br>N<br>O<br>T<br>E<br>S<br>* | INVERTER TORQUE: CONSTANT 2:1 |  |         |  |
|                                 | INV. HP SPEED RANGE: NONE     |  |         |  |
|                                 | ENCODER: NONE                 |  |         |  |
|                                 | NONE NONE                     |  |         |  |
|                                 | NONE NONE PPR                 |  |         |  |
|                                 | BRAKE: NONE NONE              |  |         |  |
|                                 | NONE P/N NONE                 |  |         |  |
|                                 | NONE NONE                     |  |         |  |
|                                 | NONE FT-LB                    |  | NONE V  |  |
|                                 |                               |  | NONE Hz |  |

DATE: 06/21/2017 07:47:18 AM  
 FORM 3531 REV.3 02/07/99  
 \*\* Subject to change without notice.

## Data Sheet

Date: 15-06-2017

Customer:

Attention:

Submitted by: FAREEDA DUDEKULA



404THFS9101

Submittal

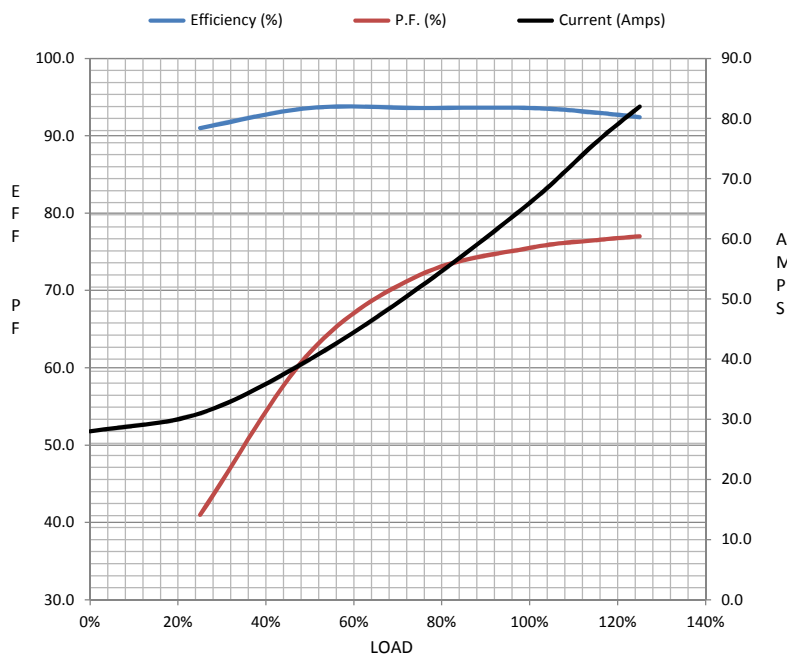
Data @ 460 V

## Motor Load Data

| Load           | 0%   | 25%  | 50%  | 75%  | 100% | 115% | 125% | LR   |  |
|----------------|------|------|------|------|------|------|------|------|--|
| Current (Amps) | 28.0 | 31.0 | 40.0 | 52.0 | 66.0 | 76.0 | 82.0 | 350  |  |
| Torque (ft-lb) | 0.00 | 73.0 | 147  | 221  | 295  | 340  | 370  | 515  |  |
| RPM            | 900  | 898  | 895  | 892  | 890  | 888  | 885  | 0    |  |
| Efficiency (%) |      | 91.0 | 93.6 | 93.6 | 93.6 | 93.0 | 92.4 |      |  |
| P.F. (%)       | 4.0  | 41.0 | 62.0 | 72.0 | 75.5 | 76.5 | 77.0 | 35.5 |  |

## Motor Speed Data

|                | LR  | Pull-Up | BD  | Rated | Idle | Information Block |      |  |  |
|----------------|-----|---------|-----|-------|------|-------------------|------|--|--|
| Speed (RPM)    | 0   | 450     | 850 | 890   | 900  | HP                | 50.0 |  |  |
| Current (Amps) | 350 | 300     | 200 | 66.0  | 28.0 | Sync. RPM         | 900  |  |  |
| Torque (ft-lb) | 515 | 425     | 625 | 295   | 0.00 | Frame             | 404  |  |  |



|                            |                 |        |        |        |
|----------------------------|-----------------|--------|--------|--------|
| HP                         | 50.0            |        |        |        |
| Sync. RPM                  | 900             |        |        |        |
| Frame                      | 404             |        |        |        |
| Enclosure                  | TEFC            |        |        |        |
| Construction               | TFS             |        |        |        |
| Voltage                    | 460 V           |        |        |        |
| Frequency                  | 60 Hz           |        |        |        |
| Design                     | B               |        |        |        |
| LR Code letter             | G               |        |        |        |
| Service Factor             | 1.15            |        |        |        |
| Temp Rise @ FL             | 72 ° C          |        |        |        |
| Duty                       | CONT            |        |        |        |
| Ambient                    | 40 ° C          |        |        |        |
| Elevation                  | 1,000 feet      |        |        |        |
| Rotor/Shaft wk²            | 36.5 Lb-Ft²     |        |        |        |
| Ref Wdg                    | T404816 NONE    |        |        |        |
| Sound Pressure @ 1M        | 62 dBA          |        |        |        |
| VFD Rating                 | CONSTANT 2:1    |        |        |        |
| Outline Dwg                | B-SS508591-1525 |        |        |        |
| Conn. Diag                 | A-EE7300        |        |        |        |
| Additional Specifications: |                 |        |        |        |
| 0                          |                 |        |        |        |
| 365THFS8036                |                 |        |        |        |
| EQUIV CKT (OHMS / PHASE)   |                 |        |        |        |
| R1                         | R2              | X1     | X2     | Xm     |
| 0.0920                     | 0.0510          | 0.4490 | 0.8070 | 7.9000 |

## Speed -Torque Curve

