marathon®

# Explosion Proof Motors

**Model No:** 405TSTGS6503
**Catalog No:** E578

Explosion Proof Motor, 100 HP, 3 Ph, 60 Hz, 230/460 V, 3600 RPM, 405TS Frame, EPFC

©2026 Marathon, All Rights Reserved.

marathon®

# Product Information Packet: Model No: 405TSTGS6503, Catalog No: E578 Explosion Proof Motor, 100 HP, 3 Ph, 60 Hz, 230/460 V, 3600 RPM, 405TS Frame, EPFC

## Nameplate Specifications

| | | | |
|---|---|---|---|
| Phase | **3** | Output HP | **100 Hp** |
| Output KW | **75.0 kW** | Voltage | **230/460 V** |
| Speed | **3565 r/min** | Synchronous RPM | **3600 r/min** |
| Service Factor | **1.15** | Frame | **405TS** |
| Enclosure | **Explosion Proof Fan cooled** | Thermal Protection | **Thermostat** |
| Efficiency | **94.5 %** | Ambient Temperature | **40 °C** |
| Frequency | **60 Hz** | Current | **216.0/108.0 A** |
| Power Factor | **91.5** | Duty | **Continuous** |
| Insulation Class | **F** | Design Code | **B** |
| KVA Code | **G** | Drive End Bearing Size | **6313** |
| Opp Drive End Bearing Size | **6313** | UL | **UL Listed And CSA Certified** |
| CSA | **Y** | CE | **N** |
| IP Code | **54** | Number of Speeds | **1** |
| Hazardous Location | **DIV 1 EXP PROOF CL I GR CD CL II GR FG T3B** | | |

## Technical Specifications

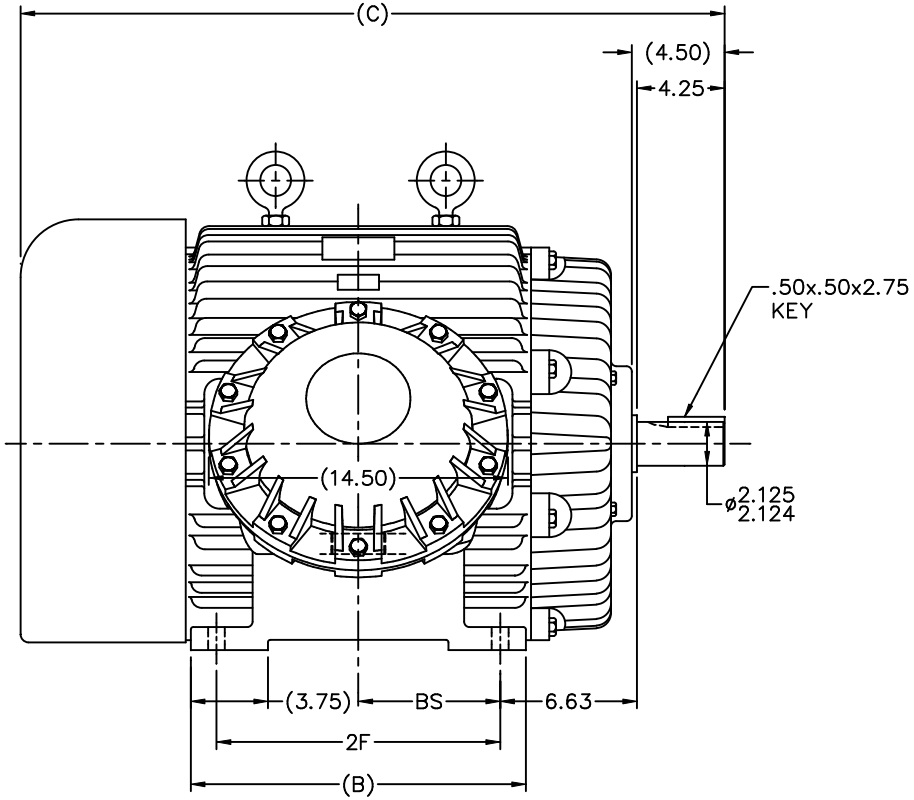
| | | | |
|---|---|---|---|
| Electrical Type | **Squirrel Cage Inverter Rated** | Starting Method | **Line Or Inverter** |
| Poles | **2** | Rotation | **Reversible** |
| Resistance Main | **.051 O** | Mounting | **Rigid Base** |
| Motor Orientation | **Horizontal** | Drive End Bearing | **Ball** |
| Opp Drive End Bearing | **Ball** | Frame Material | **Cast Iron** |
| Shaft Type | **TS** | Overall Length | **34.12 in** |
| Frame Length | **16.75 in** | Shaft Diameter | **2 1/8 in** |
| Shaft Extension | **4.5 in** | Assembly/Box Mounting | **F1 Only** |
| Inverter Load | **Constant 10:1** | | |

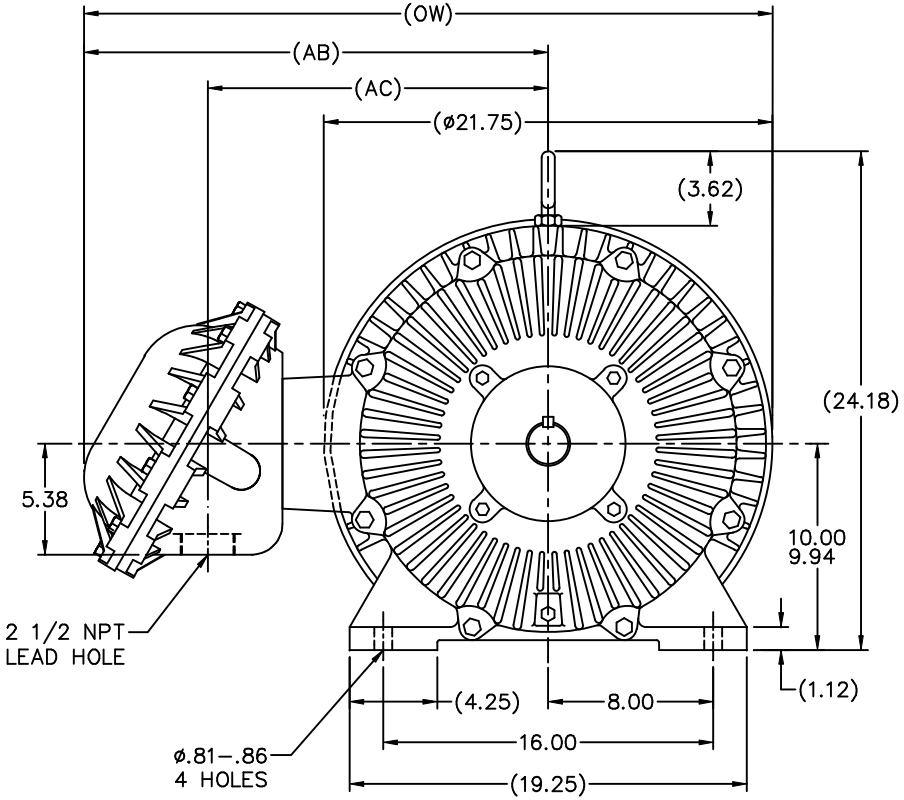
## Drawings

| | | | |
|---|---|---|---|
| Connection Drawing | **A-EE7308AD** | Outline Drawing | **B-SS518935-1675** |

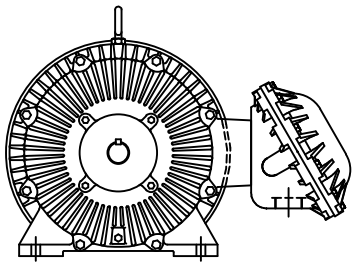
This is an uncontrolled document once printed or downloaded and is subject to change without notice. Date Created: 16/10/2026

SS518935




F2 VIEW



NOTES:
1. BOX CAN BE ROTATED IN 90° STEPS.
2. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

| DASH | FRAME | B | C | 2F | AB | AC | BS | OW |
|---|---|---|---|---|---|---|---|---|
| 1525 | 404TS | 14.75 | 32.62 | 12.25 | 21.50 | 15.50 | 6.12 | 32.38 |
| 1675 | 405TS | 16.25 | 34.12 | 13.75 | 22.50 | 16.50 | 6.88 | 33.38 |

| NO. | REVISION | BY & DATE | CHK |
|---|---|---|---|
| 3 | ADDED F2 VIEW | RWR 08-07-2007 | ML |
| 2 | UPPDATED DRAWING | RJW 05-08-2007 | ML |
| 1 | NEW DRAWING CN34593 | MSG 03-20-2002 | JHL |

TOLERANCES UNLESS SPECIFIED
DEC. INCHES
.X ±.1
.XX ±.03
.XXX ±.005
.XXXX ±.0005
ANG ±7'30"

MARATHON ELECTRIC

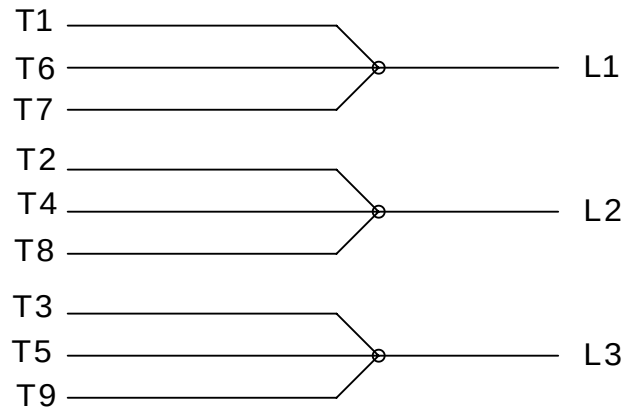
TITLE OUTLINE
400TS FR. – EXP. PROOF – (STD)
MAT'L.
FINISH
CAD FILE SS518935
RFP
DIST WA

DRAWN MSG 03-06-2002
CHK JHL 03-19-2002
APPD JES 03-20-2002
SCALE 1=6.0
REF
FMF
PREV

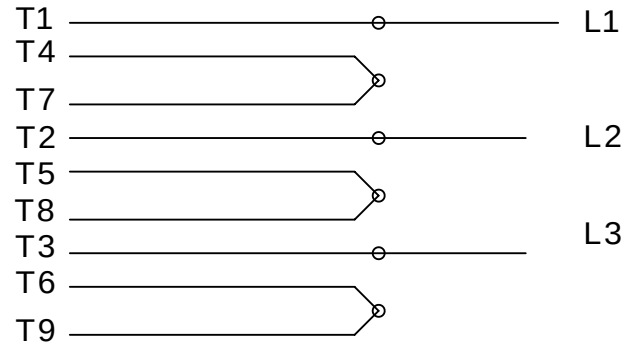
SIZE B | DRAWING NO. SS518935 | PAGE OF | REV. 3

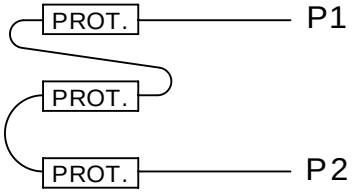
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED
THIS IS AN ELECTRONICALLY GENERATED DOCUMENT – DO NOT SCALE THIS PRINT

## LOW VOLTAGE

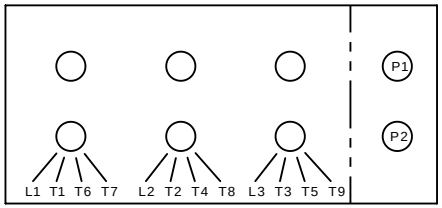



## HIGH VOLTAGE

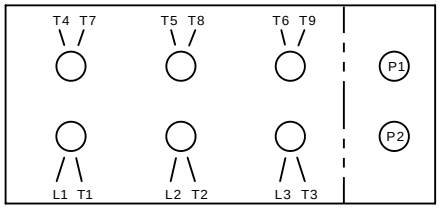


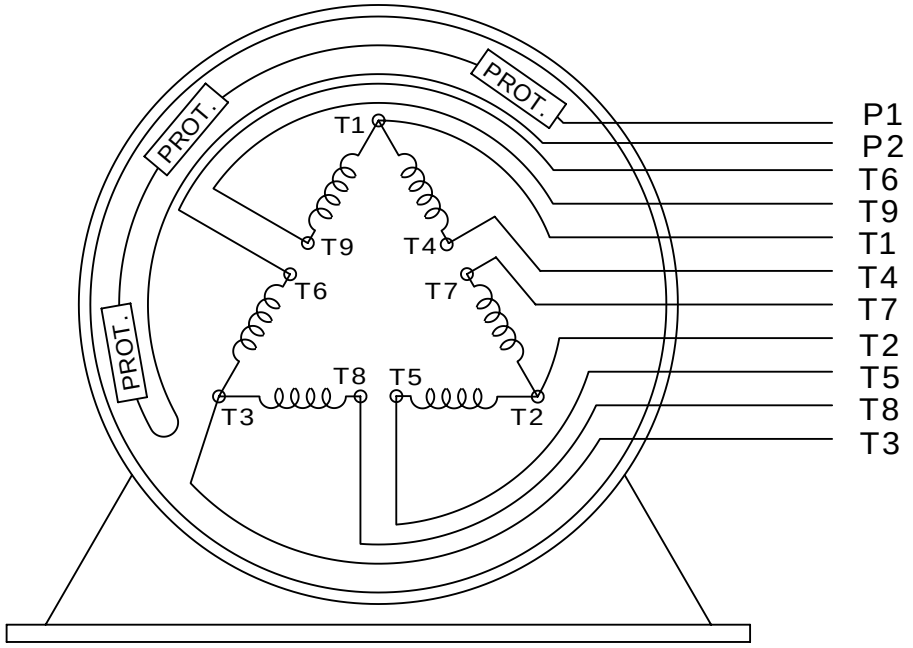




## LOW VOLTAGE




## HIGH VOLTAGE




VIEW OF TERMINAL END

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

| | | | | | |
|---|---|---|---|---|---|
| DRAWING REVISION<br>M | REVISION BY<br>SB | REV DATE/© DATE<br>06/03/2026 | PRIMARY DIMENSIONS ARE INCH<br>mm DIMENSIONS IN [BRACKETS]<br>ARE FOR REFERENCE ONLY | DRAWN BY<br>MJD | marathon™ |
| REQUEST NUMBER<br>CR-0026504 | APPROVED BY<br>RMS | DATE<br>06/03/2026 | | DATE<br>12-19-1997 | |
| REQUEST NUMBER DESCRIPTION<br>DRAWING TITLE BLOCK UPDATED | | | | APPROVED BY<br>GK | DESCRIPTION<br>CONN DIAGRAM-EXTERNAL |
| | | | | DATE<br>01-07-1998 | |
| | | | | REFERENCE | MATERIAL / PROCESS/FINISH |
| | | | | THIRD ANGLE PROJECTION | SIZE A / DRAWING NUMBER ee7308ad / SHEET 1 OF 1 |

COPYRIGHT (PER REVISION DATE) MARATHON ELECTRIC, LLC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF MARATHON ELECTRIC, LLC. ("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.

# Data Sheet

**Date:** 16-06-2017
**Customer:**
**Attention:**
**Submitted by:** FAREEDA DUDEKULA

marathon® electric

405TSTGS6503

**Submittal**

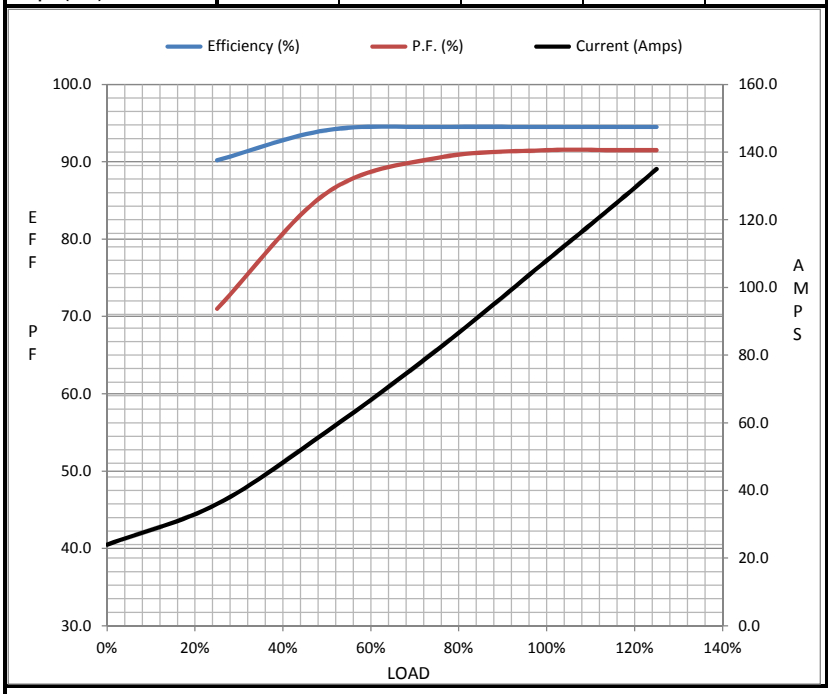
Data @ 460 V

## Motor Load Data

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 125% | LR | |
|---|---|---|---|---|---|---|---|---|---|
| Current (Amps) | 24.0 | 36.0 | 57.5 | 81.5 | 108 | 124 | 135 | 725 | |
| Torque (ft-lb) | 0.00 | 36.5 | 73.5 | 110 | 147 | 170 | 185 | 230 | |
| RPM | 3600 | 3592 | 3582 | 3572 | 3565 | 3,560 | 3555 | 0 | |
| Efficiency (%) | | 90.2 | 94.1 | 94.5 | 94.5 | 94.5 | 94.5 | | |
| P.F. (%) | 7.5 | 71.0 | 86.0 | 90.5 | 91.5 | 91.5 | 91.5 | 31.0 | |

## Motor Speed Data

| | LR | Pull-Up | BD | Rated | Idle |
|---|---|---|---|---|---|
| Speed (RPM) | 0 | 1800 | 3415 | 3565 | 3600 |
| Current (Amps) | 725 | 650 | 425 | 108 | 24.0 |
| Torque (ft-lb) | 230 | 200 | 410 | 147 | 0.00 |




## Information Block

| | |
|---|---|
| HP | 100.0 |
| Sync. RPM | 3600 |
| Frame | 405 |
| Enclosure | TEFC |
| Construction | TFS |
| Voltage | 230/460 V |
| Frequency | 60 Hz |
| Design | A |
| LR Code letter | G |
| Service Factor | 1.15 |
| Temp Rise @ FL | 65 ° C |
| Duty | CONT |
| Ambient | 40 ° C |
| Elevation | 1,000 feet |
| Rotor/Shaft wk² | 16.5 Lb-Ft² |
| Ref Wdg | T405247 R3 |
| Sound Pressure @ 1M | 80 dBA |
| VFD Rating | CONSTANT 10:1 |
| Outline Dwg | B-SS518935-1675 |
| Conn. Diag | A-EE7308AD |

Additional Specifications:

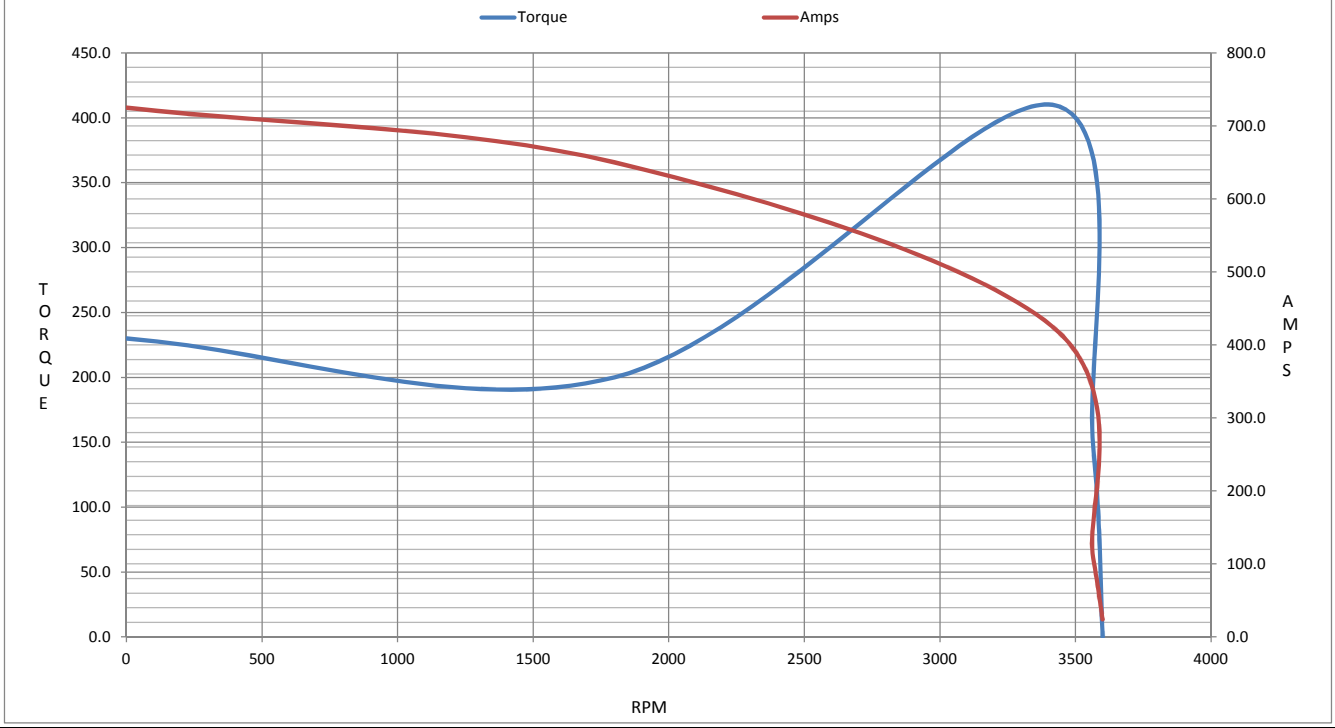
0

365THFS8036

EQUIV CKT (OHMS / PHASE)

| R1 | R2 | X1 | X2 | Xm |
|---|---|---|---|---|
| 0.0390 | 0.0240 | 0.2690 | 0.2040 | 10.8200 |

## Speed -Torque Curve



Uncontrolled Copy

## CERTIFICATION DATA SHEET

| | | | |
|---|---|---|---|
| **Model#:** | 405TSTGS6503 BR | **WINDING#:** | T405247 R3 1 |
| **CONN. DIAGRAM:** | A-EE7308AD | **ASSEMBLY:** | F1 ONLY |
| **OUTLINE:** | B-SS518935-1675 | | |

## TYPICAL MOTOR PERFORMANCE DATA

| HP | KW | SYNC. RPM | F.L. RPM | FRAME | ENCLOSURE | KVA CODE | DESIGN |
|---|---|---|---|---|---|---|---|
| 100 | 75 | 3600 | 3565 | 405TS | EPFC | G | B |

| PH | Hz | VOLTS | FL AMPS | START TYPE | DUTY | INSL | S.F | AMB°C | ELEVATION |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 60 | 230/460 | 216/108 | LINE OR INVERTER | CONTINUOUS | F1 | 1.15 | 40 | 3300 |

| FULL LOAD EFF: 94.5 | 3/4 LOAD EFF: 94.5 | 1/2 LOAD EFF: 94.1 | GTD. EFF | ELEC. TYPE | NO LOAD AMPS |
|---|---|---|---|---|---|
| FULL LOAD PF: 91.5 | 3/4 LOAD PF: 90.5 | 1/2 LOAD PF: 86 | 93.6 | SQ CAGE INV RATED | 48 / 24 |

| F.L. TORQUE | LOCKED ROTOR AMPS | L.R. TORQUE | B.D. TORQUE | F.L. RISE°C |
|---|---|---|---|---|
| 147 LB-FT | 1450 / 725 | 230 LB-FT 156 | 410 LB-FT 279 | 65 |

| SOUND PRESSURE @ 3 FT. | SOUND POWER | ROTOR WK^2 | MAX. WK^2 | SAFE STALL TIME | STARTS /HOUR | APPROX. MOTOR WGT |
|---|---|---|---|---|---|---|
| 80 dBA | 90 dBA | 16.5 LB-FT^2 | 65 LB-FT^2 | 20 SEC. | 2 | 1300 LBS. |

## *** SUPPLEMENTAL INFORMATION ***

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

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

| 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

INVERTER TORQUE: CONSTANT 10:1
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

* NOTES *

DATE: 06/22/2017 12:13:13 AM
FORM 3531 REV.3 02/07/99
** Subject to change without notice.