marathon®

# Severe Duty Motors

**Model No:** 324THFCD19033
**Catalog No:** W574A

Severe Duty Motor, 40 HP, 3 Ph, 60 Hz, 575 V, 1800 RPM, 324T Frame, TEFC

©2026 Marathon, All Rights Reserved.

marathon®

## Product Information Packet: Model No: 324THFCD19033, Catalog No: W574A  Severe Duty Motor, 40 HP, 3 Ph, 60 Hz, 575 V, 1800 RPM, 324T Frame, TEFC

### Nameplate Specifications

| | | | |
|---|---|---|---|
| Phase | **3** | Output HP | **40 Hp** |
| Output KW | **30.0 kW** | Voltage | **575 V** |
| Speed | **1782 r/min** | Synchronous RPM | **1800 r/min** |
| Service Factor | **1.15** | Frame | **324T** |
| Enclosure | **Totally Enclosed Fan Cooled** | Thermal Protection | **No Protection** |
| Efficiency | **94.1 %** | Ambient Temperature | **40 °C** |
| Frequency | **60 Hz** | Current | **38.0 A** |
| Power Factor | **84** | Duty | **Continuous** |
| Insulation Class | **H** | Design Code | **B** |
| KVA Code | **G** | Drive End Bearing Size | **6312** |
| Opp Drive End Bearing Size | **6212** | UL | **Listed** |
| CSA | **Y** | CE | **Y** |
| IP Code | **56** | Number of Speeds | **1** |
| Hazardous Location | **DIVISION 2 T2B** | | |

### Technical Specifications

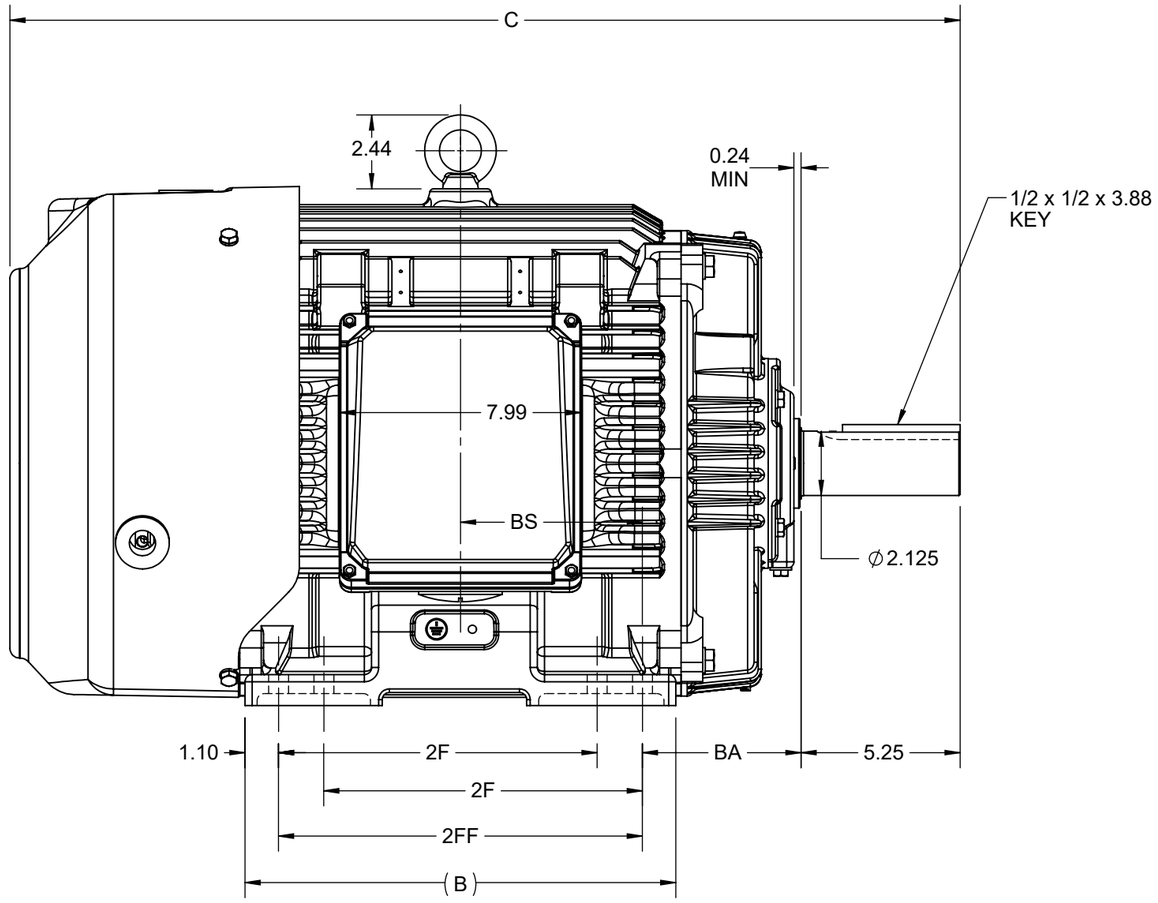
| | | | |
|---|---|---|---|
| Electrical Type | **Squirrel Cage Inverter Rated** | Starting Method | **Line Or Inverter** |
| Poles | **4** | Rotation | **Reversible** |
| Resistance Main | **.18 O** | Mounting | **Rigid Base** |
| Motor Orientation | **Horizontal** | Drive End Bearing | **Ball** |
| Opp Drive End Bearing | **Ball** | Frame Material | **Cast Iron** |
| Shaft Type | **T** | Shaft Diameter | **2.125 in** |
| Assembly/Box Mounting | **F1/F2 Capable** | Inverter Load | **Constant 2:1/Variable 10:1** |

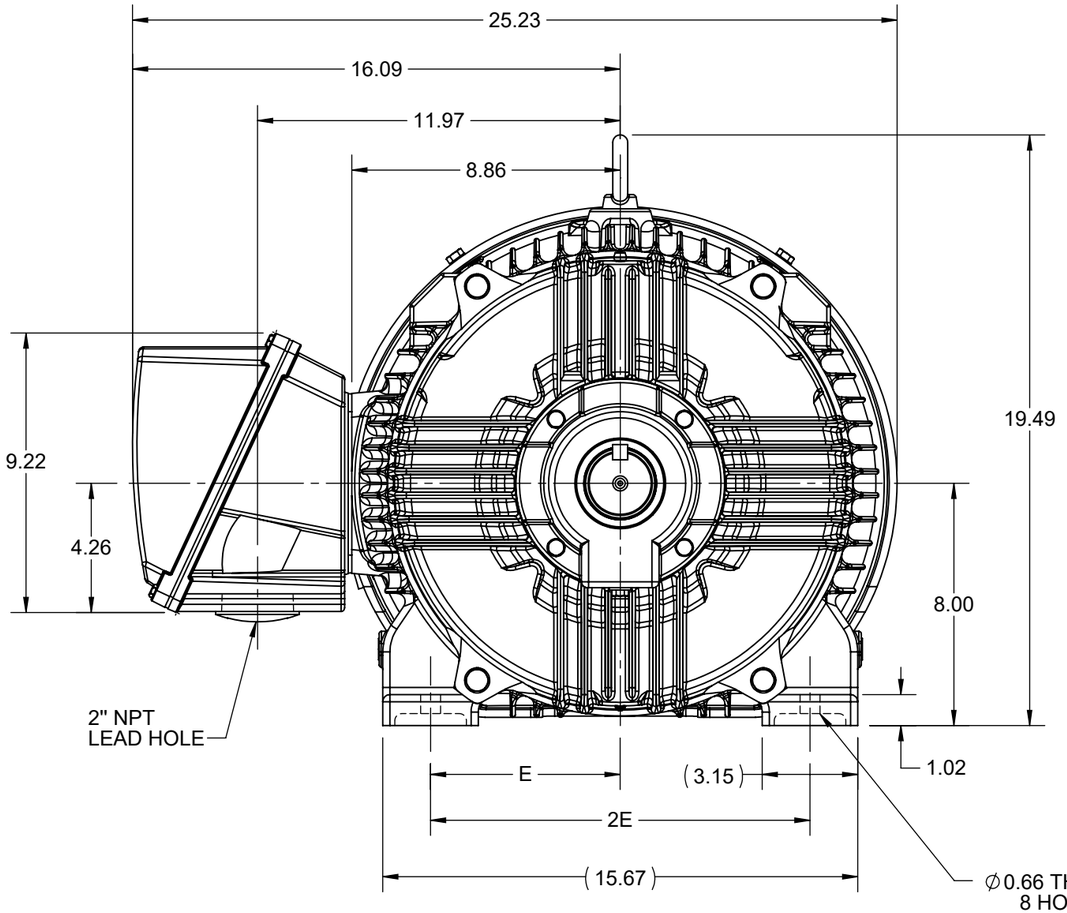
### Drawings

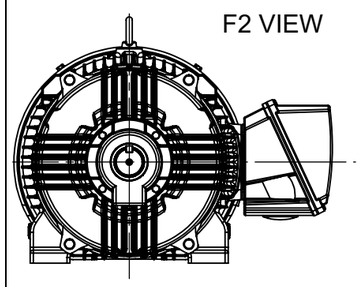
| | | | |
|---|---|---|---|
| Connection Drawing | **EE7300** | Outline Drawing | **SS312939-100** |

This is an uncontrolled document once printed or downloaded and is subject to change without notice. Date Created: 15/10/2026

| DASH NO. | B | C | E | 2E | 2F | 2FF | BA | BS | MOUNTING | FRAME |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 12.71 | 29.85 | 6.25 | 12.50 | --- | 10.50 | 5.25 | 5.25 | F1 OR F2 | 324T |
| 200 | 14.21 | 31.35 | | | 10.50 | 12.00 | | 6.00 | | 324/326T |




| DRAWING REVISION | REVISION BY | REV DATE/© DATE |
|---|---|---|
| E | SB | 08/11/2025 |
| REQUEST NUMBER | APPROVED BY | DATE |
| CR-0023556 | SBD | 08/11/2025 |

REQUEST NUMBER DESCRIPTION
DRAWING TITLE BLOCK UPDATED

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.

PRIMARY DIMENSIONS ARE INCH
mm DIMENSIONS IN [BRACKETS]
ARE FOR REFERENCE ONLY

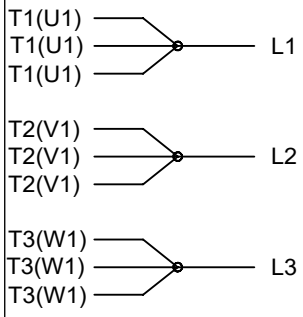
| DRAWN BY | DESCRIPTION |
|---|---|
| BISWA | OUTLINE |
| DATE | 324/326T FR-NEMA-SD & IEEE841 |
| 24/12/2018 | |
| APPROVED BY | |
| SBD | |
| DATE | |
| 24/12/2018 | |
| REFERENCE | MATERIAL / PROCESS/FINISH |
| THIRD ANGLE PROJECTION | SIZE B / DRAWING NUMBER SS312939 / SHEET 1 OF 1 |

marathon™

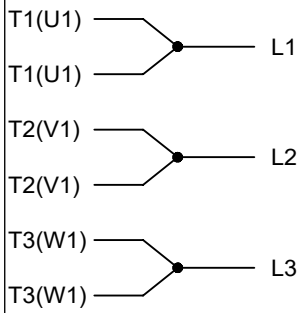
THREE PHASE - SINGLE VOLTAGE
MOTOR - CONDUIT BOX @ 'A'

TO REVERSE ROTATION:
INTERCHANGE ANY TWO LINE
LEAD CONNECTIONS

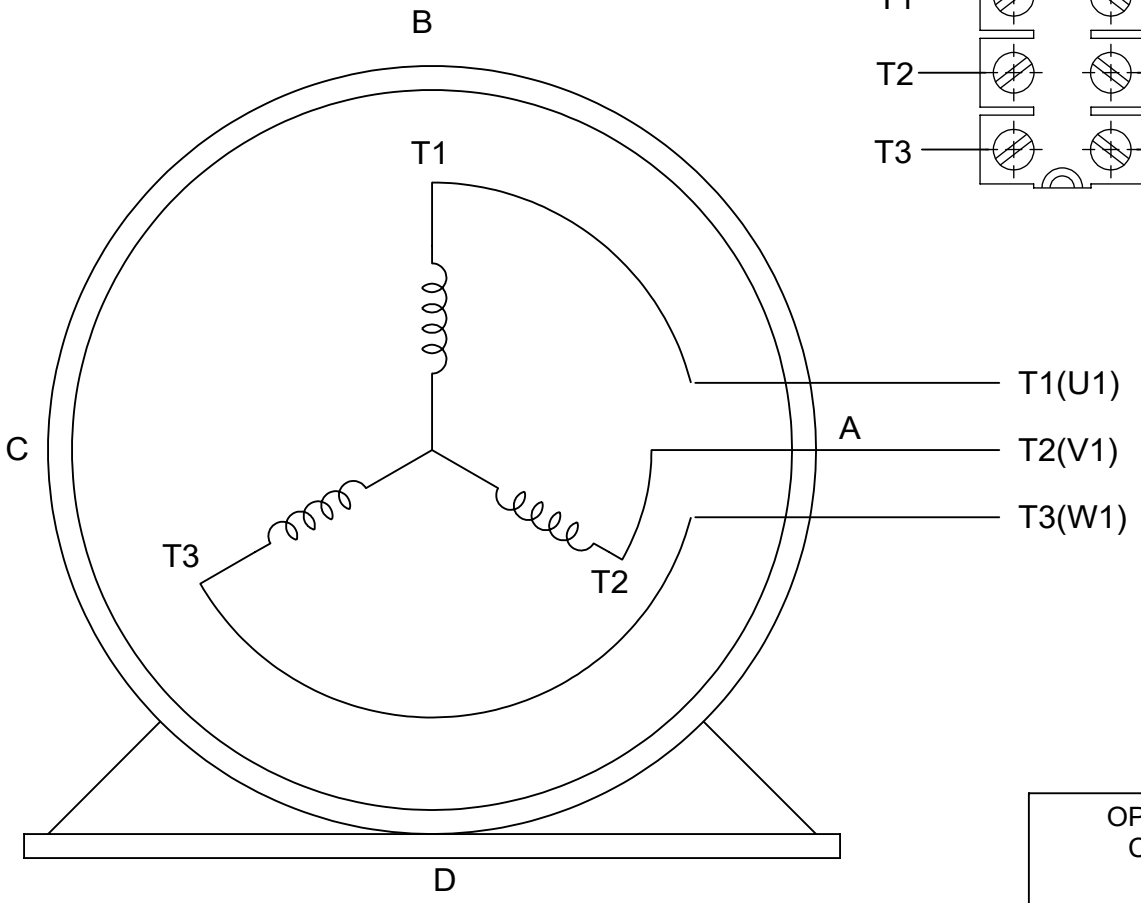
IF MOTOR HAS
9 LEADS




IF MOTOR HAS
6 LEADS




A-9806 DECAL




VIEW OF TERMINAL END

TERMINAL BLOCK WHEN SPECIFIED




OPTIONAL CORD
CONNECTION

| | |
|---|---|
| L1 | WHITE |
| L2 | RED |
| L3 | BLACK |

| | | |
|---|---|---|
| DRAWING REVISION: AD | REVISION BY: SB | REV DATE/© DATE: 08/01/2025 |
| REQUEST NUMBER: CR-0023654 | APPROVED BY: SBD | DATE: 08/01/2025 |

REQUEST NUMBER DESCRIPTION
DRAWING TITLE BLOCK UPDATED

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.

PRIMARY DIMENSIONS ARE INCH
mm DIMENSIONS IN [BRACKETS]
ARE FOR REFERENCE ONLY

| | |
|---|---|
| DRAWN BY: DA | |
| DATE: 03-26-1993 | |
| APPROVED BY: TB | |
| DATE: 03-26-1993 | |
| REFERENCE | |
| THIRD ANGLE PROJECTION | |

marathon™

DESCRIPTION
CONNECTION DIAGRAM
EXTERNAL - SINGLE VOLTAGE - 3Ø MOTOR

| MATERIAL | PROCESS/FINISH |
|---|---|

| SIZE | DRAWING NUMBER | SHEET |
|---|---|---|
| A | EE7300 | 1 OF 1 |

# Data Sheet

Date: 5/6/2020
Customer:
Attention:
Submitted by:

marathon® Motors

324THFCD19033

**Submittal**

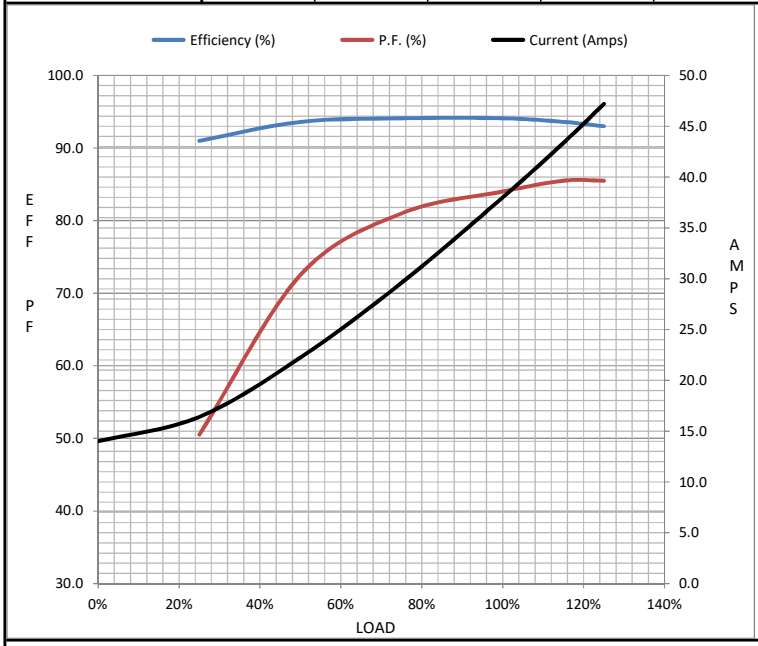
Data @ 575 V

## Motor Load Data

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 125% | LR | |
|---|---|---|---|---|---|---|---|---|---|
| Current (Amps) | 14.0 | 16.4 | 22.2 | 29.6 | 38.0 | 43.4 | 47.2 | 232 | |
| Torque (ft-lb) | 0.00 | 29.3 | 58.5 | 88.3 | 118 | 136 | 149 | 212 | |
| RPM | 1800 | 1795 | 1790 | 1788 | 1782 | 1,780 | 1778 | 0 | |
| Efficiency (%) | | 91.0 | 93.6 | 94.1 | 94.1 | 93.6 | 93.0 | | |
| P.F. (%) | 5.0 | 50.5 | 72.5 | 81.0 | 84.0 | 85.5 | 85.5 | 32.0 | |

## Motor Speed Data

| | LR | Pull-Up | BD | Rated | Idle |
|---|---|---|---|---|---|
| Speed (RPM) | 0 | 900 | 1710 | 1782 | 1800 |
| Current (Amps) | 232 | 184 | 136 | 38.0 | 14.0 |
| Torque (ft-lb) | 212 | 180 | 313 | 118 | 0.00 |



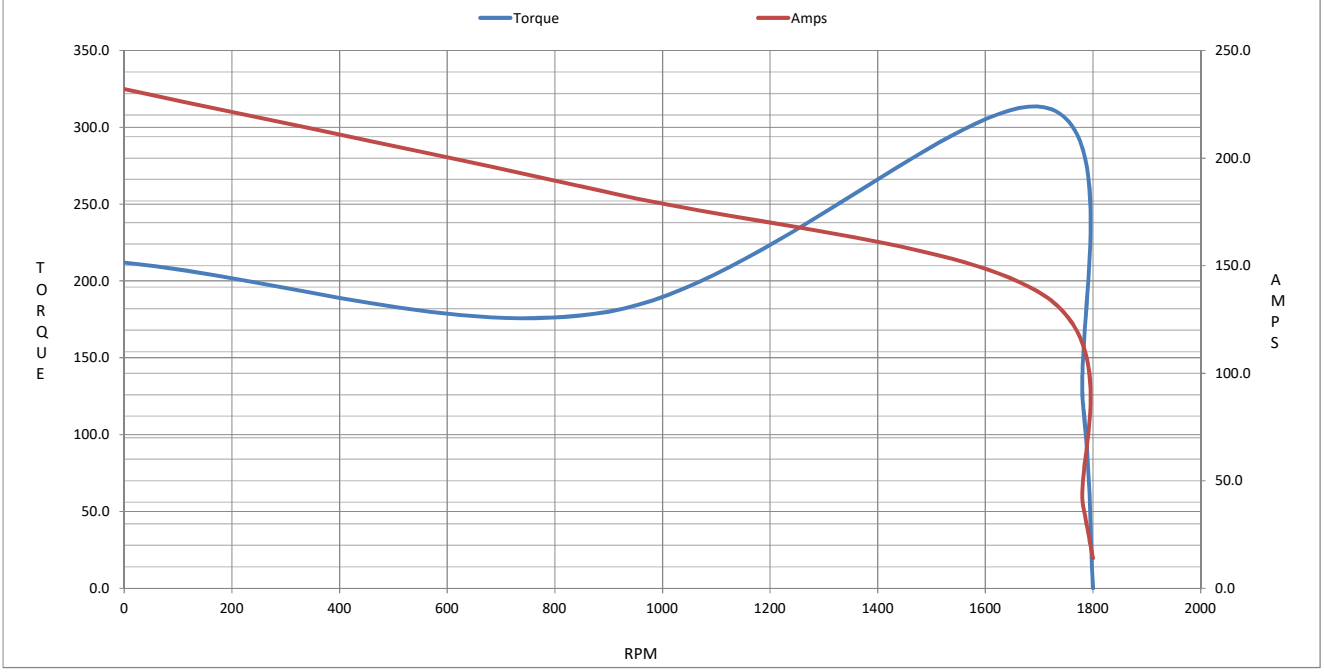

## Information Block

| | | |
|---|---|---|
| HP | 40.0 | |
| Sync. RPM | 1800 | |
| Frame | 324 | |
| Enclosure | TEFC | |
| Construction | TFC | |
| Voltage | 575 | 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 wk² | 11.2 | Lb-Ft² |
| Ref Wdg | HA32004007 NONE | |
| Sound Pressure @ 1M | 72 | dBA |
| VFD Rating | CONSTANT 2:1/VARIABLE 10:1 | |
| Outline Dwg | SS312939 | |
| Conn. Diag | EE7300 | |
| Additional Specifications: | | |
| 0 | | |
| 0 | | |

EQUIV CKT (OHMS / PHASE)

| R1 | R2 | X1 | X2 | Xm |
|---|---|---|---|---|
| 0.1770 | 0.0950 | 0.7310 | 1.2960 | 24.0400 |

## Speed -Torque Curve



Uncontrolled Copy

marathon® Motors

**DATA VOLTS:** 575

## CERTIFICATION DATA SHEET

**REFERENCE MODEL #:** 324THFCD19033
**CAT #:** W574A

**CONN. DIAGRAM:** EE7300
**OUTLINE:** SS312939
**WINDING:** HA32004007 NONE 3
**MOUNTING:** F1/F2 CAPABLE

## TYPICAL MOTOR PERFORMANCE DATA

| HP | KW | SYNC RPM | FL RPM | FRAME | ENCLOSURE | TYPE | KVA CODE | DESIGN |
|---|---|---|---|---|---|---|---|---|
| 40 | 30 | 1800 | 1782 | 324T | TEFC | TFC | G | B |

| PH | HZ | VOLTS | AMPS | START TYPE | DUTY | INSL | S.F. | AMB (° C) | ELEV. (Ft) |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 60 | 575 | 38 | LINE OR INVERTER | CONT | H | 1.15 | 40 | 3300 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| F.L. EFF | 94.1 | 3/4 LD EFF | 94.1 | 1/2 LD EFF | 93.6 | GTD EFF | ELECT. TYPE | |
| F.L. PF | 84.0 | 3/4 LD PF | 81.0 | 1/2 LD PF | 72.5 | 93.6 | SQ CAGE INV RATED | |

| F.L. TORQUE | LR AMPS | L.R. TORQUE | B.D. TORQUE | F.L. RISE (° C) | |
|---|---|---|---|---|---|
| 118 LB-FT | 232 | 212 LB-FT 180% | 313 LB-FT 265% | 55 | |

| SOUND PRESSURE | SOUND | ROTOR WK² | MAX. LOAD WK² | SAFE STALL TIME | STARTS/HOUR | APROX. |
|---|---|---|---|---|---|---|
| 72 dBA | 81 dBA | 11.2 LB-FT² | 275 LB-FT² | 20 SEC. | 2 | 657 LB. |

### *** SUPPLEMENTAL INFORMATION ***

| DE BRACKET TYPE | ODE BRACKET TYPE | MOUNT TYPE | MOTOR ORIENTATION | SEVERE DUTY | HAZARDOUS LOCATION | DRIP COVER | SCREENS | PAINT |
|---|---|---|---|---|---|---|---|---|
| STANDARD | STANDARD | RIGID | HORIZONTAL | PREMIUM SEVERE DUTY | DIVISION 2 T2B | NO | NONE | BLUE (EPOXY) |

| BEARINGS DE | BEARINGS ODE | GREASE | SHAFT TYPE | SPECIAL DE | SPECIAL ODE | SHAFT MATERIAL | FRAME MATERIAL |
|---|---|---|---|---|---|---|---|
| BALL 6312 | BALL 6212 | POLYREX EM | T | NONE | NONE | 1045 HOT ROLLED (C-204) | CAST IRON |

| 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) | |
|---|---|---|---|---|---|---|
| 0.2765625 | 0.1484375 | 1.1421875 | 2.025 | 37.5625 | 0.080 | |

**NOTES**
*
*

If Inverter equals NONE, contact factory for further information
**INVERTER TORQUE:** CONSTANT 2:1/VARIABLE 10:1
**INV. HP SPEED RANGE:** NONE

**ENCODER:** NONE
NONE
NONE NONE **PPR**

**BRAKE:** NONE
NONE NONE
**FT-LB:** NA
**VOLTAGE:** NONE **HZ:**

**PREPARED BY:**
**DATE:** 5/13/2020

FORM: 3531 REV_4 2/27/06
** Subject to change without notice.