

# Inverter (Vector) Duty Motors

---

**Model No:** 445THFCD8050

**Catalog No:** Y520A

---

Inverter (Vector) Duty Motor, 200 HP, 3 Ph, 60 Hz, 460 V, 1800 RPM, 445T Frame, TEBC-AXIAL

**Product Information Packet: Model No: 445THFCD8050, Catalog No: Y520A Inverter (Vector) Duty Motor, 200 HP, 3 Ph, 60 Hz, 460 V, 1800 RPM, 445T Frame, TEBC-AXIAL**

### Nameplate Specifications

|                            |                                               |                        |                   |
|----------------------------|-----------------------------------------------|------------------------|-------------------|
| Phase                      | <b>3</b>                                      | Output HP              | <b>200 Hp</b>     |
| Output KW                  | <b>149.0 kW</b>                               | Voltage                | <b>460 V</b>      |
| Speed                      | <b>1785 r/min</b>                             | Synchronous RPM        | <b>1800 r/min</b> |
| Service Factor             | <b>1.00</b>                                   | Frame                  | <b>445T</b>       |
| Enclosure                  | <b>Totally Enclosed Blower cooled - Axial</b> | Thermal Protection     | <b>Thermostat</b> |
| Efficiency                 | <b>95.4 %</b>                                 | Ambient Temperature    | <b>40 °C</b>      |
| Frequency                  | <b>60 Hz</b>                                  | Current                | <b>214.0 A</b>    |
| Power Factor               | <b>91</b>                                     | Duty                   | <b>Continuous</b> |
| Insulation Class           | <b>H</b>                                      | Design Code            | <b>INV</b>        |
| KVA Code                   | <b>K</b>                                      | Drive End Bearing Size | <b>6319</b>       |
| Opp Drive End Bearing Size | <b>6317</b>                                   | UL                     | <b>Recognized</b> |
| CSA                        | <b>Y</b>                                      | CE                     | <b>Y</b>          |
| IP Code                    | <b>55</b>                                     | Number of Speeds       | <b>1</b>          |

### Technical Specifications

|                       |                                    |                   |                        |
|-----------------------|------------------------------------|-------------------|------------------------|
| Electrical Type       | <b>Squirrel Cage Inverter Duty</b> | Starting Method   | <b>Inverter Only</b>   |
| Poles                 | <b>4</b>                           | Rotation          | <b>Reversible</b>      |
| Resistance Main       | <b>.0207 O</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>                           | Shaft Diameter    | <b>3.375 in</b>        |
| Assembly/Box Mounting | <b>F1/F2 Capable</b>               | Inverter Load     | <b>Constant 2000:1</b> |

### Drawings

|                    |                |                 |                 |
|--------------------|----------------|-----------------|-----------------|
| Connection Drawing | <b>EE7300T</b> | Outline Drawing | <b>SS621120</b> |
|--------------------|----------------|-----------------|-----------------|

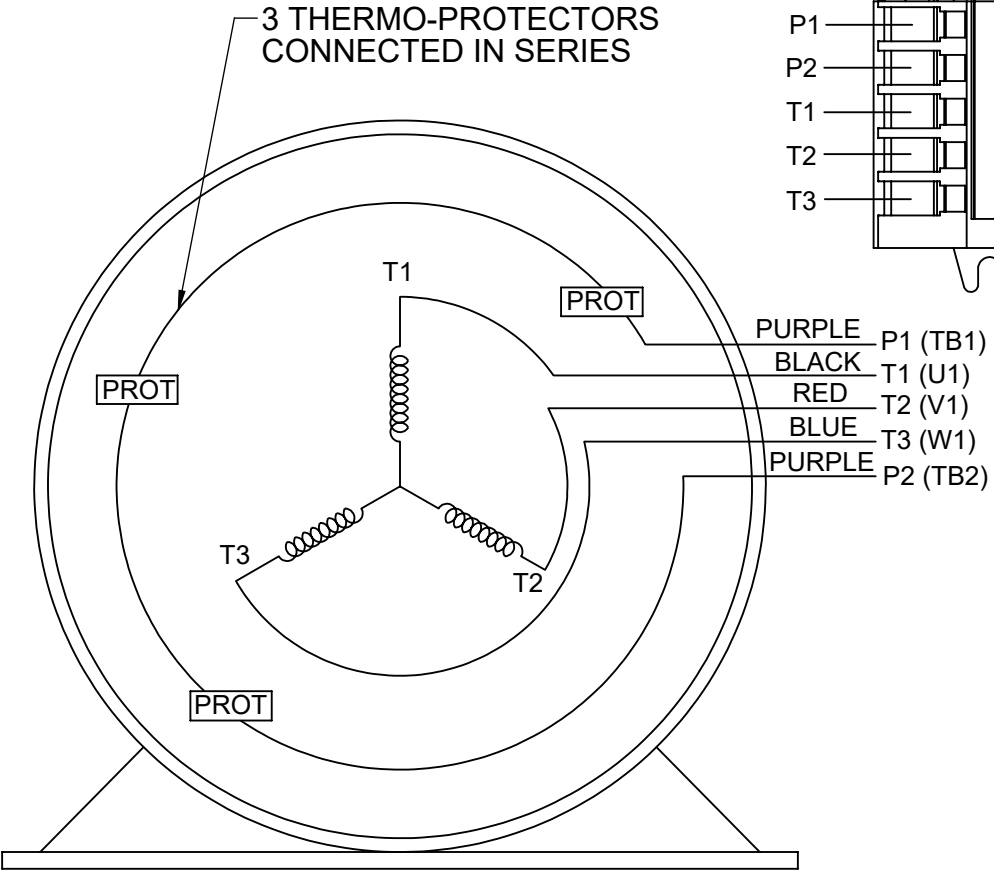
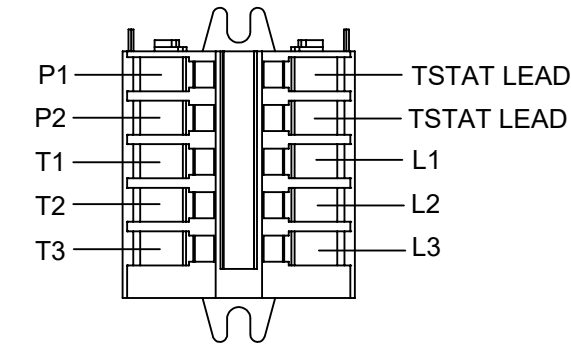


THREE PHASE - SINGLE VOLTAGE  
MOTOR - CONDUIT BOX @ 'A'

TO REVERSE ROTATION:  
INTERCHANGE ANY TWO LINE  
LEAD CONNECTIONS

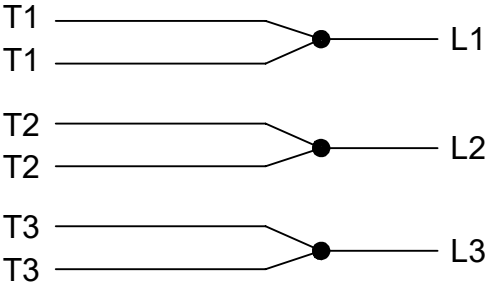
NOTE FOR FACTORY USE ONLY:  
TO SURGE TEST:  
FOR 3 LEAD COMMON CONNECT:  
CONNECT P1 TO T1 THEN P2 TO L1  
FOR 6 LEAD COMMON CONNECT:  
CONNECT P1 TO BOTH T1  
THEN P2 TO L1

TERMINAL BLOCK WHEN SPECIFIED



- T2BM
- T6AW
- T6AL
- T6Z
- T4EG
- T4BF
- T8A
- T6H
- T6A
- T4AX
- T4A
- T2A
- T2F

IF MOTOR HAS MULTIPLE  
T'S PER LEAD CONNECT  
TOGETHER LIKE T'S



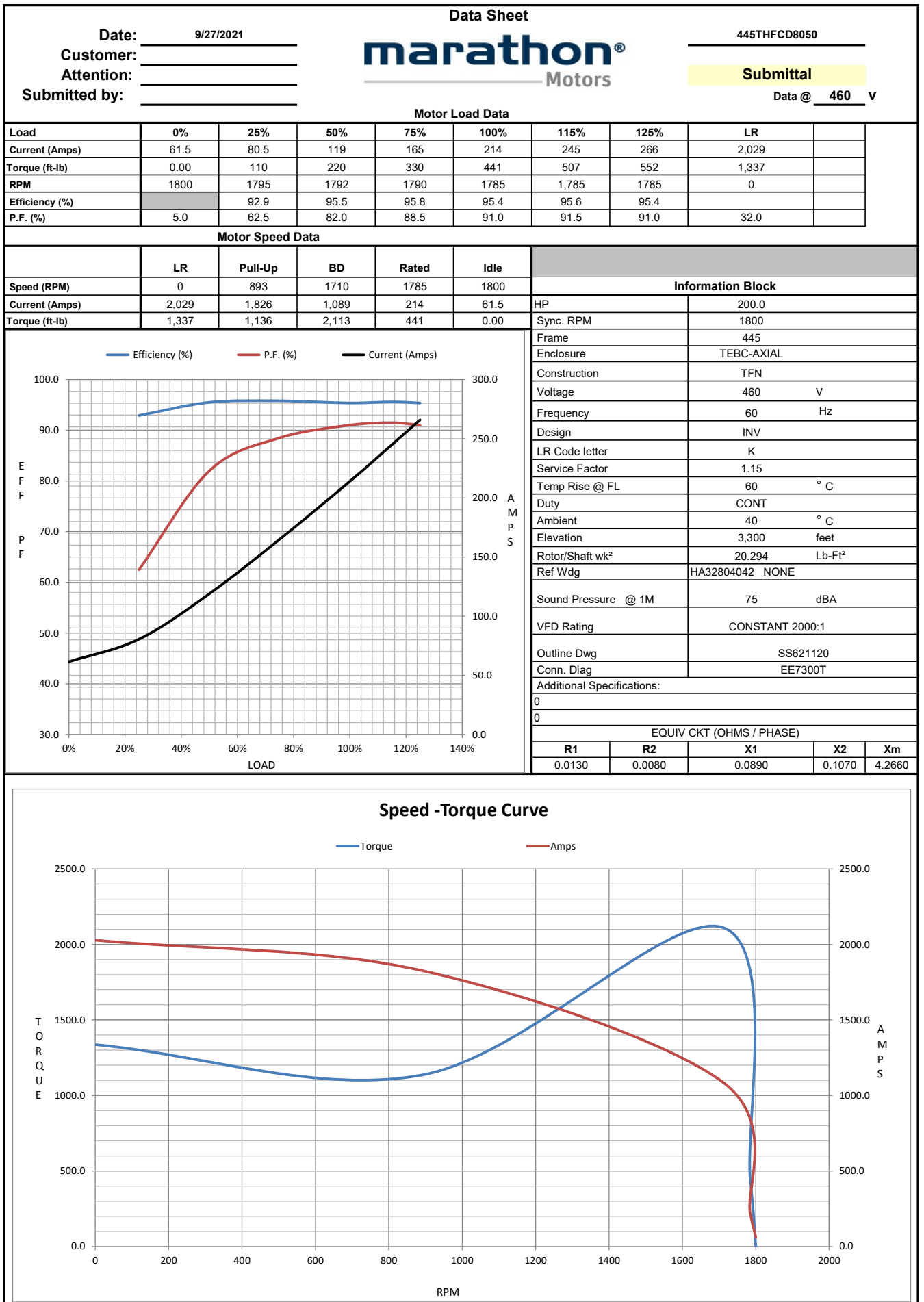
A-9806 DECAL

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------|
| DRAWING REVISION<br>AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | REVISION BY<br>SB  | REV DATE/© DATE<br>08/01/2025 |
| REQUEST NUMBER<br>CR-0023654                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | APPROVED BY<br>SBD | DATE<br>08/01/2025            |
| REQUEST NUMBER DESCRIPTION<br>DRAWING TITLE BLOCK UPDATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                               |
| COPYRIGHT (PER REVISION DATE) MARATHON ELECTRIC, LLC. ALL RIGHTS RESERVED.<br>PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF<br>MARATHON ELECTRIC, LLC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY<br>INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED,<br>BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE<br>DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED,<br>EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT<br>SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN<br>RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS. |                    |                               |

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

|                           |
|---------------------------|
| DRAWN BY<br>LZ            |
| DATE<br>01-04-1994        |
| APPROVED BY<br>GK         |
| DATE<br>01-20-1994        |
| REFERENCE                 |
| THIRD ANGLE<br>PROJECTION |

|                                                                             |                           |                 |
|-----------------------------------------------------------------------------|---------------------------|-----------------|
| <b>marathon™</b>                                                            |                           |                 |
| DESCRIPTION<br>CONN DIAGRAM-EXTERNAL<br>3Ø-SINGLE VOLT-MOTOR WITH PROTECTOR |                           |                 |
| MATERIAL                                                                    | PROCESS/FINISH            |                 |
| SIZE<br>A                                                                   | DRAWING NUMBER<br>EE7300T | SHEET<br>1 OF 1 |





P.O. BOX 8003  
WAUSAU, WI 54401-8003  
PH. 715-675-3311

DATA VOLTS: 460

### CERTIFICATION DATA SHEET

**CUSTOMER:****ORDER #:****CONN. DIAGRAM:****OUTLINE:****WINDING:****SPEED:**EE7300T  
SS621120

HA32804042 NONE 1

**CUSTOMER P.O. #:****REFERENCE MODEL #:****CAT #:****CUSTOMER PART #:****MOUNTING:**

### TYPICAL MOTOR PERFORMANCE DATA

| HP  | KW  | SYNC RPM | FL RPM | FRAME | ENCLOSURE  | TYPE | KVA CODE | DESIGN |
|-----|-----|----------|--------|-------|------------|------|----------|--------|
| 200 | 149 | 1800     | 1785   | 445T  | TEBC-AXIAL | TFN  | K        | INV    |

| PH | HZ | VOLTS | AMPS | START TYPE    | DUTY | INSL | S.F. | AMB | ELEV. |
|----|----|-------|------|---------------|------|------|------|-----|-------|
| 3  | 60 | 460   | 214  | INVERTER ONLY | CONT | H    | 1.15 | 40  | 3300  |

|          |      |            |      |            |      |         |                  |
|----------|------|------------|------|------------|------|---------|------------------|
| F.L. EFF | 95.4 | 3/4 LD EFF | 95.8 | 1/2 LD EFF | 95.5 | GTD EFF | ELECT. TYPE      |
| F.L. PF  | 91.0 | 3/4 LD PF  | 88.5 | 1/2 LD PF  | 82.0 | 95.0    | SQ CAGE INV DUTY |

| F.L. TORQUE |       | LR AMPS @ 460 V | L.R. TORQUE |            | B.D. TORQUE |            | F.L. RISE (° C) |  |
|-------------|-------|-----------------|-------------|------------|-------------|------------|-----------------|--|
| 441         | LB-FT | 2.029           | 1.337       | LB-FT 303% | 2.113       | LB-FT 479% | 60              |  |

|                        |        |       |                           |                           |                 |             |         |           |
|------------------------|--------|-------|---------------------------|---------------------------|-----------------|-------------|---------|-----------|
| SOUND PRESSURE @ 3 FT. | SOUND  | POWER | ROTOR WK <sup>2</sup>     | MAX. LOAD WK <sup>2</sup> | SAFE STALL TIME | STARTS/HOUR | APPROX. | MOTOR WGT |
| 75 dBA                 | 84 dBA |       | 20.294 LB-FT <sup>2</sup> | 220 LB-FT <sup>2</sup>    | 28 SEC.         | 2           | 2120    | LB.       |

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

|                 |                  |            |                   |             |                    |            |         |               |
|-----------------|------------------|------------|-------------------|-------------|--------------------|------------|---------|---------------|
| DE BRACKET TYPE | ODE BRACKET TYPE | MOUNT TYPE | MOTOR ORIENTATION | SEVERE DUTY | HAZARDOUS LOCATION | DRIP COVER | SCREENS | PAINT         |
| STANDARD        | ENCODER          | RIGID      | HORIZONTAL        | NO          | NONE               | NO         | NONE    | BLUE (ENAMEL) |

|           |            |            |            |             |                         |          |                |
|-----------|------------|------------|------------|-------------|-------------------------|----------|----------------|
| BEARINGS  | GREASE     | SHAFT TYPE | SPECIAL DE | SPECIAL ODE | SHAFT                   | MATERIAL | FRAME MATERIAL |
| DE ODE    |            |            |            |             |                         |          |                |
| BALL BALL | POLYREX EM | T          | NONE       | NONE        | 1045 HOT ROLLED (C-204) |          | CAST IRON      |
| 6319 6317 |            |            |            |             |                         |          |                |

|              |            |           |           |             |         |       |         |
|--------------|------------|-----------|-----------|-------------|---------|-------|---------|
| THERMOSTATS  | PROTECTORS | WDG RTD's | BRG RTD's | THERMISTORS | CONTROL | SPACE | HEATERS |
| TSTATS (N/C) | NOT        | NONE      | NONE      | NONE        | FALSE   |       | NA      |

|              |              |              |              |              |                    |       |
|--------------|--------------|--------------|--------------|--------------|--------------------|-------|
| R1 (ohms/ph) | R2 (ohms/ph) | X1 (ohms/ph) | X2 (ohms/ph) | Xm (ohms/ph) | VIBRATION (in/sec) | FLOAT |
| 0.013        | 0.008        | 0.089        | 0.107        | 4.266        | 0.150              | ODE   |

|                                 |                                                                           |  |  |  |
|---------------------------------|---------------------------------------------------------------------------|--|--|--|
| *<br>N<br>O<br>T<br>E<br>s<br>* | INVERTER TORQUE: CONSTANT 2000:1<br>INV. HP SPEED RANGE: 1.5 X BASE SPEED |  |  |  |
|                                 | ENCODER: NONE                                                             |  |  |  |
|                                 | NONE                                                                      |  |  |  |
|                                 | NONE PPR                                                                  |  |  |  |
|                                 | BRAKE: NONE                                                               |  |  |  |

|                           |                 |                                           |     |
|---------------------------|-----------------|-------------------------------------------|-----|
| PREPARED BY:              | DATE: 9/27/2021 | FT-LB: NA                                 | HZ: |
|                           |                 | VOLTAGE: NONE                             |     |
| FORM: 3531 REV. 4 2/27/06 |                 | UL: V-INS, CONST, OVERHEAT PRT DEV UL REC |     |