

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

|  |                                       |                  |  |                        |
|--|---------------------------------------|------------------|--|------------------------|
| Customer   | : Automation Direct                   |                  |  |                        |
| Product line   | : NEMA Premium Efficiency Three-Phase |                  | Product code :   | 14802523               |
|  |                                       |                  | Catalog # :  | 00218ET3E145TC-S       |
| Frame  | : 143/5TC                             |                  | Locked rotor time  | : 27s (cold) 15s (hot) |
| Output   | : 2 HP (1.5 kW)                       |                  | Temperature rise   | : 80 K                 |
| Poles  | : 4                                   |                  | Duty cycle   | : Cont.(S1)            |
| Frequency  | : 60 Hz                               |                  | Ambient temperature  | : -20°C to +40°C       |
| Rated voltage  | : 230/460 V                           |                  | Altitude   | : 1000 m.a.s.l.        |
| Rated current  | : 5.44/2.72 A                         |                  | Protection degree  | : IP55                 |
| L. R. Amperes  | : 44.6/22.3 A                         |                  | Cooling method   | : IC411 - TEFC         |
| LRC  | : 8.2x(Code K)                        |                  | Mounting   | : F-1                  |
| No load current  | : 2.80/1.40 A                         |                  | Rotation <sup>1</sup>  | : Both (CW and CCW)    |
| Rated speed  | : 1745 rpm                            |                  | Noise level <sup>2</sup>   | : 52.0 dB(A)           |
| Slip   | : 3.06 %                              |                  | Starting method  | : Direct On Line       |
| Rated torque   | : 6.02 ft.lb                          |                  | Approx. weight <sup>3</sup>  | : 43.7 lb              |
| Locked rotor torque  | : 270 %                               |                  |  |                        |
| Breakdown torque   | : 300 %                               |                  |  |                        |
| Insulation class   | : F                                   |                  |  |                        |
| Service factor   | : 1.15                                |                  |  |                        |
| Moment of inertia (J)  | : 0.1296 sq.ft.lb                     |                  |  |                        |
| Design   | : B                                   |                  |  |                        |
| Output   | 25%                                   | 50%              | 75%  | 100%                   |
| Efficiency (%)   | 86.0                                  | 85.5             | 87.5   | 86.5                   |
| Power Factor   | 0.35                                  | 0.60             | 0.73   | 0.80                   |
|  |                                       |                  | Foundation loads   |                        |
|  |                                       |                  | Max. traction  | : 169 lb               |
|  |                                       |                  | Max. compression   | : 213 lb               |
|  |                                       |                  | <u>Drive end</u>   | <u>Non drive end</u>   |
| Bearing type   | :                                     | 6205 ZZ          | 6203 ZZ  |                        |
| Sealing  | :                                     | V'Ring           | Without Bearing Seal   |                        |
| Lubrication interval   | :                                     | -                | -  |                        |
| Lubricant amount   | :                                     | -                | -  |                        |
| Lubricant type   | :                                     | Mobil Polyrex EM |  |                        |
| Notes  | USABLE @208V 6.02A SF 1.00 SFA 6.02A  |                  |  |                        |
| This revision replaces and cancel the previous one, which must be eliminated.<br>(1) Looking the motor from the shaft end.<br>(2) Measured at 1m and with tolerance of +3dB(A).<br>(3) Approximate weight subject to changes after manufacturing process.<br>(4) At 100% of full load. |                                       |                  | These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in NEMA MG-1. |                        |
| Rev.   | Changes Summary                       |                  | Performed  | Checked                |
|  |                                       |                  |  |                        |
| Performed by   |                                       |                  | Page   | Revision               |
| Checked by   |                                       |                  |  |                        |
| Date   | 22/08/2022                            |                  | 1 / 5  |                        |

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Automation Direct

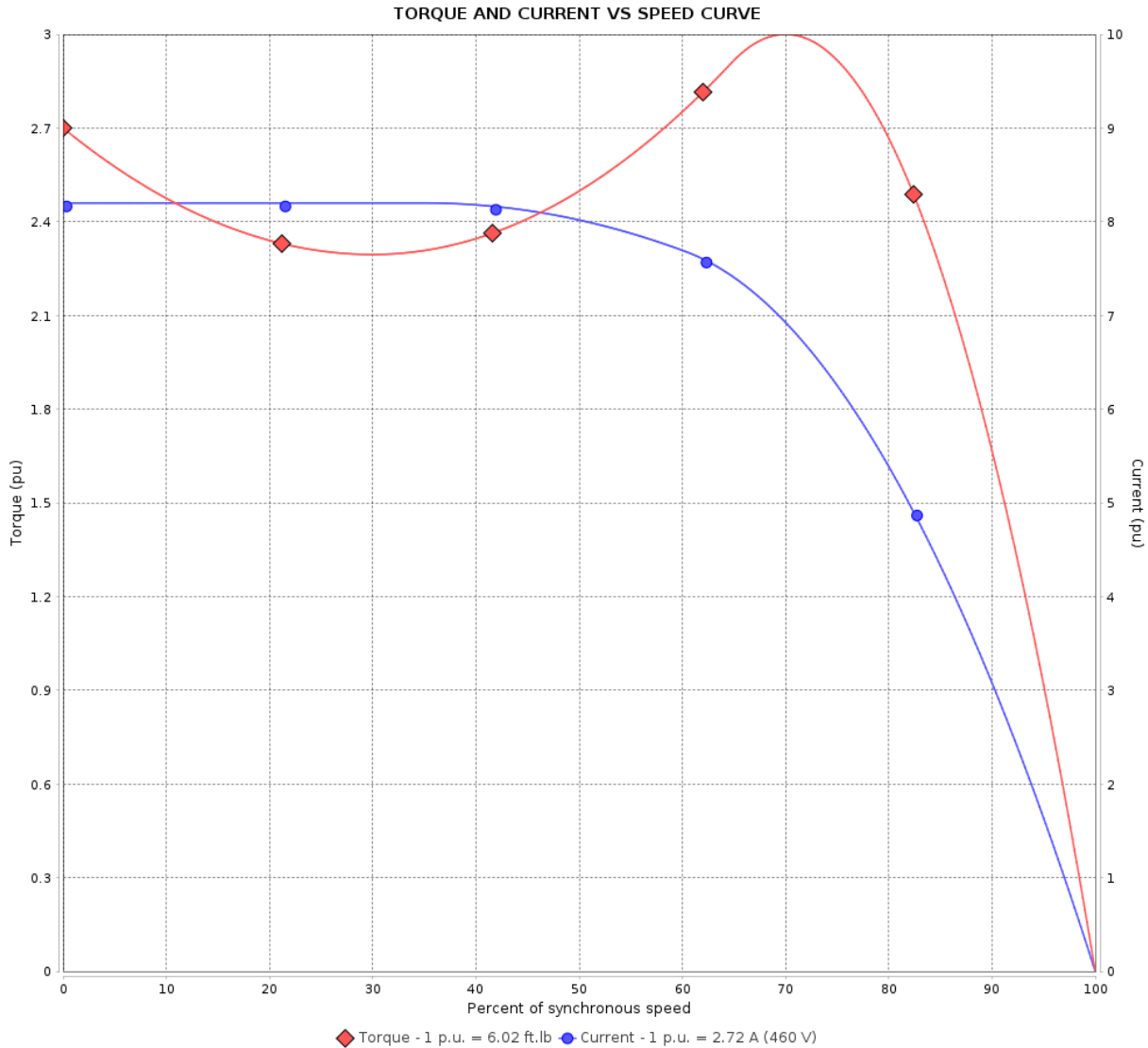
Product line : NEMA Premium Efficiency Three-Phase

Product code :

14802523

Catalog # :

00218ET3E145TC-S



Performance : 230/460 V 60 Hz 4P

Rated current : 5.44/2.72 A  
 LRC : 8.2  
 Rated torque : 6.02 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1745 rpm

Moment of inertia (J) : 0.1296 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

Locked rotor time : 27s (cold) 15s (hot)

| Rev.         | Changes Summary | Performed | Checked       | Date     |
|--------------|-----------------|-----------|---------------|----------|
|              |                 |           |               |          |
| Performed by |                 |           | Page<br>2 / 5 | Revision |
| Checked by   |                 |           |               |          |
| Date         | 22/08/2022      |           |               |          |

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : Automation Direct

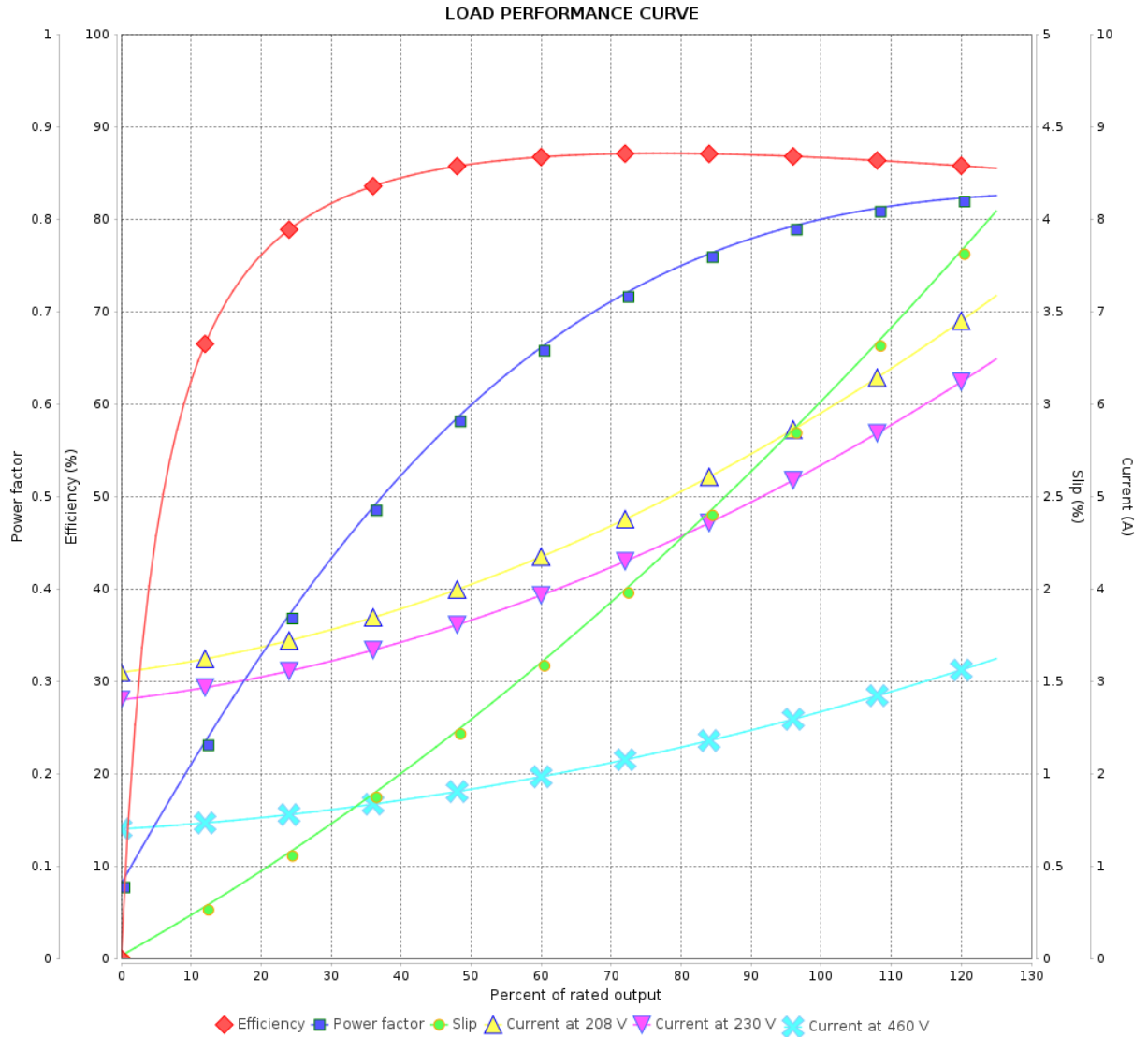
Product line : NEMA Premium Efficiency Three-Phase

Product code :

14802523

Catalog # :

00218ET3E145TC-S



Performance : 230/460 V 60 Hz 4P

Rated current : 5.44/2.72 A  
 LRC : 8.2  
 Rated torque : 6.02 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1745 rpm

Moment of inertia (J) : 0.1296 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

| Rev.         | Changes Summary | Performed | Checked | Date     |
|--------------|-----------------|-----------|---------|----------|
|              |                 |           |         |          |
| Performed by |                 |           | Page    | Revision |
| Checked by   |                 |           |         |          |
| Date         |                 |           |         |          |

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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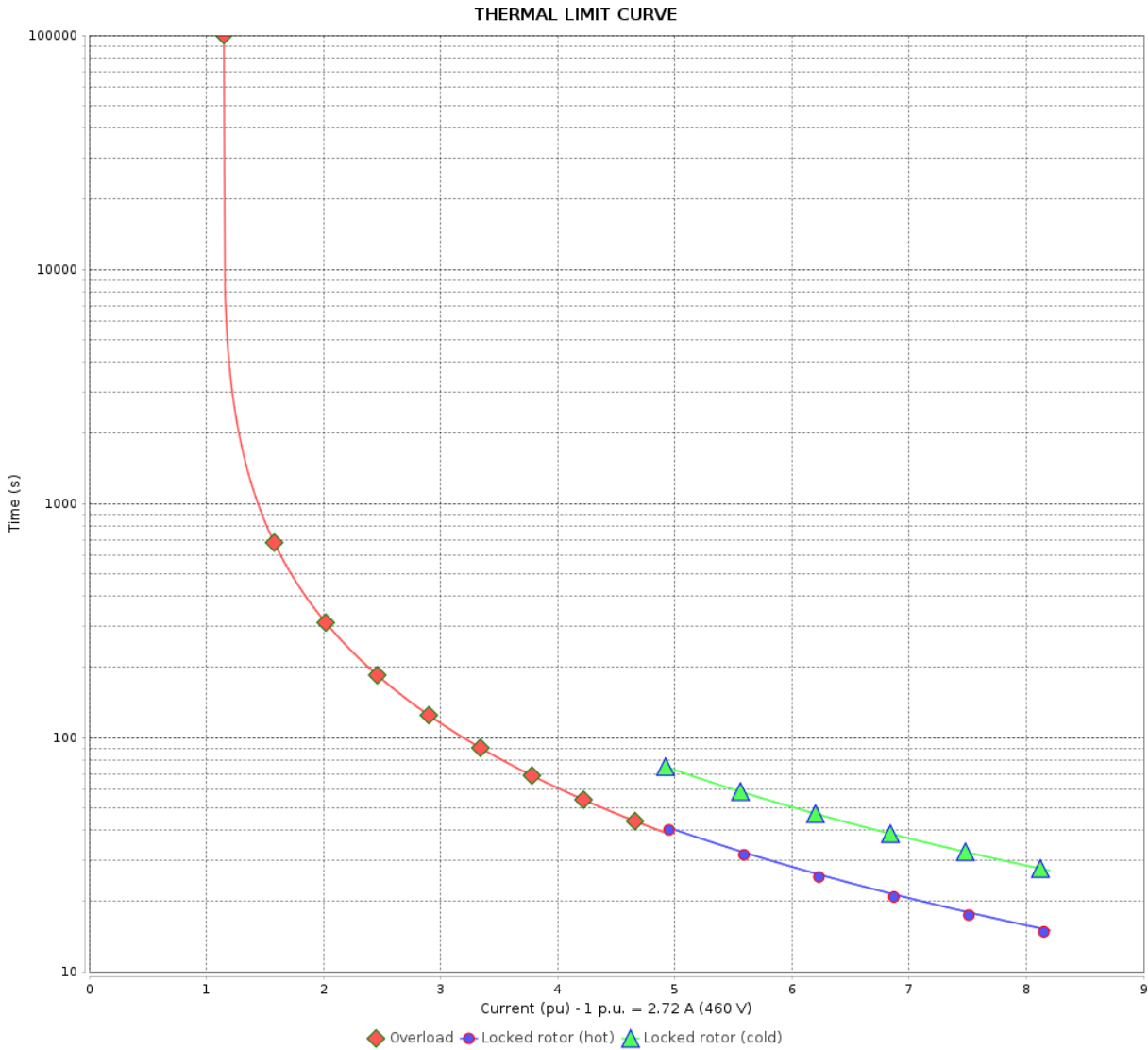
Product line : NEMA Premium Efficiency Three-Phase

Product code :

14802523

Catalog # :

00218ET3E145TC-S



Performance : 230/460 V 60 Hz 4P

Rated current : 5.44/2.72 A  
 LRC : 8.2  
 Rated torque : 6.02 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1745 rpm

Moment of inertia (J) : 0.1296 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

Heating constant

Cooling constant

| Rev.         | Changes Summary | Performed | Checked | Date     |
|--------------|-----------------|-----------|---------|----------|
|              |                 |           |         |          |
| Performed by |                 |           | Page    | Revision |
| Checked by   |                 |           |         |          |
| Date         |                 |           |         |          |

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : Automation Direct

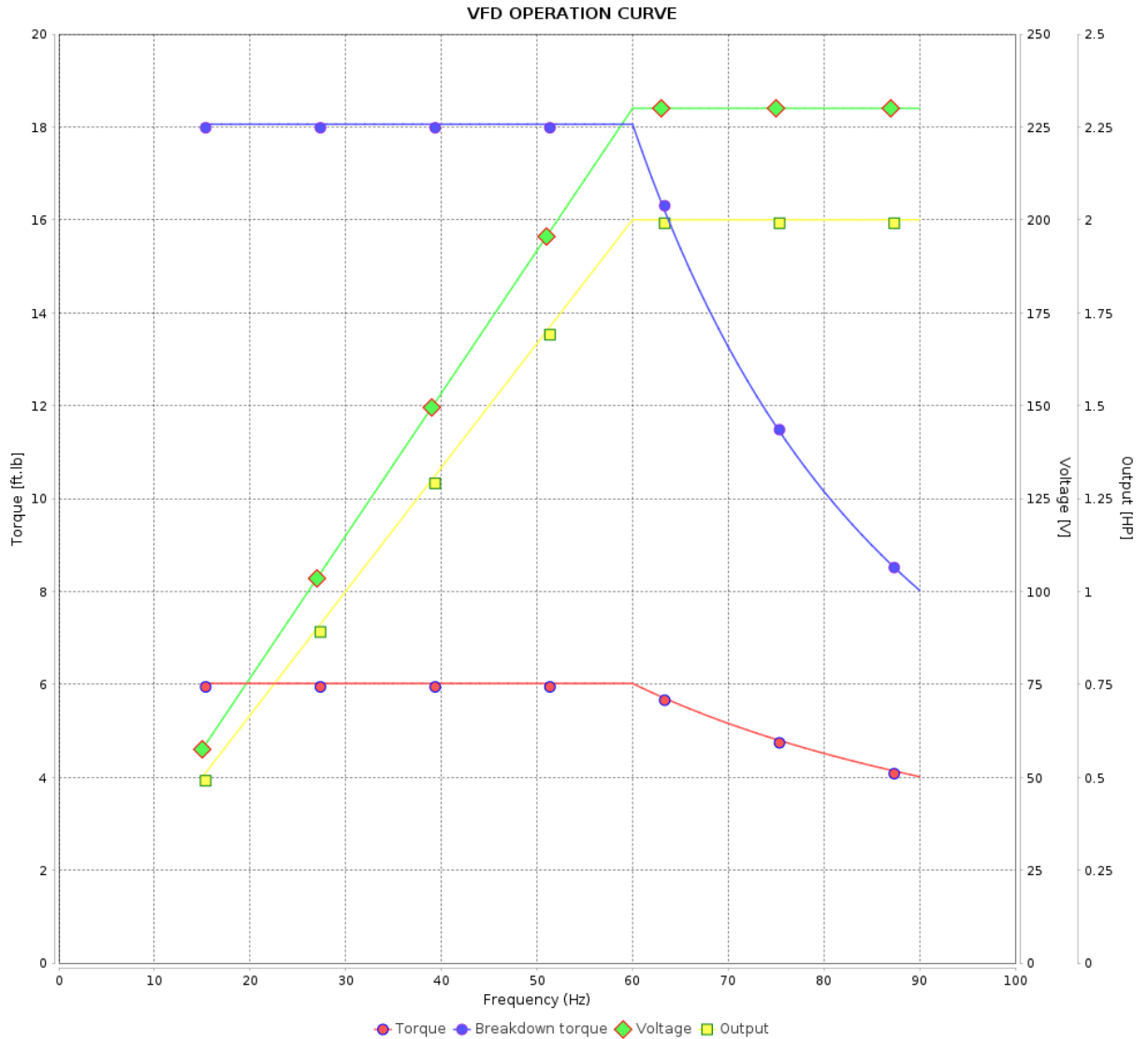
Product line : NEMA Premium Efficiency Three-Phase

Product code :

14802523

Catalog # :

00218ET3E145TC-S

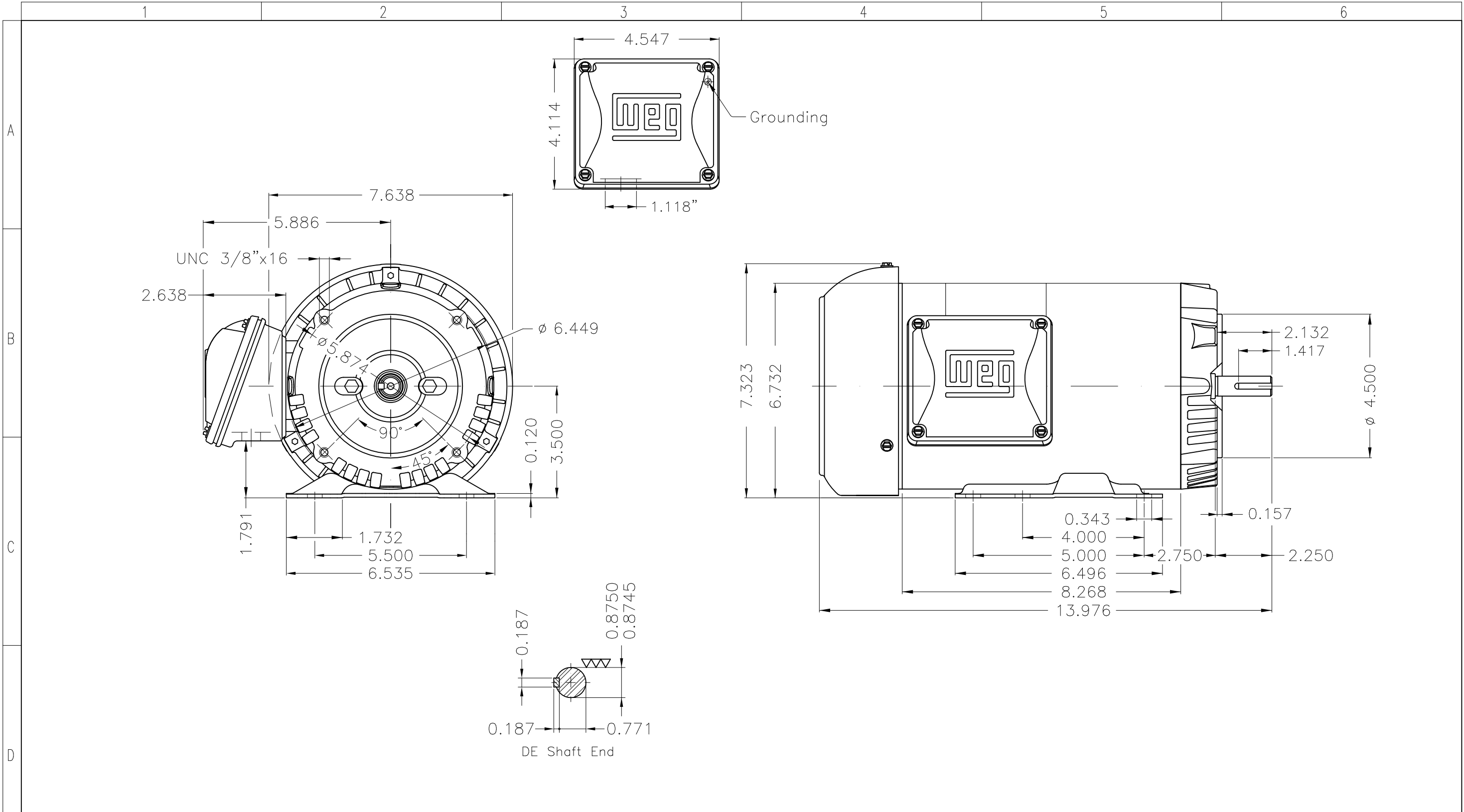


Performance : 230/460 V 60 Hz 4P

Rated current : 5.44/2.72 A  
 LRC : 8.2  
 Rated torque : 6.02 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1745 rpm

Moment of inertia (J) : 0.1296 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

| Rev.         | Changes Summary | Performed  | Checked | Date     |
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| Checked by   |                 | 5 / 5      |         |          |
| Date         |                 | 22/08/2022 |         |          |



Fan cover - steel plate  
 Color Munsell N 1 matte black  
 Painting plan 207N  
 Mounting F-1/B34R(D)

| ECM      | LOC        | SUMMARY OF MODIFICATIONS                | EXECUTED            | CHECKED | RELEASED | DATE | VER |
|----------|------------|---|---------------------|---------|----------|------|-----|
| EXECUTED | HYBRISUSER | THREE PH. MOTOR ROLLED STEEL PREM. EFF. |                     |         |          |      |     |
| CHECKED  |            | FRAME 143/5TC IP55 TEFC                 |                     |         |          |      |     |
| RELEASED |            |   |                     |         |          |      |     |
| REL DT.  | WMO        | Jaragua do Sul                          | Product Engineering | PREVIEW |          | WDD  |     |
|          |            |   | SHEET               |         | 1 / 1    |      |     |

2 HP 04 Poles 60 Hz





**NEMA**  
**Premium**



MADE IN BRAZIL

**MAT: 14802523 CC029A**

**W01.TE0IC0X0N**

**MODEL 00218ET3E145TC-S**

**12AUG2022 B/N:**

**For 60Hz: Class I, Zone 2, IIC  
Class I, Div.2, Gr. A,B,C,D - T3  
Div 2 Inverter Duty (SF1.00)**

**CT 2:1/VT 1000:1**

|                            |               |                                |
|----------------------------|---------------|--------------------------------|
| <b>PH 3</b>                | <b>Hz 60</b>  | <b>HP 2.0</b>                  |
| <b>FR 143/5TC</b>          |               | <b>KW 1.5</b>                  |
| <b>DUTY CONT.</b>          |               | <b>V 230/460</b>               |
| <b>ALT 1000 m.a.s.l.</b>   |               | <b>A 5.44/2.72</b>             |
| <b>INS CL F AT 80K</b>     | <b>IP55</b>   | <b>SFA 6.26/3.13</b>           |
| <b>AMB 40°C</b>            | <b>DES B</b>  | <b>SF 1.15</b>                 |
| <b>ENCL TEFC</b>           | <b>CODE K</b> | <b>PF 0.80</b>                 |
| <b>USABLE @ 208V 6.02A</b> |               | <b>RPM 1745</b>                |
| <b>SF1.00</b>              |               | <b>NEMA<br/>NOM. EFF 86.5%</b> |

|   |
|---|
| <b>ALTERNATE RATING: 2.0HP 50Hz 190-220/380-415V SF1.00</b>     |
| <b>6.50-5.79/3.25-3.07A 1415RPM EFF 82.6% (IE1) IEC 60034-1</b> |

For safe area-inverter duty motor For 60Hz use on VPWM 1000:1 VT, 4:1 CT

|                   |                    |                         |
|-------------------|--------------------|-------------------------|
| <b>DE 6205-ZZ</b> | <b>ODE 6203-ZZ</b> | <b>MOBIL POLYREX EM</b> |
|-------------------|--------------------|-------------------------|



T1-BLU T2-WHT  
T3-ORG T4-YEL  
T5-BLK T6-GRY  
T7-PNK T8-RED  
T9-BRK RED

INTERCHANGE ANY TWO LINE WIRES TO REVERSE THE ROTATION



**WARNING:** Motor must be grounded in accordance with local and national electrical codes to prevent serious electrical shocks. Disconnect power source before servicing unit.

**AVERTISSEMENT:** Le moteur doit être mis à la terre

conformément aux codes électriques locaux et nationaux afin d'éviter tout choc électrique grave. Déconnectez l'alimentation avant l'entretien de la machine.

