

# DATA SHEET

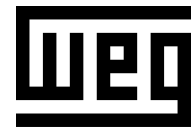


## Three Phase Induction Motor - Squirrel Cage

|  |                                   |                  |  |                        |          |
|--|-----------------------------------|------------------|--|------------------------|----------|
| Customer   | : Automation Direct               |                  |  |                        |          |
| Product line   | : Standard Efficiency Three-Phase |                  | Product code :   | 14786457               |          |
|  |                                   |                  | Catalog # :  | .5036ES3E56CFL-S       |          |
| Frame  | : 56C                             |                  | Locked rotor time  | : 63s (cold) 35s (hot) |          |
| Output   | : 0.5 HP (0.37 kW)                |                  | Temperature rise   | : 80 K                 |          |
| Poles  | : 2                               |                  | Duty cycle   | : Cont.(S1)            |          |
| Frequency  | : 60 Hz                           |                  | Ambient temperature  | : -20°C to +40°C       |          |
| Rated voltage  | : 208-230/460 V                   |                  | Altitude   | : 1000 m.a.s.l.        |          |
| Rated current  | : 1.86-1.69/0.843 A               |                  | Protection degree  | : IP55                 |          |
| L. R. Amperes  | : 13.0-11.8/5.90 A                |                  | Cooling method   | : IC411 - TEFC         |          |
| LRC  | : 7.0x(Code L)                    |                  | Mounting   | : F-1                  |          |
| No load current  | : 0.776-0.900/0.450 A             |                  | Rotation <sup>1</sup>  | : Both (CW and CCW)    |          |
| Rated speed  | : 3500 rpm                        |                  | Noise level <sup>2</sup>   | : 68.0 dB(A)           |          |
| Slip   | : 2.78 %                          |                  | Starting method  | : Direct On Line       |          |
| Rated torque   | : 0.750 ft.lb                     |                  | Approx. weight <sup>3</sup>  | : 18.9 lb              |          |
| Locked rotor torque  | : 260 %                           |                  |  |                        |          |
| Breakdown torque   | : 300 %                           |                  |  |                        |          |
| Insulation class   | : F                               |                  |  |                        |          |
| Service factor   | : 1.15                            |                  |  |                        |          |
| Moment of inertia (J)  | : 0.0453 sq.ft.lb                 |                  |  |                        |          |
| Output   | 25%                               | 50%              | 75%  | 100%                   |          |
| Efficiency (%)   | 50.9                              | 55.0             | 62.0   | 68.0                   |          |
| Power Factor   | 0.43                              | 0.67             | 0.75   | 0.81                   |          |
|  |                                   |                  | Foundation loads   |                        |          |
|  |                                   |                  | Max. traction  | : 19 lb                |          |
|  |                                   |                  | Max. compression   | : 38 lb                |          |
|  |                                   |                  | <u>Drive end</u>   | <u>Non drive end</u>   |          |
| Bearing type   | :                                 | 6203 ZZ          | 6202 ZZ  |                        |          |
| Sealing  | :                                 | V'Ring           | Without Bearing Seal   |                        |          |
| Lubrication interval   | :                                 | -                | -  |                        |          |
| Lubricant amount   | :                                 | -                | -  |                        |          |
| Lubricant type   | :                                 | Mobil Polyrex EM |  |                        |          |
| Notes  |                                   |                  |  |                        |          |
| USABLE @208V SF 1.00   |                                   |                  |  |                        |          |
| 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                | Date     |
| Performed by   |                                   |                  |  |                        |          |
| Checked by   |                                   |                  |  | Page                   | Revision |
| Date   | 23/08/2022                        |                  |  | 1 / 5                  |          |

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Automation Direct

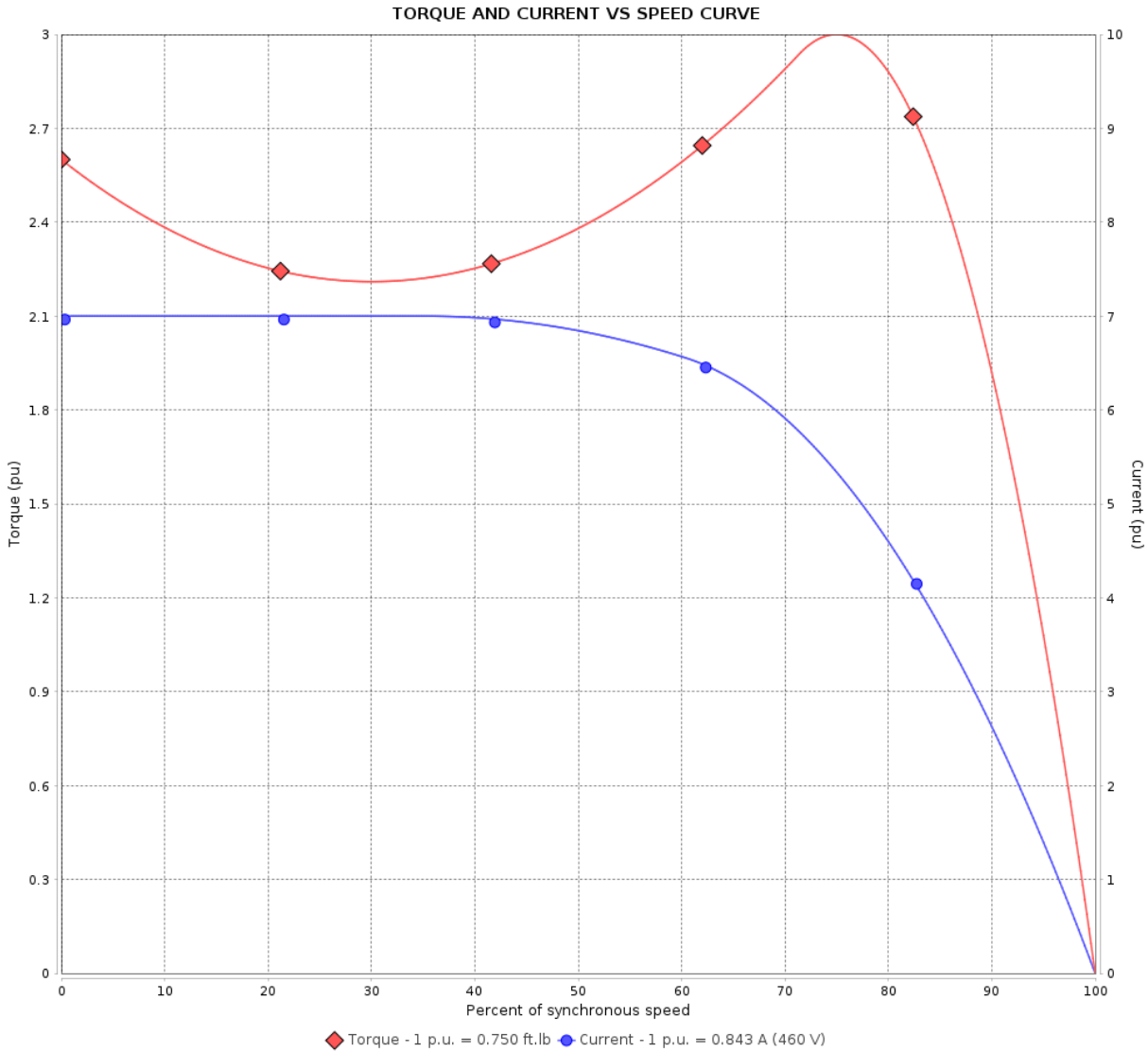
Product line : Standard Efficiency Three-Phase

Product code :

14786457

Catalog # :

.5036ES3E56CFL-S



Performance : 208-230/460 V 60 Hz 2P

Rated current : 1.86-1.69/0.843 A  
 LRC : 7.0  
 Rated torque : 0.750 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 300 %  
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

Locked rotor time : 63s (cold) 35s (hot)

| Rev.         | Changes Summary | Performed | Checked       | Date     |
|--------------|-----------------|-----------|---------------|----------|
|              |                 |           |               |          |
| Performed by |                 |           | Page<br>2 / 5 | Revision |
| Checked by   |                 |           |               |          |
| Date         | 23/08/2022      |           |               |          |

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : Automation Direct

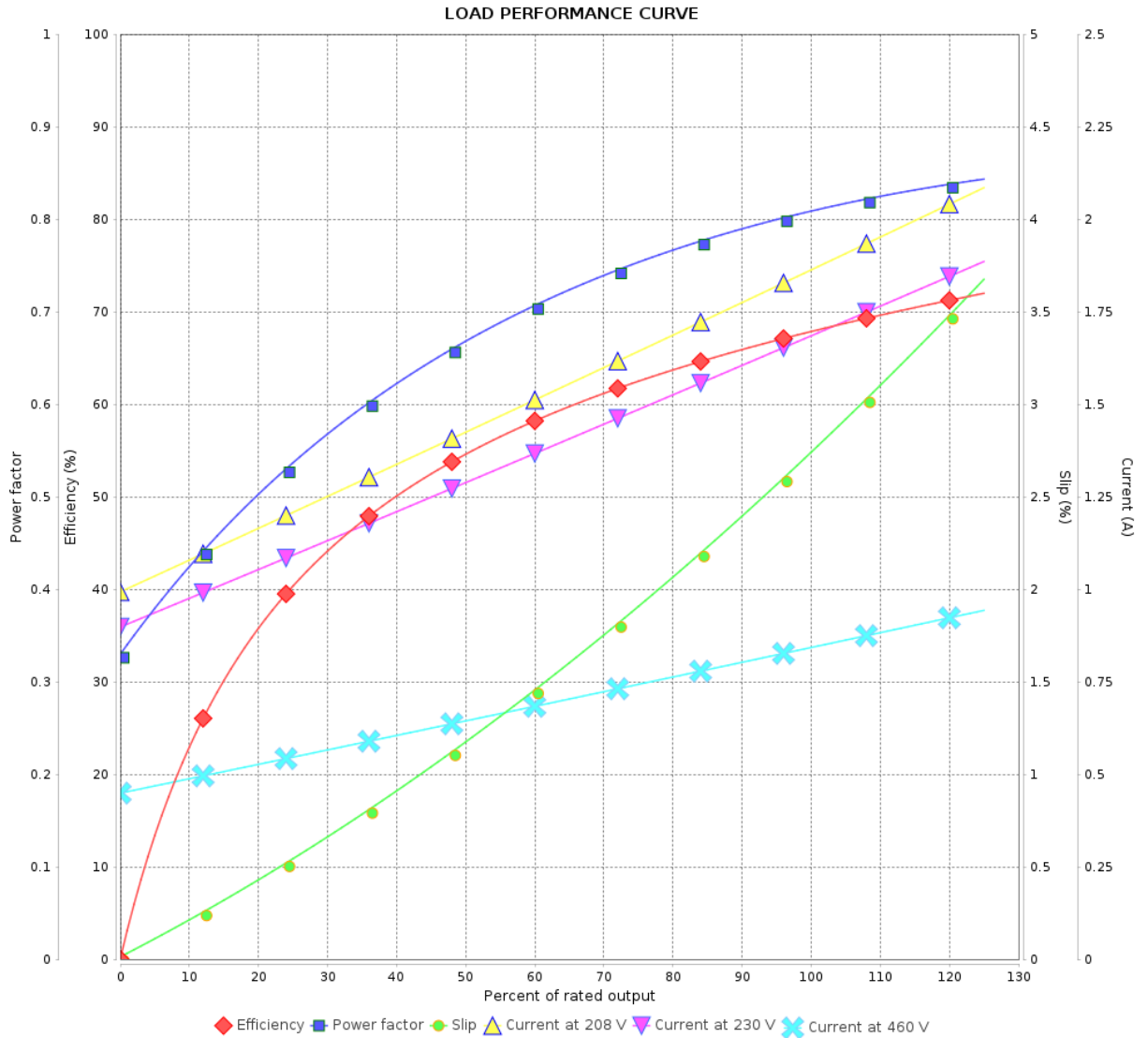
Product line : Standard Efficiency Three-Phase

Product code :

14786457

Catalog # :

.5036ES3E56CFL-S



Performance : 208-230/460 V 60 Hz 2P

Rated current : 1.86-1.69/0.843 A  
 LRC : 7.0  
 Rated torque : 0.750 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 300 %  
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

| Rev.         | Changes Summary | Performed | Checked | Date     |
|--------------|-----------------|-----------|---------|----------|
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| Checked by   |                 |           |         |          |
| Date         |                 |           |         |          |
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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer : Automation Direct

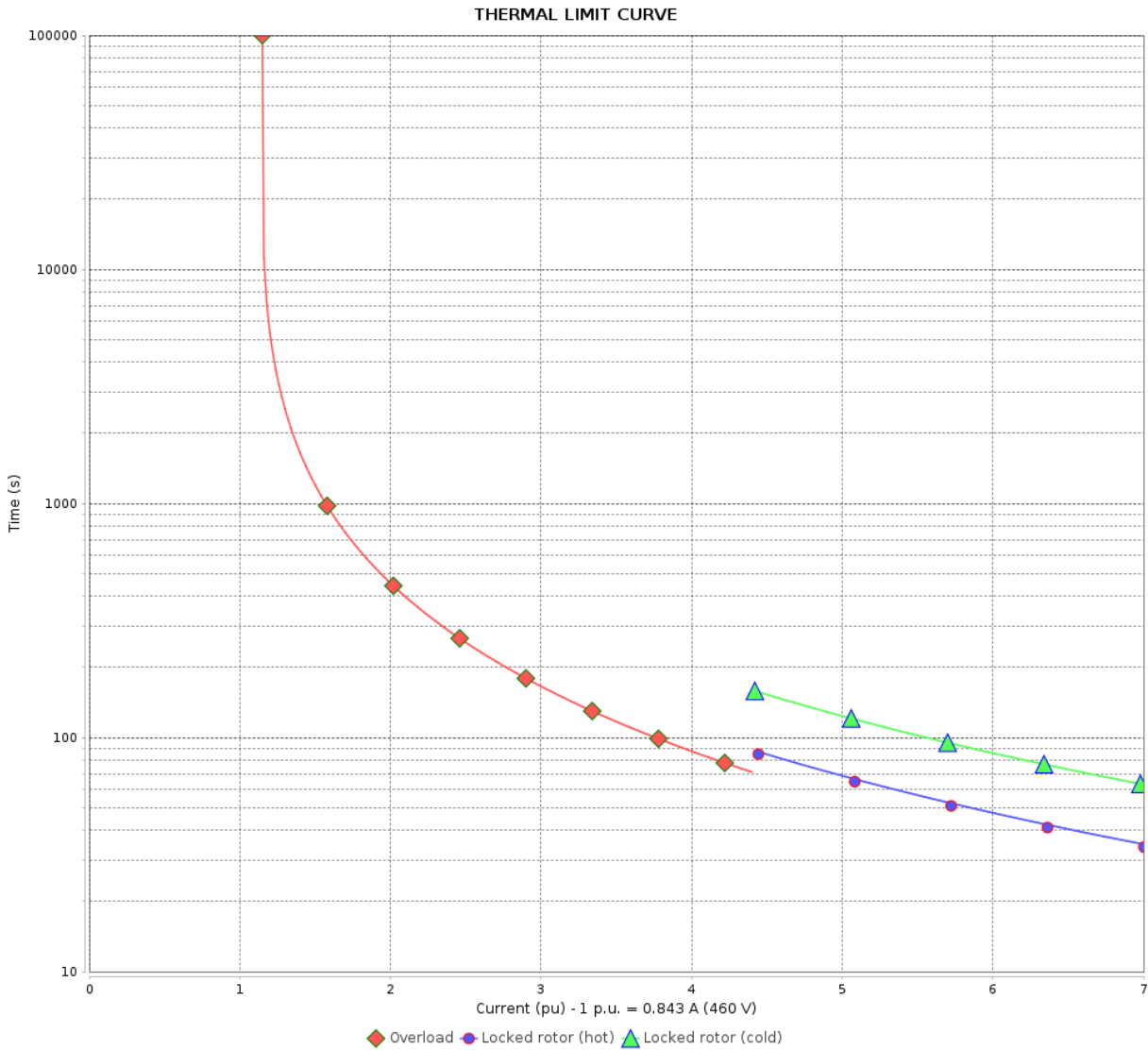
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Performance : 208-230/460 V 60 Hz 2P

Rated current : 1.86-1.69/0.843 A  
 LRC : 7.0  
 Rated torque : 0.750 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 300 %  
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

Heating constant

Cooling constant

| Rev.         | Changes Summary | Performed | Checked | Date     |
|--------------|-----------------|-----------|---------|----------|
|              |                 |           |         |          |
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| Checked by   |                 |           |         |          |
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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



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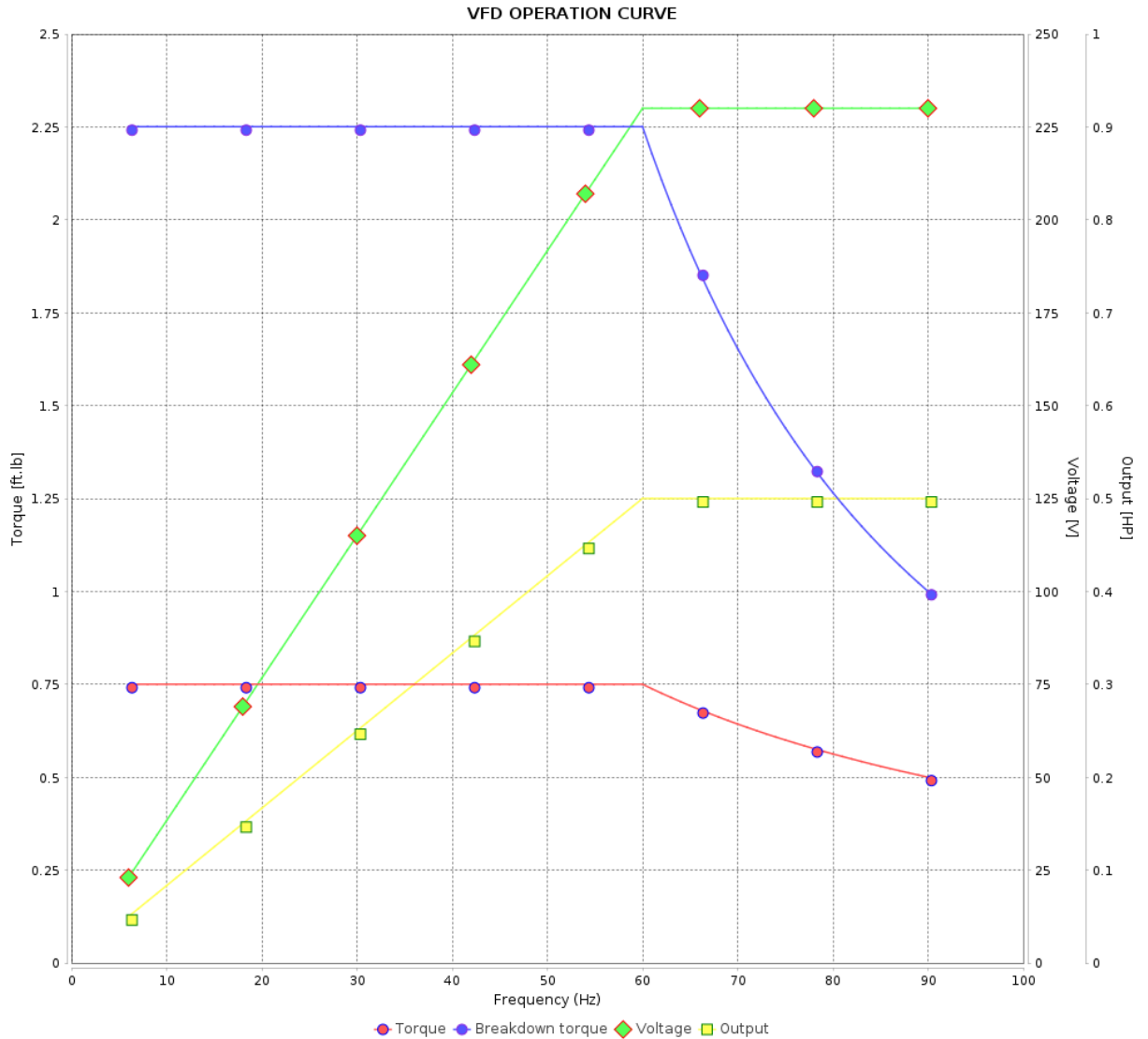
Product line : Standard Efficiency Three-Phase

Product code :

14786457

Catalog # :

.5036ES3E56CFL-S



Performance : 208-230/460 V 60 Hz 2P

Rated current : 1.86-1.69/0.843 A  
 LRC : 7.0  
 Rated torque : 0.750 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 300 %  
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

| Rev.         | Changes Summary | Performed | Checked       | Date     |
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1 2 3 4 5 6

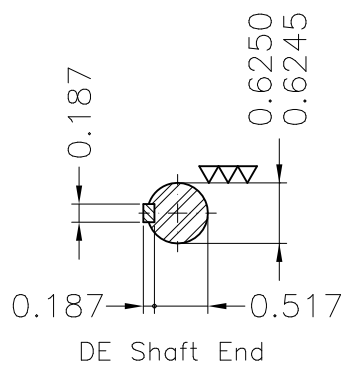
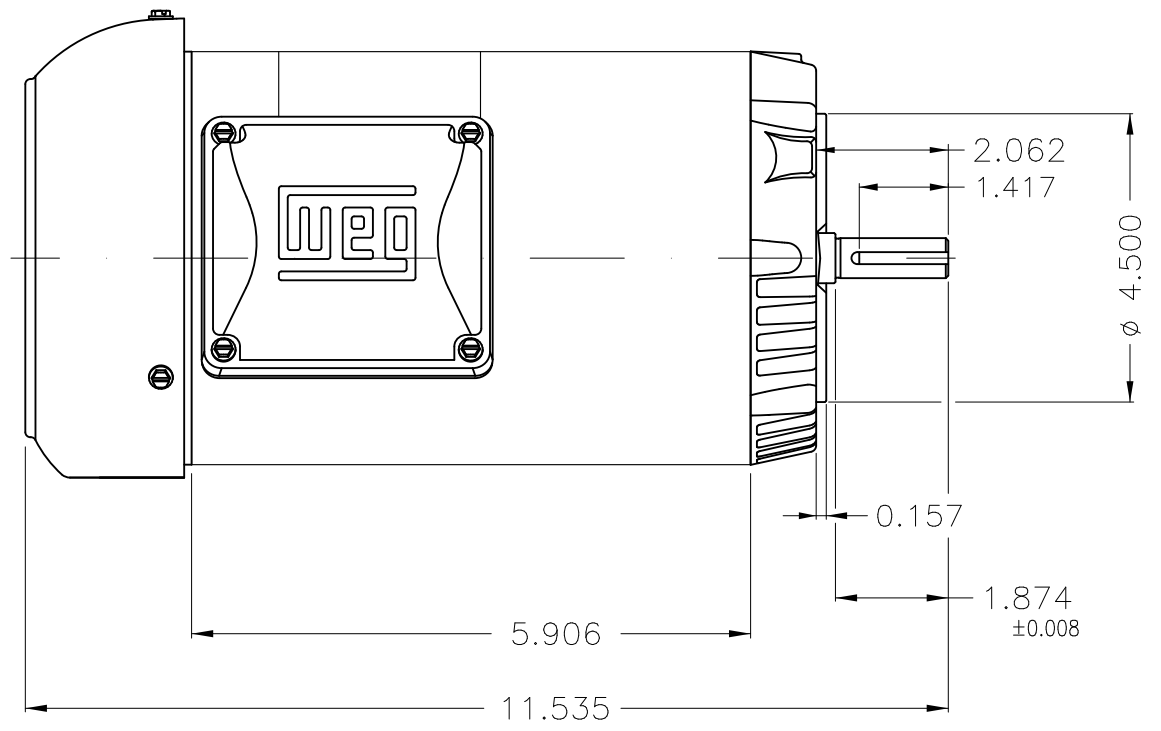
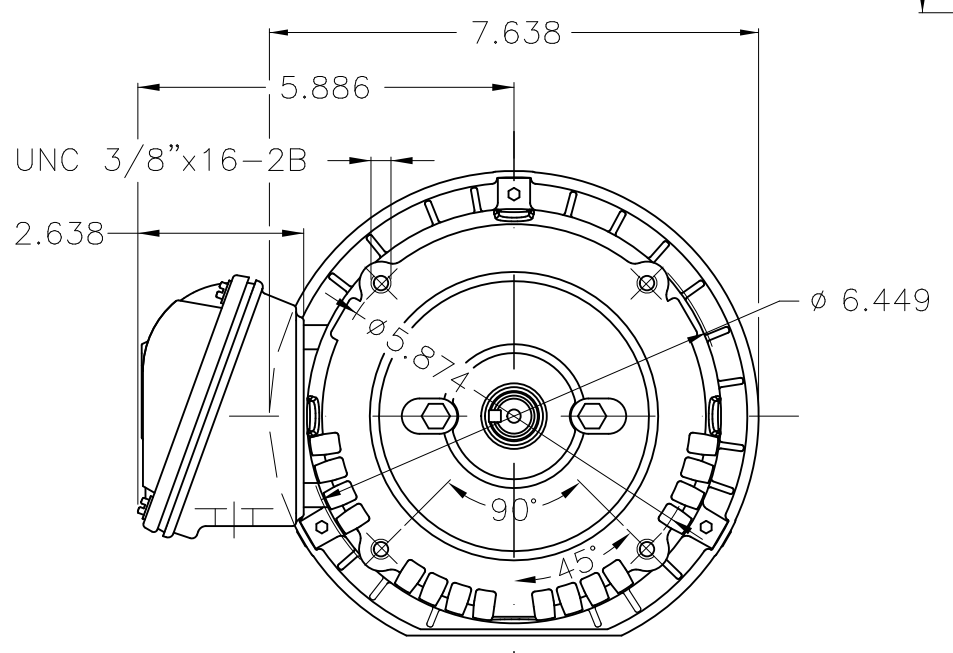
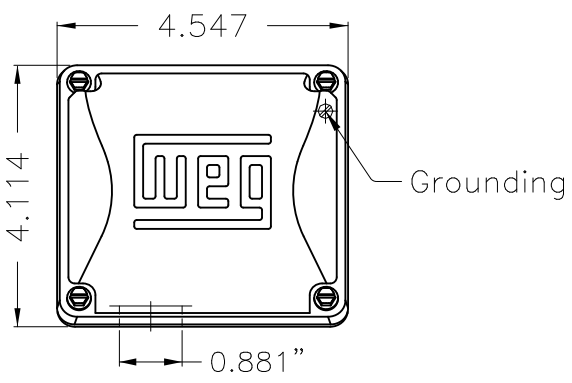
A

B


C

D

E

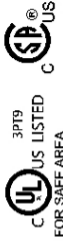


Fan cover - steel plate  
 Color Munsell N 1 matte black  
 Painting plan 207N  
 Mounting F-1/B14R(D)

| ECM      | LOC        | SUMMARY OF MODIFICATIONS     | EXECUTED            | CHECKED     | RELEASED | DATE  | VER |
|----------|------------|------------------------------|---------------------|-------------|----------|---|-----|
| EXECUTED | HYBRISUSER | THREE PH. MOTOR ROLLED STEEL |                     |             |          |   |     |
| CHECKED  |            | FRAME 56C IP55 TEFC          |                     |             |          |   |     |
| RELEASED |            |                              |                     |             |          |   |     |
| REL DT.  | WMO        | Jaragua do Sul               | Product Engineering | SHEET 1 / 1 |          | PREVIEW<br>WDD<br> |     |

0.5 HP 02 Poles 60 Hz

A



MADE IN BRAZIL

**MAT: 14786457**

**W01.TE0IC0X0X**

**MODEL 5036ES3E56CFL-S**

**23AUG2022 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**

|                      |        |                        |
|----------------------|--------|------------------------|
| PH 3                 | Hz 60  | HP 0.50                |
| FR 56C               |        | KW 0.37                |
| DUTY CONT.           |        | V 208-230/460          |
| ALT 1000 m.a.s.l.    |        | A 1.86-1.69/0.843      |
| INS CL F AT 80K      | IP55   | SFA 1.86-1.94/0.969    |
| AMB 40°C             | DES -  | SF 1.15                |
| ENCL TEFC            | CODE L | PF 0.81                |
| USABLE @ 208V SF1.00 |        | RPM 3500               |
|                      |        | NEMA<br>NOM. EFF 68.0% |

|  |
|--|
| ALTERNATE RATING: 0.50HP 50Hz 190-220/380-415V SF1.15      |
| 1.78-1.68/0.890-0.878A 2865RPM EFF 71.5% (IE2) IEC 60034-1 |

For safe area-Inverter duty motor For 60Hz use on VPWM 1000:1 VT, 10:1 CT

|            |             |                  |
|------------|-------------|------------------|
| DE 6203-ZZ | ODE 6202-ZZ | MOBIL POLYREX EM |
|------------|-------------|------------------|



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.

