

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

| | | | | | | |
|--|-----------------|---------------------------------------|--|------------------------|---------------------------|----------|
| Customer : | | | | | | |
| Product line | | : NEMA Premium Efficiency Three-Phase | | Product code : | 14443258 | |
| | | | | Catalog # : | 04036XT3H324TS | |
| Frame | : 324TS | | Locked rotor time | : 54s (cold) 30s (hot) | | |
| Output | : 40 HP (30 kW) | | Temperature rise | : 80 K | | |
| Poles | : 2 | | Duty cycle | : Cont.(S1) | | |
| Frequency | : 60 Hz | | Ambient temperature | : -20°C to +40°C | | |
| Rated voltage | : 575 V | | Altitude | : 1000 m.a.s.l. | | |
| Rated current | : 37.0 A | | Protection degree | : IP55 | | |
| L. R. Amperes | : 244 A | | Cooling method | : IC411 - TEFC | | |
| LRC | : 6.6x(Code G) | | Mounting | : F-1 | | |
| No load current | : 10.4 A | | Rotation ¹ | : Both (CW and CCW) | | |
| Rated speed | : 3560 rpm | | Noise level ² | : 81.0 dB(A) | | |
| Slip | : 1.11 % | | Starting method | : Direct On Line | | |
| Rated torque | : 59.0 ft.lb | | Approx. weight ³ | : 619 lb | | |
| Locked rotor torque | : 250 % | | | | | |
| Breakdown torque | : 260 % | | | | | |
| Insulation class | : F | | | | | |
| Service factor | : 1.15 | | | | | |
| Moment of inertia (J) | : 4.90 sq.ft.lb | | | | | |
| Design | : B | | | | | |
| Output | 25% | 50% | 75% | 100% | Foundation loads | |
| Efficiency (%) | 92.2 | 92.4 | 93.6 | 93.6 | Max. traction : 279 lb | |
| Power Factor | 0.55 | 0.79 | 0.85 | 0.87 | Max. compression : 898 lb | |
| | | <u>Drive end</u> | | <u>Non drive end</u> | | |
| Bearing type | : | 6312 C3 | | 6212 C3 | | |
| Sealing | : | Oil Seal | | Lip Seal | | |
| Lubrication interval | : | 9829 h | | 12143 h | | |
| Lubricant amount | : | 21 g | | 13 g | | |
| Lubricant type | : | Mobil Polyrex EM | | | | |
| Notes | | | | | | |
| This revision replaces and cancel the previous one, which must be eliminated. (1) Looking the motor from the shaft end. (2) Measured at 1m and with tolerance of +3dB(A). (3) Approximate weight subject to changes after manufacturing process. (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 | 12/04/2022 | | | | 1 / 7 | |

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Thermal protection

| ID | Application | Type | Quantity | Sensing Temperature |
|----|-------------|----------------------|-----------|---------------------|
| 1 | Winding | Thermostat - 2 wires | 1 x Phase | 155 °C |

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|--------------|-----------------|-----------|---------|----------|
| Performed by | | | | |
| Checked by | | | Page | Revision |
| Date | 12/04/2022 | | 2 / 7 | |

TORQUE AND CURRENT VS SPEED CURVE



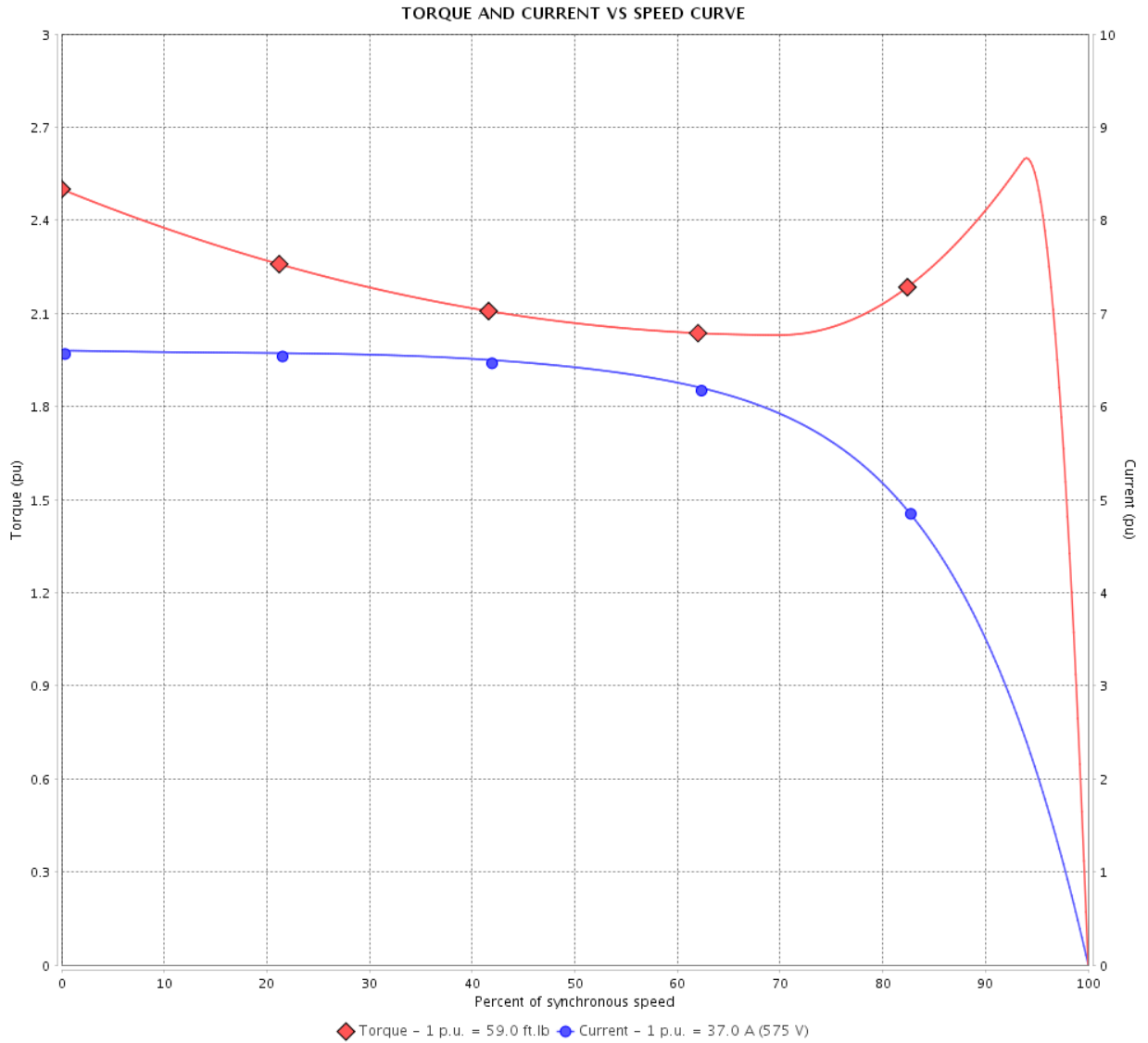
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443258

Catalog # : 04036XT3H324TS



Performance : 575 V 60 Hz 2P

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 37.0 A | Moment of inertia (J) | : 4.90 sq.ft.lb |
| LRC | : 6.6 | Duty cycle | : Cont.(S1) |
| Rated torque | : 59.0 ft.lb | Insulation class | : F |
| Locked rotor torque | : 250 % | Service factor | : 1.15 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 3560 rpm | Design | : B |

Locked rotor time : 54s (cold) 30s (hot)

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|--------------|-----------------|-----------|---------------|----------|
| | | | | |
| Performed by | | | Page 3 / 7 | Revision |
| Checked by | | | | |
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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

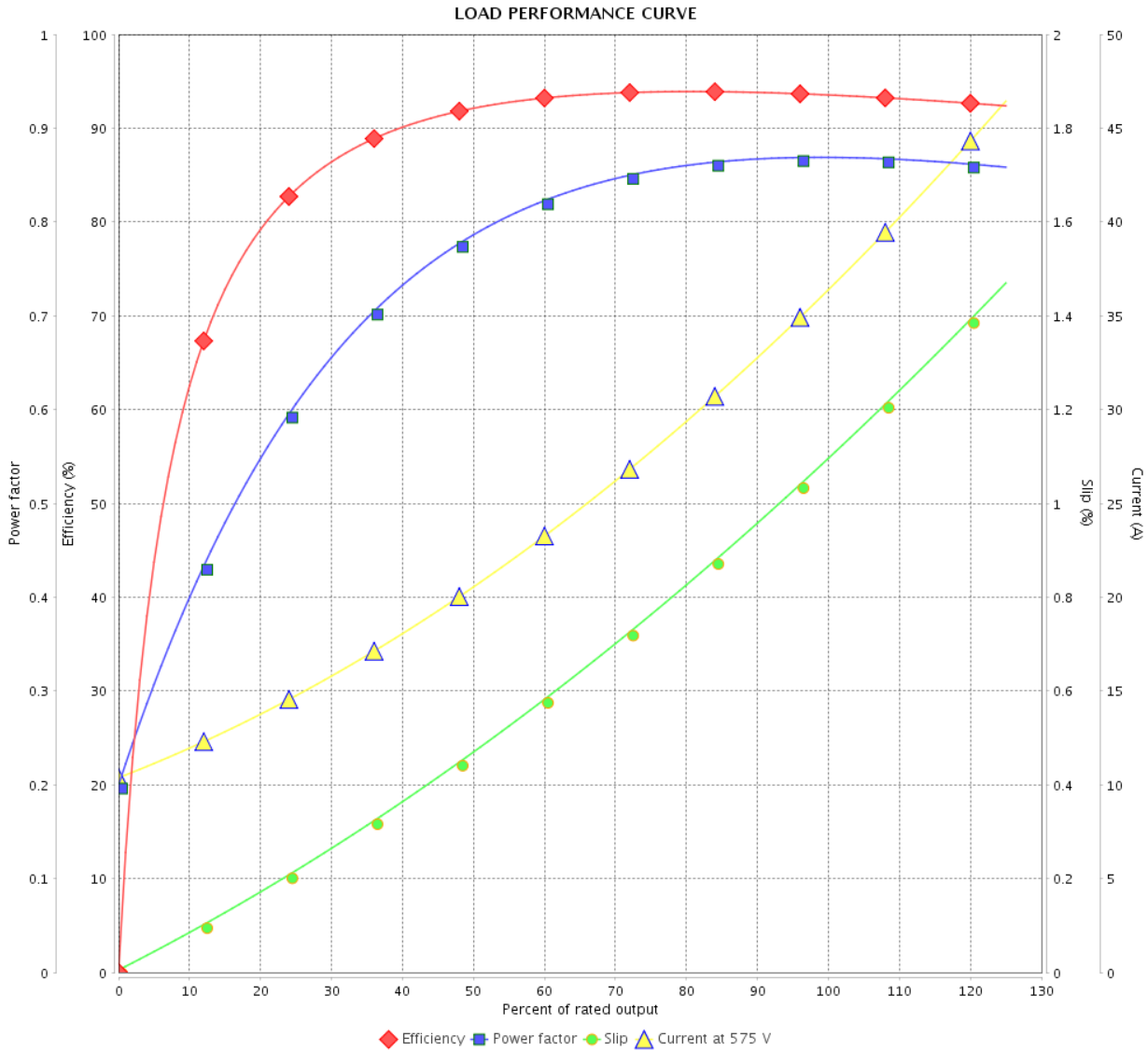


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| | | | | |
| Performed by | | | Page | Revision |
| Checked by | | | 4 / 7 | |
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

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 Catalog # : 04036XT3H324TS

Performance : 575 V 60 Hz 2P

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|-----------------------------|---------------------------------------|
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| Breakdown torque : 260 % | Temperature rise : 80 K |
| Rated speed : 3560 rpm | Design : B |

Heating constant

Cooling constant

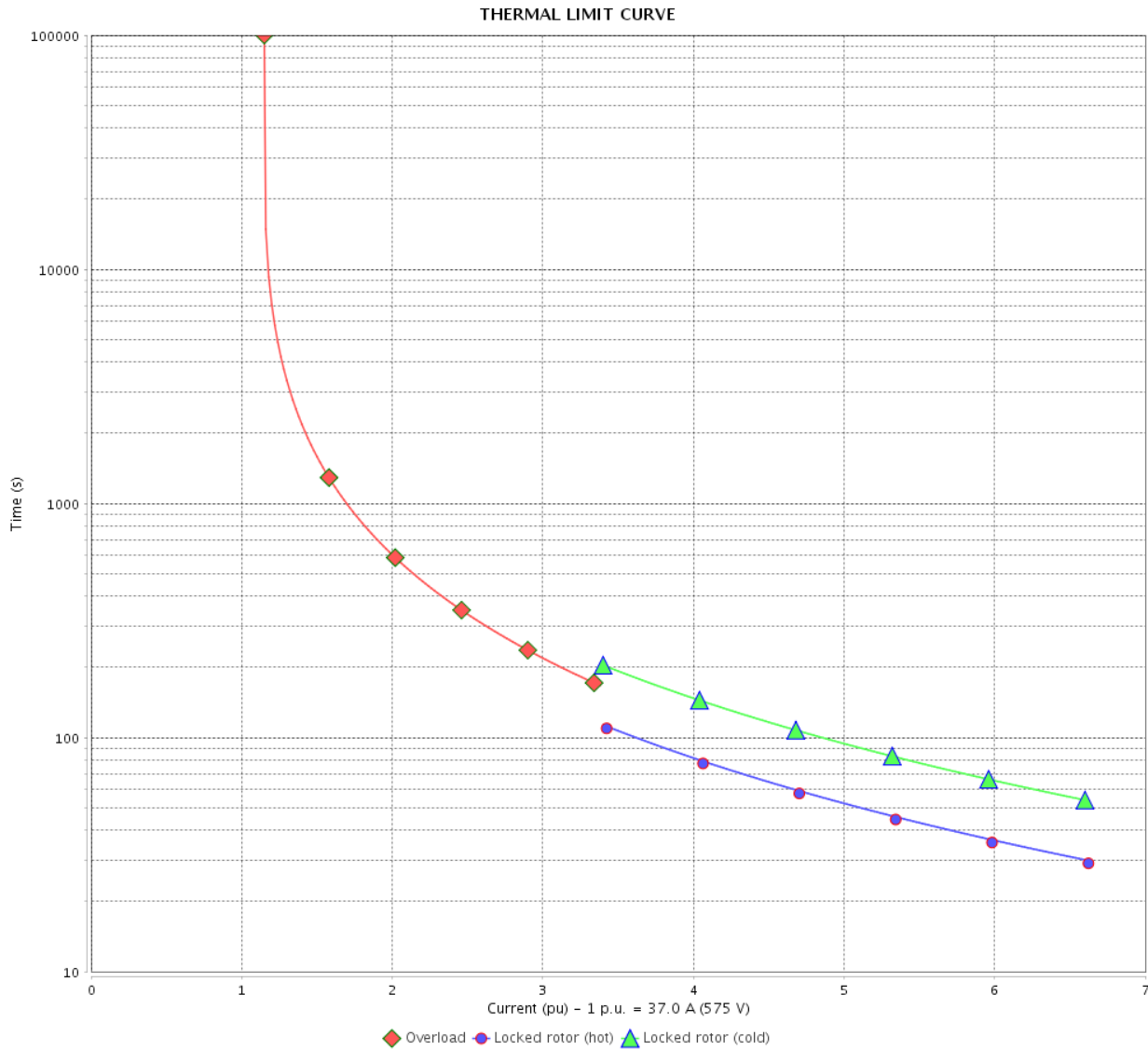
| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------------|----------|
| | | | | |
| Performed by | | | Page 5 / 7 | Revision |
| Checked by | | | | |
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



| Rev. | Changes Summary | Performed | Checked | Date |
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| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 6 / 7 | | |
| Date | | 12/04/2022 | | |

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

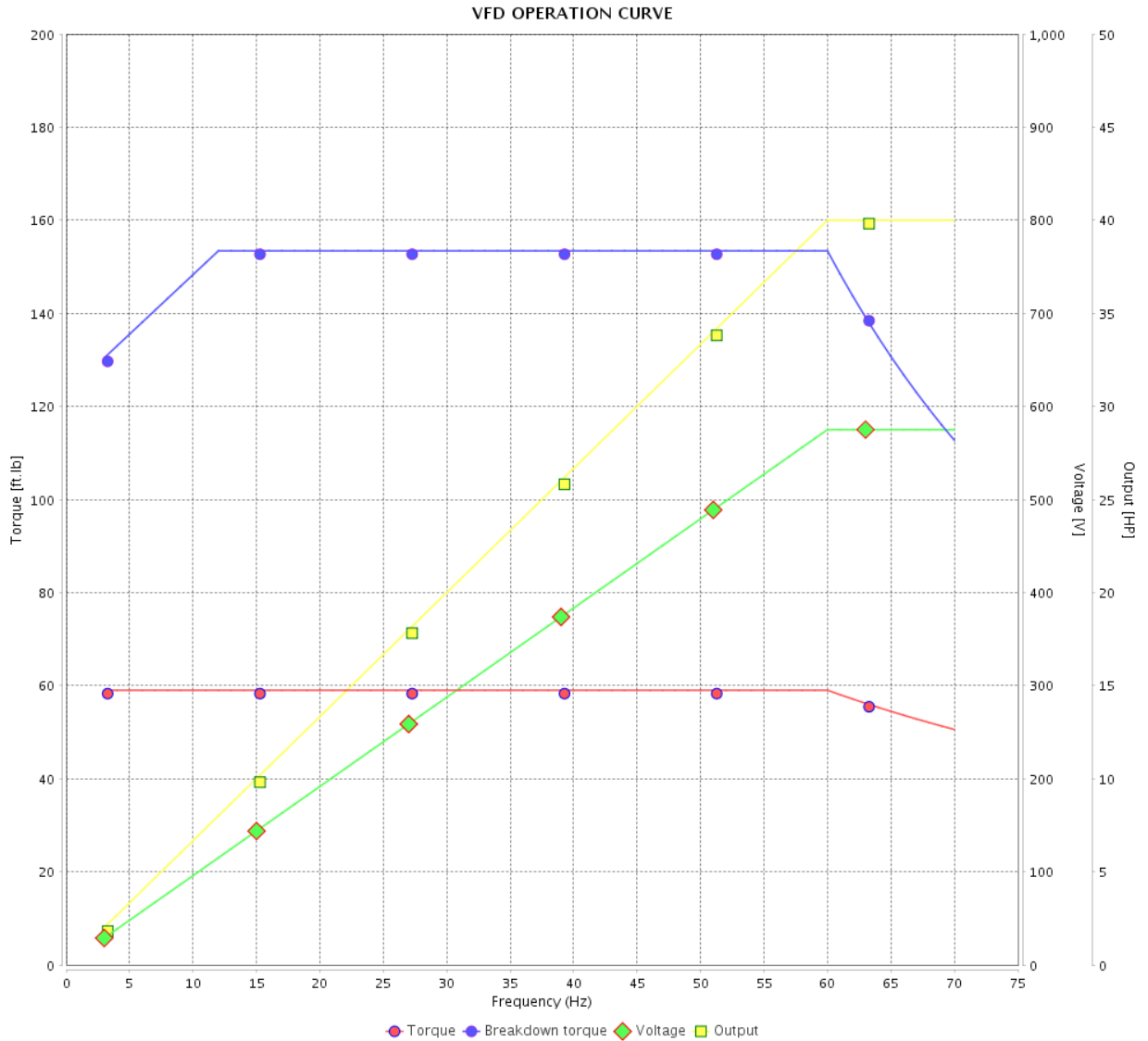


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 14443258

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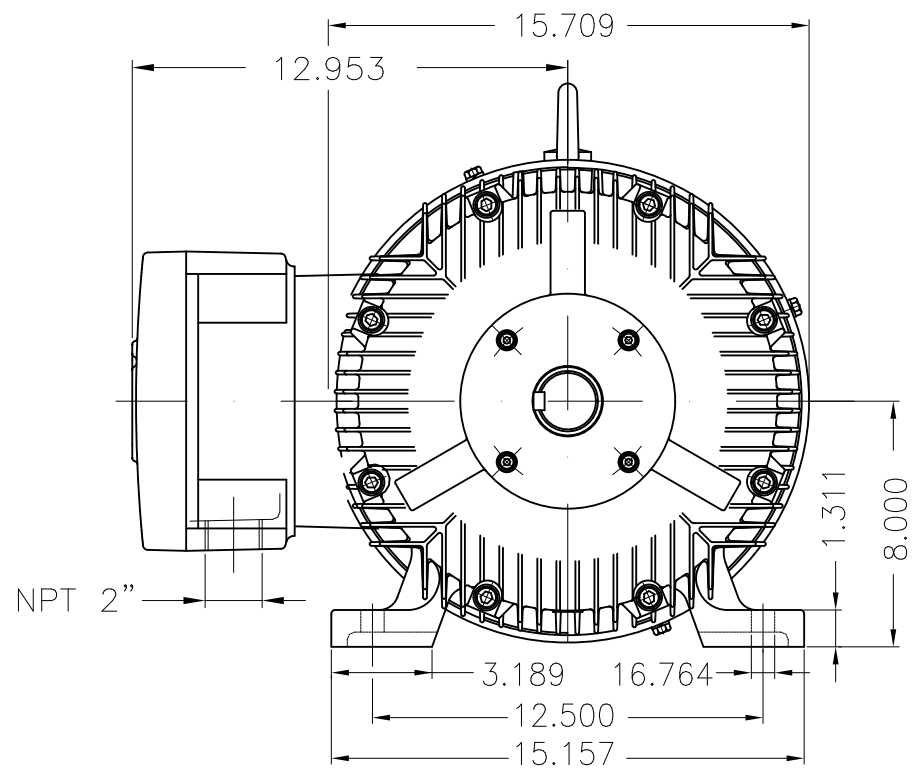


Performance : 575 V 60 Hz 2P

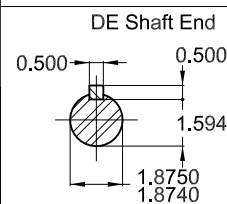
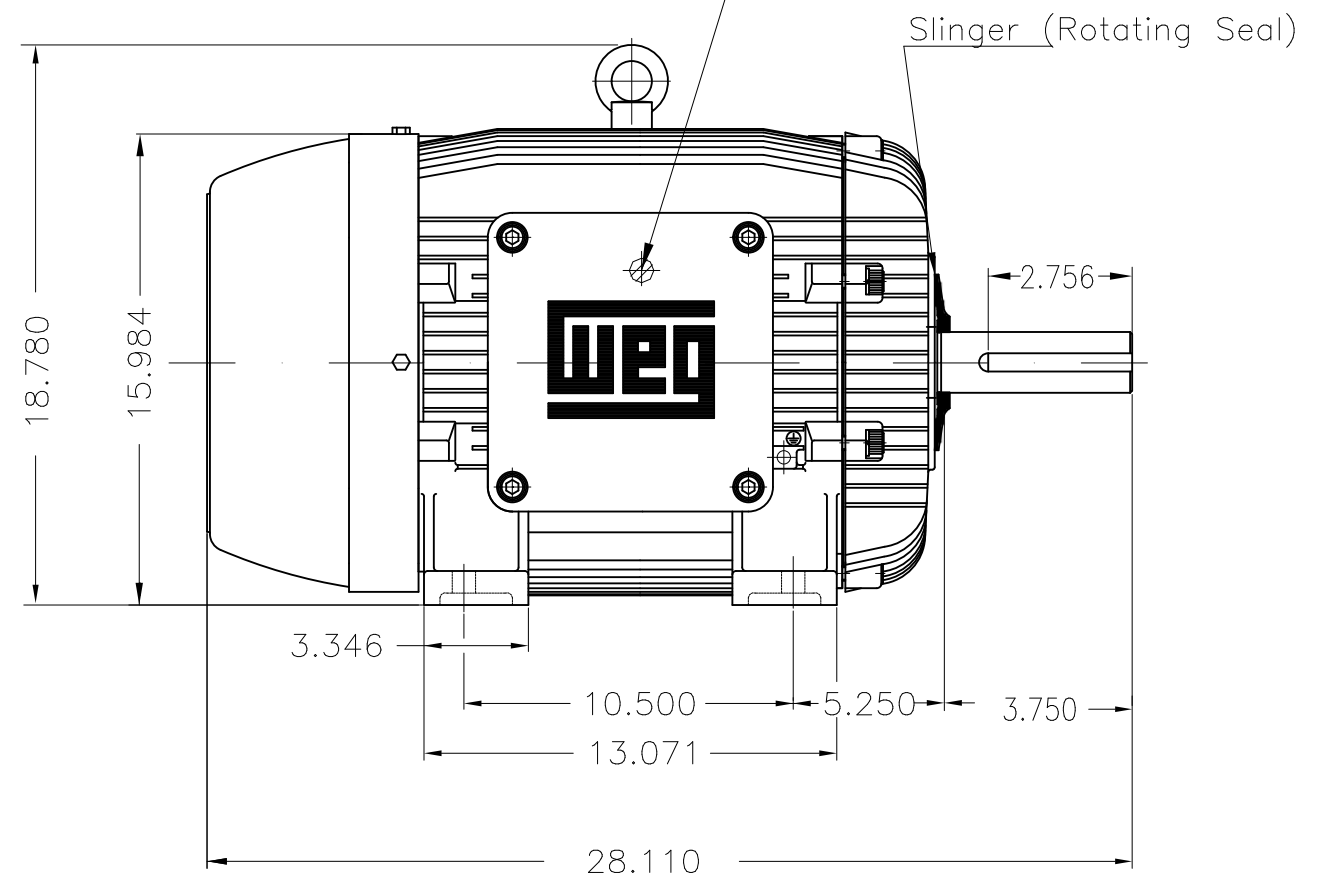
Rated current : 37.0 A
 LRC : 6.6
 Rated torque : 59.0 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 260 %
 Rated speed : 3560 rpm

Moment of inertia (J) : 4.90 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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| | | | | |
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| Checked by | | 7 / 7 | | |
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Grounding for leads 5.2–35 mm² / 10–2 AWG



Color RAL 5009
 Painting plan 202P
 Mounting NEMA F-1
 Mounting B3R(D)

40 HP 02 Poles 60 Hz

Dimensions in inches

| ECM | LOC | SUMMARY OF MODIFICATIONS | EXECUTED | CHECKED | RELEASED | DATE | VER |
|----------|-----------|--|---------------------|---------|----------|------|-----|
| EXECUTED | PIRWBUSER | THREE PH. MOTOR EXPLOSION PROOF PREM. EFF. | | | | | |
| CHECKED | | FRAME 324TS IP55 TEFC | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | Jaragua do Sul | Product Engineering | | | | |

PREVIEW
 WDD



SHEET 1 / 1

MADE IN BRAZIL

**W21X NEMA**
Premium

14443258



LISTED

CC029A

Inverter Duty Motor
Severe Duty

HX040502NPW21X

PH 3 | FR 324TS

HP(kW) 40(30)

HZ 60

IP55

V 575

A 37.0

RPM 3560

NEMA NOM EFF 93.6%

PF 0.87

SFA 42.5

DES B

INS CL F Δ T 80 K | SF 1.15

ENCL TEFC

DUTY CONT.

CODE G

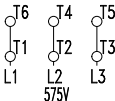
ALT 1000

m.a.s.l.

AMB 40°C

AMB 55°C SF1.0

-bearings lub interval reduced by a factor of 50%



→ 6312-C3 MOBIL POLYREX EM

→ 6212-C3 21 g 9829 h

619 Lbs

TEMP CODE T3C
CSA/UL: Class I - Div. 1 - Groups C and D
CSA: Class II - Div. 1 - Groups F and G
CSA: Class I - Zone 1 - IIB

EXPLOSION PROOF MOTOR

FOR USE ON VPWM VFD 1000:1VT, 6:1CT, 1.0SF, T3C, AMB 40°C.