

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

| | | | |
|--|---|--|---------------------|
| Customer : | | | |
| Product line | : JP Pump NEMA Premium Efficiency Three-Phase | Product code : | 13507670 |
| | | Catalog # : | 02018ET3E256JP-S |
| Frame | : 254/6JP | Cooling method | : IC411 - TEFC |
| Insulation class | : F | Mounting | : F-1 |
| Duty cycle | : Cont.(S1) | Rotation ¹ | : Both (CW and CCW) |
| Ambient temperature | : -20°C to +40°C | Starting method | : Direct On Line |
| Altitude | : 1000 m.a.s.l. | Approx. weight ² | : 259 lb |
| Protection degree | : IP55 | Moment of inertia (J) | : 2.64 sq.ft.lb |
| Design | : B | | |
| Output [HP] | 20 | 15 | 15 |
| Poles | 4 | 4 | 4 |
| Frequency [Hz] | 60 | 50 | 50 |
| Rated voltage [V] | 230/460 | 190/380 | 220/415 |
| Rated current [A] | 49.4/24.7 | 44.4/22.2 | 41.3/21.9 |
| L. R. Amperes [A] | 331/165 | 329/164 | 330/175 |
| LRC [A] | 6.7x(Code H) | 7.4x(Code J) | 8.0x(Code K) |
| No load current [A] | 22.2/11.1 | 21.9/10.9 | 22.5/11.9 |
| Rated speed [RPM] | 1765 | 1470 | 1475 |
| Slip [%] | 1.94 | 2.00 | 1.67 |
| Rated torque [ft.lb] | 59.5 | 53.6 | 53.4 |
| Locked rotor torque [%] | 270 | 270 | 310 |
| Breakdown torque [%] | 300 | 320 | 360 |
| Service factor | 1.15 | 1.15 | 1.15 |
| Temperature rise | 80 K | 80 K | 80 K |
| Locked rotor time | 28s (cold) 16s (hot) | 0s (cold) 0s (hot) | 0s (cold) 0s (hot) |
| Noise level ² | 68.0 dB(A) | 65.0 dB(A) | 65.0 dB(A) |
| Efficiency (%) | 25% | 91.0 | 91.1 |
| | 50% | 91.7 | 91.1 |
| | 75% | 92.4 | 92.1 |
| | 100% | 93.0 | 91.9 |
| Power Factor | 25% | 0.40 | 0.34 |
| | 50% | 0.66 | 0.58 |
| | 75% | 0.77 | 0.71 |
| | 100% | 0.82 | 0.79 |
| Bearing type | : <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6208 Z C3 | Foundation loads | |
| Sealing | : V'Ring Without Bearing Seal | Max. traction | : 793 lb |
| | | Max. compression | : 1051 lb |
| Lubrication interval | : 20000 h 20000 h | | |
| Lubricant amount | : 13 g 8 g | | |
| Lubricant type | : Mobil Polyrex EM | | |
| Notes USABLE @208V 54.6A SF 1.00 SFA 54.6A | | | |
| 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 |
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| Performed by | | | |
| Checked by | | | |
| Date | 14/04/2022 | | |
| | | Page | Revision |
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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



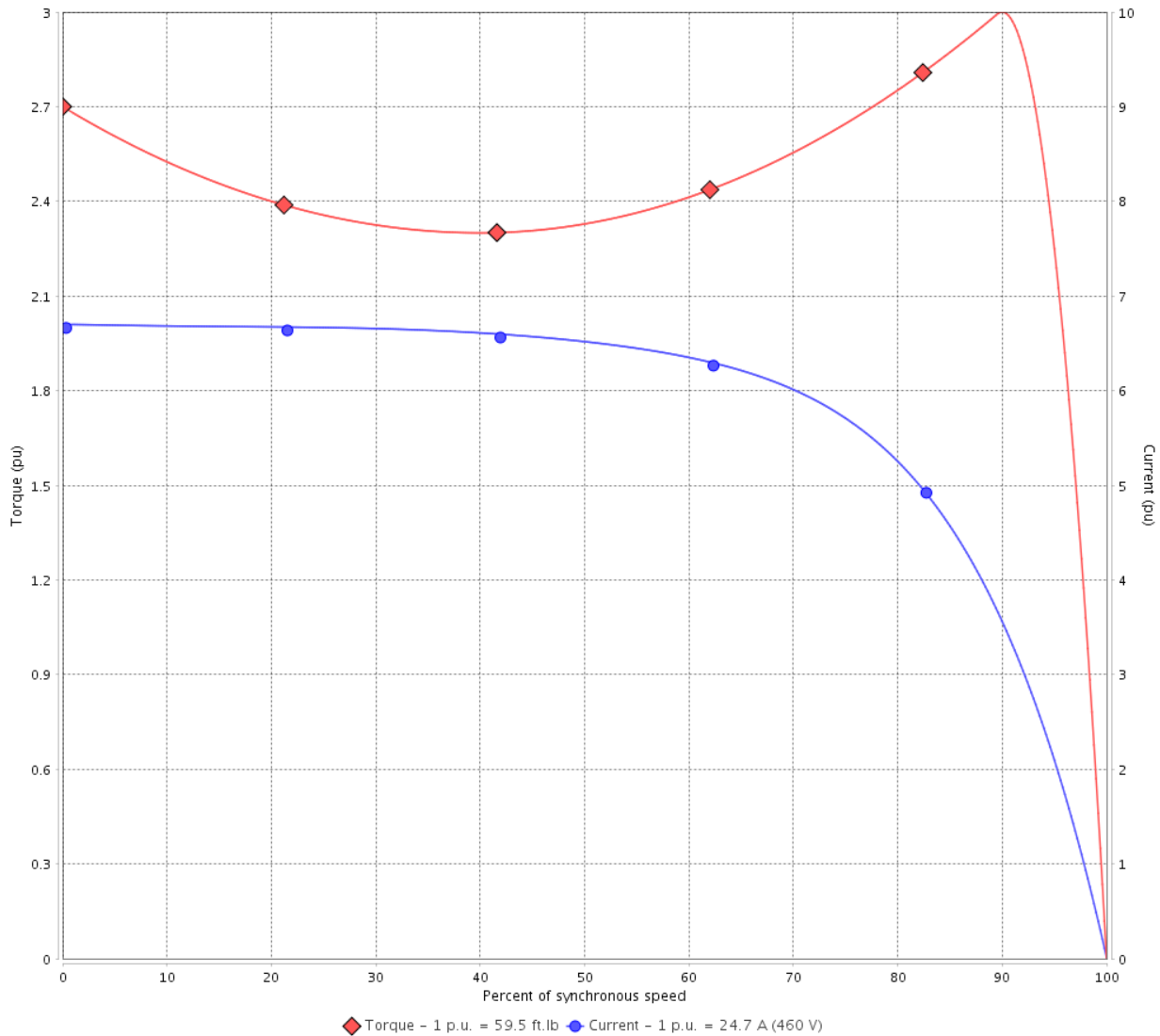
Customer :

Product line : JP Pump NEMA Premium
Efficiency Three-Phase

Product code : 13507670

Catalog # : 02018ET3E256JP-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

| | | | |
|---------------------|---------------|-----------------------|-----------------|
| Rated current | : 49.4/24.7 A | Moment of inertia (J) | : 2.64 sq.ft.lb |
| LRC | : 6.7 | Duty cycle | : Cont.(S1) |
| Rated torque | : 59.5 ft.lb | Insulation class | : F |
| Locked rotor torque | : 270 % | Service factor | : 1.15 |
| Breakdown torque | : 300 % | Temperature rise | : 80 K |
| Rated speed | : 1765 rpm | Design | : B |

Locked rotor time : 28s (cold) 16s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



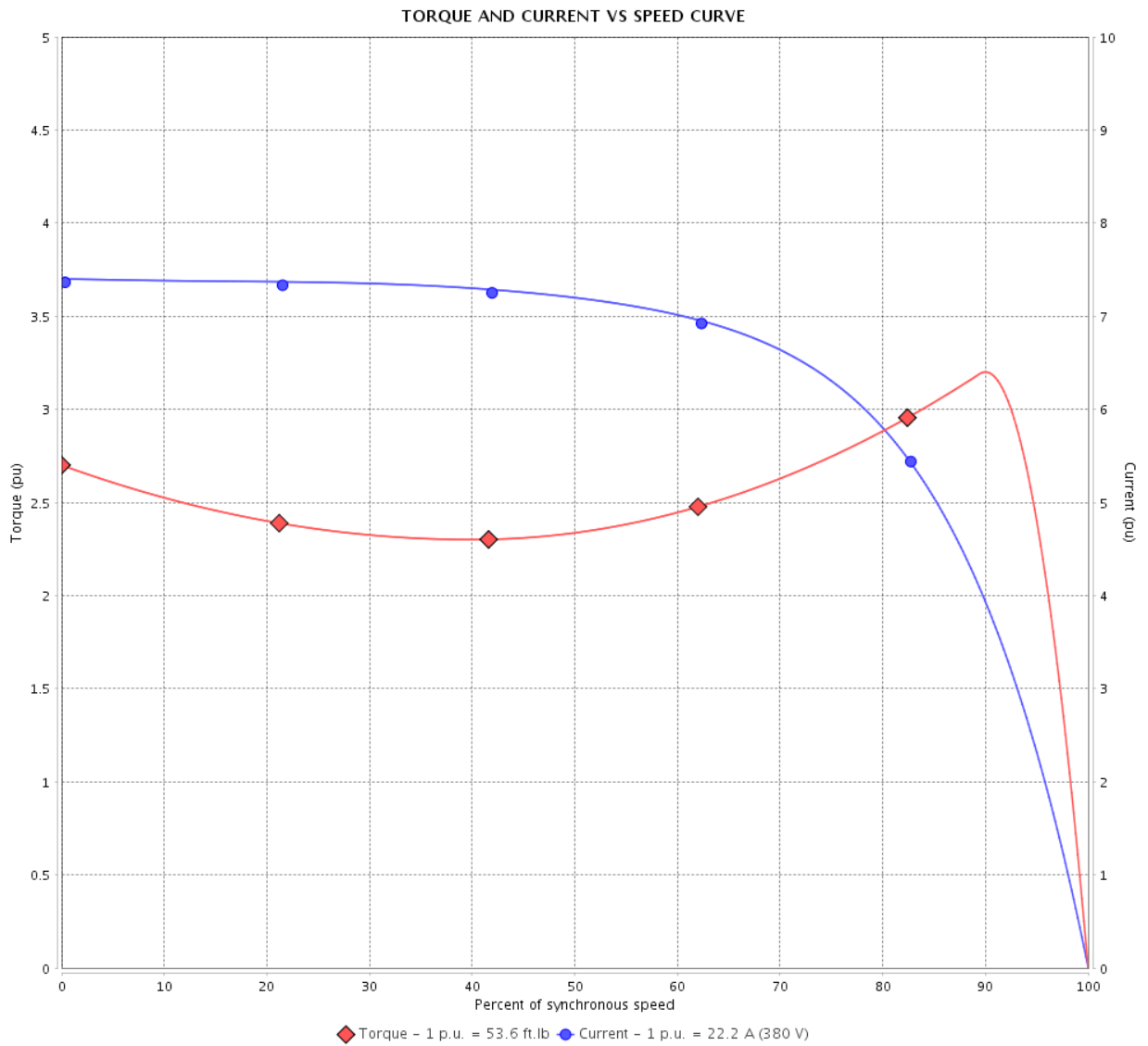
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : JP Pump NEMA Premium Efficiency Three-Phase

Product code : 13507670

Catalog # : 02018ET3E256JP-S



Performance : 190/380 V 50 Hz 4P

Rated current : 44.4/22.2 A
 LRC : 7.4
 Rated torque : 53.6 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 320 %
 Rated speed : 1470 rpm

Moment of inertia (J) : 2.64 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 0s (cold) 0s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



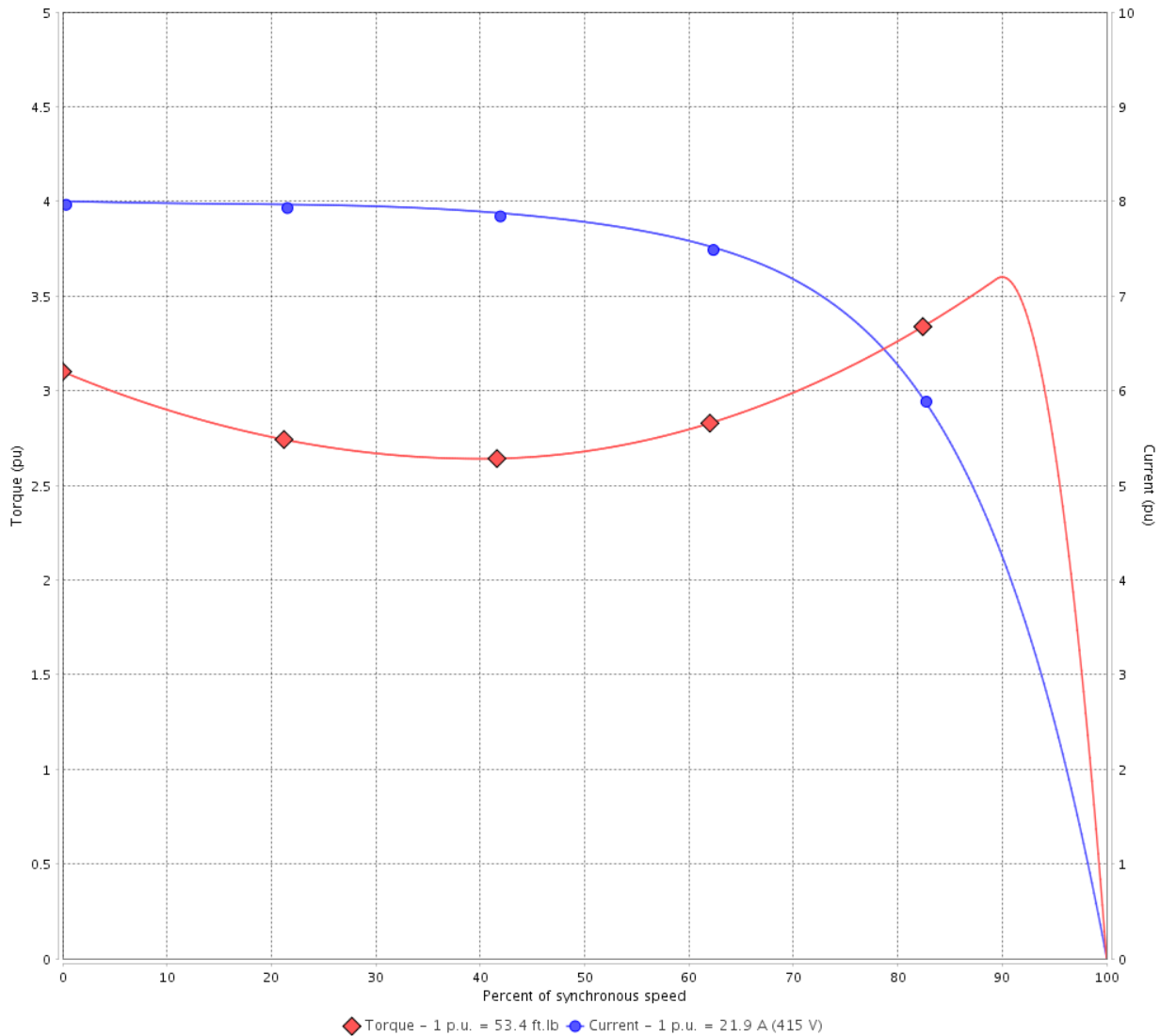
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

| | | | |
|---------------------|---------------|-----------------------|-----------------|
| Rated current | : 41.3/21.9 A | Moment of inertia (J) | : 2.64 sq.ft.lb |
| LRC | : 8.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 53.4 ft.lb | Insulation class | : F |
| Locked rotor torque | : 310 % | Service factor | : 1.15 |
| Breakdown torque | : 360 % | Temperature rise | : 80 K |
| Rated speed | : 1475 rpm | Design | : B |

Locked rotor time : 0s (cold) 0s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

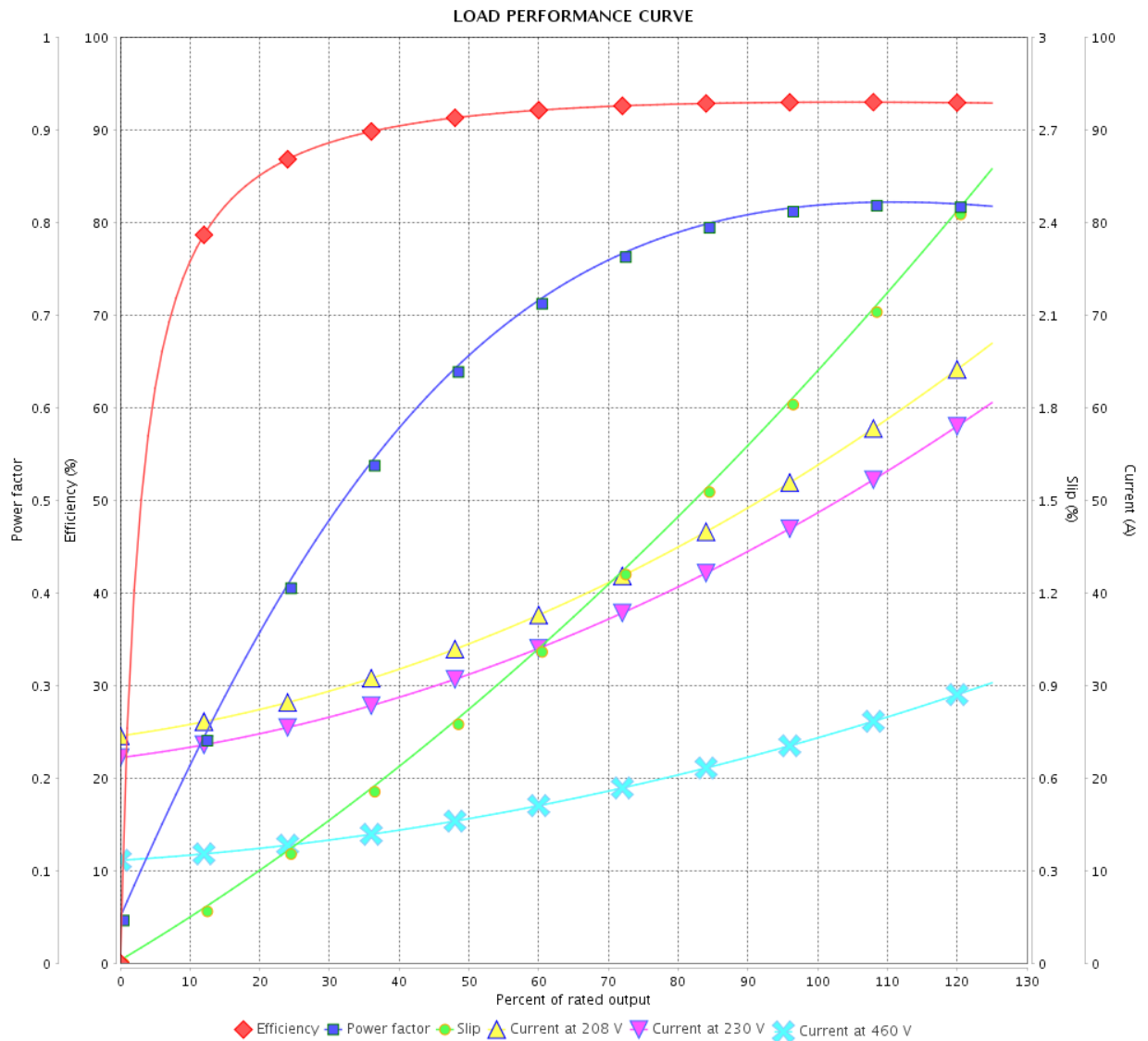


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Performance : 230/460 V 60 Hz 4P

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 Locked rotor torque : 270 %
 Breakdown torque : 300 %
 Rated speed : 1765 rpm

Moment of inertia (J) : 2.64 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
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 Temperature rise : 80 K
 Design : B

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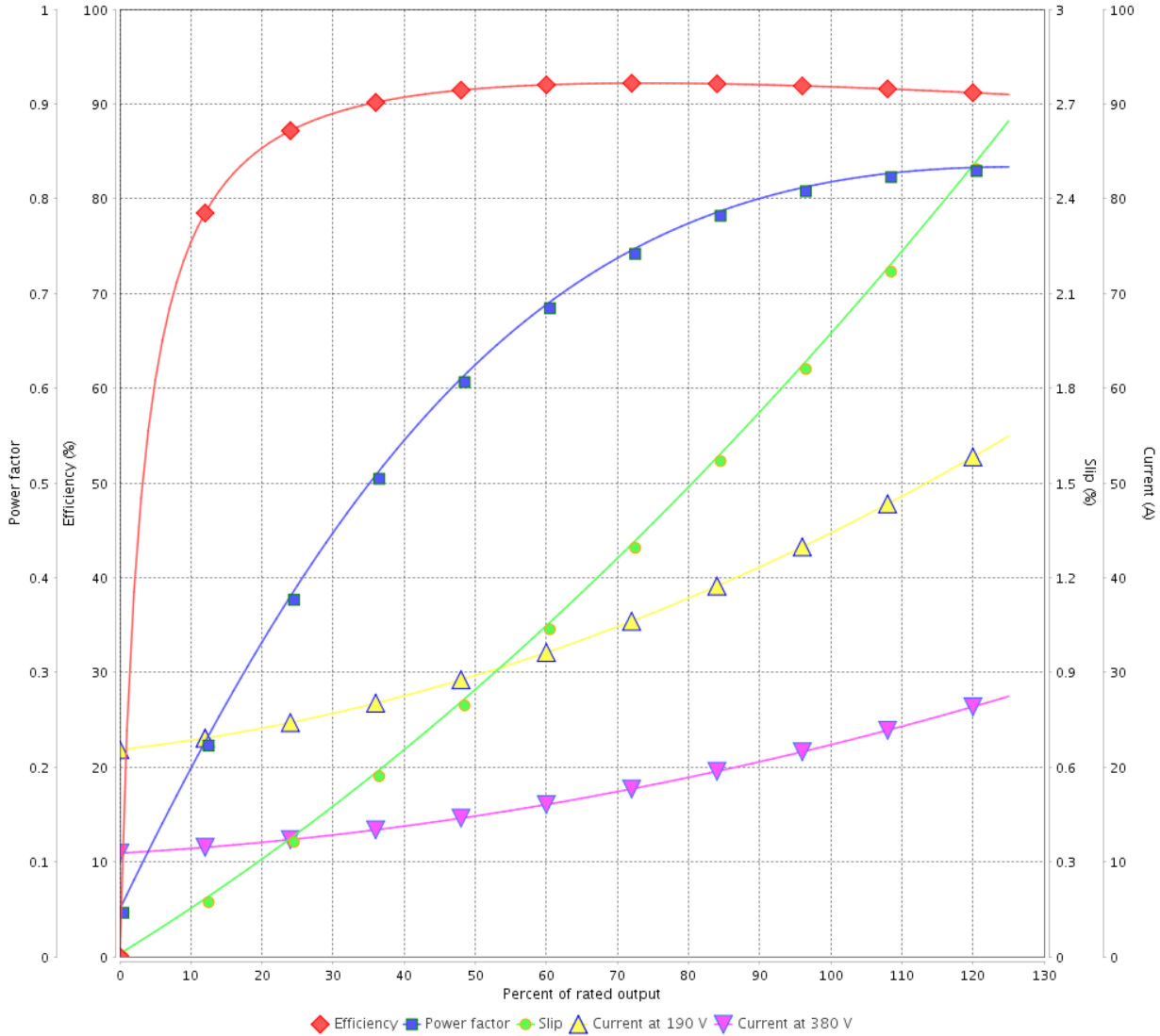
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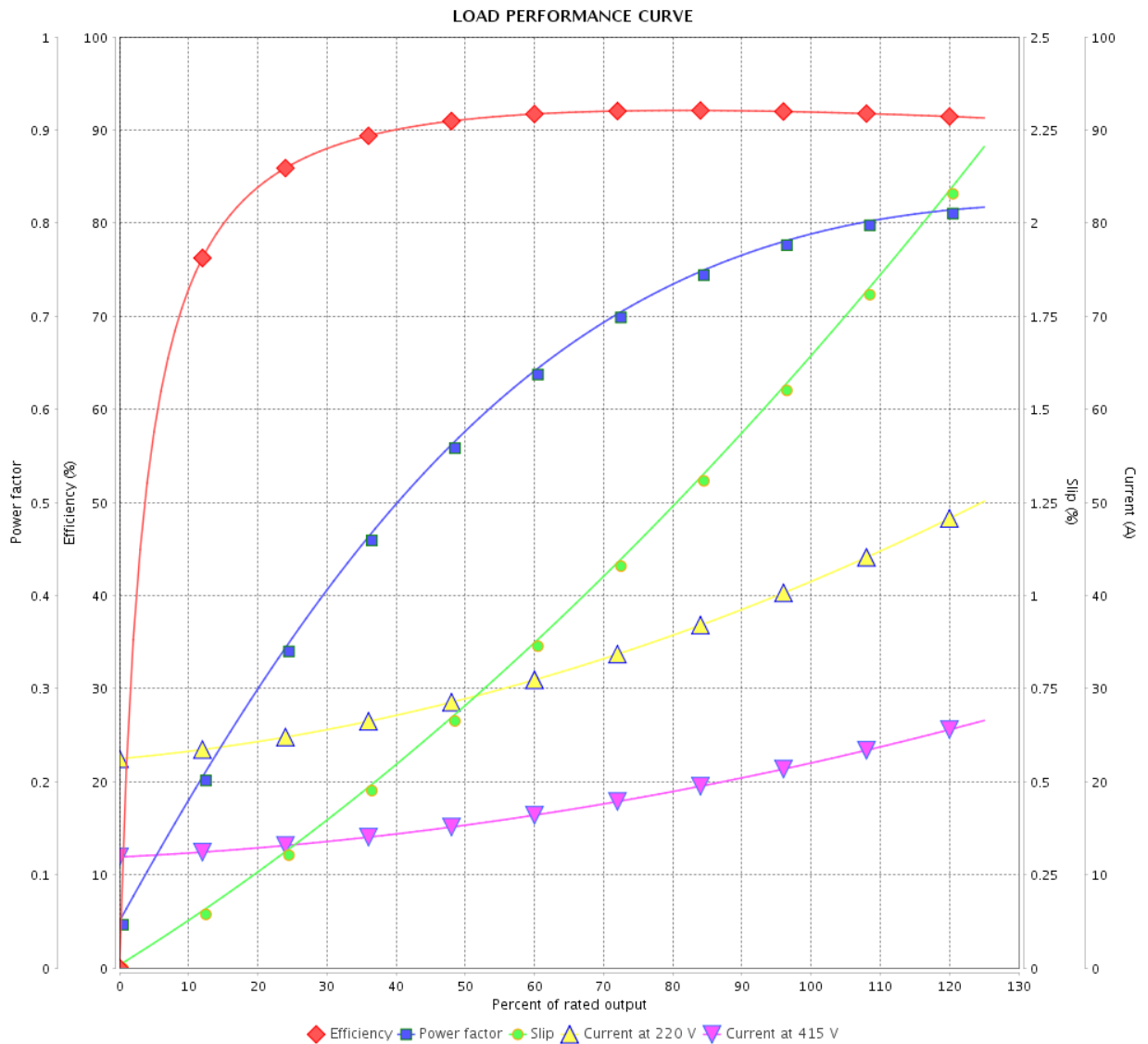


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Rated current : 41.3/21.9 A
 LRC : 8.0
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THERMAL LIMIT CURVE



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Locked rotor torque : 270 %
Breakdown torque : 300 %
Rated speed : 1765 rpm

Moment of inertia (J) : 2.64 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K
Design : B

Heating constant

Cooling constant

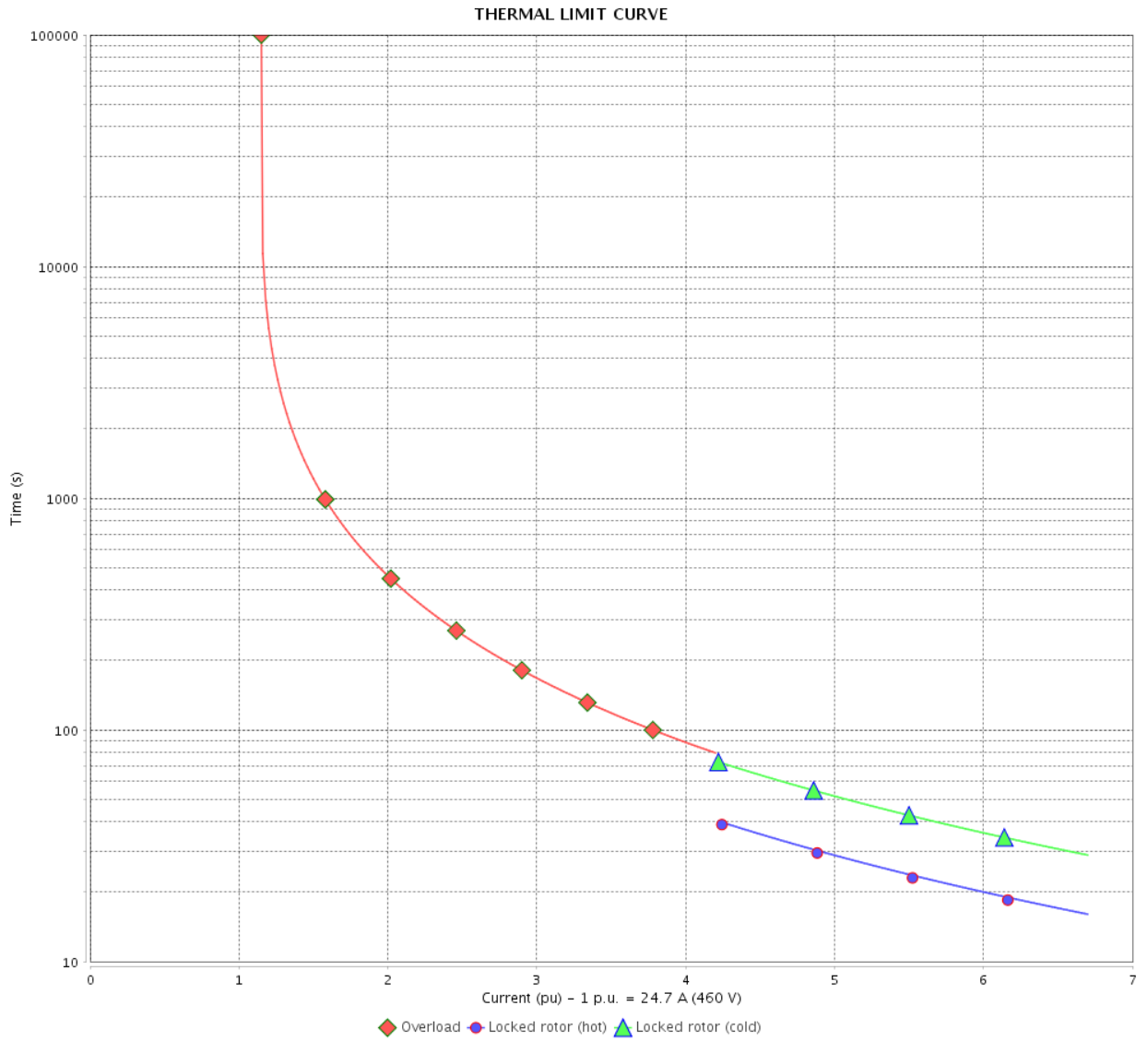
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Design : B

Heating constant

Cooling constant

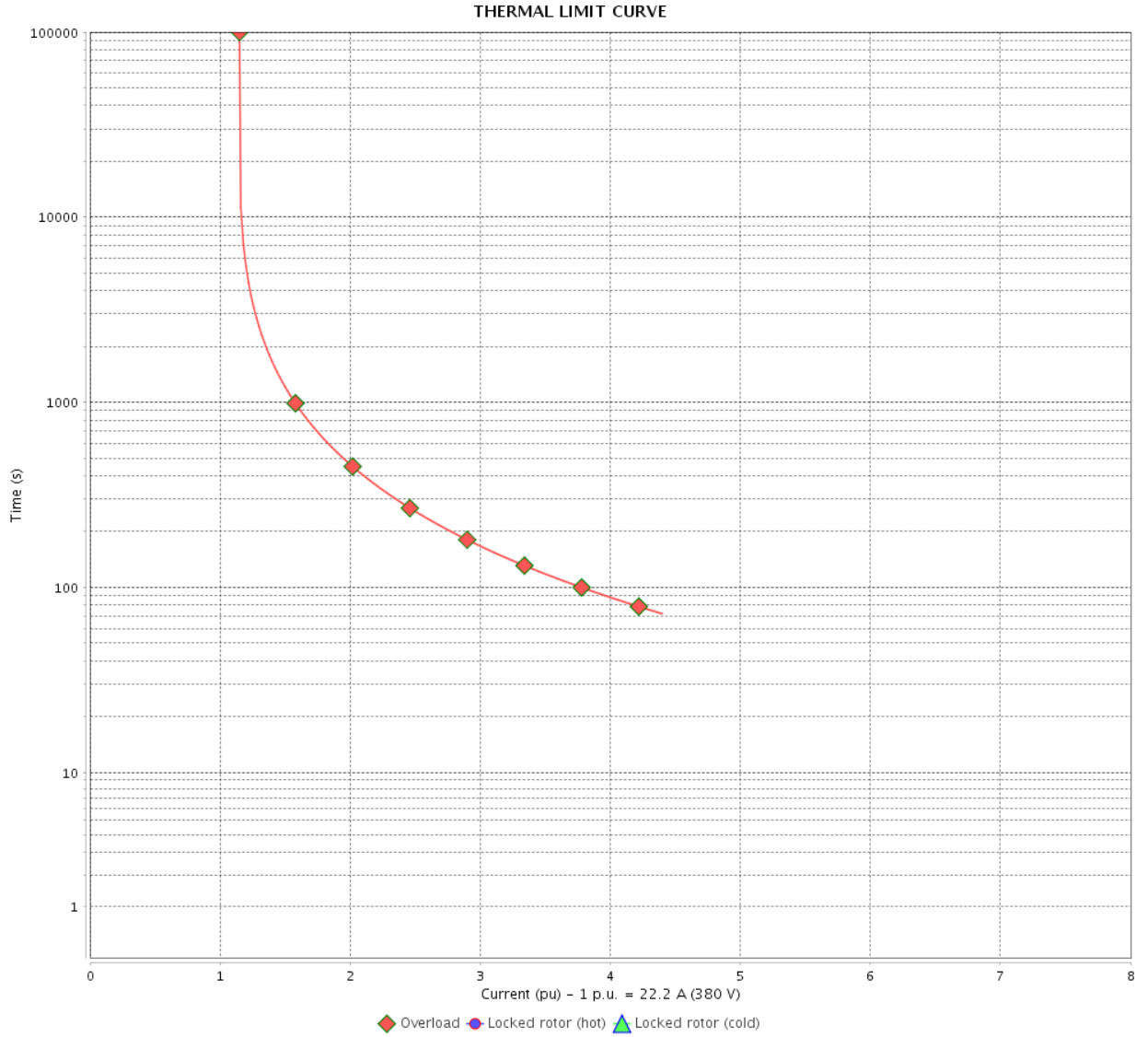
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Temperature rise : 80 K
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Heating constant

Cooling constant

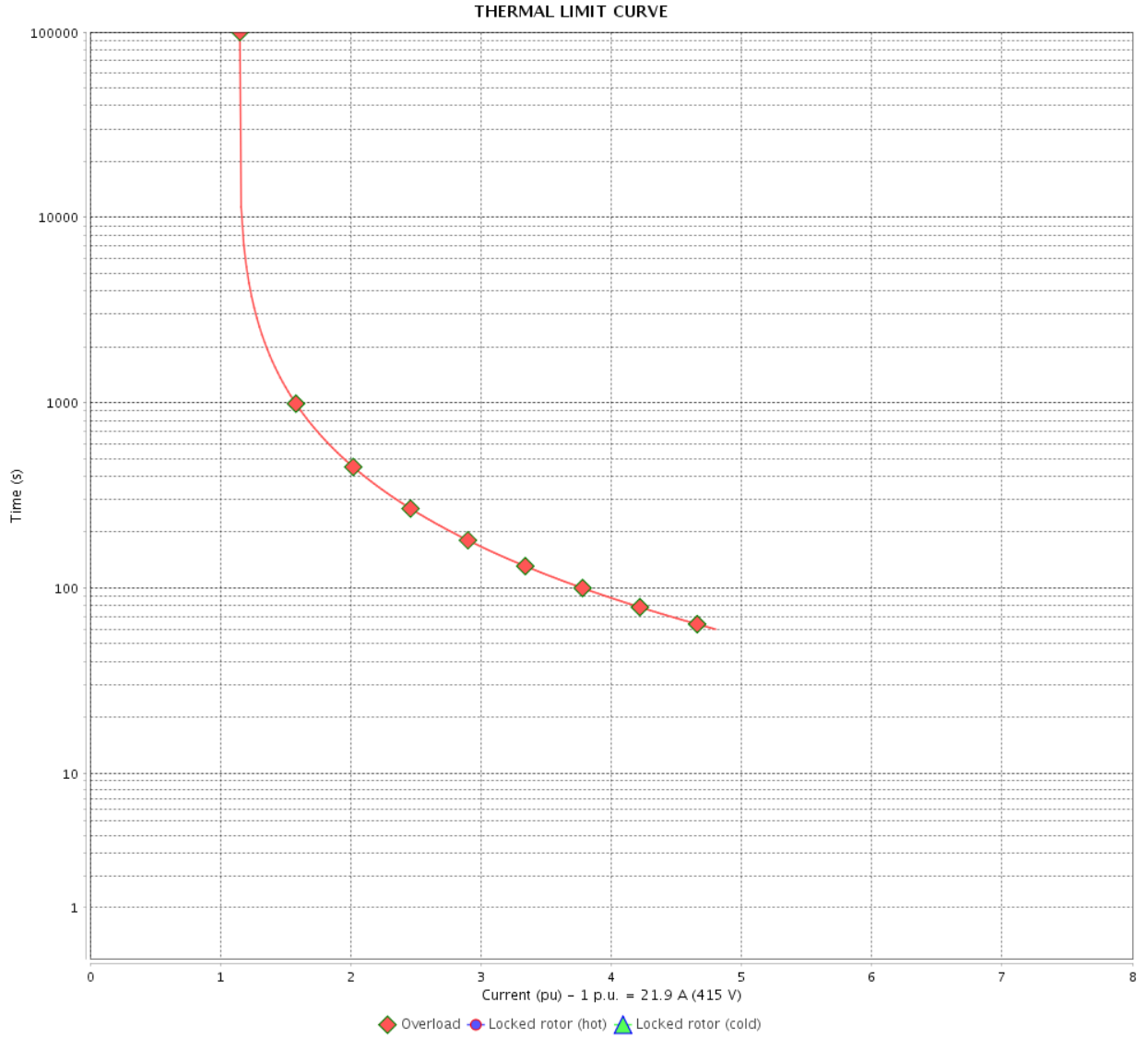
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

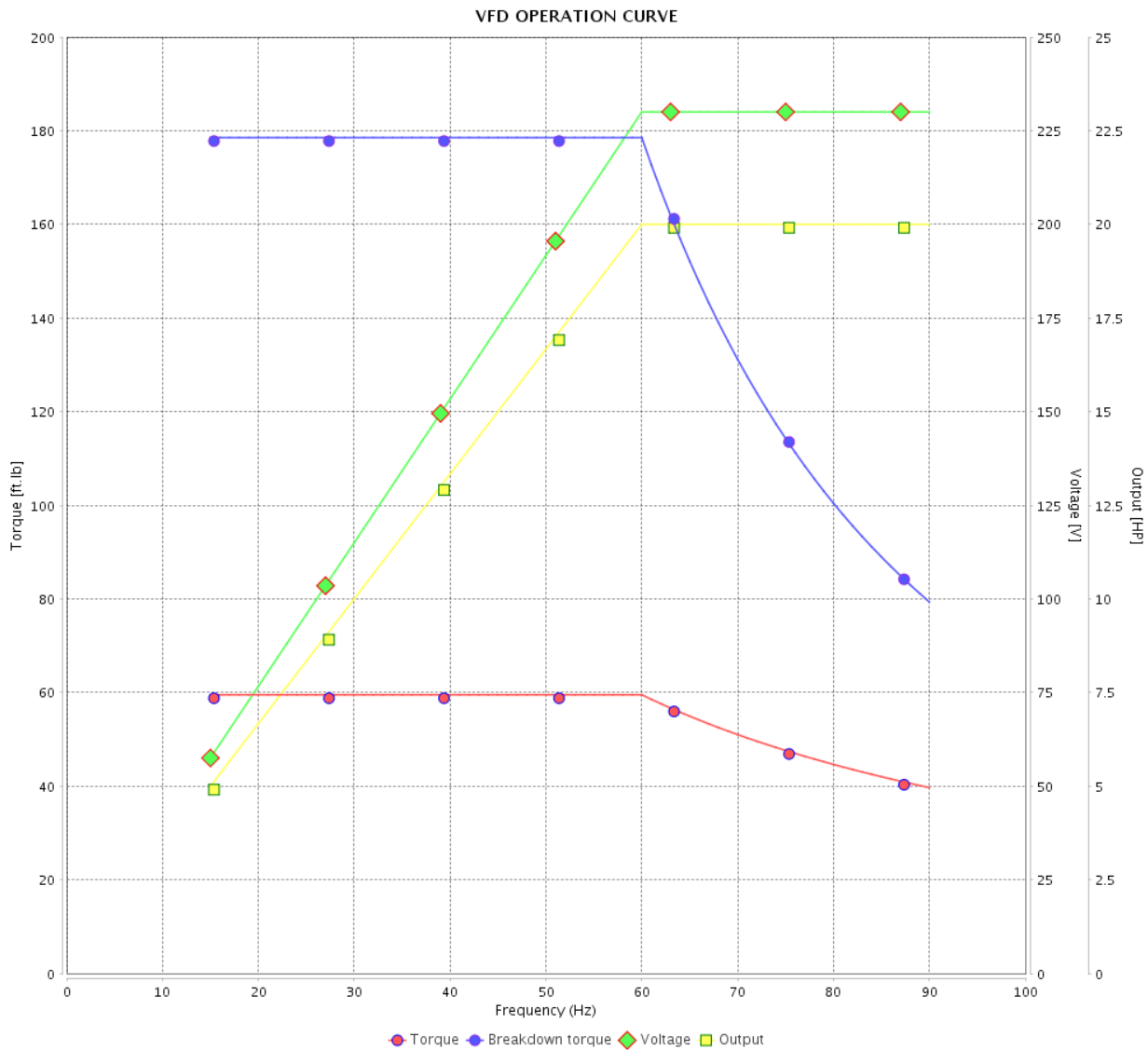


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Rated current : 49.4/24.7 A
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 Locked rotor torque : 270 %
 Breakdown torque : 300 %
 Rated speed : 1765 rpm

Moment of inertia (J) : 2.64 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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VFD OPERATION CURVE

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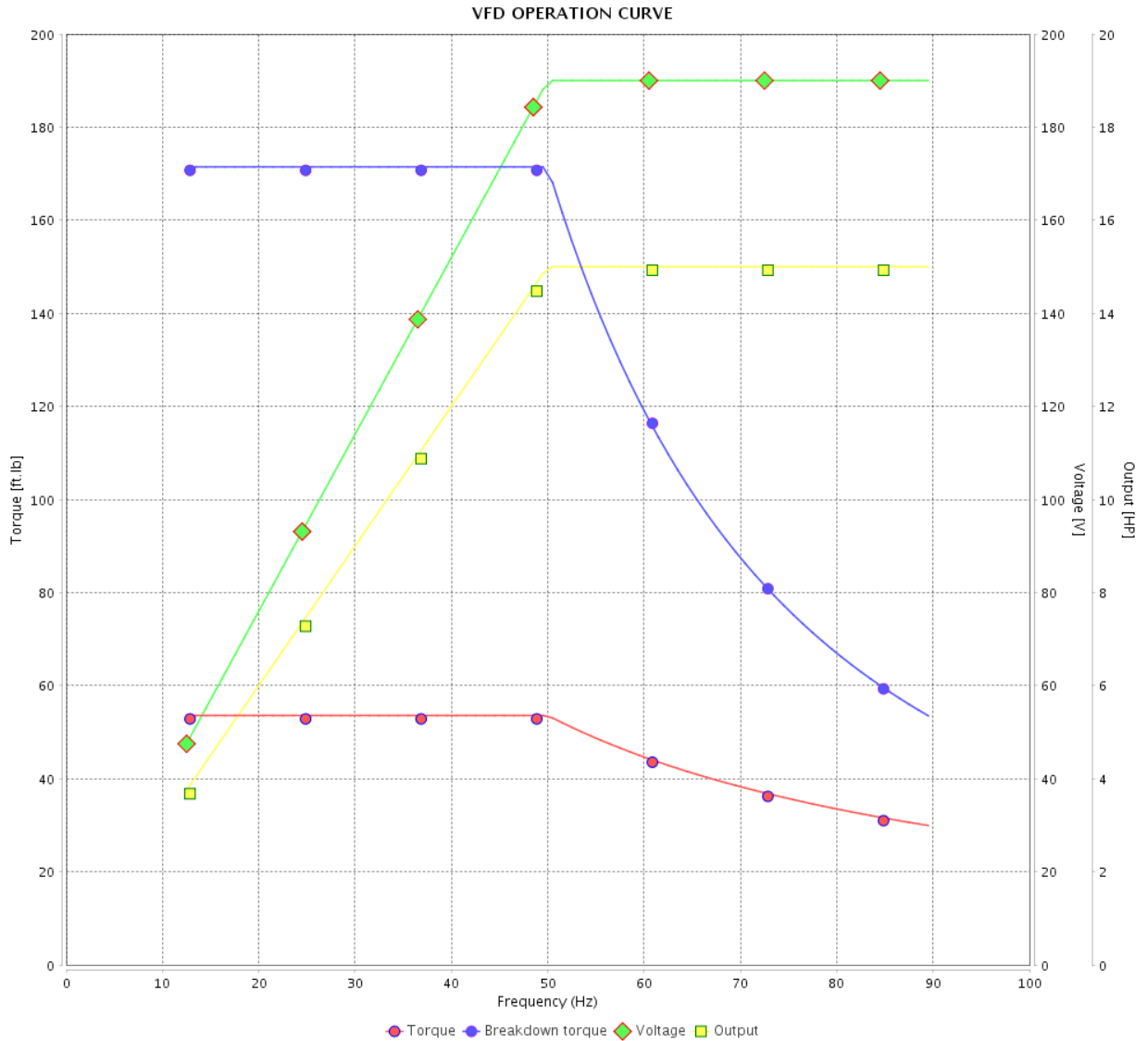


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

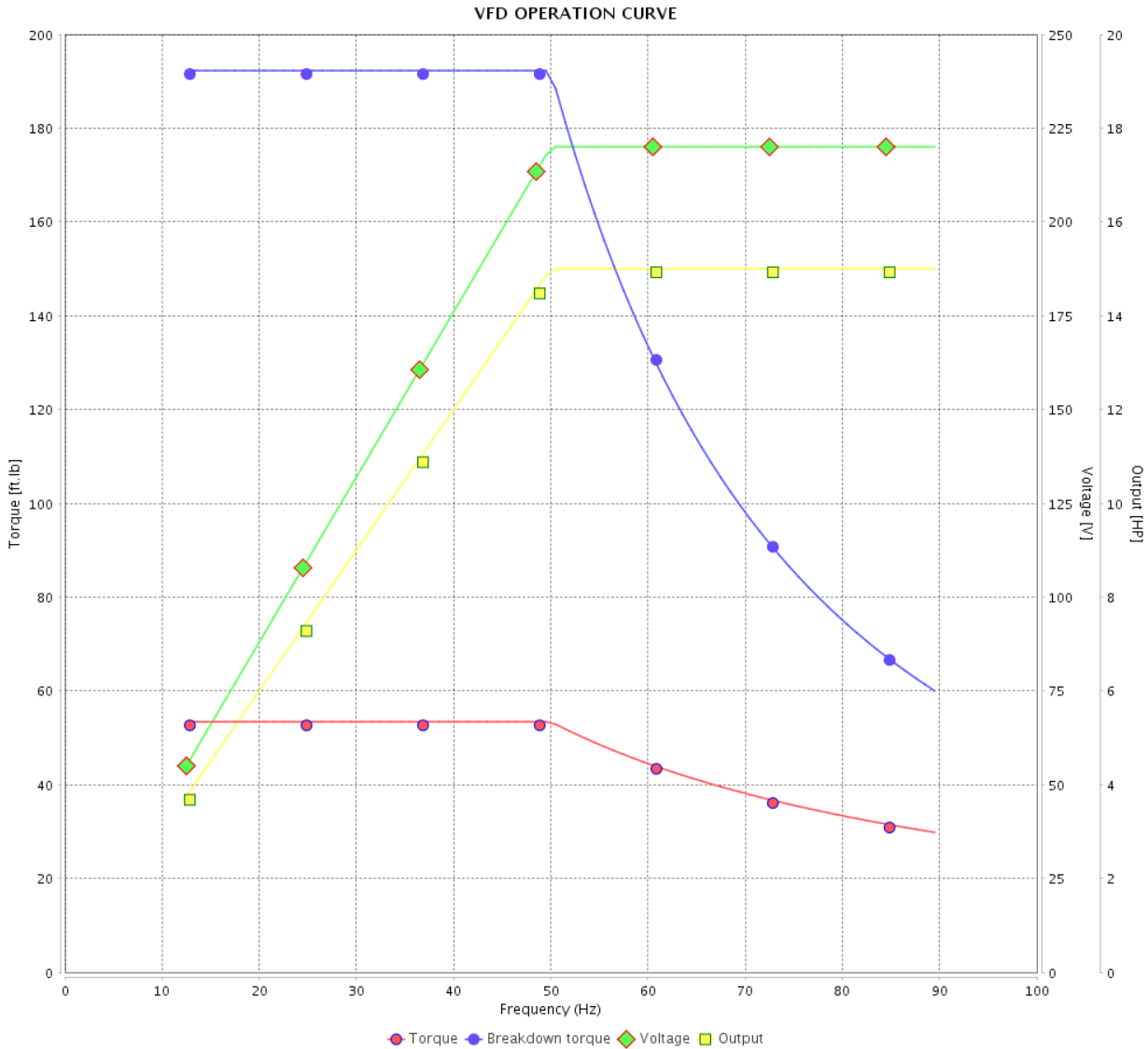


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 Duty cycle : Cont.(S1)
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 Service factor : 1.15
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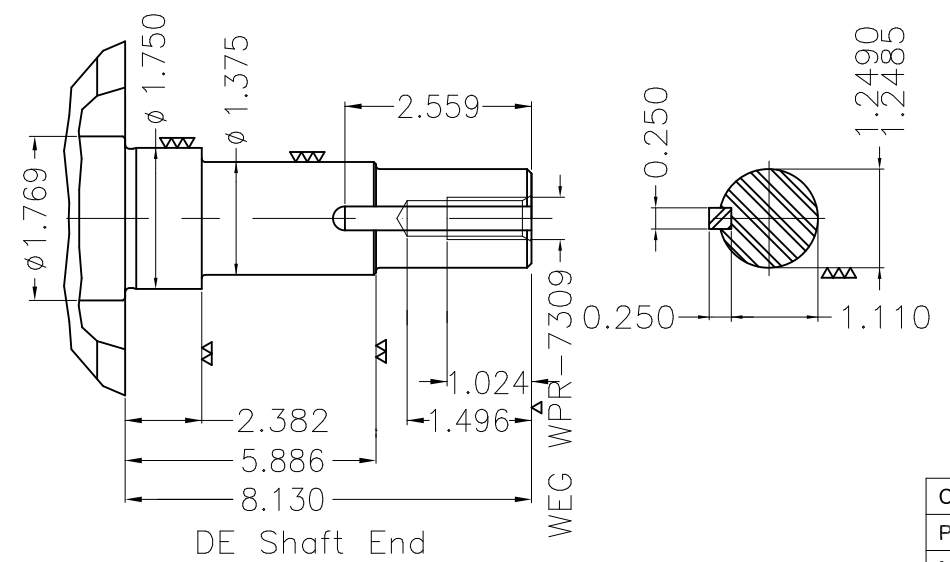
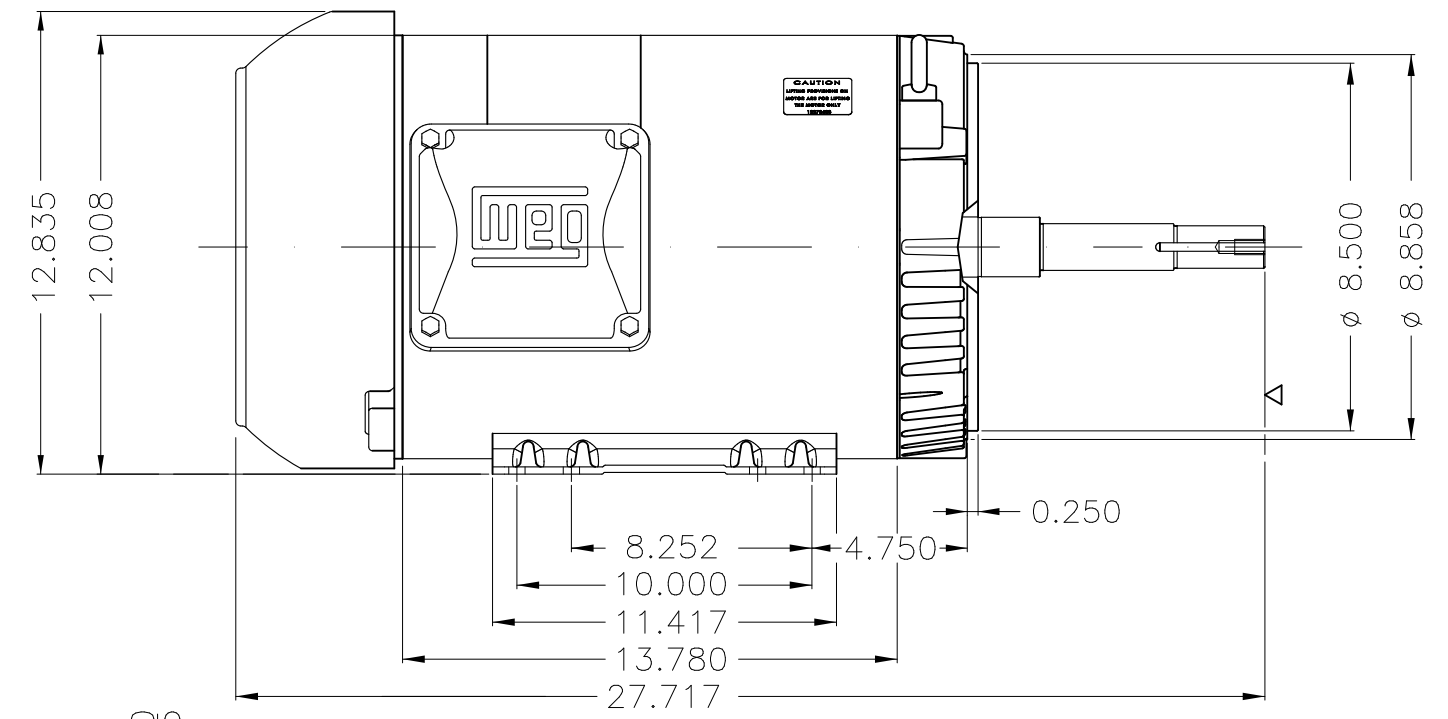
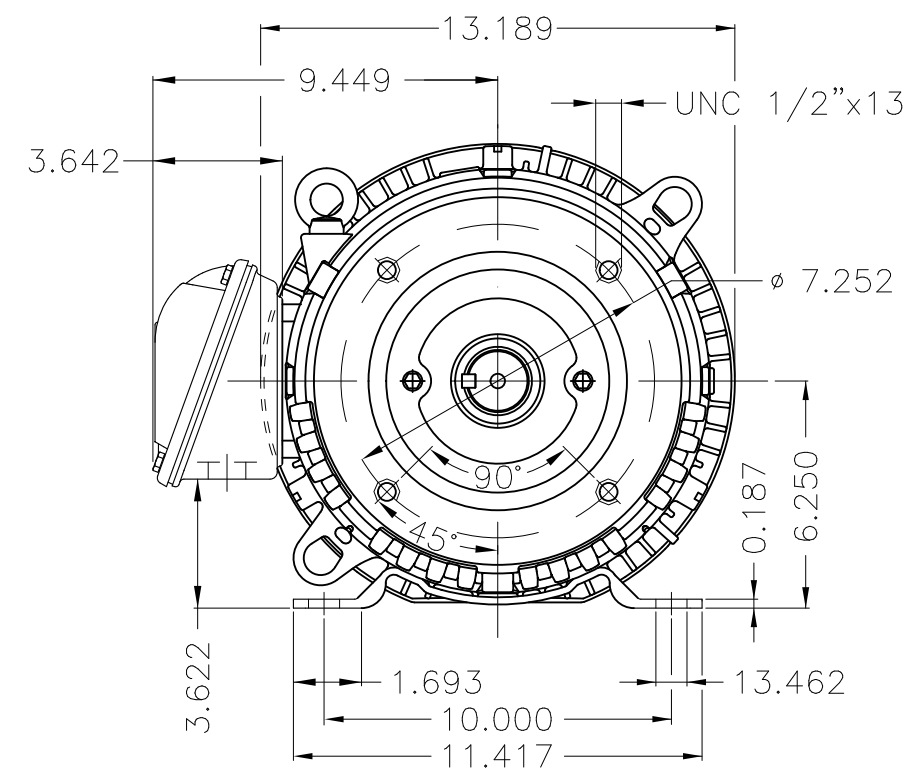
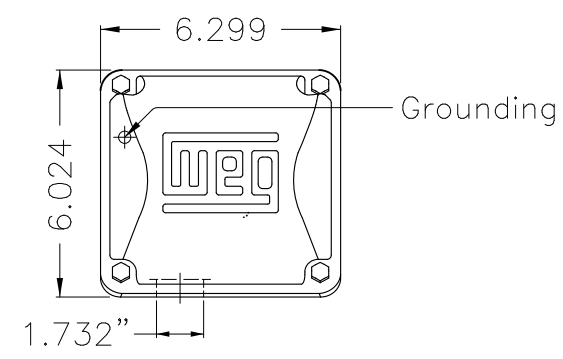
A

B

C

D

E



EUNC 1/2"-13 WEG WPR-7309

DE Shaft End

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 | PIRWBUSER | THREE PH. MOTOR ROLLED STEEL CLOSE COUPLED PUMP JP 254/6P IP55 TEFC | | | | | |
| CHECKED | | FRAME 254/6JP IP55 TEFC | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | Jaragua do Sul | Product Engineering | WDD | | | |

20 HP 04 Poles 60 Hz

REL DT. WMO Jaragua do Sul Product Engineering SHEET 1 / 1



Dimensions in inches XME A3



NEMA
Premium



MADE IN MEXICO

MAT: 13507670 CC029A

W01.TE0IC0X0N

MODEL 02018ET3E256JP-S

10SEP2021 S/N:

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

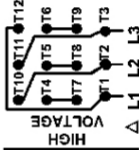
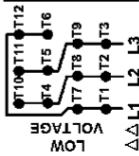
CT 2:1/VT 1000:1

| | | |
|---------------------|--------|------------------------|
| PH 3 | Hz 60 | HP 20 |
| FR 254/6.JP | | KW 15 |
| DUTY CONT. | | V 230/460 |
| ALT 1000 m.a.s.l. | | A 49.4/24.7 |
| INS CL F AT 80K | IP55 | SFA 56.8/28.4 |
| AMB 40°C | DES B | SF 1.15 |
| ENCL TEFC | CODE H | PF 0.82 |
| USABLE @ 208V 54.8A | | RPM 1765 |
| SF1.00 | | NEMA NOM. EFF 93.0% |

| | | | |
|------------------------|---------|------------------|-------------|
| ALTERNATE RATING: 15HP | 50Hz | 190-220/380-415V | SF1.15 |
| 44.4-40.7/22.2-21.6A | 1470RPM | EFF 91.8% (IE3) | IEC 60034-1 |

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

| | | | |
|--------------|---------------|------------------|---------|
| DE 6309-Z-C3 | ODE 6208-Z-C3 | MOBIL POLYREX EM | 200000h |
|--------------|---------------|------------------|---------|



T1-BLU T2-WHT
T3-ORG T4-YEL
T5-BLK T6-GRY
T7-PNK T8-RED
T9-BRK RED
T10-CURRY
T11-GRN T12-VLT

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.

