

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | |
|--|---|--|---------------------|----------|
| Customer : | | | | |
| Product line | : NEMA Premium Efficiency Three-Phase | Product code : | 12628876 | |
| | | Catalog # : | 002180T3E145T-S | |
| Frame | : 143/5T | Cooling method | : IC01 - ODP | |
| 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 | : 40.2 lb | |
| Design | : B | Moment of inertia (J) | : 0.1168 sq.ft.lb | |
| Output [HP] | 2 | 2 | 2 | |
| Poles | 4 | 4 | 4 | |
| Frequency [Hz] | 60 | 50 | 50 | |
| Rated voltage [V] | 230/460 | 190/380 | 220/415 | |
| Rated current [A] | 5.38/2.69 | 6.52/3.26 | 5.90/3.13 | |
| L. R. Amperes [A] | 41.4/20.7 | 36.5/18.3 | 36.6/19.4 | |
| LRC [A] | 7.7x(Code K) | 5.6x(Code G) | 6.2x(Code H) | |
| No load current [A] | 2.75/1.38 | 2.70/1.35 | 2.82/1.49 | |
| Rated speed [RPM] | 1740 | 1410 | 1420 | |
| Slip [%] | 3.33 | 6.00 | 5.33 | |
| Rated torque [ft.lb] | 6.04 | 7.45 | 7.40 | |
| Locked rotor torque [%] | 260 | 200 | 220 | |
| Breakdown torque [%] | 320 | 229 | 260 | |
| Service factor | | 1.00 | 1.00 | |
| Temperature rise | 80 K | 105 K | 80 K | |
| Locked rotor time | 30s (cold) 17s (hot) | 0s (cold) 0s (hot) | 0s (cold) 0s (hot) | |
| Noise level ² | 52.0 dB(A) | 49.0 dB(A) | 49.0 dB(A) | |
| Efficiency (%) | 25% | 85.2 | 86.4 | |
| | 50% | 85.5 | 85.2 | |
| | 75% | 86.5 | 85.2 | |
| | 100% | 86.5 | 83.4 | |
| Power Factor | 25% | 0.36 | 0.38 | |
| | 50% | 0.61 | 0.64 | |
| | 75% | 0.74 | 0.77 | |
| | 100% | 0.81 | 0.83 | |
| Bearing type | : <u>Drive end</u> 6205 ZZ <u>Non drive end</u> 6203 ZZ | Foundation loads | | |
| Sealing | : Without Without Bearing Seal Bearing Seal | Max. traction | : 147 lb | |
| | | Max. compression | : 187 lb | |
| Lubrication interval | : - - | | | |
| Lubricant amount | : - - | | | |
| Lubricant type | : Mobil Polyrex EM | | | |
| Notes USABLE @208V 5.95A SF 1.00 SFA 5.95A | | | | |
| 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 | 14/04/2022 | | 1 / 16 | |

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



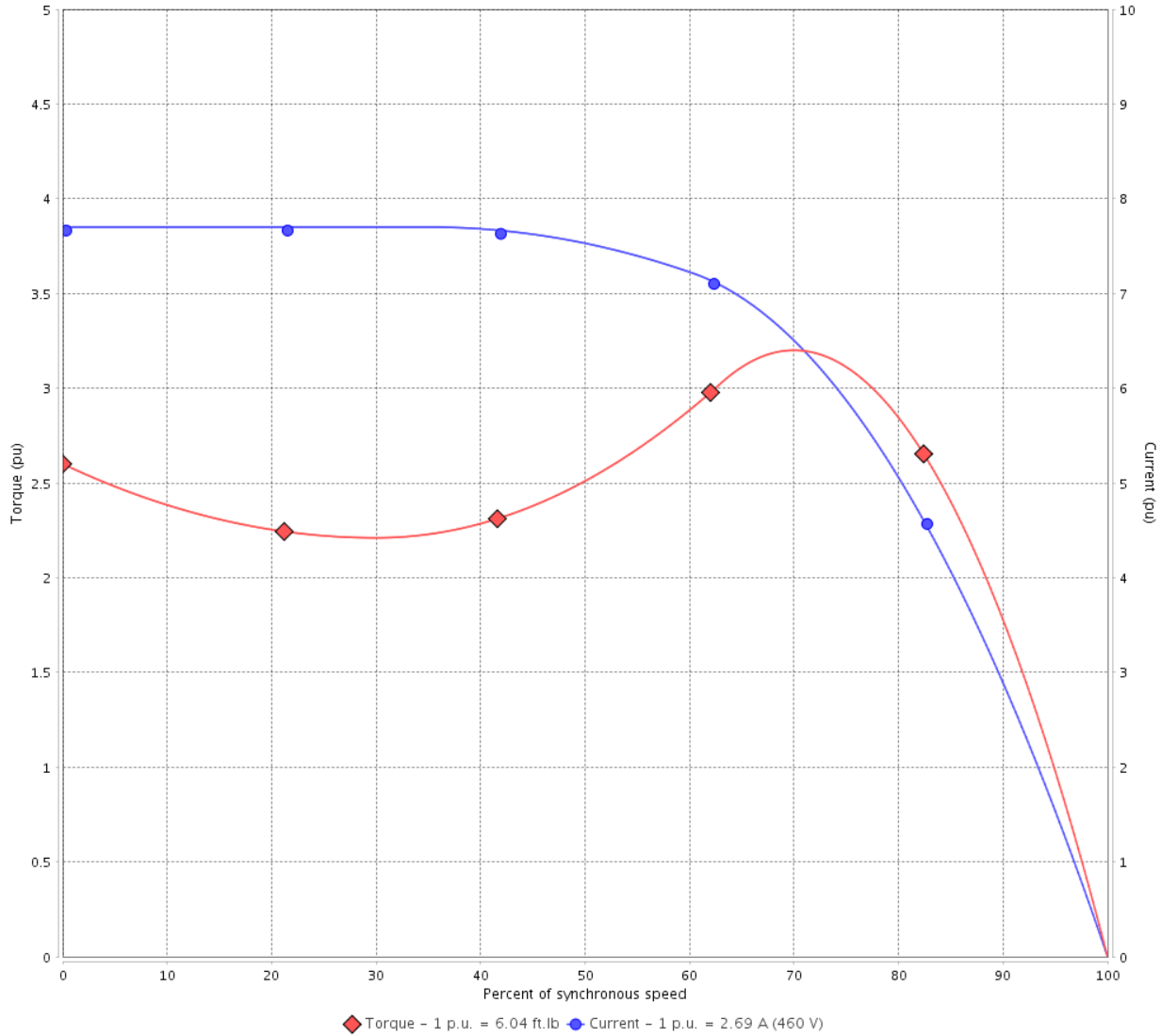
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12628876

Catalog # : 002180T3E145T-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 5.38/2.69 A
 LRC : 7.7
 Rated torque : 6.04 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 320 %
 Rated speed : 1740 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor :
 Temperature rise : 80 K
 Design : B

Locked rotor time : 30s (cold) 17s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



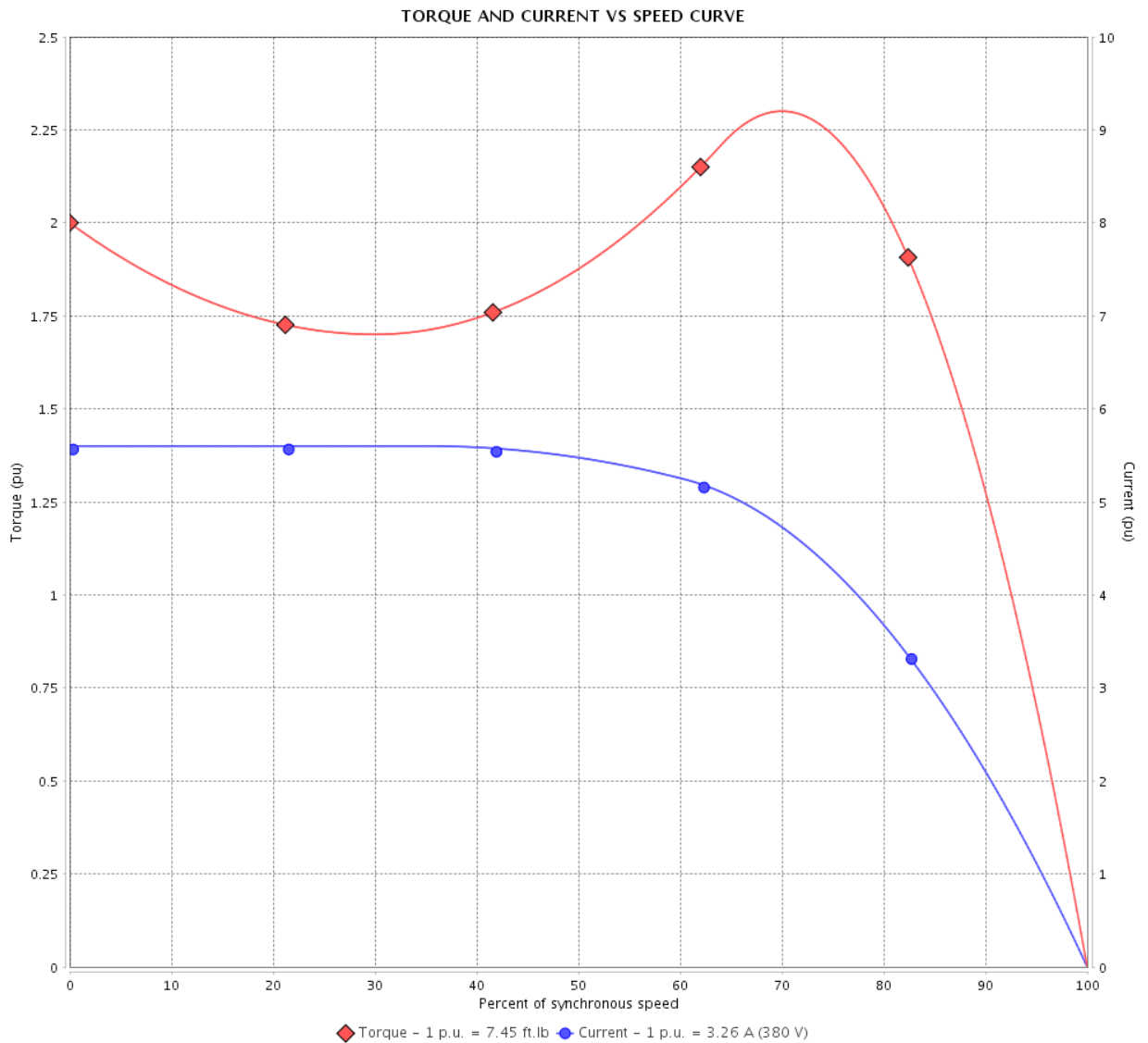
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12628876

Catalog # : 002180T3E145T-S



Performance : 190/380 V 50 Hz 4P

Rated current : 6.52/3.26 A
 LRC : 5.6
 Rated torque : 7.45 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 229 %
 Rated speed : 1410 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 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



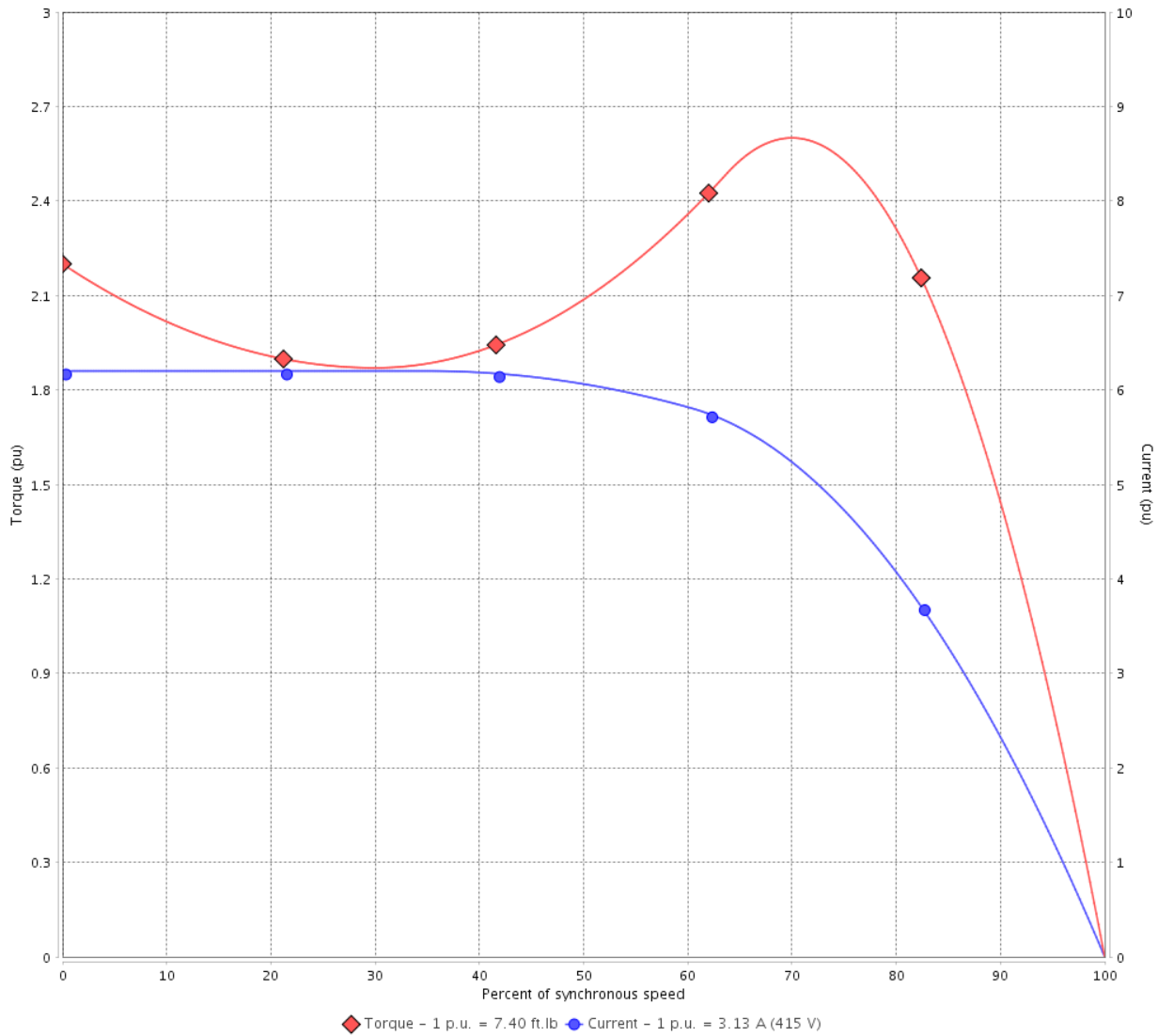
Customer :

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Product code : 12628876

Catalog # : 002180T3E145T-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

| | | | |
|---------------------|---------------|-----------------------|-------------------|
| Rated current | : 5.90/3.13 A | Moment of inertia (J) | : 0.1168 sq.ft.lb |
| LRC | : 6.2 | Duty cycle | : Cont.(S1) |
| Rated torque | : 7.40 ft.lb | Insulation class | : F |
| Locked rotor torque | : 220 % | Service factor | : 1.00 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 1420 rpm | Design | : B |

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

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

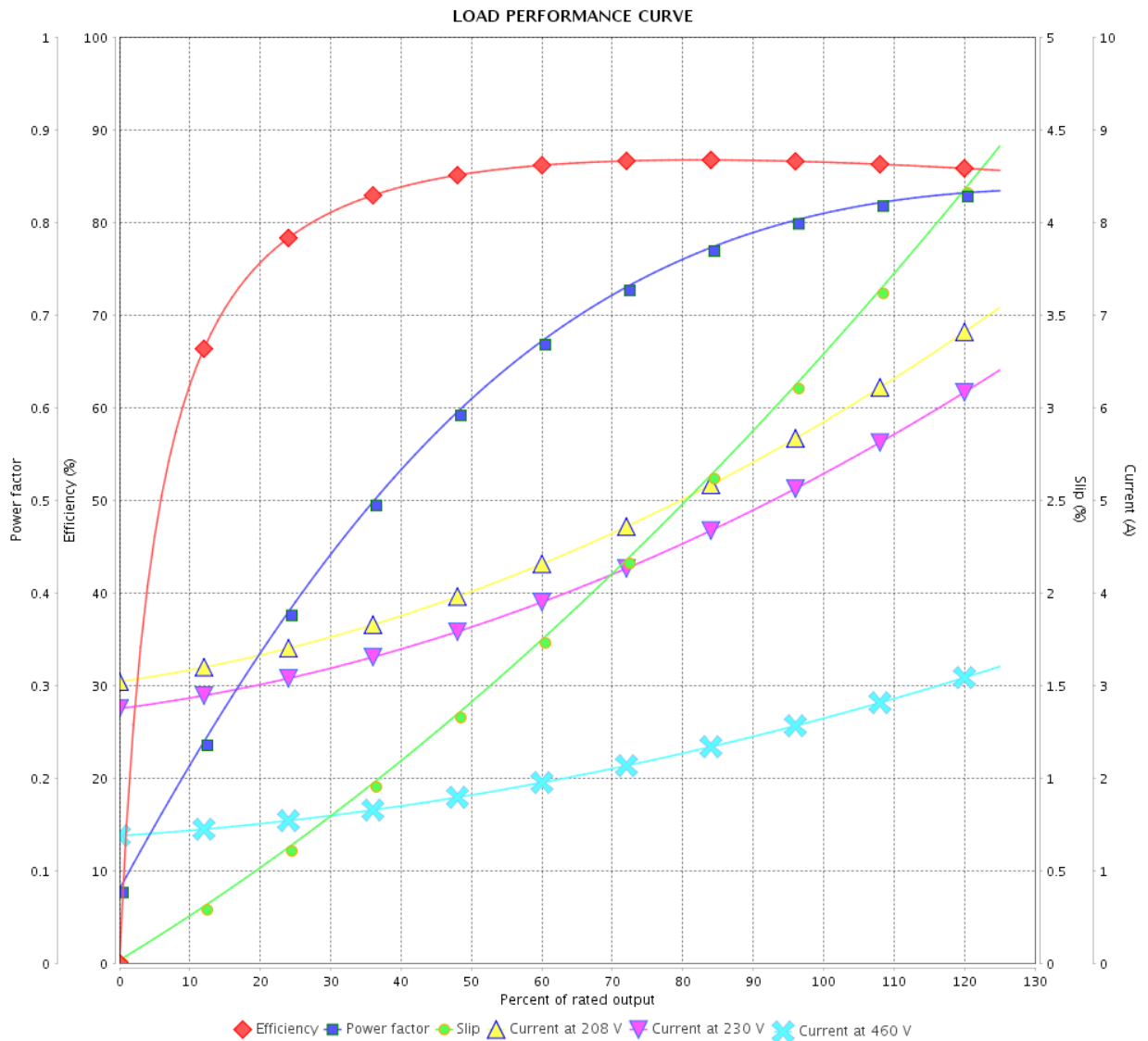


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Catalog # : 002180T3E145T-S



Performance : 230/460 V 60 Hz 4P

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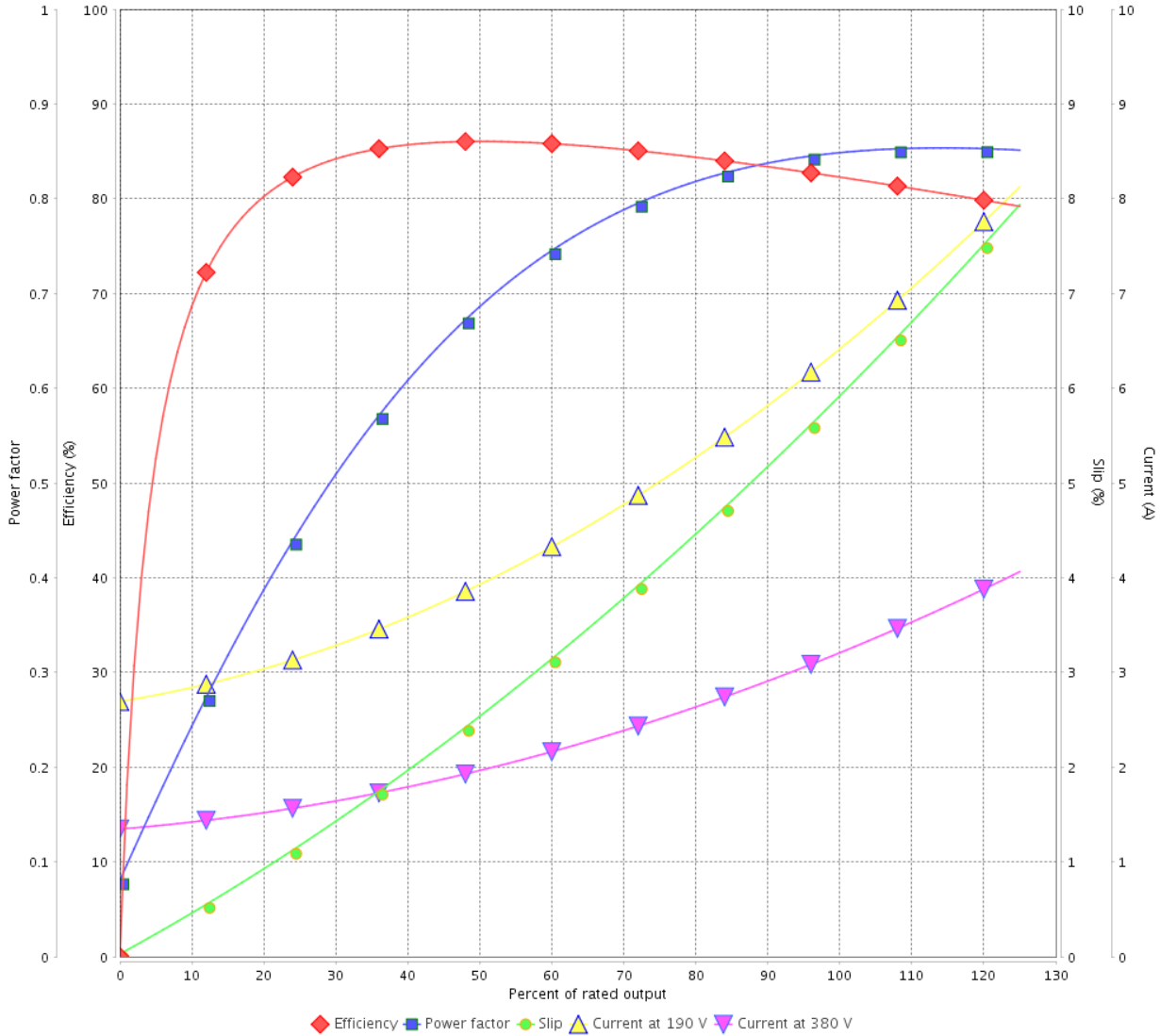
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LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 4P

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 Rated speed : 1410 rpm

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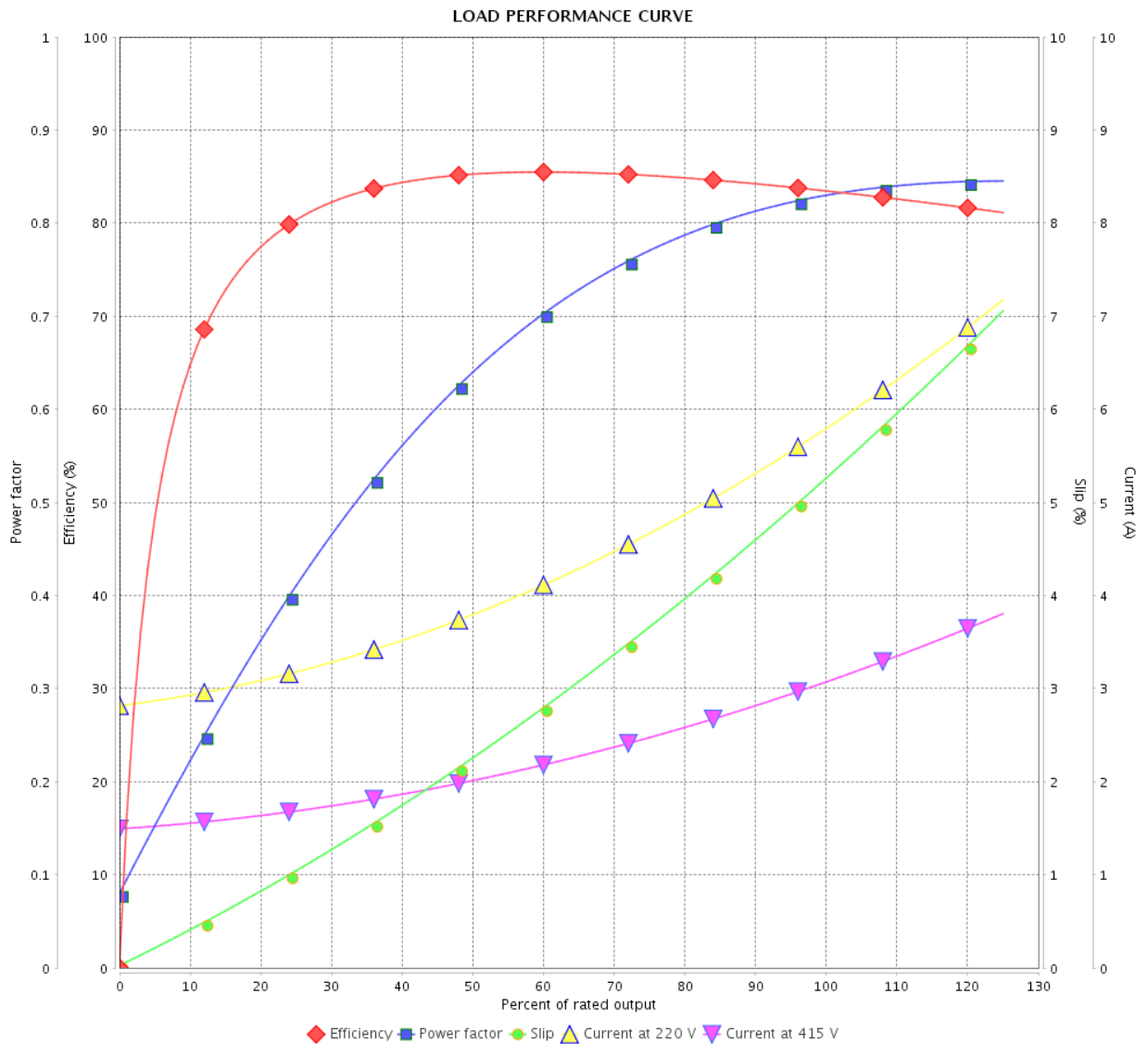


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 Rated torque : 7.40 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 260 %
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 12628876
 Catalog # : 00218OT3E145T-S

Performance : 230/460 V 60 Hz 4P

| | |
|-----------------------------|---|
| Rated current : 5.38/2.69 A | Moment of inertia (J) : 0.1168 sq.ft.lb |
| LRC : 7.7 | Duty cycle : Cont.(S1) |
| Rated torque : 6.04 ft.lb | Insulation class : F |
| Locked rotor torque : 260 % | Service factor : |
| Breakdown torque : 320 % | Temperature rise : 80 K |
| Rated speed : 1740 rpm | Design : B |

Heating constant

Cooling constant

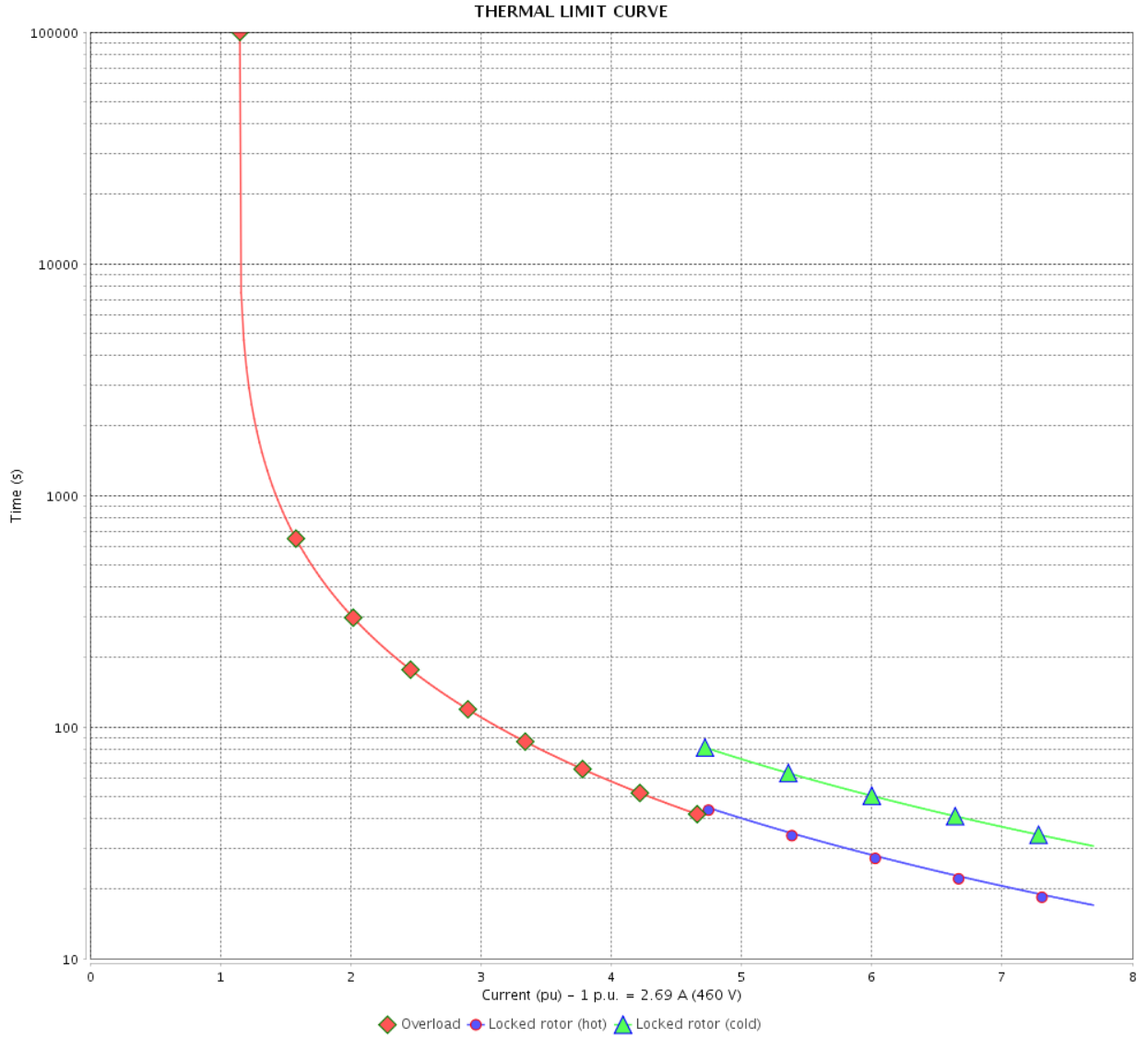
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| LRC | : 5.6 | Duty cycle | : Cont.(S1) |
| Rated torque | : 7.45 ft.lb | Insulation class | : F |
| Locked rotor torque | : 200 % | Service factor | : 1.00 |
| Breakdown torque | : 229 % | Temperature rise | : 105 K |
| Rated speed | : 1410 rpm | Design | : B |

Heating constant

Cooling constant

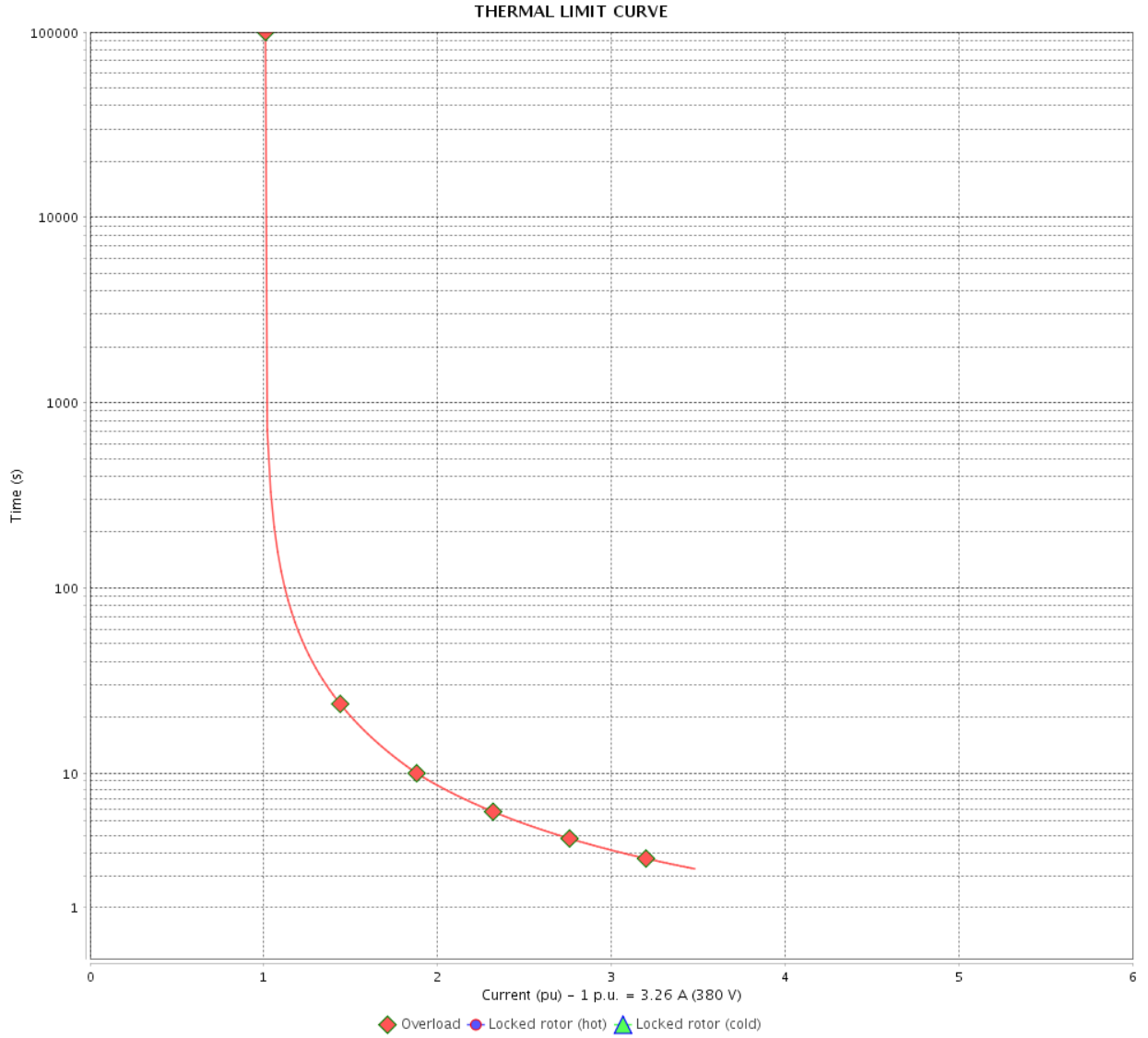
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| Rated current | : 5.90/3.13 A | Moment of inertia (J) | : 0.1168 sq.ft.lb |
| LRC | : 6.2 | Duty cycle | : Cont.(S1) |
| Rated torque | : 7.40 ft.lb | Insulation class | : F |
| Locked rotor torque | : 220 % | Service factor | : 1.00 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 1420 rpm | Design | : B |

Heating constant

Cooling constant

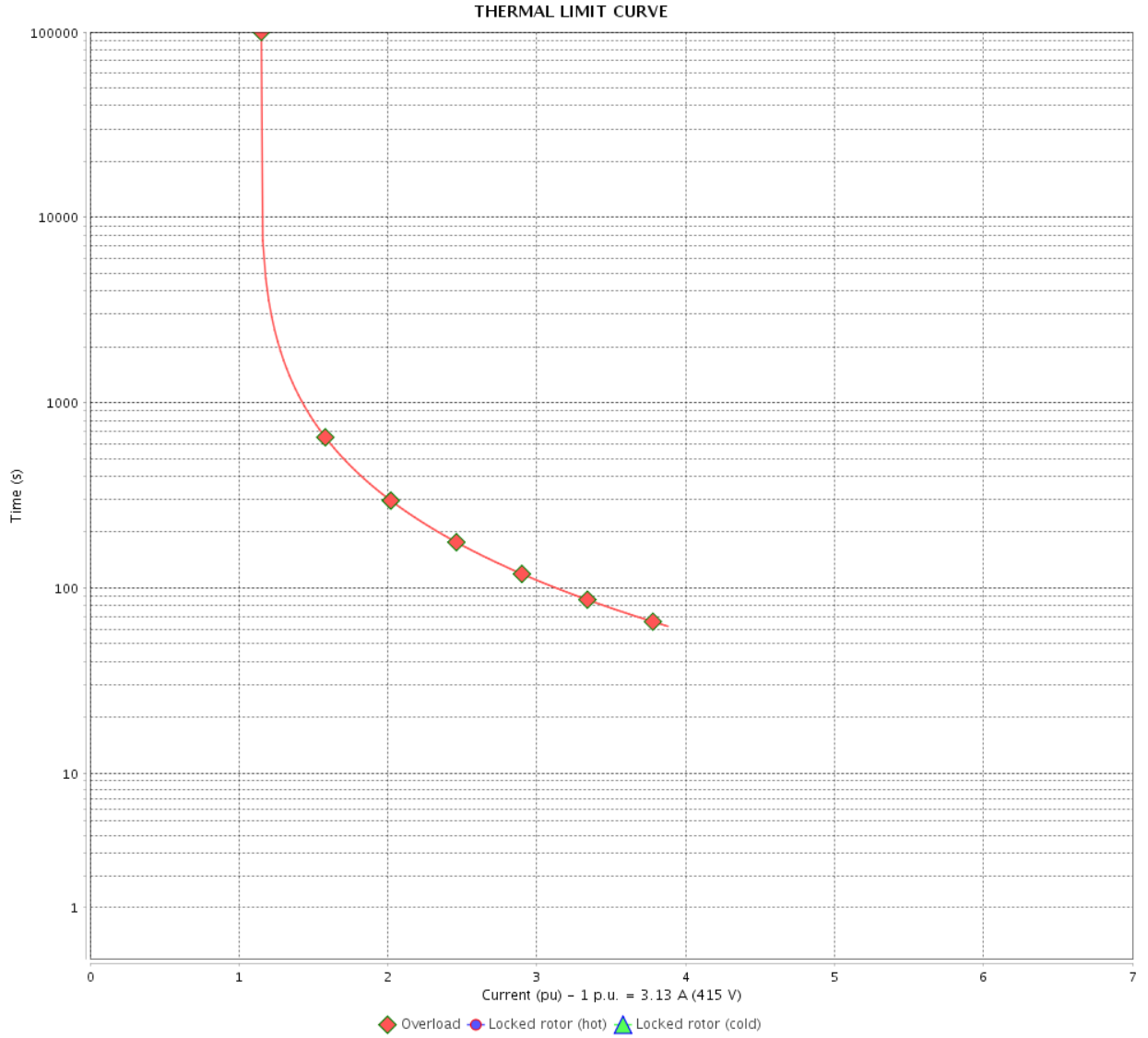
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THERMAL LIMIT CURVE

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

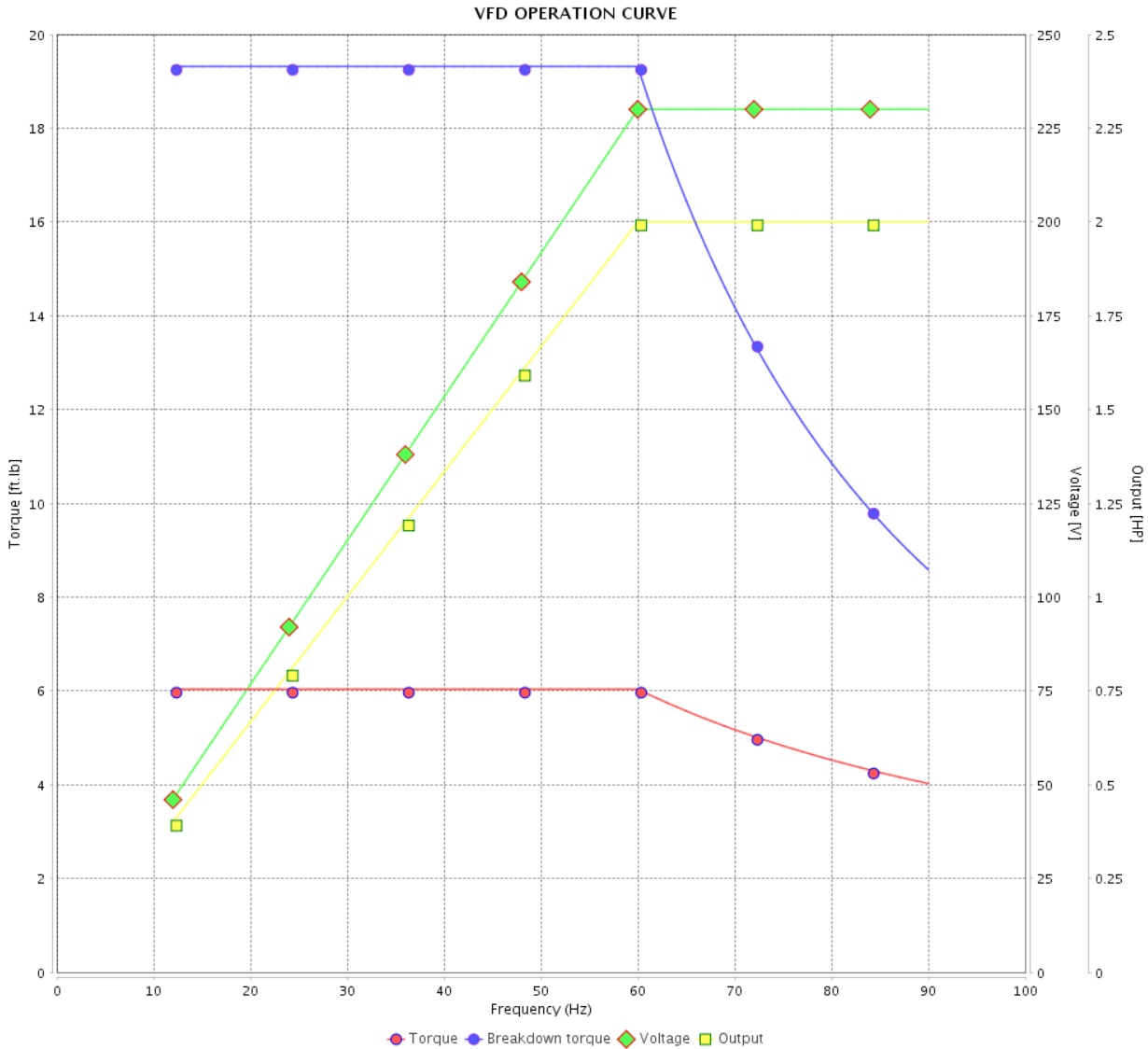


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Product code : 12628876

Catalog # : 002180T3E145T-S



Performance : 230/460 V 60 Hz 4P

Rated current : 5.38/2.69 A
 LRC : 7.7
 Rated torque : 6.04 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 320 %
 Rated speed : 1740 rpm

Moment of inertia (J) : 0.1168 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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VFD OPERATION CURVE

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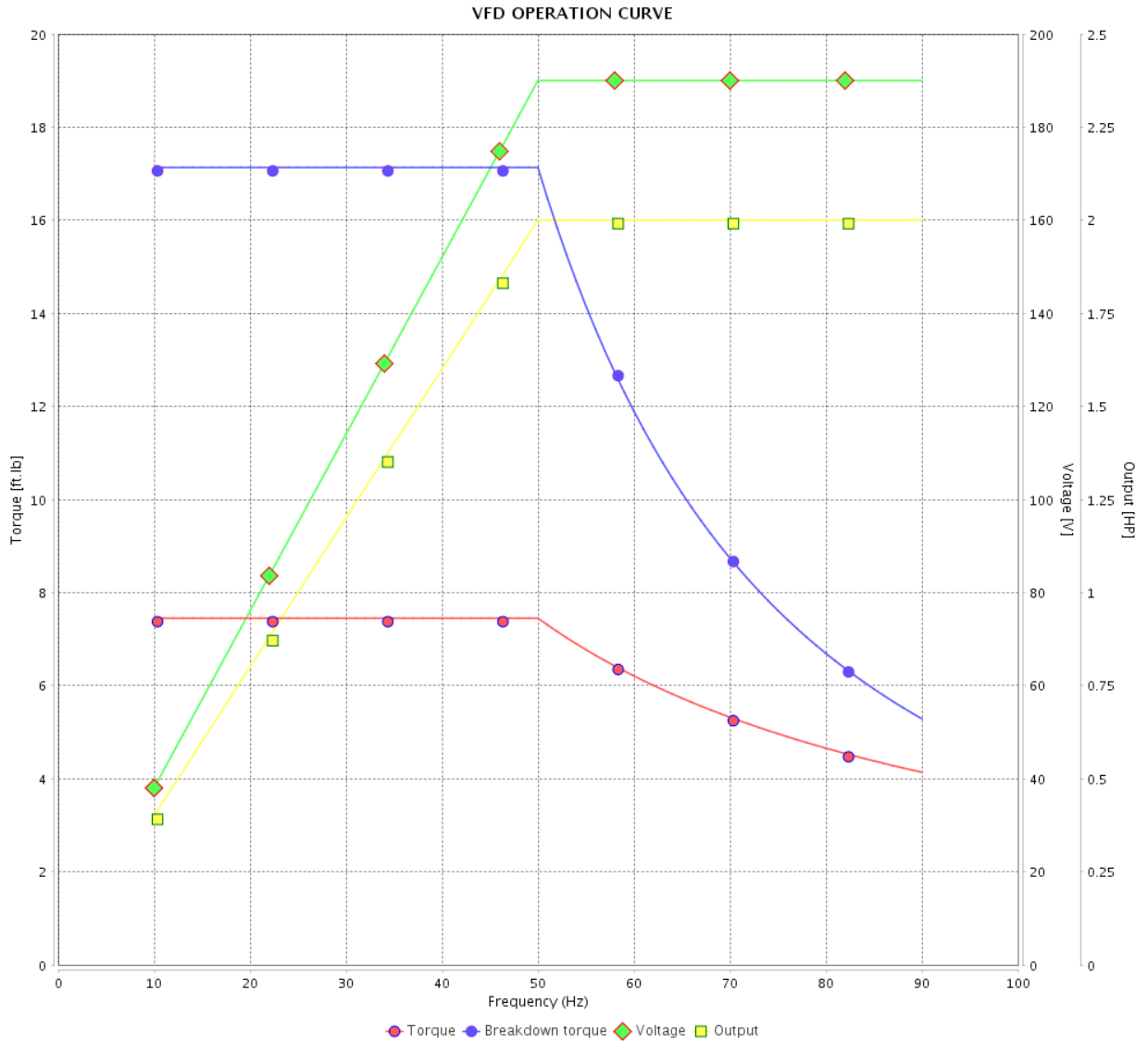


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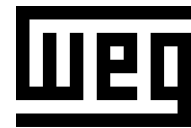
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 Insulation class : F
 Service factor : 1.00
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 Design : B

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VFD OPERATION CURVE

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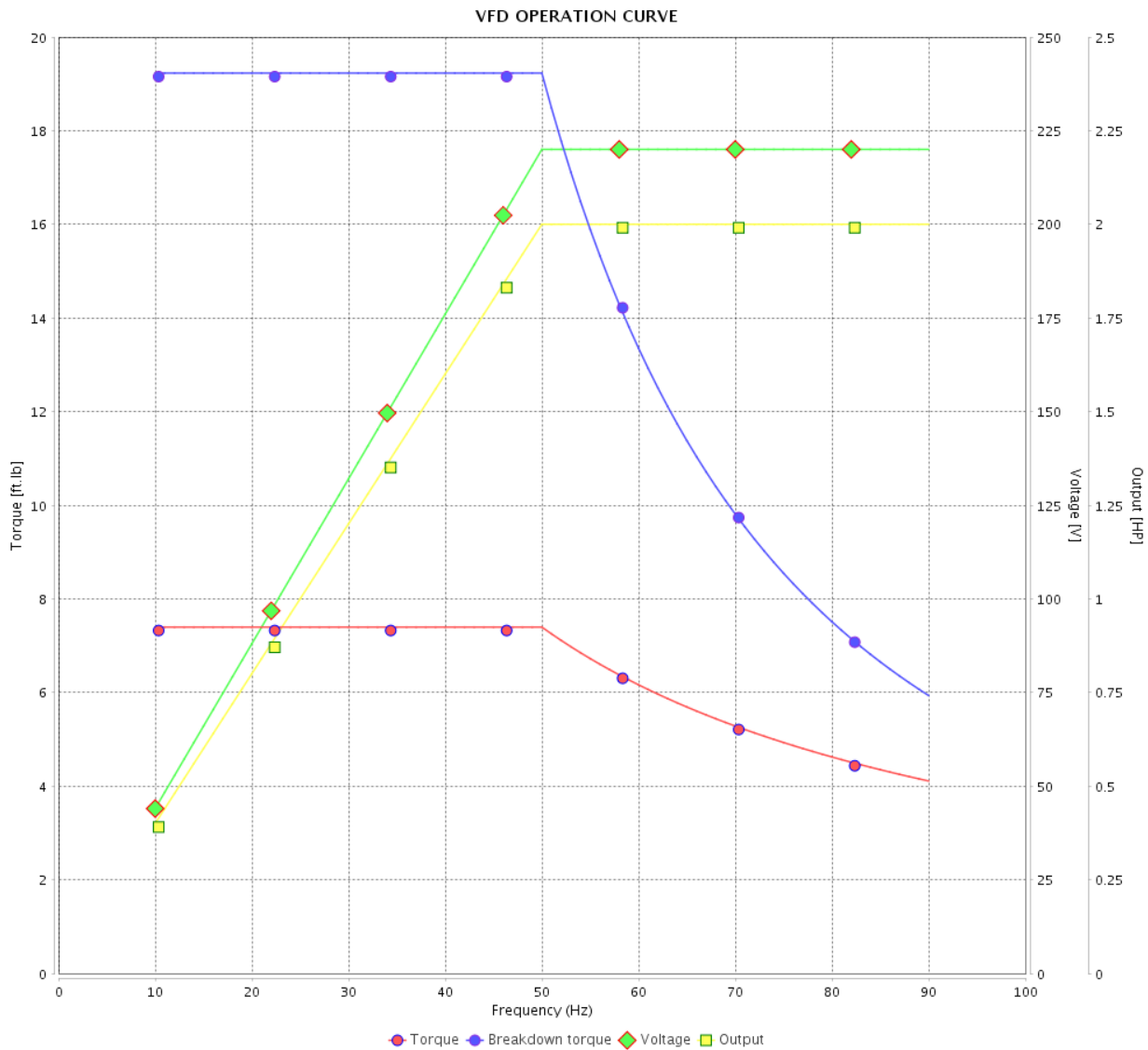


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12628876

Catalog # : 002180T3E145T-S



Performance : 220/415 V 50 Hz 4P

Rated current : 5.90/3.13 A
 LRC : 6.2
 Rated torque : 7.40 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 260 %
 Rated speed : 1420 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
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 Design : B

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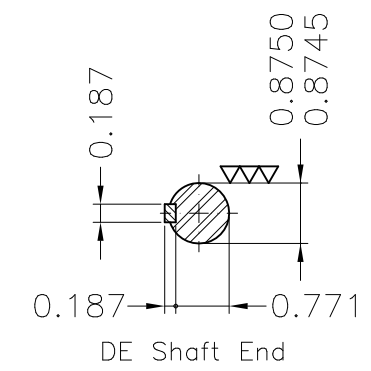
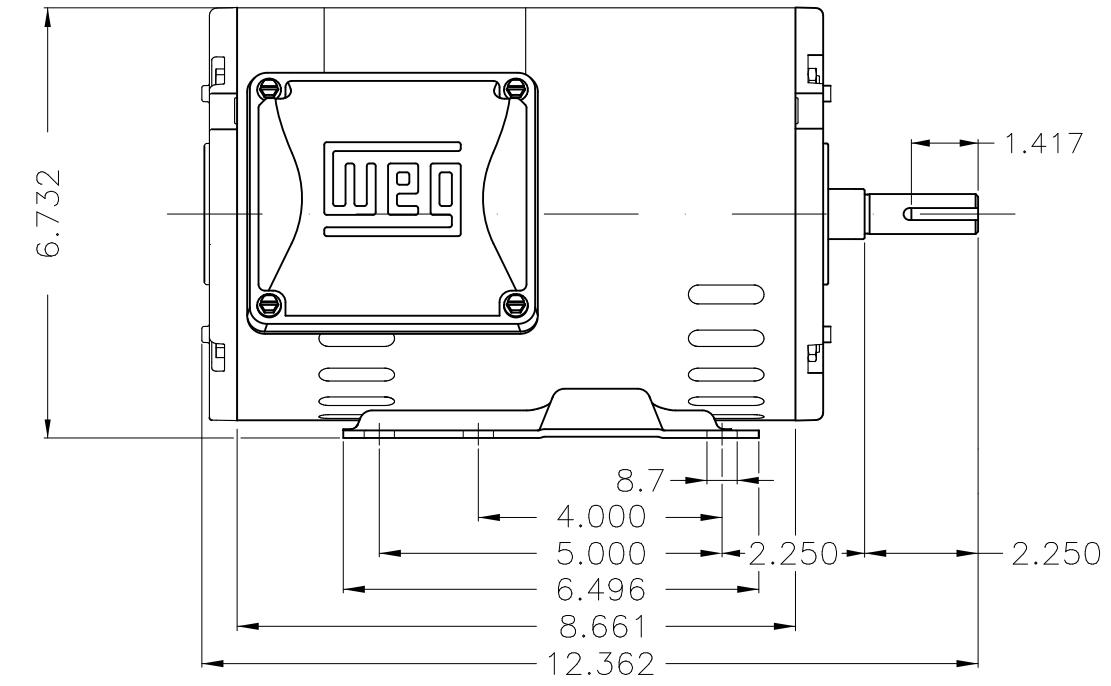
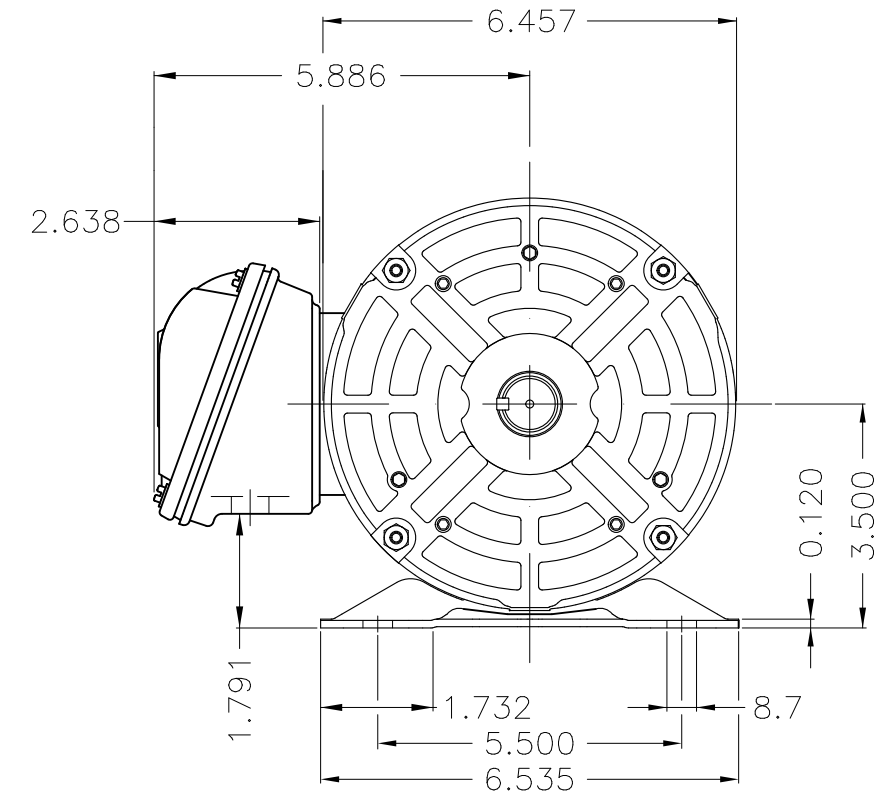
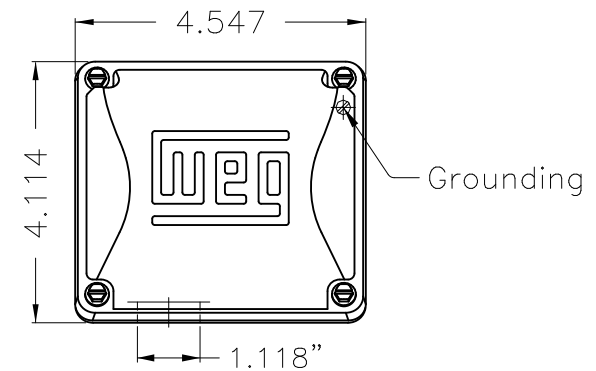
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B

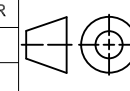
C

D

E



Color Munsell N 1 matte black
 Painting plan 207N
 Mounting F-1/B3R(D)

| ECM | LOC | SUMMARY OF MODIFICATIONS | EXECUTED | CHECKED | RELEASED | DATE | VER |
|----------|-----------|--|---------------------|---------|----------|------|-----|
| EXECUTED | PIRWBUSER |  THREE PH. MOTOR ROLLED STEEL PREM. EFF. FRAME 143/5T IP21 ODP | | | | | |
| CHECKED | | | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | Jaragua do Sul | Product Engineering | SHEET | 1 / 1 | | |

2 HP 04 Poles 60 Hz

A

PREVIEW
WDD



Dimensions in inches XME A3

**NEMA
Premium**

MADE IN BRAZIL

MAT: 12628876 CC029A
W01.T00IC0X0N
MODEL 002180T3E145T-S
12APR2022 B/N:

| | | |
|----------------------------|---------------|--------------------------------|
| PH 3 | Hz 60 | HP 2.0 |
| FR 143/5T | | KW 1.5 |
| DUTY CONT. | | V 230/460 |
| ALT 1000 m.a.s.l. | | A 5.38/2.69 |
| INS CL F AT 80K | | SFA 6.19/3.09 |
| AMB 40°C | DES B | SF 1.15 |
| ENCL ODP | CODE K | PF 0.81 |
| USABLE @ 208V 5.95A | | RPM 1740 |
| SF1.00 | | NEMA NOM. EFF 86.5% |

ALTERNATE RATING: 2.0HP 50Hz 190-220/380-415V SF1.00
6.52-5.79/3.26-3.07A 1410RPM EFF 82.2% (IE1) IEC 60034-1

Inverter duty motor For 80Hz use on VPWM 1000:1 VT, 5:1 CT

| | | |
|-------------------|--------------------|-------------------------|
| DE 6205-ZZ | ODE 6203-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.

