

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | | |
|--|----------------------|---------------------------------------|--|---------------------------|----------|
| Customer : | | | | | |
| Product line | | : NEMA Premium Efficiency Three-Phase | Product code : | 12822413 | |
| | | | Catalog # : | 00318ST3QIER182TC-W2 | |
| Frame | | : 182TC | Cooling method | : IC411 - TEFC | |
| Insulation class | | : F | Mounting | : W-6 | |
| 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 | : 105 lb | |
| Protection degree | | : IP55 | Moment of inertia (J) | : 0.3401 sq.ft.lb | |
| Design | | : B | | | |
| Output [HP] | 3 | 3 | 3 | 3 | |
| Poles | 4 | 4 | 4 | 4 | |
| Frequency [Hz] | 60 | 50 | 50 | 50 | |
| Rated voltage [V] | 460 | 380 | 400 | 415 | |
| Rated current [A] | 3.91 | 4.60 | 4.48 | 4.43 | |
| L. R. Amperes [A] | 31.7 | 29.0 | 31.4 | 33.2 | |
| LRC [A] | 8.1x(Code K) | 6.3x(Code H) | 7.0x(Code J) | 7.5x(Code J) | |
| No load current [A] | 2.00 | 2.00 | 2.15 | 2.25 | |
| Rated speed [RPM] | 1760 | 1445 | 1450 | 1455 | |
| Slip [%] | 2.22 | 3.67 | 3.33 | 3.00 | |
| Rated torque [ft.lb] | 8.95 | 10.9 | 10.9 | 10.8 | |
| Locked rotor torque [%] | 229 | 180 | 210 | 240 | |
| Breakdown torque [%] | 340 | 260 | 290 | 320 | |
| Service factor | 1.25 | 1.25 | 1.25 | 1.25 | |
| Temperature rise | 80 K | 80 K | 80 K | 80 K | |
| Locked rotor time | 41s (cold) 23s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | |
| Noise level ² | 56.0 dB(A) | 56.0 dB(A) | 56.0 dB(A) | 56.0 dB(A) | |
| Efficiency (%) | 25% | 86.4 | 87.2 | 87.3 | |
| | 50% | 87.5 | 87.5 | 87.5 | |
| | 75% | 88.5 | 87.5 | 87.5 | |
| | 100% | 89.5 | 87.5 | 87.5 | |
| Power Factor | 25% | 0.36 | 0.42 | 0.39 | |
| | 50% | 0.61 | 0.68 | 0.64 | |
| | 75% | 0.73 | 0.79 | 0.76 | |
| | 100% | 0.79 | 0.83 | 0.81 | |
| Bearing type | | Drive end : 6207 C3 | Non drive end : 6206 C3 | Foundation loads | |
| Sealing | | : Inpro/Seal | : Inpro/Seal | Max. traction : 169 lb | |
| Lubrication interval | | : 20000 h | : 20000 h | Max. compression : 274 lb | |
| Lubricant amount | | : 7 g | : 5 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. | | |
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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



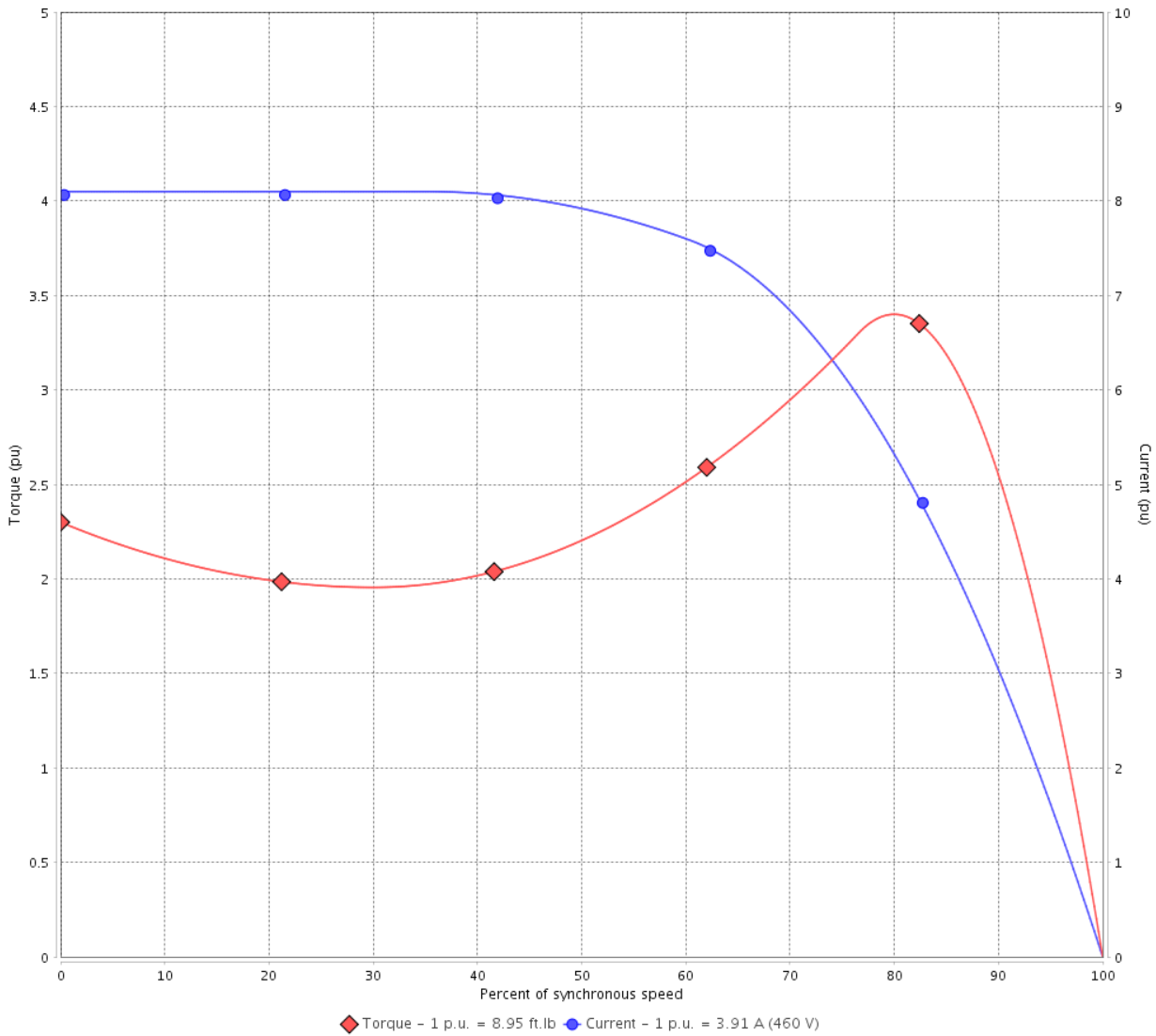
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12822413

Catalog # : 00318ST3QUIER182TC-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 3.91 A | Moment of inertia (J) | : 0.3401 sq.ft.lb |
| LRC | : 8.1 | Duty cycle | : Cont.(S1) |
| Rated torque | : 8.95 ft.lb | Insulation class | : F |
| Locked rotor torque | : 229 % | Service factor | : 1.25 |
| Breakdown torque | : 340 % | Temperature rise | : 80 K |
| Rated speed | : 1760 rpm | Design | : B |

Locked rotor time : 41s (cold) 23s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



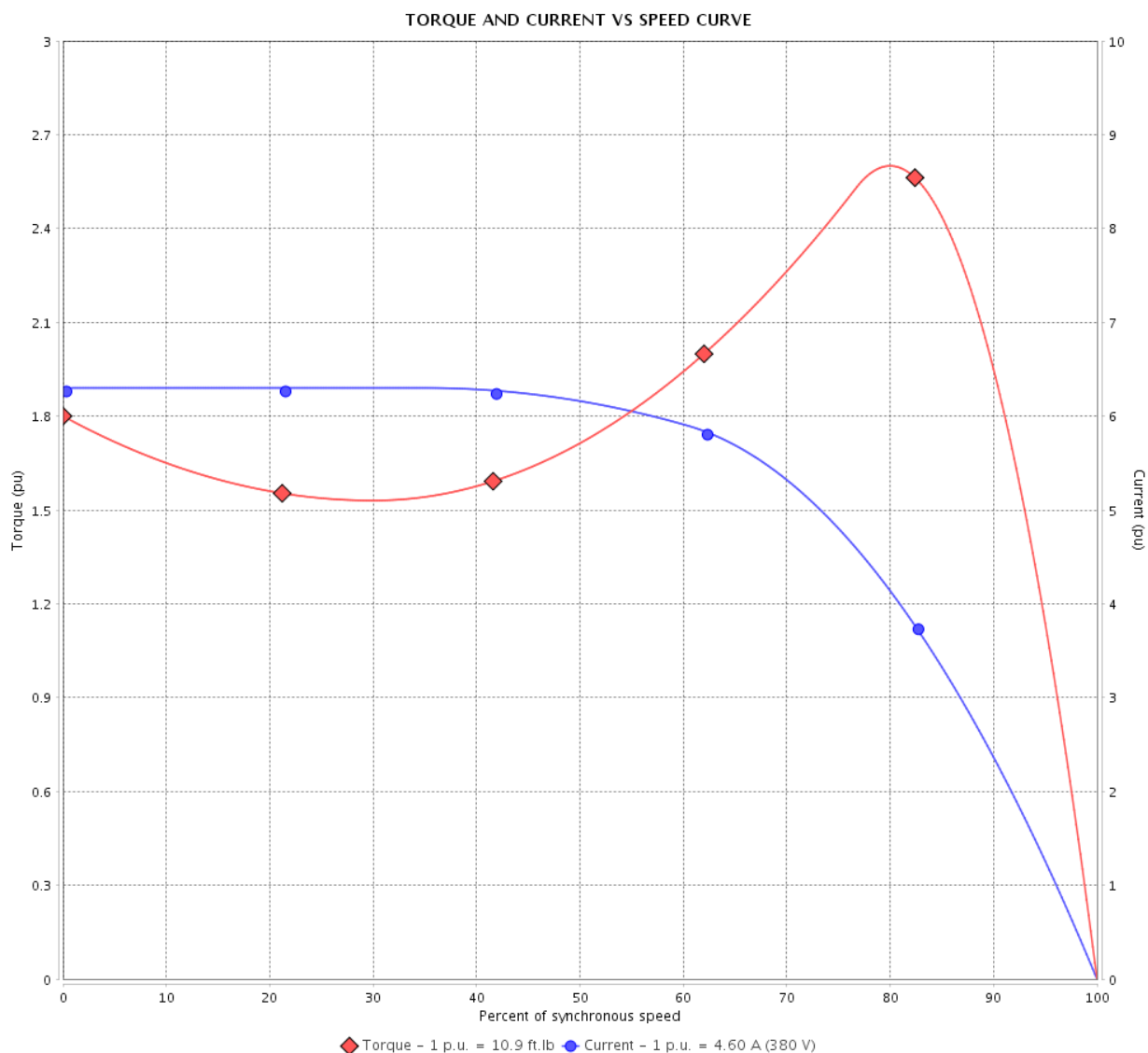
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12822413

Catalog # : 00318ST3QIER182TC-W2



Performance : 380 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 4.60 A | Moment of inertia (J) | : 0.3401 sq.ft.lb |
| LRC | : 6.3 | Duty cycle | : Cont.(S1) |
| Rated torque | : 10.9 ft.lb | Insulation class | : F |
| Locked rotor torque | : 180 % | Service factor | : 1.25 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 1445 rpm | Design | : B |

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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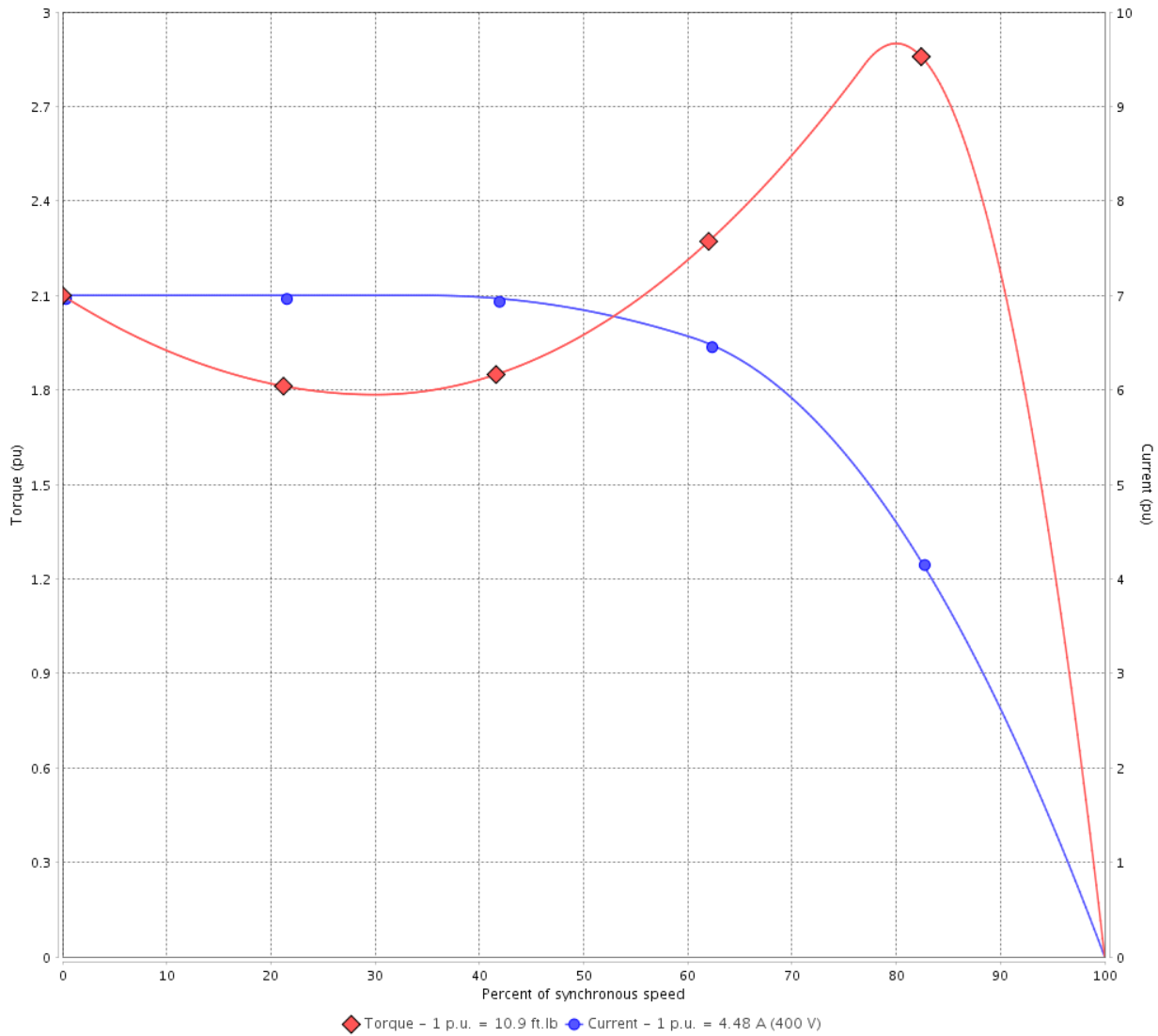
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Catalog # : 00318ST3QUIER182TC-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 4.48 A | Moment of inertia (J) | : 0.3401 sq.ft.lb |
| LRC | : 7.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 10.9 ft.lb | Insulation class | : F |
| Locked rotor torque | : 210 % | Service factor | : 1.25 |
| Breakdown torque | : 290 % | Temperature rise | : 80 K |
| Rated speed | : 1450 rpm | Design | : B |

Locked rotor time : 32s (cold) 18s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



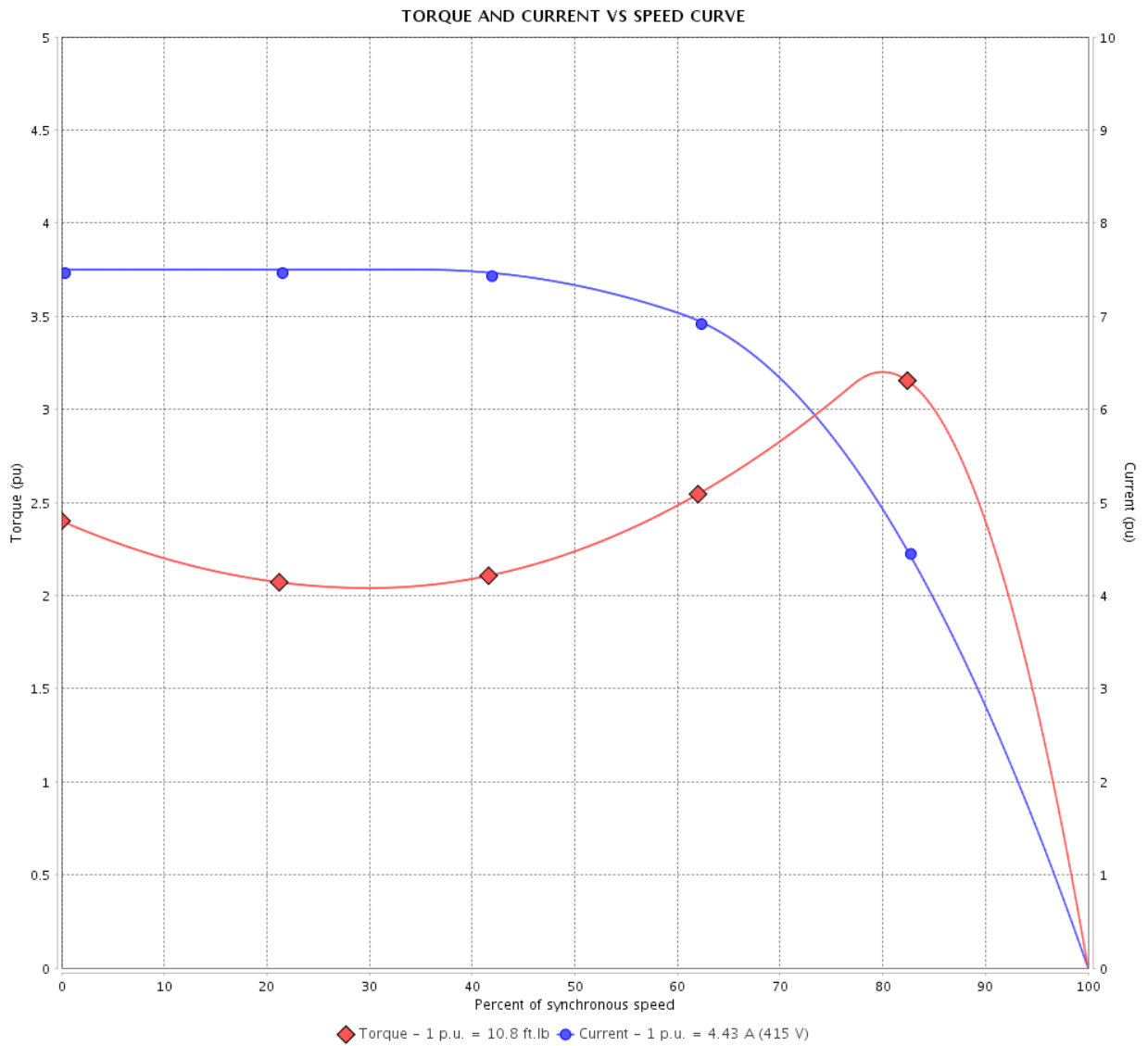
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Performance : 415 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 4.43 A | Moment of inertia (J) | : 0.3401 sq.ft.lb |
| LRC | : 7.5 | Duty cycle | : Cont.(S1) |
| Rated torque | : 10.8 ft.lb | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.25 |
| Breakdown torque | : 320 % | Temperature rise | : 80 K |
| Rated speed | : 1455 rpm | Design | : B |

Locked rotor time : 32s (cold) 18s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



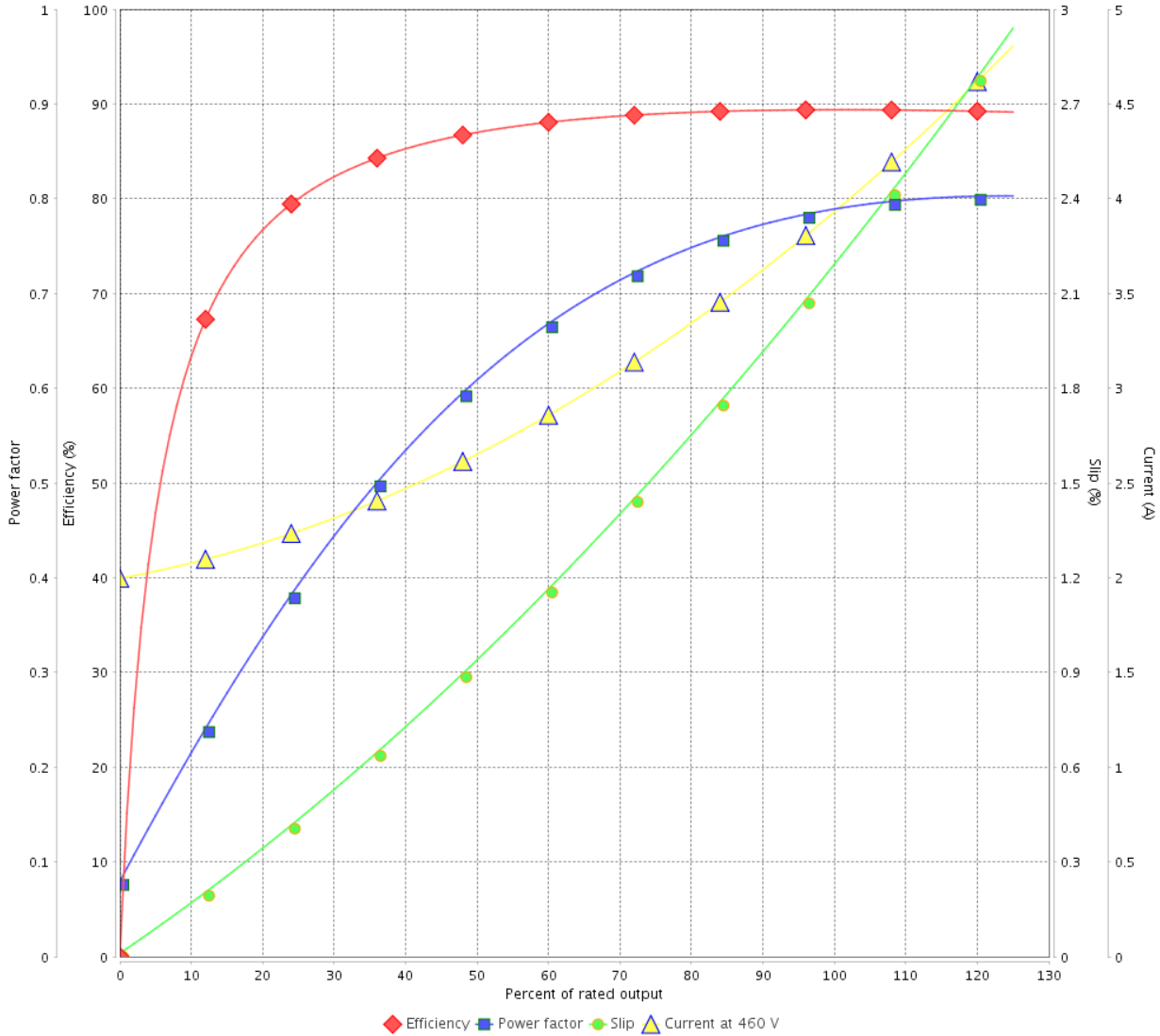
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LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 4P

Rated current : 3.91 A
 LRC : 8.1
 Rated torque : 8.95 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 340 %
 Rated speed : 1760 rpm

Moment of inertia (J) : 0.3401 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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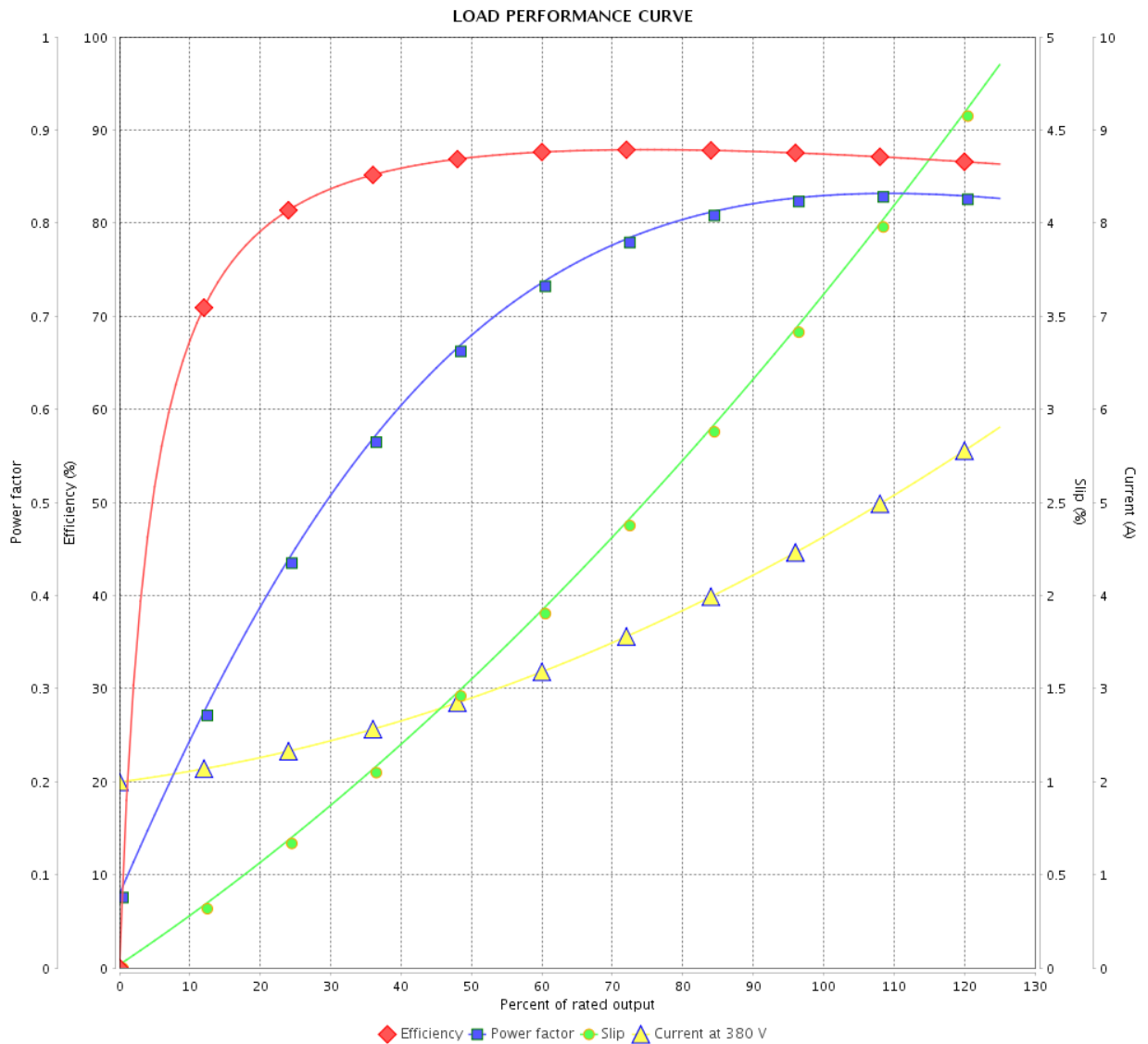


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Product code : 12822413

Catalog # : 00318ST3QIER182TC-W2



Performance : 380 V 50 Hz 4P IE3

Rated current : 4.60 A
 LRC : 6.3
 Rated torque : 10.9 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 260 %
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.3401 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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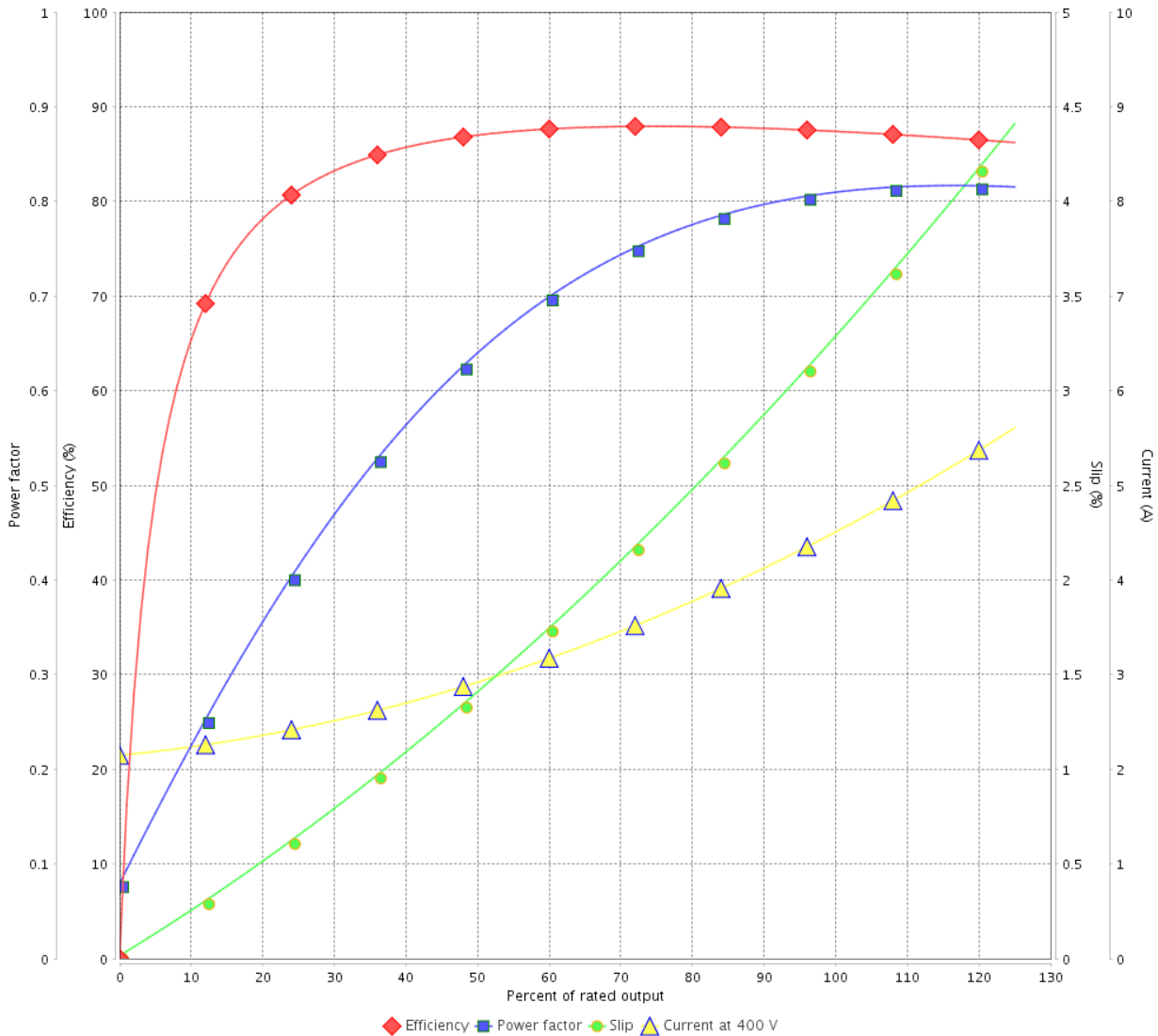
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LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 4.48 A
 LRC : 7.0
 Rated torque : 10.9 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 290 %
 Rated speed : 1450 rpm

Moment of inertia (J) : 0.3401 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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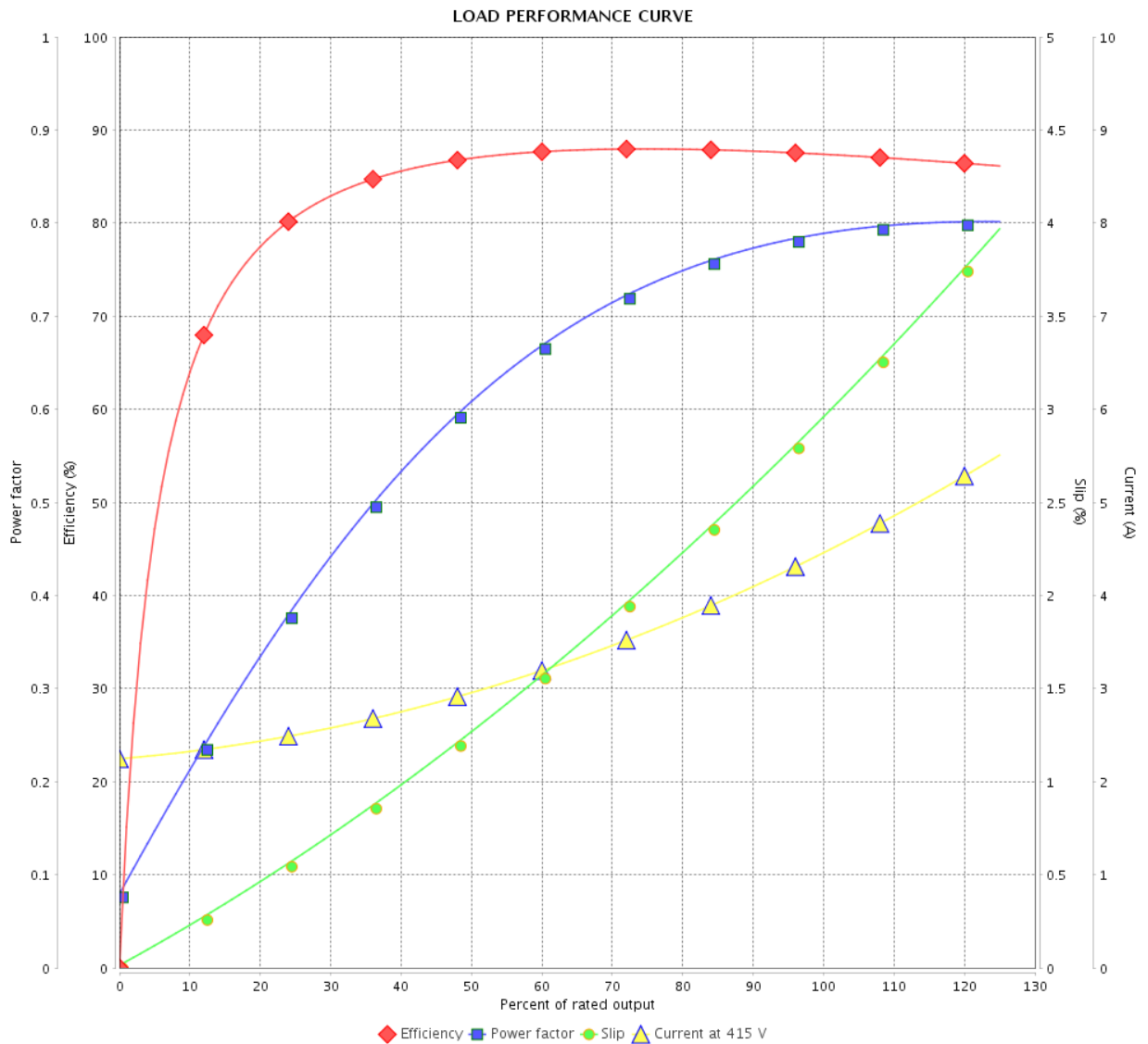


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Product code : 12822413

Catalog # : 00318ST3QIER182TC-W2



Performance : 415 V 50 Hz 4P IE3

Rated current : 4.43 A
 LRC : 7.5
 Rated torque : 10.8 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 320 %
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.3401 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 12822413
Catalog # : 00318ST3QUIER182TC-W2

Performance : 460 V 60 Hz 4P

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 3.91 A | Moment of inertia (J) | : 0.3401 sq.ft.lb |
| LRC | : 8.1 | Duty cycle | : Cont.(S1) |
| Rated torque | : 8.95 ft.lb | Insulation class | : F |
| Locked rotor torque | : 229 % | Service factor | : 1.25 |
| Breakdown torque | : 340 % | Temperature rise | : 80 K |
| Rated speed | : 1760 rpm | Design | : B |

Heating constant

Cooling constant

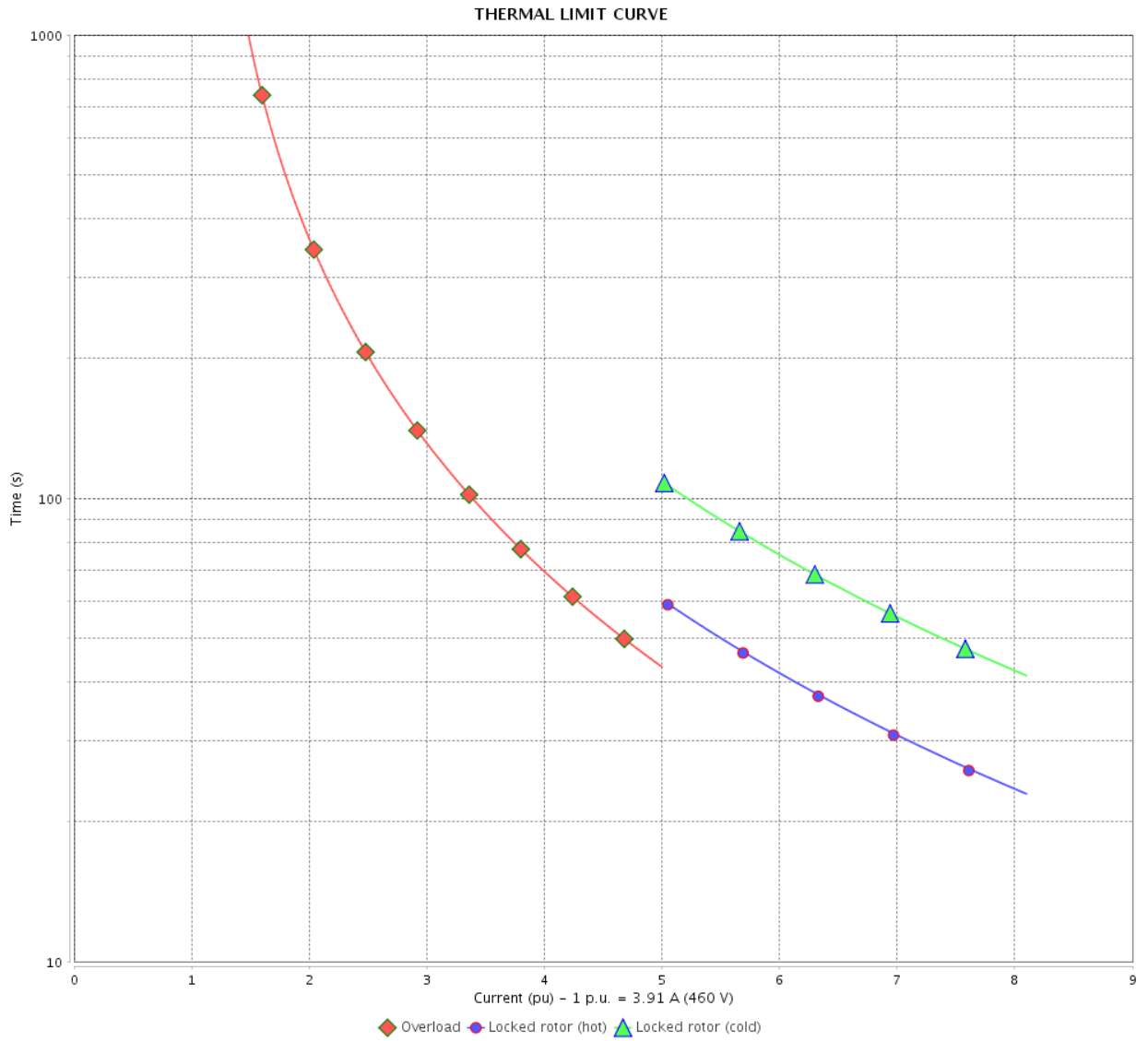
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THERMAL LIMIT CURVE

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Performance : 380 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 4.60 A | Moment of inertia (J) | : 0.3401 sq.ft.lb |
| LRC | : 6.3 | Duty cycle | : Cont.(S1) |
| Rated torque | : 10.9 ft.lb | Insulation class | : F |
| Locked rotor torque | : 180 % | Service factor | : 1.25 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 1445 rpm | Design | : B |

Heating constant

Cooling constant

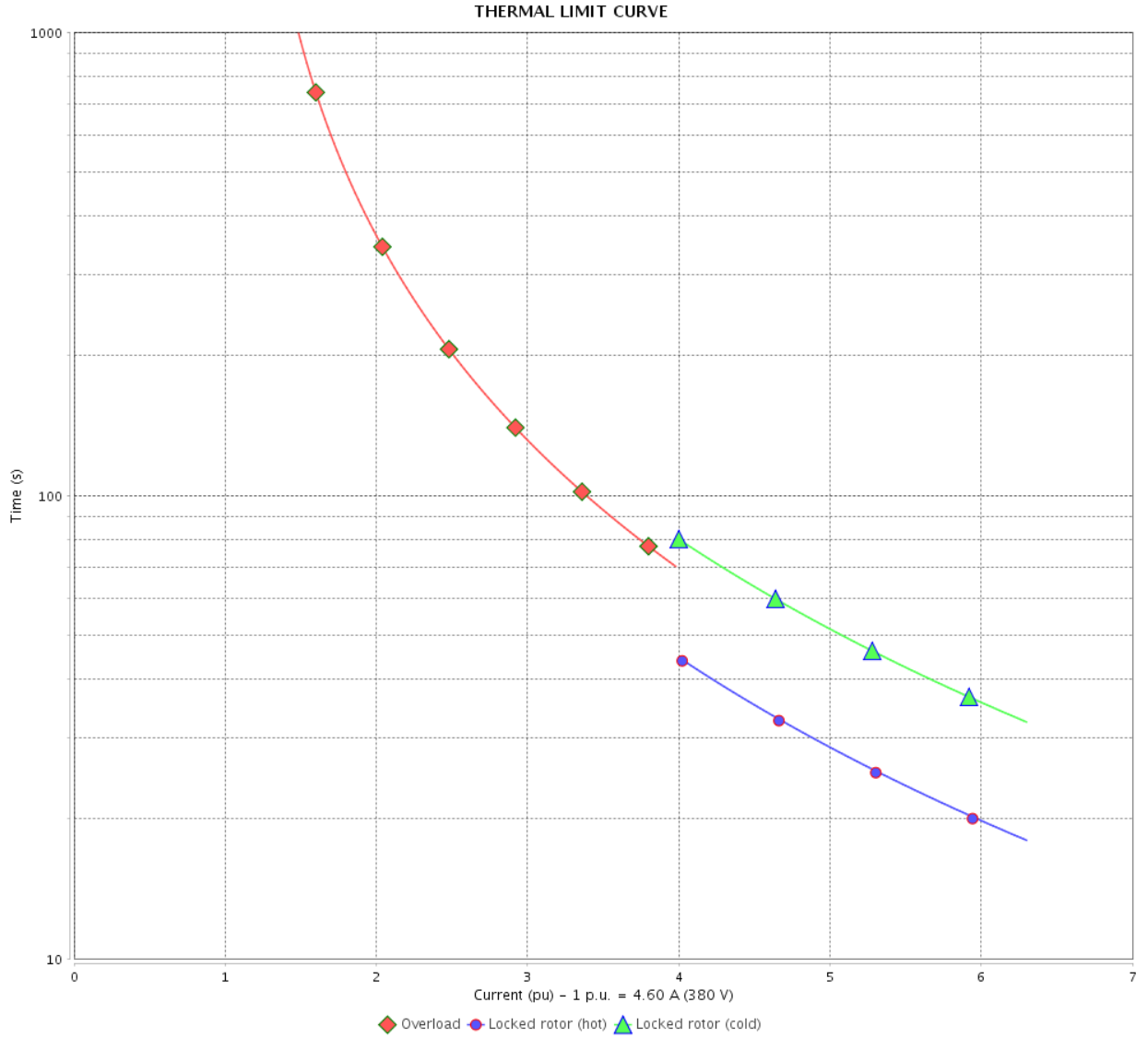
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THERMAL LIMIT CURVE

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Customer :

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Product code : 12822413

Catalog # : 00318ST3QUIER182TC-W2

Performance : 400 V 50 Hz 4P IE3

Rated current : 4.48 A
LRC : 7.0
Rated torque : 10.9 ft.lb
Locked rotor torque : 210 %
Breakdown torque : 290 %
Rated speed : 1450 rpm

Moment of inertia (J) : 0.3401 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

Heating constant

Cooling constant

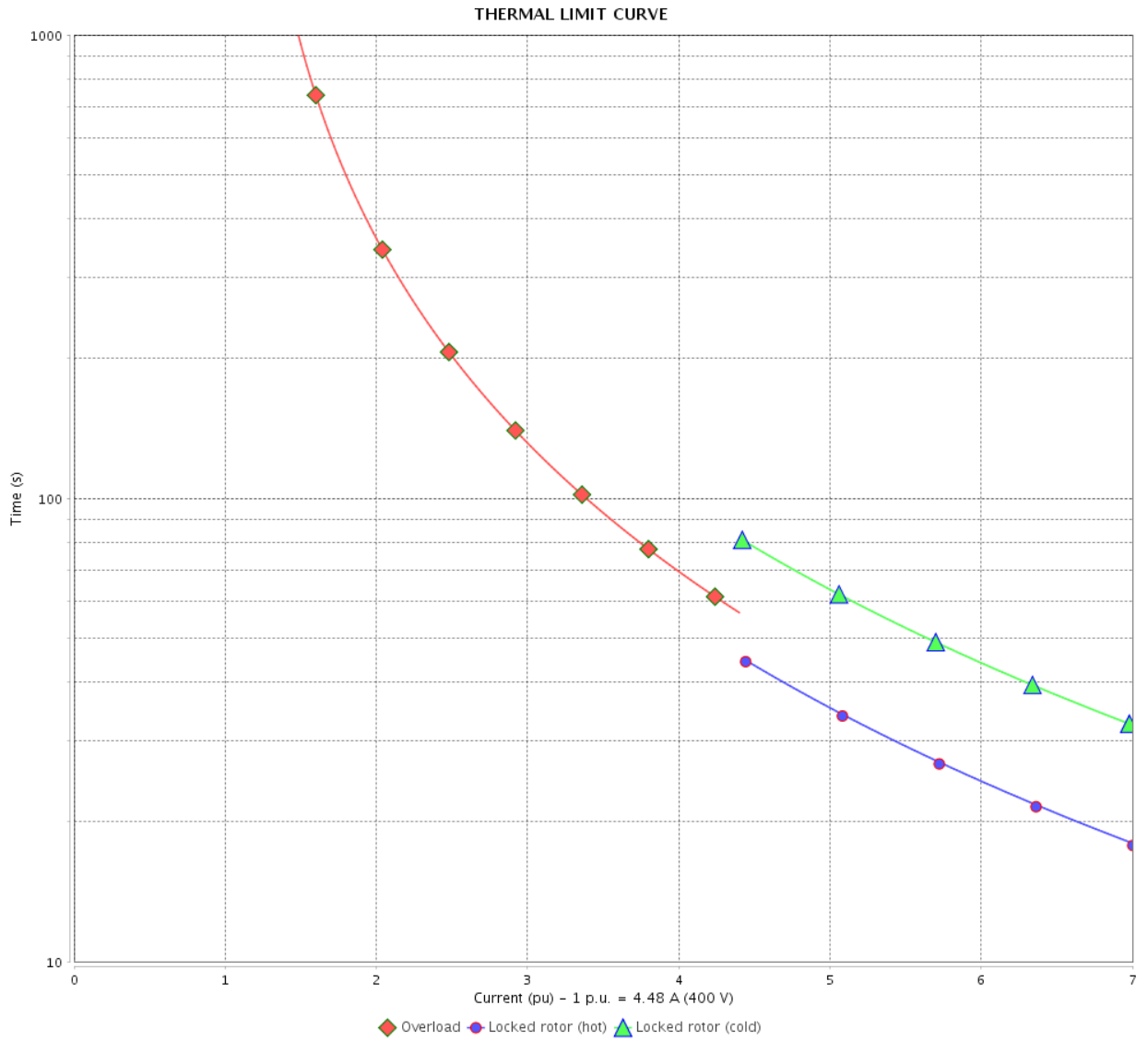
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THERMAL LIMIT CURVE

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Customer : _____



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

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Catalog # : 00318ST3QUIER182TC-W2

Performance : 415 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 4.43 A | Moment of inertia (J) | : 0.3401 sq.ft.lb |
| LRC | : 7.5 | Duty cycle | : Cont.(S1) |
| Rated torque | : 10.8 ft.lb | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.25 |
| Breakdown torque | : 320 % | Temperature rise | : 80 K |
| Rated speed | : 1455 rpm | Design | : B |

Heating constant

Cooling constant

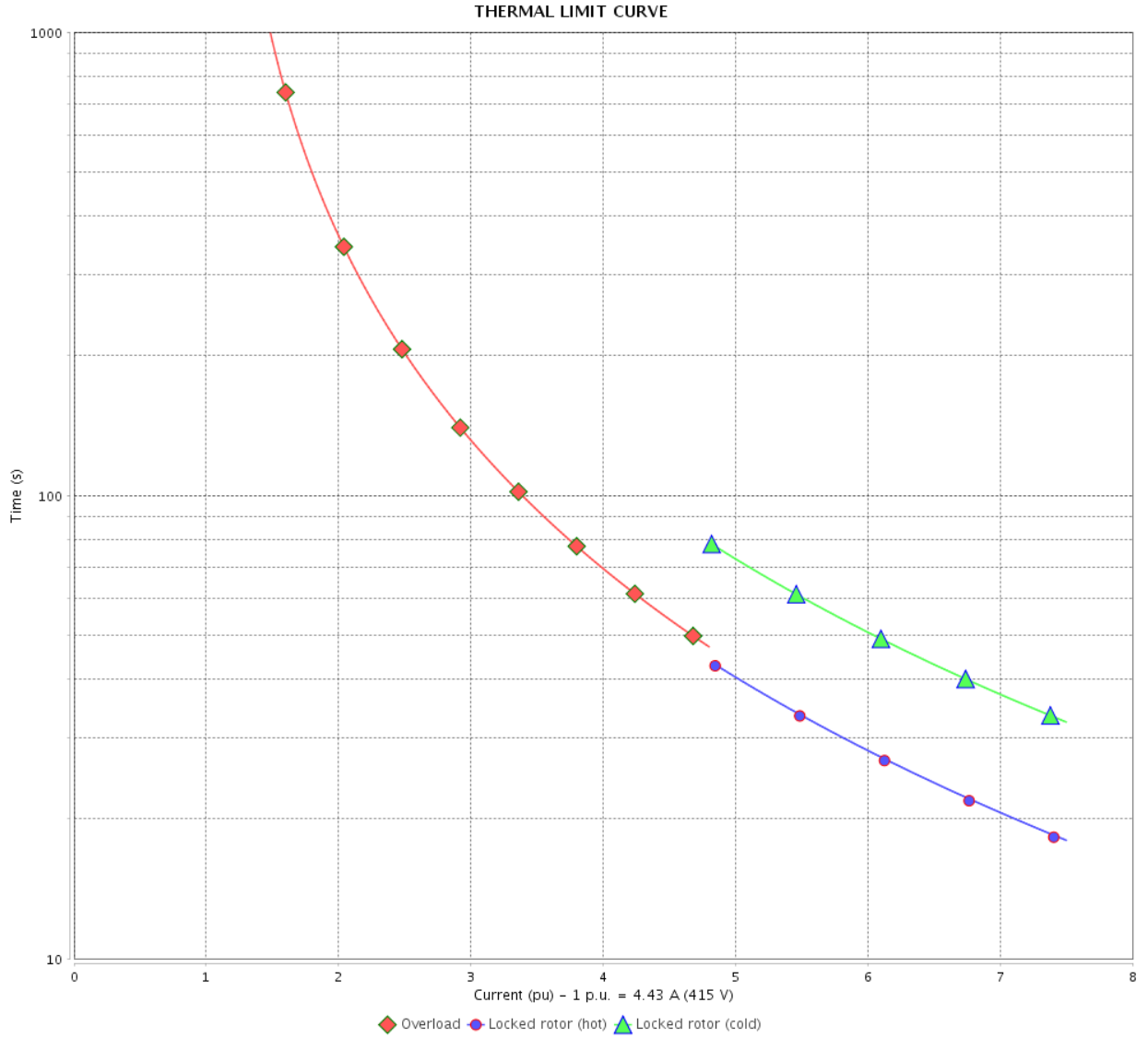
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THERMAL LIMIT CURVE

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

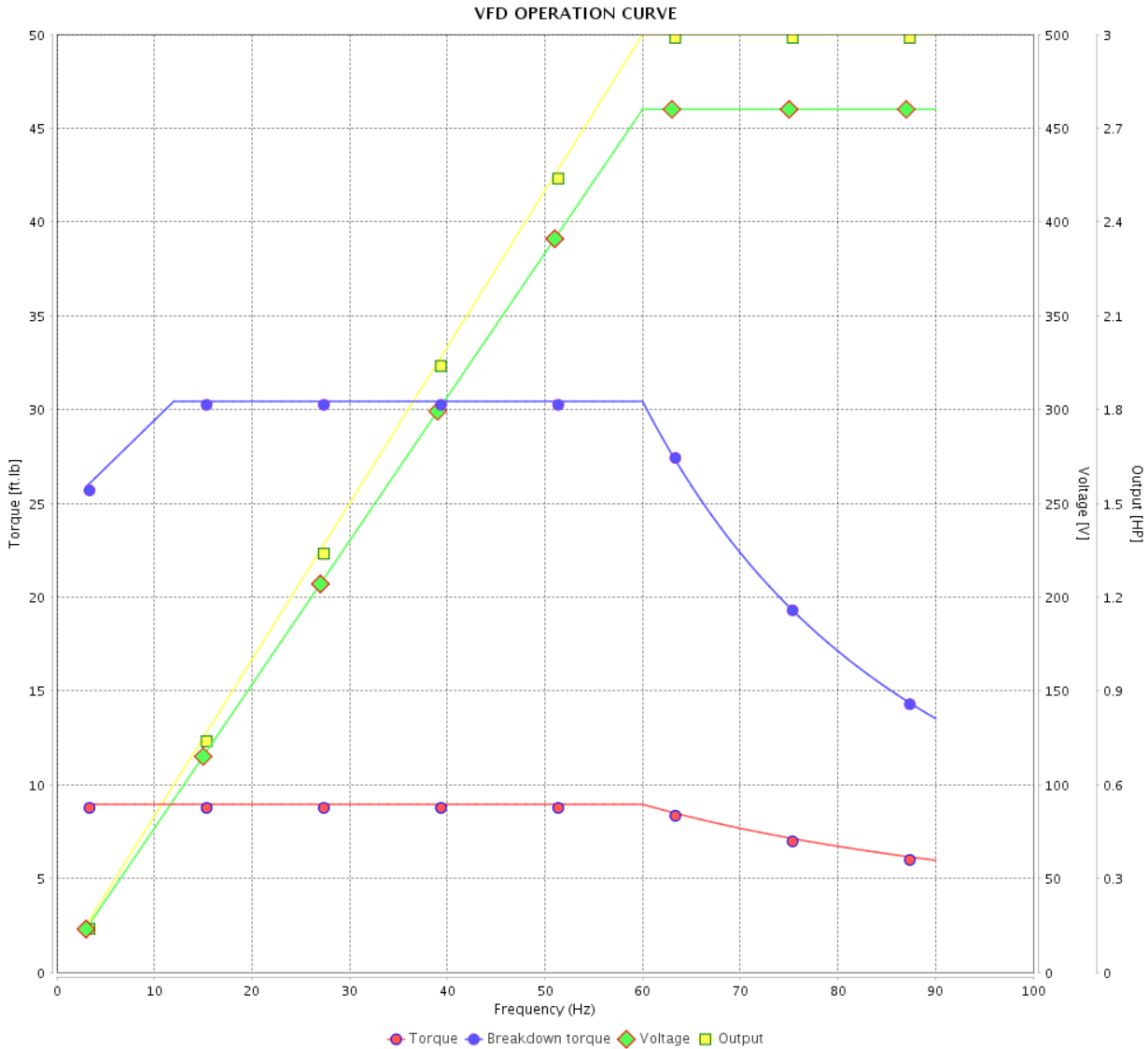


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VFD OPERATION CURVE

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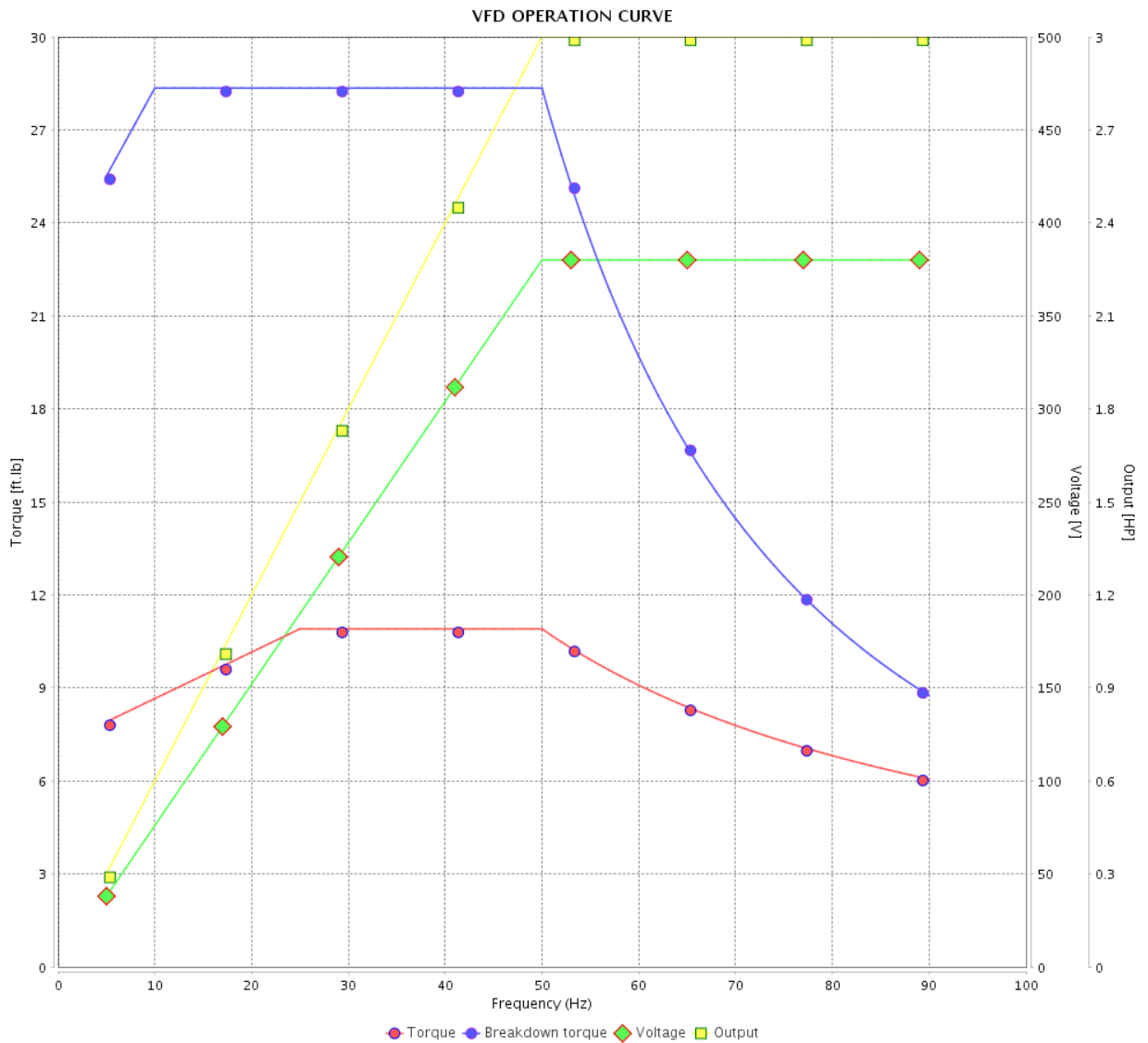


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VFD OPERATION CURVE

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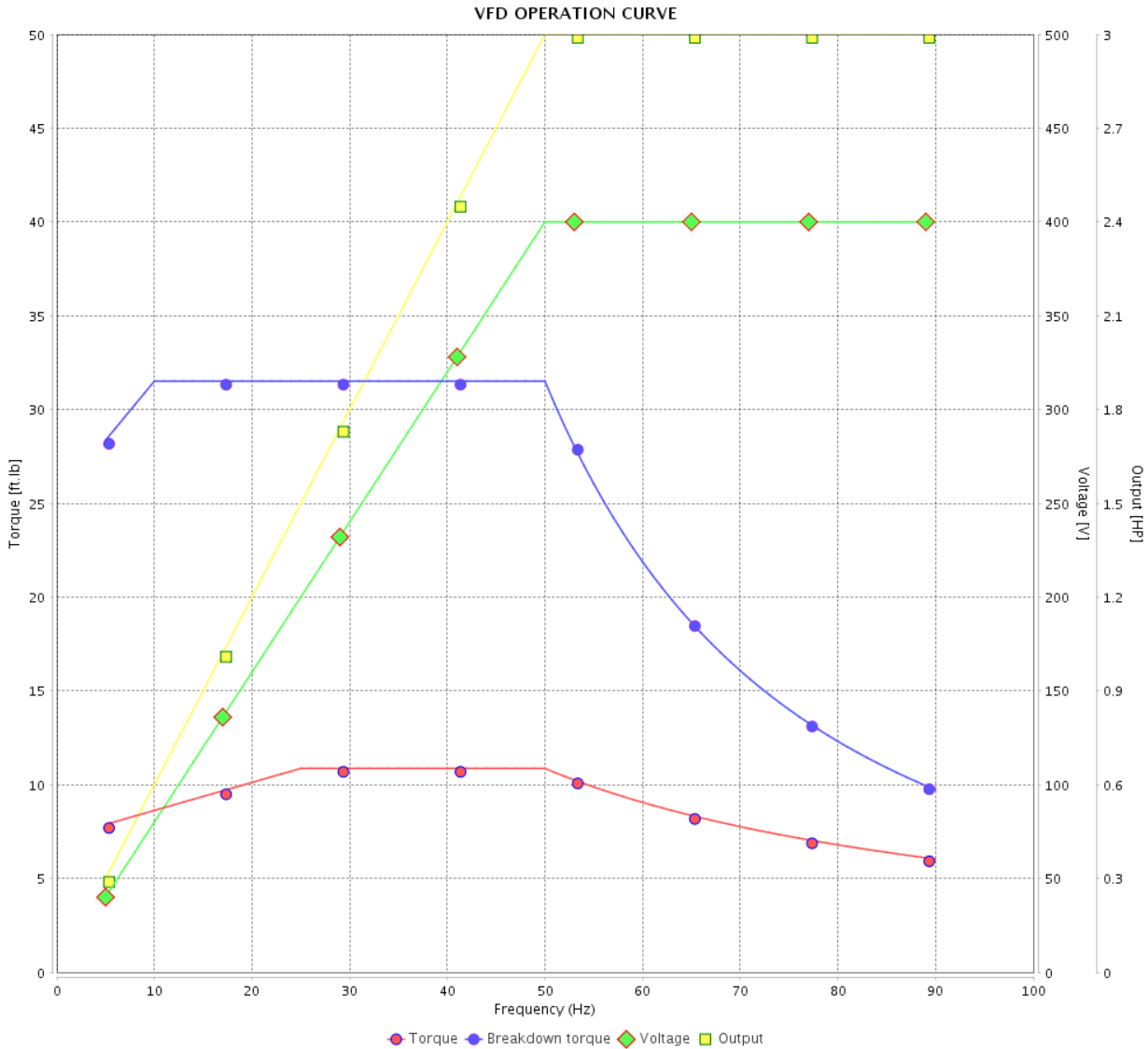


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VFD OPERATION CURVE

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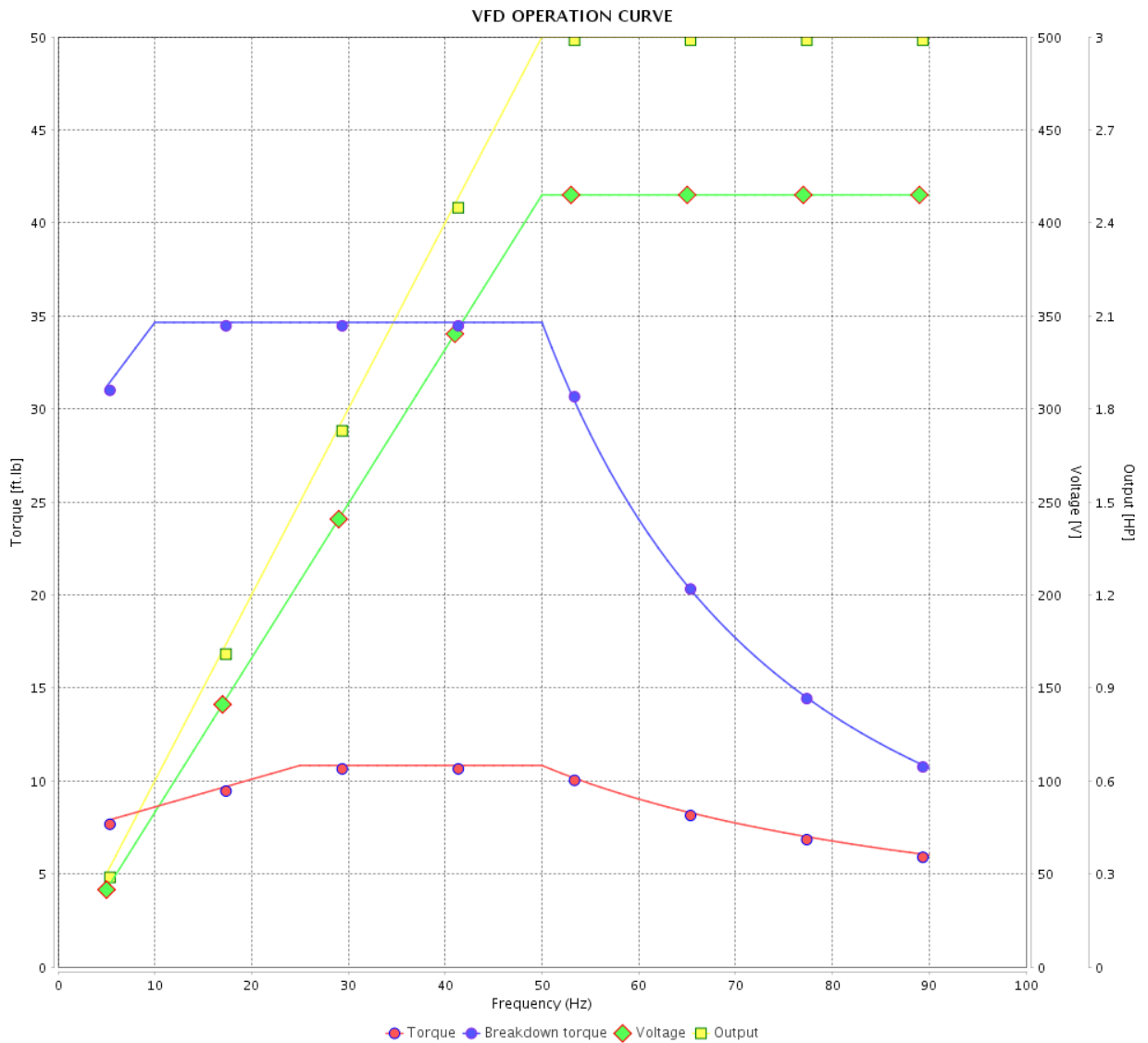


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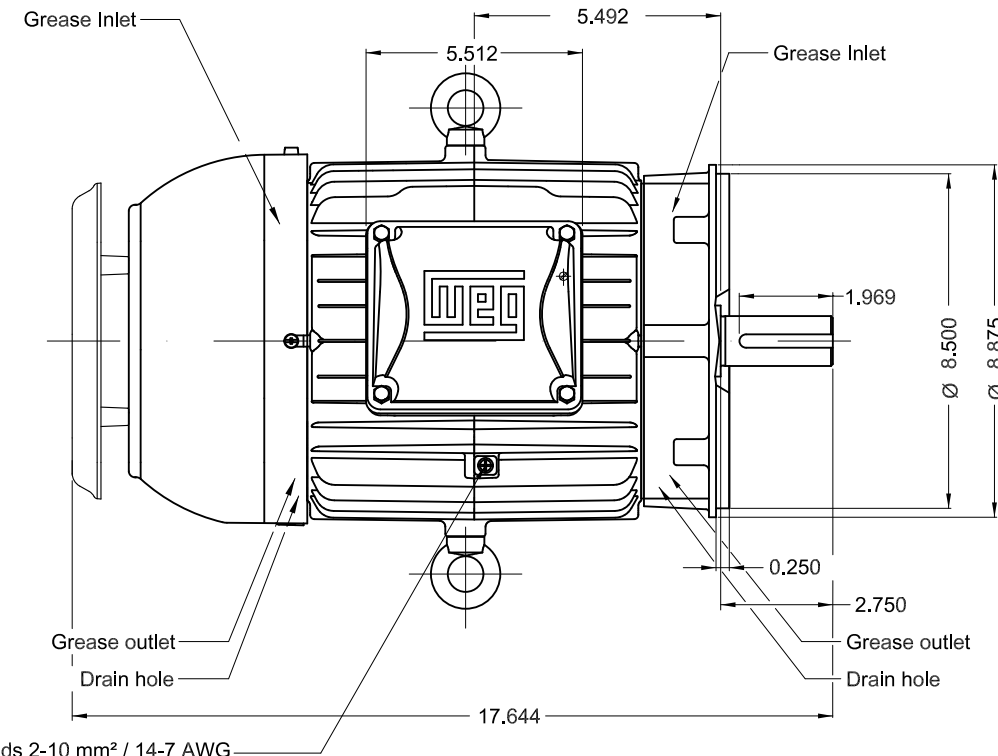
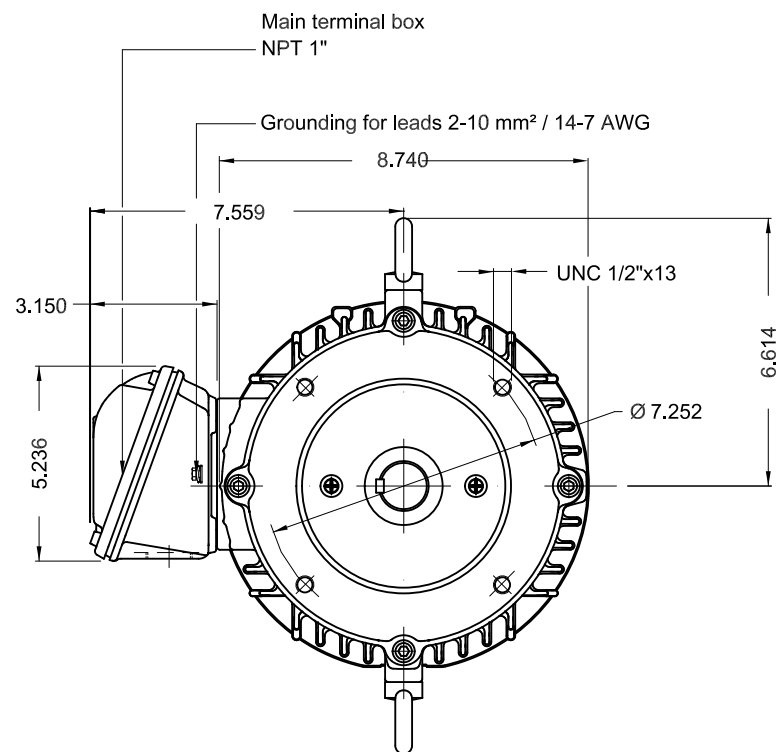
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1 2 3 4 5 6

A

B

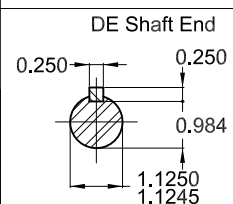
C



D

E

Color RAL 5009
 Painting plan 202E
 Mounting NEMA W-6
 Mounting V18



3 HP 04 Poles 60 Hz A

| ECM | LOC | SUMMARY OF MODIFICATIONS | EXECUTED | CHECKED | RELEASED | DATE | VER |
|----------|-----------|--|---------------------|---------|----------|------|-----|
| EXECUTED | PIRWBUSER | THREE PH. MOTOR IEEE 841 W22 PREM. EFF. FRAME 182TC IP55 TEFC | | | | | |
| CHECKED | | | | | | | |
| RELEASED | | | | | | | |
| REL DT. | | WMO Jaragua do Sul | Product Engineering | SHEET | 1 / 1 | | |

PREVIEW
WDD



MADE IN BRAZIL
12822413



NEMA
Premium



Class I, Div 2, Gr A, B, C and D - T3
Class I, Zone 2, IIC - T3
Class II, Div 2, Gr F and G - T5
For use on PWM: Gr. A, B, C, D, F and G,
VT 1000:1, CT 20:1, 1.00SF - T4A

MODEL 00318ST3QIER182TC-W2

Inverter Duty Motor
Severe Duty

IEEE
841-2009



FOR SAFE AREA
Mod. TE1BFOXON
CC029A

PH3 60Hz Fr. 182TC 1000m.a.s.l. IP55 TEFC 109Ib

V 460

A 3.91

HP 3.0

kW 2.2

SF 1.25

SFA 4.89

RPM 1760

PF 0.79

AMB 40°C

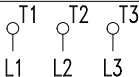
INS cl. F DT80K

NEMA NOM EFF 89.5%

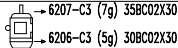
DUTY CONT.

DES B Code K

GUARANT. EFF 87.5%



460V



MOBIL POLYREX EM (20000h)

